

360iResearch

Spent Foundry Sand Market

Global Forecast 2026-2032

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1. Preface

1.1. Objectives of the Study

- Identify the source-stream characteristics, destination requirements, and buyer qualification conditions that determine acceptance of unreclaimed or reclaimed sand, including what must be verified before a buyer switches from an existing material or outlet.
- Distinguish material supply from collection, transportation, reclamation, placement, treatment, and disposal services, and identify the capabilities and responsibilities required to compete in each offering.
- Examine the conditions influencing on-site versus off-site reclamation decisions, including external-provider qualification, continuity of the intended outlet, and allocation of responsibility between the foundry and service provider.
- Determine how source-specific regulatory status and destination authorization affect access to the included applications without treating an application label as proof of lawful or technically suitable use.
- Clarify how direct, agency-arranged, and merchant-intermediated transactions differ in counterparty roles, obligations, and buyer access, including recipient-paid, supplier-paid, and no-consideration arrangements.
- Establish comparable commercial boundaries for competition and subsequent monetary interpretation, separating spent-sand offerings from enabling equipment, virgin inputs, internal reuse, and downstream finished products.
- Assess the evidence needed to distinguish a reclamation route or application included in the study from demonstrated supplier capability, commercial deployment, and an accessible customer relationship.

1.2. Market Definition

The Global Spent Foundry Sand market covers molding and core sand retired from metal casting use, the reclaimed material derived from that stream, and associated sand-management services. Sand Material Supply includes Unreclaimed Spent Sand and Reclaimed Sand. Sand Management Services includes Collection & Transportation, Reclamation & Regeneration, Beneficial-Use Placement, and Treatment & Disposal.

On-Site Reclamation and Off-Site Reclamation are included operating contexts. Destinations encompass return to Foundry Molds & Cores, the other defined industrial and civil applications, and Waste Disposal. Hazardous Waste, Nonhazardous Waste, and Non-Waste Materials are included regulatory categories. Recipient-paid, supplier-paid acceptance, and no-consideration arrangements remain within the study; payment direction does not determine whether the sand stream belongs in scope.

Virgin aggregate and binder supply are upstream adjacencies. Reclamation equipment is an enabling adjacency rather than a separate commercial-offering category. Metal castings and

products incorporating the sand are downstream outputs, not additional sand offerings. Other foundry residues, such as slag, sludge, and dust, are not automatically sand offerings merely because they originate from a foundry.

Sources & Evidence

1. Beneficial Uses of Spent Foundry Sands
   · EPA identifies spent foundry sand as used molding and core sand and distinguishes it from other foundry residues. This supports the material boundary, not the study's entire commercial taxonomy. ([epa.gov](https://www.epa.gov/smm/beneficial-uses-spent-foundry-sands))

1.3. Market Segmentation & Coverage

The segmentation axes are independent commercial lenses, not additive opportunities. Commercial Offering distinguishes Sand Material Supply from Sand Management Services so that receiving a material is not confused with commissioning its management. The remaining axes explain the source stream, reclamation context, destination, buyer, and transaction associated with an offering.

Reclamation Technology includes Dry Mechanical Reclamation, Thermal Reclamation, Wet Reclamation, Chemical Reclamation, Biological Reclamation, and Integrated Reclamation. These categories identify the route associated with a reclamation offering; inclusion does not establish equivalence or commercial deployment. Reclamation Location distinguishes On-Site Reclamation from Off-Site Reclamation, allowing the operating setting to be considered separately from the technology and the contractual provider.

Application identifies the intended destination. Foundry Molds & Cores represents return to casting use. The industrial-product destinations are Cement & Clinker Feedstock; Concrete, Mortar & Cementitious Fill; Asphalt & Bituminous Products; Glass & Glass Fiber; Ceramics & Engineered Mineral Products; Polymer & Coating Fillers; and Metallurgical Fluxes. Their inclusion identifies the applications to be examined, not proof that every sand source is acceptable to them.

The civil, land, and waste-management destinations are Unbound Road Base & Subbase; Structural Fill & Embankments; Pipe Bedding & Backfill; Land Restoration Fill; Soil Amendment & Growing Media; Road Traction & Surface Dressing; Waste Stabilization Media; Landfill Cover & Engineering; and Waste Disposal. Keeping disposal distinct from the other destinations prevents a managed outlet from being interpreted automatically as a recovered-material use.

Buyer Industry identifies the organization making the purchasing or service decision. It distinguishes Foundries & Primary Metal Producers; Mineral & Construction-Material Manufacturers; Polymer & Coating Manufacturers; Soil & Growing-Media Producers; Construction & Civil Engineering; Mining & Quarrying; Agriculture, Horticulture & Landscaping; Resource Recovery & Waste Management; Industrial Material Wholesale; and Public Administration. This lens separates the commissioning party from the ultimate application and from an intermediary participating in the transaction.

Base Aggregate records Silica Sand, Chromite Sand, Zircon Sand, Olivine Sand, Alumina & Aluminosilicate Sand, and Mixed Aggregate Sand. Binder System records Clay-Bonded

Systems, Organic Binder Systems, Inorganic Chemical Binder Systems, Binderless Systems, and Mixed Binder Systems. Source Metal distinguishes Ferrous Metal Sources, Nonferrous Metal Sources, and Mixed Ferrous & Nonferrous Sources. Together, these axes retain source provenance for like-for-like interpretation without making any category a certificate of performance or acceptability.

Regulatory Status distinguishes Hazardous Waste, Nonhazardous Waste, and Non-Waste Materials; an application name is not a substitute for that classification. Transaction Channel distinguishes Direct Transactions, Agency-Arranged Transactions, and Merchant-Intermediated Transactions. Material Transfer Economics separately identifies Recipient-Paid Transfers, Supplier-Paid Acceptance, and No-Consideration Transfers. These lenses preserve the distinction between the commercial route, the party providing consideration, and the party receiving material or services.

Table 1. Global Spent Foundry Sand Market Segmentation & Coverage

Segmentation	Coverage
Application	• Waste Disposal • Foundry Molds & Cores • Landfill Cover & Engineering • Structural Fill & Embankments • Cement & Clinker Feedstock • Concrete, Mortar & Cementitious Fill • Asphalt & Bituminous Products • Soil Amendment & Growing Media • Unbound Road Base & Subbase • Pipe Bedding & Backfill • Land Restoration Fill • Ceramics & Engineered Mineral Products • Waste Stabilization Media • Metallurgical Fluxes • Glass & Glass Fiber • Road Traction & Surface Dressing • Polymer & Coating Fillers
Base Aggregate	• Silica Sand • Mixed Aggregate Sand • Alumina & Aluminosilicate Sand • Chromite Sand • Olivine Sand • Zircon Sand
Binder System	• Organic Binder Systems • Mixed Binder Systems • Clay-Bonded Systems • Inorganic Chemical Binder Systems • Binderless Systems

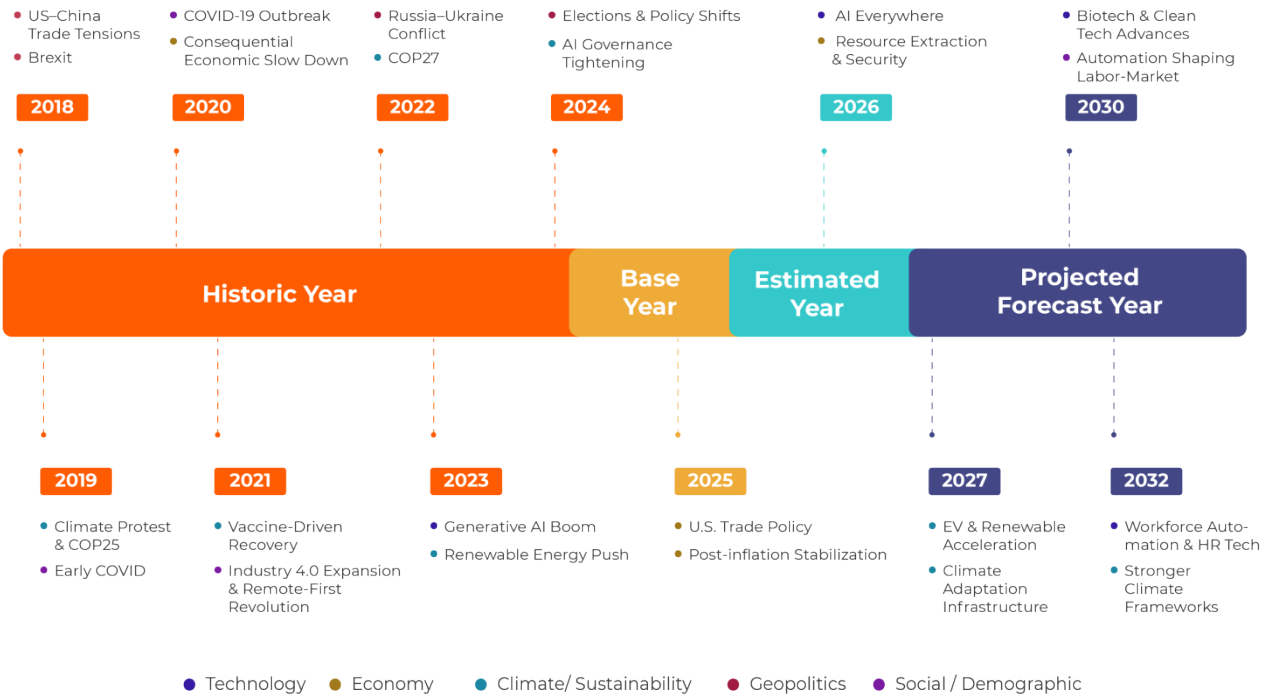
Table 1 - continued

Segmentation	Coverage
Buyer Industry	• Foundries & Primary Metal Producers • Mineral & Construction-Material Manufacturers • Mining & Quarrying • Construction & Civil Engineering • Soil & Growing-Media Producers • Public Administration • Industrial Material Wholesale • Resource Recovery & Waste Management • Agriculture, Horticulture & Landscaping • Polymer & Coating Manufacturers
Commercial Offering	• Sand Management Services o Treatment & Disposal o Collection & Transportation o Reclamation & Regeneration o Beneficial-Use Placement • Sand Material Supply o Reclaimed Sand o Unreclaimed Spent Sand
Material Transfer Economics	• Supplier-Paid Acceptance • Recipient-Paid Transfers • No-Consideration Transfers
Reclamation Location	• Off-Site Reclamation • On-Site Reclamation
Reclamation Technology	• Dry Mechanical Reclamation • Integrated Reclamation • Thermal Reclamation • Wet Reclamation • Biological Reclamation • Chemical Reclamation
Regulatory Status	• Nonhazardous Waste • Non-Waste Materials • Hazardous Waste
Source Metal	• Ferrous Metal Sources • Nonferrous Metal Sources • Mixed Ferrous & Nonferrous Sources
Transaction Channel	• Direct Transactions • Agency-Arranged Transactions • Merchant-Intermediated Transactions

1.4. Years Considered for the Study

The study spans 2024-2032. The historical year is 2024, the base year is 2025, the estimated year is 2026, and the forecast endpoint is 2032.

Figure 1. Global Spent Foundry Sand Market, Years Considered for the Study



1.5. Currency Considered for the Study

The reporting currency is the United States dollar (USD). Monetary presentation uses unscaled USD amounts.

1.6. Language Considered for the Study

The study is published in American English.

1.7. Key Stakeholders

- Foundries & Primary Metal Producers: evaluate reclaimed-material qualification, management-service selection, return-to-foundry use, and responsibility for external placement or disposal.
- Resource Recovery & Waste Management providers: define service scope, qualified destinations, transportation obligations, and responsibility for accepted or rejected sand streams.
- Mineral & Construction-Material Manufacturers and Polymer & Coating Manufacturers: determine application-specific acceptance requirements, supplier qualification, and the conditions for substituting a recovered material.

- Soil & Growing-Media Producers and Agriculture, Horticulture & Landscaping participants: evaluate source-specific suitability, destination requirements, and continuity of an acceptable material outlet.
- Construction & Civil Engineering and Mining & Quarrying organizations: assess project acceptance, responsibility allocation, and compatibility with the intended civil or restoration destination.
- Industrial Material Wholesale participants and commercial intermediaries: choose direct, agency, or merchant participation and clarify counterparty roles, consideration, and contractual obligations.
- Public Administration procurers and environmental authorities: distinguish procurement decisions from regulatory authorization and assess the conditions governing project-specific material acceptance.
- Reclamation-technology, equipment, and binder businesses: establish the relevance of their capabilities to the included sand offerings without treating enabling-product participation as proof of sand-supply or management-service capability.
- Academic and public-research organizations and foundry associations: interpret evidence boundaries, material qualification questions, and the distinction between a documented application and commercial accessibility.

2. Research Methodology

2.1. Introduction

Spent foundry sand is examined as a linked material-supply and management-service market, not as a homogeneous substitute for virgin aggregate. The study connects the identity of the source stream with the offering being supplied, the party commissioning or receiving it, and the conditions attached to its destination.

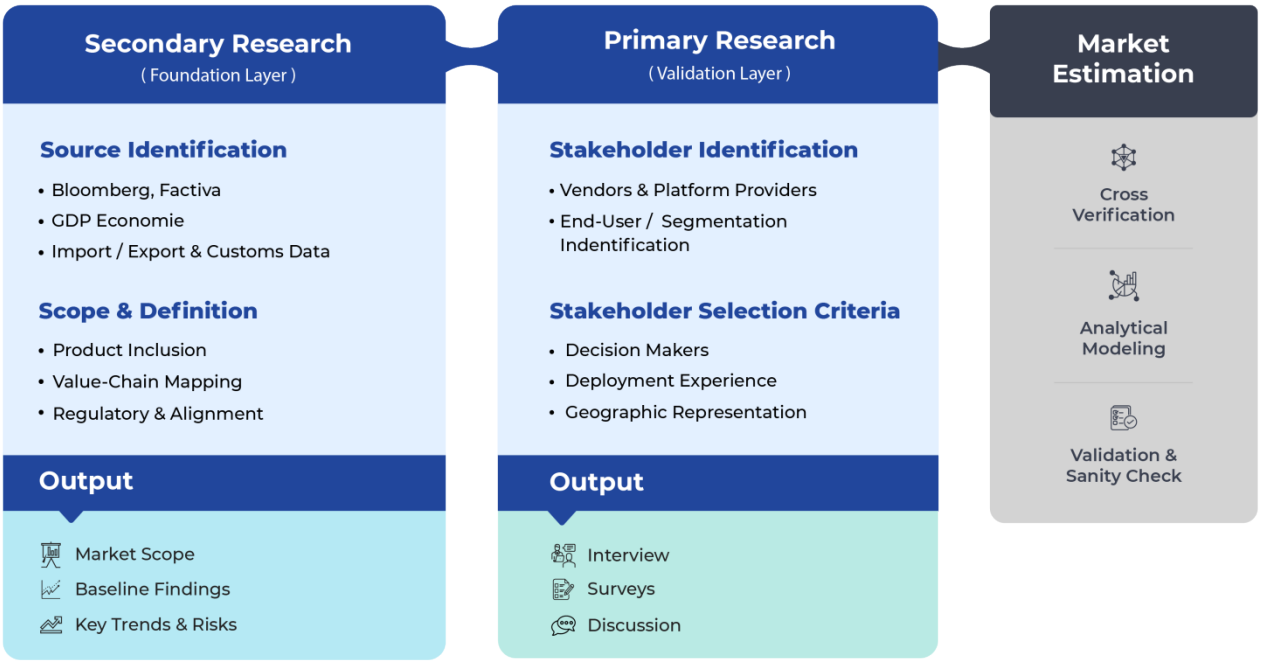
The approach distinguishes scope membership from evidence of capability and commercial access. Qualitative explanations establish questions and conditional mechanisms for investigation; they do not independently establish numerical results or settle the commercial meaning of a transaction.

2.2. Research Design

The research design separates four questions: whether an activity belongs within the study, whether a provider has the relevant capability, whether a buyer or destination accepts the material, and what commercial activity an observation represents. Each factual interpretation must remain connected to the relevant source stream, offering, application, jurisdiction, and period.

The qualitative challenge layer tests explanations and assumptions. Documentary support establishes the factual premises to which those explanations apply, while numerical interpretation requires its own substantiation. A documented use case supports its stated conditions rather than establishing equivalence across every aggregate, binder system, source metal, or destination.

Figure 2. Global Spent Foundry Sand Market, Research Design



2.2.1. Primary Research

The analyst team conducted primary research as a qualitative challenge layer for market definition, segmentation, demand conditions, adoption barriers, and competitive interpretation. This work tested analytical assumptions and sharpened explanations of market mechanisms without serving as standalone support for numerical estimates.

The qualitative challenge layer is evaluated alongside secondary evidence within the accepted market scope. It informs conditional market explanations and hypotheses for subsequent quantitative analysis. Numerical estimates require their own supporting evidence, and a forecast derived from a qualitative assumption does not independently validate that assumption. Final interpretation must reconcile the qualitative findings with the completed quantitative results.

2.2.2. Secondary Research

Environmental guidance and application-specific assessments serve different evidentiary purposes. Guidance identifies qualification and authorization considerations, while an assessment supports conclusions only for its evaluated material and use conditions. For U.S. reuse, EPA directs foundries and recyclers to consult state regulators and satisfy environmental limits and engineering performance criteria.

Secondary interpretation must retain those boundaries. A favorable assessment is not a universal authorization, and a description of an available application does not establish buyer acceptance, supplier capability, or contractual access. Evidence must support the particular proposition being evaluated rather than merely describe spent foundry sand generally.

Sources & Evidence

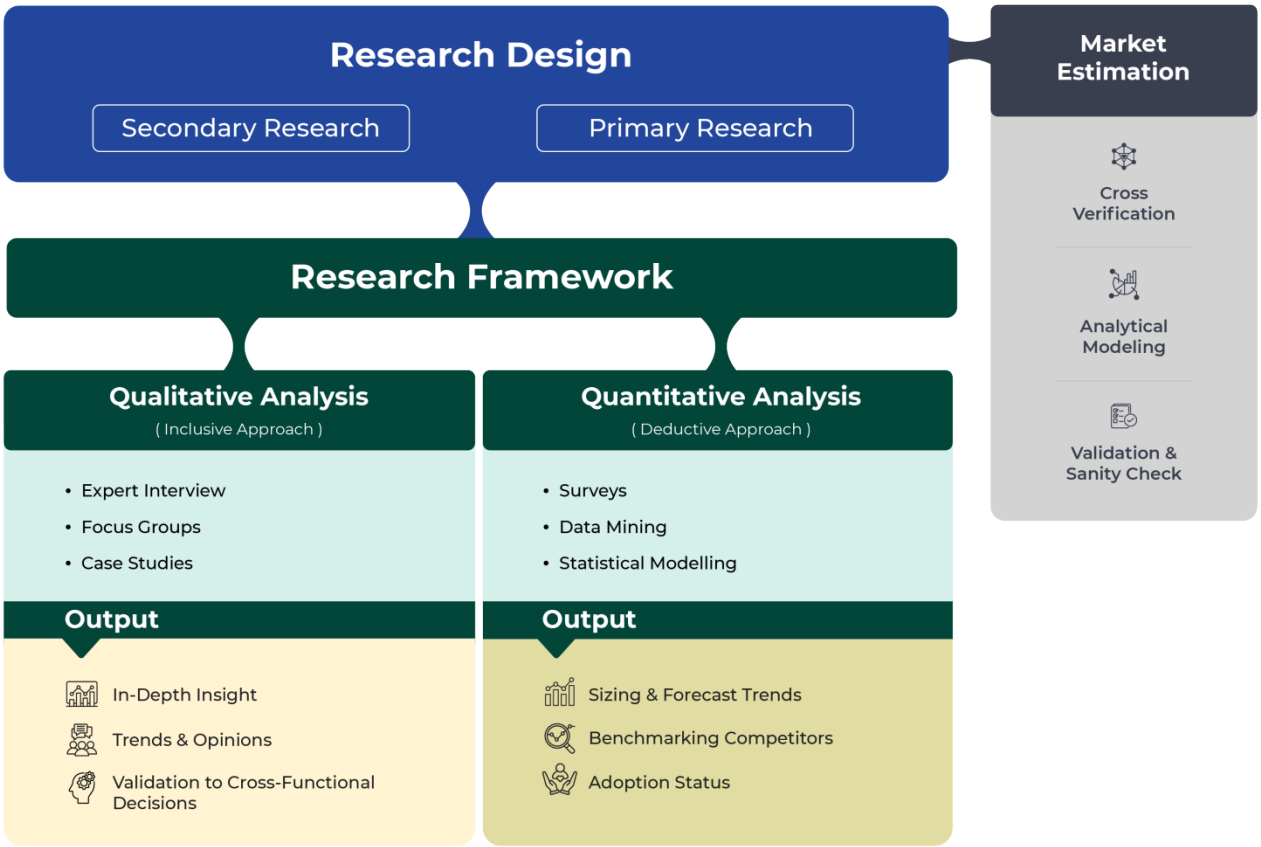
1. Beneficial Uses of Spent Foundry Sands
   - EPA directs foundries and recyclers to consult state regulators and meet applicable environmental limits and engineering performance criteria for planned reuse. ([epa.gov](https://www.epa.gov/smm/beneficial-uses-spent-foundry-sands))

2.3. Research Framework

The definition establishes the sand-material and management-service perimeter. The taxonomy then separates the offering from its reclamation route, material provenance, destination, buyer, and transaction context. Participant interpretation distinguishes a sand generator, material supplier, service provider, intermediary, and recipient rather than assigning all organizations to a single competitive role.

Competitive comparisons require comparable offerings and qualification conditions. Commercial decisions are framed around demonstrated capability, acceptance requirements, switching conditions, and responsibility allocation; involvement in an adjacent equipment or materials business does not independently establish participation in an included sand offering.

Figure 3. Global Spent Foundry Sand Market, Research Framework



2.3.1. Qualitative Analysis

Qualitative interpretation examines the connection between source-stream identity, buyer acceptance, destination requirements, and contractual responsibility. It distinguishes qualification of a recovered material from qualification of a service provider: acceptance of sand for an application does not establish that a particular collector, reclaimer, or placement intermediary can deliver the required commercial arrangement.

Beneficial-use evaluation distinguishes functional benefit, conformity to product specifications, and protection of human health and the environment. Evidence addressing one requirement does not substitute for the others. Switching questions therefore concern the buyer's acceptance conditions and the supplier's obligations, not merely the presence of a named application in the study.

Sources & Evidence

1. Sustainable Management of Industrial Non-Hazardous Secondary Materials
   • EPA describes beneficial use as substitution that provides functional benefit, meets product specifications, and avoids human-health and environmental concerns. ([epa.gov](https://www.epa.gov/smm/sustainable-management-industrial-non-hazardous-secondary-materials))

2.3.2. Quantitative Analysis

Quantitative interpretation requires observations to retain their reporting period, geographic scope, commercial offering, and counterparty role. Sand material supply and commissioned management services describe different commercial activities; an agency arrangement, merchant transaction, and service obligation cannot be treated as interchangeable observations merely because they concern the same sand stream.

Payment direction and the distinction between an external transaction and internal reclamation are comparability controls. Historical observations, estimated-year assessments, and forecast interpretations must remain distinguishable, while company-wide business activity cannot automatically be attributed to the spent foundry sand perimeter.

2.4. Market Size Estimation

A defensible market-value interpretation requires clarity about the commercial activity represented by an observation. Material supplied, services commissioned, and supplier-paid acceptance must not be presumed to describe the same economic object. A no-consideration transfer is an included arrangement, but its occurrence does not establish a paid material sale.

On-site reclamation identifies an operating context; it does not, by itself, establish an external commercial exchange. Likewise, inclusion of several activities along a sand-management chain does not establish that their reported monetary descriptions are additive. Commercial obligations and the relevant transaction perimeter must be understood before a monetary interpretation is defensible.

2.4.1. Top-Down Approach

Top-down evidence is comparable only when its boundary can be connected to the included spent-sand offerings. Broader descriptions of foundry operations, industrial minerals, or waste management provide context but cannot stand in for the defined market perimeter.

Virgin aggregate supply, reclamation equipment, and downstream finished products are distinct activities. Their inclusion in a broader business description does not establish attributable spent foundry sand commerce, and a technology classification does not justify assigning an entire equipment business to the sand market.

2.4.2. Bottom-Up Approach

Bottom-up evidence concerns identifiable sand-supply or management-service activity. A generator, collector, transporter, reclaimer, placement intermediary, and recipient may occupy different roles within a linked arrangement; their descriptions must be understood before they are interpreted as distinct commercial observations.

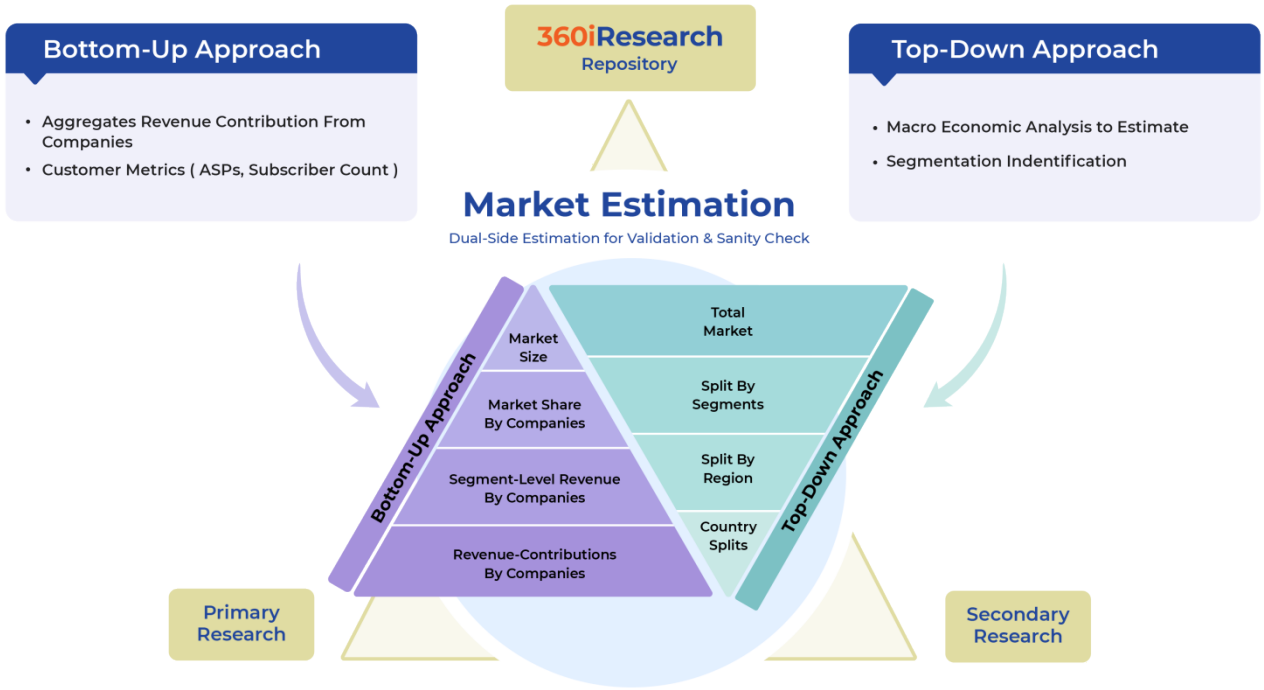
Bundled obligations and intermediary participation require particular care because material supply, acceptance, and management services may refer to the same chain. Equipment-only participation and internal reuse must remain distinguishable from externally supplied sand or commissioned services. These are interpretation requirements, not evidence that aggregation or reconciliation has been completed.

2.5. Data Triangulation

Triangulation is meaningful only when the underlying descriptions refer to comparable source streams, activities, destinations, jurisdictions, and periods. Several descriptions derived from the same underlying authority do not constitute independent corroboration.

When operating descriptions conflict with documented application limits, interpretation must preserve the narrower conditions until the conflict is resolved. Agreement among commercial descriptions cannot override an applicable qualification requirement. Qualitative explanations and documentary observations must also retain their distinct roles rather than being treated as interchangeable proof.

Figure 4. Global Spent Foundry Sand Market, Data Triangulation



2.6. Research Outcomes

The study is intended to support decisions about reclaimed-sand procurement, management-service selection, destination qualification, and the responsibilities assigned to generators, intermediaries, and recipients. It frames the choice between returning sand to foundry use, pursuing another defined application, and commissioning treatment or disposal without presuming that one route is preferable for every source stream.

Decision support distinguishes category inclusion from demonstrated capability, customer acceptance, and accessible commercial contracts. Forward-looking interpretations must identify the conditions that would sustain or invalidate a proposed material outlet or service arrangement.

2.7. Research Assumptions

- Source-stream comparisons assume that the base aggregate, binder system, source metal, and identity of the transferred material remain traceable. If those characteristics cannot be distinguished, qualification claims must not be extended to the stream as though its provenance were established.
- Regulatory comparisons assume that each classification refers to an identified material, intended use, destination, and jurisdiction. Classifications attached to unlike combinations are not treated as equivalent authorization.
- Technology comparisons require evidence that the named reclamation route is commercially offered for the relevant source stream. Inclusion of a route does not assume interchangeability with another route or establish a supplier's capability.

- Commercial interpretation assumes that the commissioning party, recipient, intermediary role, payment direction, and service obligations can be distinguished. Where they are ambiguous, material-supply and management-service descriptions must not be presumed independently additive.
- Forward-looking commercial interpretations are conditional on continued buyer qualification, access to the stated destination, and the applicable regulatory basis. A listed application is not assumed to guarantee a continuing outlet.

2.8. Research Limitations

- EPA's soil-related risk assessment addresses silica-based sands from iron, steel, and aluminum foundries in manufactured soils, soil-less potting media, and road subbase. It cannot establish equivalent acceptability for every included aggregate, metal source, or application.
- In the United States, EPA directs users to consult state beneficial-use and waste-management requirements. General guidance therefore does not establish permission for a particular destination, and a U.S. assessment does not settle authorization elsewhere.
- Technology and application categories establish analytical coverage, not commercial deployment. Chemical Reclamation and Biological Reclamation, like the other included routes, require supplier- and source-specific substantiation before capability or competitive-access conclusions are drawn.
- Material supply, supplier-paid acceptance, and no-consideration transfers have different contractual meanings. Linked supply and service descriptions may concern the same arrangement; ambiguous bundling or intermediary roles constrain comparisons until obligations and consideration are identified.
- A documented technical application does not establish buyer switching, accessible contracts, or a provider's ability to fulfill ongoing obligations. Market-access conclusions remain conditional on buyer acceptance and evidence of responsibility for compliance and rejected material.

Sources & Evidence

1. Beneficial Uses of Spent Foundry Sands
   · EPA requires attention to state beneficial-use and waste-management requirements. The limitation on destination authorization is an analytical implication of that guidance. ([epa.gov](https://www.epa.gov/smm/beneficial-uses-spent-foundry-sands))
2. Risk Assessment of Spent Foundry Sands in Soil-Related Applications
   · The assessment concerns silica-based spent sands from iron, steel, and aluminum foundries used in manufactured soils, soil-less potting media, and roadway subbase. Broader transferability is not established. ([epa.gov](https://www.epa.gov/smm/risk-assessment-spent-foundry-sands-soil-related-applications))

3. Executive Summary

3.1. Introduction

The Global Spent Foundry Sand market is organized around qualified material inputs and accountable sand-management outcomes, not a universally interchangeable aggregate. Foundries may seek reclaimed casting sand or a lawful destination for retired material; cement, soil, and civil-material recipients require approval for their own substitution. Material supply and management services can coexist in a contract, but input acceptance and management completion remain distinct. Source characteristics, intended use, and local authorization determine which alternatives are comparable.

An installed capability or application precedent does not establish an accessible contract. The EU's 2024 foundry norms create a permit-linked review trigger, but internal reuse can change external feedstock availability rather than secure it. Buyers should distinguish return-to-foundry procurement from external placement and disposal, preserving qualified alternatives when output acceptance or continuing fulfillment remains unsettled.

Sources & Evidence

1. Beneficial Uses of Spent Foundry Sands
   · EPA distinguishes retired molding and core sand from other foundry residues and requires attention to source properties, engineering criteria, and state requirements. This supports outcome-specific qualification rather than universal aggregate equivalence. ([epa.gov](https://www.epa.gov/smm/beneficial-uses-spent-foundry-sands))
2. New EU norms to reduce environmental impact of smitheries and foundries
   · The European Commission's 2024 foundry norms address resource efficiency and provide a reference for integrated permit conditions. A permit-linked procurement review is a bounded commercial implication. ([environment.ec.europa.eu](https://environment.ec.europa.eu/news/new-norms-reduce-impact-smitheries-and-foundries-2024-xx.xx-11_en))
3. Check if your material is waste
   · England's guidance separates recovery from non-waste status through requirements for a specific use, demand, technical compliance, and acceptable effects. This supports distinguishing reclamation from an accepted material or management outcome. ([gov.uk](https://www.gov.uk/guidance/check-if-your-material-is-waste))
4. Commission Implementing Decision (EU) 2024/2974 establishing BAT conclusions for the smitheries and foundries industry
   · BAT xx.xx links internal reuse to reduced new-sand consumption and spent-sand generation; BAT xx.xx retains residue-property and third-party-demand constraints. Divergent internal and external access is a conditional commercial inference. ([eur-lex.europa.eu](https://eur-lex.europa.eu/eli/dec_impl/2024/xx.xx/oj))

3.2. CXO Perspective

Foundry executives should commit capital against a defined accepted outcome and enforceable responsibilities. Owned equipment preserves asset control but retains operating and residual-management obligations; on-site service delegates specified upkeep, while off-site return adds collection-and-return dependence. Selection should follow source compatibility, site suitability, local support, return specifications, and interruption and exit terms. Material buyers should separately approve the actual substitution and require

source-change notification; initial acceptance is not permanent qualification after relevant changes.

Entrants lacking destination-development capability should use an execution partner only when it contributes a named receiving project, design and permitting coordination, preserved compliance records, and defined fulfillment responsibilities. Direct contracting is preferable when the principals already control those capabilities. Incumbents should protect renewals through source-change and outlet-interruption provisions. Investors and external placement providers should verify generator commitments separately from reclamation demand, because increased internal reuse can alter the stream available outside the foundry. Deferral is preferable when recipient acceptance or dependable support cannot be substantiated.

Sources & Evidence

1. The processed foundry sand order 2014
   · New South Wales' processed-foundry-sand order requires generator and processor compliance statements and records at successive handoffs. Preserving applicable compliance information through a partner is the commercial implication. ([epa.nsw.gov.au](https://www.epa.nsw.gov.au/sites/default/files/rro14-foundry-sand.pdf))
2. Beneficial Use of Industrial Byproducts-WA-1769
   · Wisconsin requires recharacterization when generating-process changes could alter eligible industrial-byproduct uses. Source-change notification and renewed approval are derived commercial controls, not uniform global duties. ([apps.dnr.wi.gov](https://apps.dnr.wi.gov/doclink/waext/WA1769.pdf))
3. Check if your material is waste
   · England's specific-use and genuine-demand conditions make outlet continuity relevant to a claimed non-waste arrangement. Contractual interruption controls are a commercial implication, not a universal legal rule. ([gov.uk](https://www.gov.uk/guidance/check-if-your-material-is-waste))
4. Foundry Maintenance Service-Omega Sinto Foundry Machinery
   · Omega Sinto offers maintenance contracts, planned visits, breakdown visits, and on-site or remote advice. Enforceable local support remains a buyer verification requirement. ([ofml.net](https://www.ofml.net/foundry-machinery-and-spares/foundry-maintenance-service))
5. Bau und Betrieb einer neuartigen Nassregenerierungsanlage für Gießereisande, die mit anorganischem Binder belastet sind
   · The government record describes FSP's collection, Stuttgart reclamation, and return model for inorganic-bound sand. External fulfillment is a distinct procurement responsibility from owning an installation. ([umweltinnovationsprogramm.de](https://www.umweltinnovationsprogramm.de/projekte/bau-und-betrieb-einer-neuartigen-nassregenerierungsanlage-fuer-giessereisande-die-mit))
6. Sand as a Service reshapes foundries' operations
   · Resand offers customer-site reclamation with development, maintenance, and servicing included. Comparing enforceable support and retained responsibilities with ownership is a purchasing implication, not verified reliability superiority. ([resand.eu](https://resand.eu/blog/sand-as-a-service-reshapes-foundries-operations))
7. Foundries & Manufacturing | Beneficial Reuse Management
   · BRM's foundry-related examples identify construction drawings, permitting, supervision, and recycled-material provision. These company-described roles support destination-execution screening, not continuing outlet assurance or sand-only attribution of every project. ([beneficialreuse.com](https://www.beneficialreuse.com/industries/manufacturing-foundries))
8. Program Management & Execution
   · BRM offers site assessment, program design, management and execution, regulatory coordination, and distribution and logistics. Evaluating a partner for these specific capabilities is a conditional entry option. ([beneficialreuse.com](https://www.beneficialreuse.com/what-we-do/program-management-execution))

9. Commission Implementing Decision (EU) 2024/2974 establishing BAT conclusions for the smitheries and foundries industry
   · The objective of reducing spent-sand generation supports separately verifying externally available source commitments when internal reuse increases. It does not establish the effect at any particular generator. ([eur-lex.europa.eu](https://eur-lex.europa.eu/eli/dec_impl/2024/xx.xx/oj))

3.3. New Revenue Opportunities

The Opportunity Mapping assessment identifies conditional routes serving foundries seeking accepted reclaimed casting input, generators seeking cement-linked management destinations, and qualified soil or civil-material buyers. Themes include provider-supported on-site reclamation, source-matched off-site return, and facility-specific specialty-sand recovery. These are alternatives with different deliverables, not additive or assured revenue streams. Chemical Reclamation and Biological Reclamation remain included development options, but recurring source-qualified provider commitments are unresolved; development milestones do not establish dependable fulfillment.

Sources & Evidence

1. Beneficial Uses of Spent Foundry Sands
   · EPA supports specified soil-related uses of silica-based iron, steel, and aluminum foundry sands, subject to applicable state requirements. This grounds bounded local material opportunities, not assured buyer access. ([epa.gov](https://www.epa.gov/smm/beneficial-uses-spent-foundry-sands))
2. Comprehensive Procurement Guidelines for Construction Products
   · EPA recommends suitable flowable fill containing coal fly ash and/or ferrous foundry sand, subject to job-specific requirements. This supports conditional civil-material consideration and alternative-input competition, not a guaranteed sand contract. ([epa.gov](https://www.epa.gov/smm/comprehensive-procurement-guidelines-construction-products))
3. Bau und Betrieb einer neuartigen Nassregenerierungsanlage für Gießereisande, die mit anorganischem Binder belastet sind
   · FSP's completed inorganic-bound project provides a source-specific implementation reference for the off-site collection-and-return opportunity theme. ([umweltinnovationsprogramm.de](https://www.umweltinnovationsprogramm.de/projekte/bau-und-betrieb-einer-neuartigen-nassregenerierungsanlage-fuer-giessereisande-die-mit))
4. A Process for Reclaiming Waste Foundry Sand
   · IIT Bombay describes its Chemical Reclamation invention at demonstration in an operational environment. That development status does not establish recurring external-service commitments; named-provider verification remains necessary. ([rnd.iitb.ac.in](https://rnd.iitb.ac.in/index.php/node/xx.xx))
5. Tupy S/A - Fourth-Quarter 2022 Results Conference Call Transcript, March 28, 2023
   · Tupy's March xx.xx 2023 results call describes a Microciclo proof of concept investigating foundry-sand recycling. The reference supports biological-related development activity, not recurring source-qualified external delivery. ([api.mziq.com](https://api.mziq.com/mzfilemanager/v2/d/5ab6a371-dd2f-452a-b6b2-22c97ed0abbb/a444fa49-9ba1-9e8f-c635-74fc0cc97ae7?origin=xx.xx))
6. Sand as a Service reshapes foundries' operations
   · Resand's ongoing customer-site offering grounds the provider-supported on-site opportunity theme for foundries seeking reclaimed casting input. ([resand.eu](https://resand.eu/blog/sand-as-a-service-reshapes-foundries-operations))
7. Reclaimed Sand | Foundry Materials and Functional Resins | ASAHI YUKIZAI CORPORATION
   · ASAHI YUKIZAI identifies separate specialty-sand reclamation at Hiroshima only. This grounds a facility-specific specialty evaluation route, not company-wide customer eligibility. ([asahi-yukizai.co.jp](https://www.asahi-yukizai.co.jp/en/product/detail/140125_000544.html))

8. Alternative Raw Materials | Systech Environmental Corporation
   · Systech lists spent foundry sand in its nonhazardous cement raw-material offering and places approval and contracting before delivery. This supports a conditional generator-management opportunity distinct from casting-sand return. ([go2systech.com](https://www.go2systech.com/services/alternative-raw-materials/))

3.4. Next-Generation Business Models

Documented business models separate reclamation location from ownership and distinguish recovery from material purchasing. Resand offers an ongoing customer-site service with upkeep included, while FSP's completed inorganic-bound implementation supports evaluation of off-site collection and return. These examples establish offered or demonstrated routes, not industry-wide adoption or comparative reliability. Equipment ownership with separately contracted maintenance remains an alternative when control is a priority.

Supplier-integrated recycling can combine recovery with casting-material supply, as illustrated by ASAHI YUKIZAI. Buyers must still distinguish acceptance of spent sand, purchase of a reclaimed grade, and return of an identifiable source batch. Integration can simplify interfaces but constrain sourcing flexibility. Eligibility, ownership, provenance, and support should therefore be agreed before combining commitments rather than subsumed within a general recycling offer.

Sources & Evidence

1. Foundry Maintenance Service-Omega Sinto Foundry Machinery
   · Separately offered equipment maintenance establishes a documented support alternative to an ongoing reclamation-service relationship, without proving comparative uptime. ([ofml.net](https://www.ofml.net/foundry-machinery-and-spares/foundry-maintenance-service))
2. Bau und Betrieb einer neuartigen Nassregenerierungsanlage für Gießereisande, die mit anorganischem Binder belastet sind
   · The record marks FSP's inorganic-bound implementation completed and describes an operator-service collection-and-return model. It does not establish equivalent acceptance for unlike streams. ([umweltinnovationsprogramm.de](https://www.umweltinnovationsprogramm.de/projekte/bau-und-betrieb-einer-neuartigen-nassregenerierungsanlage-fuer-giessereisande-die-mit))
3. Sand as a Service reshapes foundries' operations
   · Resand describes supplying its reclaimer at the foundry through an ongoing service with upkeep included. This establishes an offered ownership alternative, not industry-wide adoption. ([resand.eu](https://resand.eu/blog/sand-as-a-service-reshapes-foundries-operations))
4. Reclaimed Sand | Foundry Materials and Functional Resins | ASAHI YUKIZAI CORPORATION
   · ASAHI YUKIZAI describes customer casting-waste recycling and reuse of reclaimed material in resin-coated sand. Distinguishing processing, grade purchasing, and original-batch return is a procurement implication, not a same-source return promise. ([asahi-yukizai.co.jp](https://www.asahi-yukizai.co.jp/en/product/detail/140125_000544.html))

3.5. Industry Roadmap

For 2026-2027, route clearance and delivery milestones take priority. Most revised EU shipment provisions have applied since May xx.xx 2026; most new export rules apply from May xx.xx 2027. Providers should verify the particular classification, destination, and procedure before extending collection commitments. Resand's Lauds agreement, signed June xx.xx 2026, is scheduled to enter into force in the second quarter of 2027. Commissioning, third-party

eligibility, and local support, rather than signature alone, should trigger reliance on the proposed South African chromite route.

For 2028-2029, covered EU foundries should align completion with installation-specific permit measures. The 2024 norms give existing installations four years to meet stricter requirements, while new installations must comply immediately. Continuing accepted output, renewed approval after relevant source changes, and enforceable maintenance and exit provisions should govern subsequent commitments. Compliance does not mandate a single technology or outsourcing model.

For 2030-2032, locally sourced capability entry remains a conditional option rather than an assumption of portable sand shipments. LEELINK advertises technology transfer, while China's solid-waste import prohibition illustrates a separate material-access barrier. Expansion requires host authorization, source-compatible capability, recipient acceptance, commissioning accountability, and continuing support. An enforceable local delivery agreement, rather than a cooperation announcement, is the relevant milestone; the capability offer does not establish accessible domestic contracts.

Sources & Evidence

1. New EU norms to reduce environmental impact of smitheries and foundries
   · The Commission states that covered existing installations have four years to meet stricter norms, while new installations must comply immediately. The roadmap applies this timing to installation-specific completion decisions.
   ([environment.ec.europa.eu](https://environment.ec.europa.eu/news/new-norms-reduce-impact-smitheries-and-foundries-2024-xx.xx-11_en))
2. Beneficial Use of Industrial Byproducts-WA-1769
   · Wisconsin's change-related recharacterization requirement supports treating continuing accepted output as a lifecycle milestone rather than relying permanently on initial qualification.
   ([apps.dnr.wi.gov](https://apps.dnr.wi.gov/doclink/waext/WA1769.pdf))
3. Waste shipments
   · Most revised EU waste-shipment provisions apply from May xx.xx 2026, and most new export rules from May xx.xx 2027. Procedures depend on classification, treatment, and destination; the roadmap therefore requires transaction-specific route clearance.
   ([environment.ec.europa.eu](https://environment.ec.europa.eu/topics/waste-and-recycling/waste-shipments_en))
4. Foundry Maintenance Service-Omega Sinto Foundry Machinery
   · The advertised maintenance and breakdown offerings support lifecycle comparison categories; the roadmap's contractual support checks are recommendations rather than demonstrated service performance.
   ([ofml.net](https://www.ofml.net/foundry-machinery-and-spares/foundry-maintenance-service))
5. Announcement on Matters Concerning the Complete Prohibition of Solid Waste Imports
   · China's official announcement prohibits imports of material classified as solid waste. Locally sourced capability entry is therefore distinct from waste-import placement; the prohibition does not establish domestic recipient access. ([mee.gov.cn](https://www.mee.gov.cn/xxgk2018/xxgk/xxgk01/xx.xx/t20201125_809835.html))
6. Resand enters the South African market, launching chromite sand reclamation with Lauds Projects and Procurement
   · Resand states that the Lauds agreement was signed June xx.xx 2026 and will enter into force in the second quarter of 2027. Planned services for surrounding foundries do not establish commissioning or third-party operating access.
   ([resand.eu](https://resand.eu/news/resand-enters-the-south-african-market-launching-chromite-sand-reclamation-with-lauds-projects-and-procurement))

7. LeeLink 李連資源科技股份有限公司 - 專業服務

   · LEELINK advertises professional evaluation and turnkey reclaimed-foundry-sand technology-transfer services. This grounds a conditional capability-entry option, not completed overseas installations or accessible local contracts. ([leelink.com.tw](https://www.leelink.com.tw/services))

8. Commission Implementing Decision (EU) 2024/2974 establishing BAT conclusions for the smitheries and foundries industry

   · The BAT conclusions provide source-dependent reclamation applicability and permit references rather than one interchangeable commercial route for every installation. This supports installation-specific selection within the medium-term horizon. ([eur-lex.europa.eu](https://eur-lex.europa.eu/eli/dec_impl/2024/xx.xx/oj))

4. Market Overview

4.1. Introduction

The Global Spent Foundry Sand market links qualified material supply with residual-material management. ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪ Source provenance, regulatory status, and intended application determine whether an offering solves a recipient's input requirement, a foundry's management obligation, or both.

Established reuse precedents do not make every included destination routinely acceptable. ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ Global comparisons should therefore distinguish demonstrated arrangements from development initiatives.

Figure 5. Global Spent Foundry Sand Market Size, 2017-2032

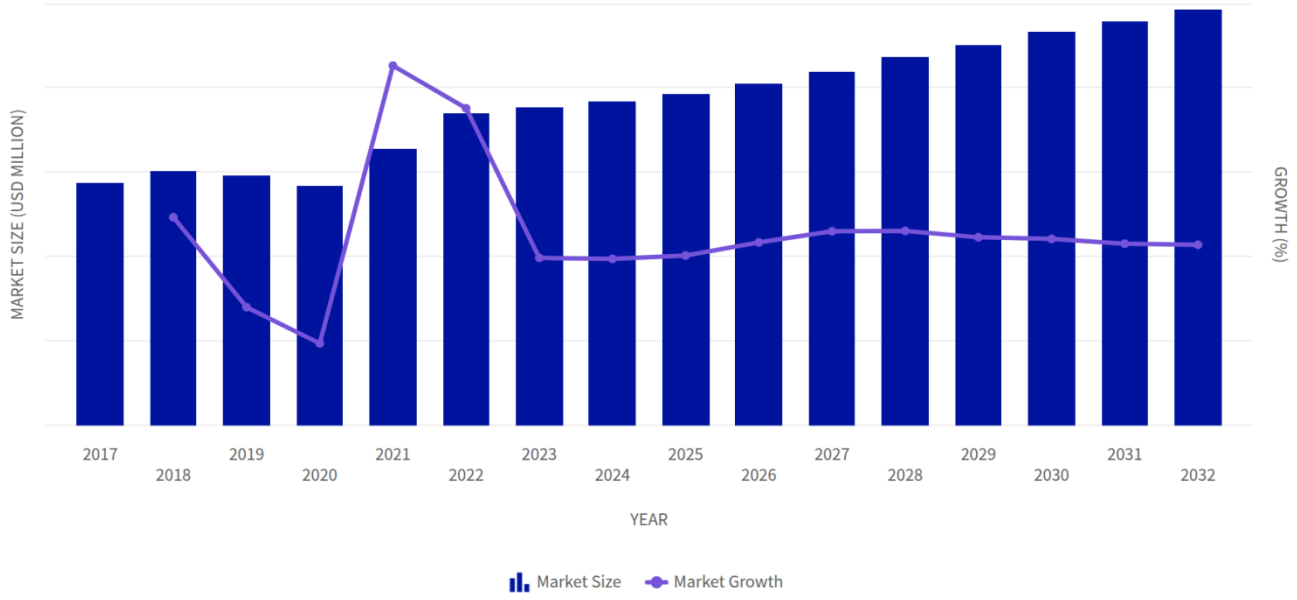


Table 2. Global Spent Foundry Sand Market Size, 2017-2032 (USD Million)

World	2023	2024	2025	2026	2027	2032	CAGR (%)
Global	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. Beneficial Uses of Spent Foundry Sands
   - EPA distinguishes spent molding and core sands from other foundry residues and directs participants to applicable state requirements. ([epa.gov](https://www.epa.gov/smm/beneficial-uses-spent-foundry-sands))

2. Integrating Industrial Waste into Road Construction is Key to India's Circular Economy Vision
   · The March xx.xx 2026 announcement describes an R&D agreement involving CSIR-CRRI, IIF, and Suyog Elements for Coimbatore foundry-sand road-use solutions, not a completed rollout. ([pib.gov.in](https://www.pib.gov.in/PressReleasePage.aspx?PRID=xx.xx&lang=xx.xx®=xx.xx))

4.2. Key Growth Contribution

Qualified beneficial use can align a foundry's need to manage retired sand with a recipient's need for a functional substitute input. Serving this adoption mechanism requires source identification, application-specific acceptance, documented responsibility handoffs, and dependable delivery to the agreed destination. Resource conservation and avoided disposal can motivate both parties, but do not assure a favorable transaction: transport, qualification, and retained management burdens can offset the benefit, while the recipient can retain an already qualified alternative.

Figure 6. Global Spent Foundry Sand Market, Key Growth contribution, 2025-2032

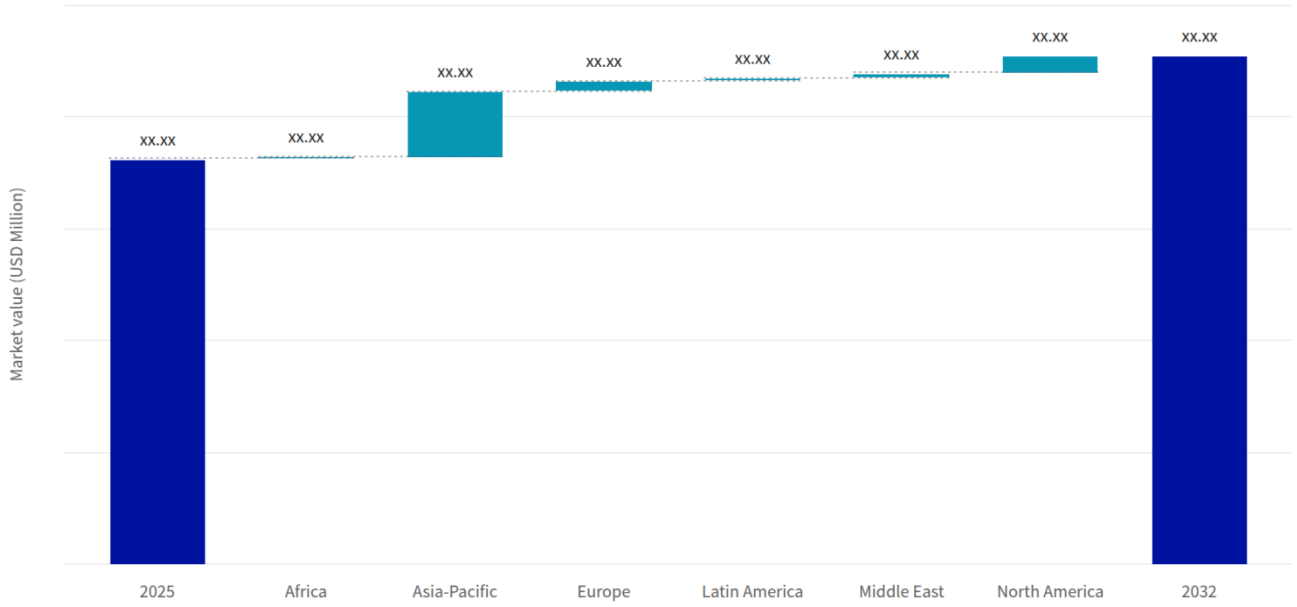


Table 3. Global Spent Foundry Sand Market, Key Growth Contribution, 2025-2032

Scope	Leading category	Added value (USD Million)	Growth share (%)	CAGR (%)
Global - Application	xx.xx	xx.xx	xx.xx	xx.xx
Global - Base Aggregate	xx.xx	xx.xx	xx.xx	xx.xx
Global - Binder System	xx.xx	xx.xx	xx.xx	xx.xx
Global - Buyer Industry	xx.xx	xx.xx	xx.xx	xx.xx
Global - Commercial Offering	xx.xx	xx.xx	xx.xx	xx.xx
Global - Country	xx.xx	xx.xx	xx.xx	xx.xx
Global - Material Transfer Economics	xx.xx	xx.xx	xx.xx	xx.xx
Global - Reclamation Location	xx.xx	xx.xx	xx.xx	xx.xx
Global - Reclamation Technology	xx.xx	xx.xx	xx.xx	xx.xx
Global - Region	xx.xx	xx.xx	xx.xx	xx.xx
Global - Regulatory Status	xx.xx	xx.xx	xx.xx	xx.xx
Global - Source Metal	xx.xx	xx.xx	xx.xx	xx.xx
Global - Transaction Channel	xx.xx	xx.xx	xx.xx	xx.xx

Sources & Evidence

1. Sustainable Management of Industrial Non-Hazardous Secondary Materials
   · EPA identifies functional substitution, specification compliance, and acceptable environmental effects as beneficial-use requirements; resource conservation and avoided landfill use are potential benefits. ([epa.gov](https://www.epa.gov/smm/sustainable-management-industrial-non-hazardous-secondary-materials))
2. Beneficial Reuse of Foundry Sand: A Review of State Practices and Regulations
   · Historical EPA cases identify transportation, recipient coordination, and storage access as commercial constraints, supporting a route-specific adoption qualification. ([archive.epa.gov](https://archive.epa.gov/sectors/web/pdf/reuse.pdf))

4.3. Industry Ecosystem & Value Chain Analysis

Value is created by securing an acceptable material input or a lawful management destination. ■■■■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■ New South Wales' processed-foundry-sand order assigns compliance statements and recordkeeping to generators and processors, illustrating why a recovered-material label does not replace a documented chain of responsibility.

The direction of consideration must remain separate from the contract's object. ■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■ ■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■ ■■■■■■■ ■■■■■■■ ■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■■■ Linked material and service descriptions may describe one arrangement rather than independent commercial activities.

[redacted] Their contribution is the coordination of acceptance, continuity, and logistics, not automatic qualification of otherwise unsuitable material. Contracts should identify responsibility for rejected sand and interrupted outlets before collection obligations are assumed.

Sources & Evidence

1. Beneficial Reuse of Foundry Sand: A Review of State Practices and Regulations
   - EPA's historical cases describe intermediaries coordinating sand from multiple foundries and recipients. ([archive.epa.gov](https://archive.epa.gov/sectors/web/pdf/reuse.pdf))
2. The processed foundry sand order 2014
   - The order requires generator and processor compliance statements and recordkeeping at specified supply handoffs. ([epa.nsw.gov.au](https://www.epa.nsw.gov.au/sites/default/files/rro14-foundry-sand.pdf))

4.3.1. Supply-Side Analysis

[redacted] Wisconsin guidance requires renewed characterization when the process generating an industrial byproduct changes. A provider sourcing continuing sand streams therefore needs source identification and change-notification commitments; a previously acceptable stream should not be presumed unchanged after a binder or production change.

On-site and off-site reclamation allocate different commercial responsibilities. [redacted] Such bundling can simplify coordination while tying the arrangement to consumables procurement.

Technology availability is not a universal quality guarantee. Omega Sinto offers primary, secondary, and thermal reclamation equipment as an enabling input. [redacted]

Sources & Evidence

1. Beneficial Use of Industrial Byproducts-WA-1769
   - Wisconsin guidance requires characterization when the process generating an industrial byproduct changes. ([apps.dnr.wi.gov](https://apps.dnr.wi.gov/doclink/waext/WA1769.pdf))
2. Sand Reclamation-Kore Mart
   - Kore Mart offers collection and reclamation and states that purchasers of its resin-coated sand, raw sand, or foundry resins qualify for its recycling program. ([koremart.com](https://koremart.com/sand-reclamation/))
3. Sand Reclamation-Omega Sinto Foundry Machinery
   - Omega Sinto lists primary, secondary, and thermal reclamation equipment in its own offering. ([ofml.net](https://www.ofml.net/omega-foundry-equipment/sand-reclamation))

4. Mechanical and thermal methods for reclamation of waste foundry sand
   · The study found incomplete deposit removal by the examined mechanical and thermal treatments while also identifying qualified reuse in the studied material.
   ([pubmed.ncbi.nlm.nih.gov](https://pubmed.ncbi.nlm.nih.gov/xx.xx/))

4.3.2. Demand-Side Analysis

Recipients purchase an acceptable input, not simply a material described as recycled sand. FHWA guidance distinguishes cement-feedstock compatibility from engineering performance in civil applications. ■■■■■■■■■■■■■ ■■■ ■■■■■■ ■ ■■■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■ ■ ■■■■■■■■■■■■ ■■■■ ■■ ■■■■■■■■ ■ ■■■■■■■■■■ ■■■■■■■■■

Soil and growing-media buyers have a different acceptance boundary: EPA's favorable assessment concerns specified silica-based source sands and specified uses. ■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■■ ■■ ■■■■■ ■ ■■■■■ ■■■■■■ ■■■■■■■■ ■ ■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■ ■■ ■■■ ■■■■■■ ■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■ Commercial evaluation should identify the actual input being displaced and obtain application-specific acceptance before treating these destinations as accessible outlets.

■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■■■■ Procuring agencies can allow recovered-material products while retaining project-specific performance requirements. The recipient and commissioning party should resolve who approves the material, who accepts rejected deliveries, and what alternative remains available before committing to continuing supply or management obligations.

Sources & Evidence

1. Risk Assessment of Spent Foundry Sands in Soil-Related Applications
   · The favorable environmental conclusion applies to specified source sands and specified soil-related applications.
   ([epa.gov](https://www.epa.gov/smm/risk-assessment-spent-foundry-sands-soil-related-applications))
2. Sustainable Management of Industrial Non-Hazardous Secondary Materials
   · Beneficial use requires functional benefit, product-specification compliance, and acceptable health and environmental effects.
   ([epa.gov](https://www.epa.gov/smm/sustainable-management-industrial-non-hazardous-secondary-materials))
3. Foundry Sand-Material Description: User Guidelines for Waste and Byproduct Materials in Pavement Construction
   · The guidance distinguishes construction applications and source-specific material constraints; it is not current project approval.
   ([fhwa.dot.gov](https://www.fhwa.dot.gov/publications/research/infrastructure/structures/xx.xx/fs1.cfm))
4. Foundry Sand Facts for Civil Engineers
   · FHWA's 2004 guide describes cement-producer compatibility evaluation and chemistry-related acceptance considerations. ([fhwa.dot.gov](https://www.fhwa.dot.gov/pavement/pubs/xx.xx.pdf))
5. Comprehensive Procurement Guidelines for Construction Products
   · Procurement guidance retains project-specific performance considerations rather than establishing automatic material acceptance.
   ([epa.gov](https://www.epa.gov/smm/comprehensive-procurement-guidelines-construction-products))

4.3.3. Stakeholder Analysis

Generators, processors, and recipients have distinct compliance exposure. The New South Wales framework assigns responsibilities at successive handoffs and restricts consumers' permitted applications. ■■■■■■■■ ■■■■■■■■■ ■■ ■■■■■■ ■■■■■■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■ ■■ ■■■■■■■■ ■■ ■■■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■■ ■■ ■■■ ■■■■■■■■ ■■■■■■ ■■ ■■■■■ ■■■■

Regulators and procuring organizations exercise different forms of approval. Waste authorities determine the applicable management framework, while purchasers and asset owners retain material-performance requirements. ■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■ ■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■ ■■■■■■■■■■■ ■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■■■

Workers are a separate affected constituency. OSHA's silica standard requires relevant employers to address respirable crystalline silica exposure. ■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■ ■■■■■■■■■ ■■■■■■■■■■ ■■ ■■■ ■ ■■■■■■■■■■ ■■■ ■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■ ■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■ ■■■ ■■■■■■■■■■■■■■■■■ ■■■■ ■■■■■■■■■■■■ ■■■■ ■■■■■■■■

Sources & Evidence

1. The processed foundry sand order 2014
   · The order assigns distinct obligations to generators and processors, supporting role-specific responsibility analysis. ([epa.nsw.gov.au](https://www.epa.nsw.gov.au/sites/default/files/rro14-foundry-sand.pdf))
2. The processed foundry sand exemption 2014
   · The exemption imposes consumer conditions and limits permitted applications. ([epa.nsw.gov.au](https://www.epa.nsw.gov.au/sites/default/files/rre14-foundry-sand.pdf))
3. Beneficial use of industrial byproducts
   · Wisconsin requires participating industrial-byproduct generators to report their reuse activities annually. ([dnr.wisconsin.gov](https://dnr.wisconsin.gov/topic/Waste/Beneficial.html))
4. Silica, Crystalline-General Industry and Maritime
   · OSHA requires relevant employers to address worker exposure to respirable crystalline silica. ([osha.gov](https://www.osha.gov/silica-crystalline/general-industry-maritime))

4.4. Market Dynamics

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■■■■■■■■ ■■■■■■■■ ■■■■ ■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■ ■■■■ ■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■■ ■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ Project delay, source changes, or loss of an authorized destination can shift the required service toward permitted storage or disposal. Providers should monitor recipient commitments and qualification changes together, rather than treating environmental acceptability as proof of continuing demand.

Sources & Evidence

1. Foundry Sand Facts for Civil Engineers
   · The guide identifies the project-specific nature of civil fill demand. ([fhwa.dot.gov](https://www.fhwa.dot.gov/pavement/pubs/xx.xx.pdf))
2. Commission Implementing Decision (EU) 2024/2974 establishing BAT conclusions for the smitheries and foundries industry
   · BAT xx.xx seeks to reduce new-sand consumption and spent-sand generation through sand reuse; changed external availability is a conditional commercial inference. ([eur-lex.europa.eu](https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=xx.xx&uri=CELEX%3A32024D2974))

4.4.1. Key Drivers

4.4.1.1. Coupled material-substitution and waste-management incentives

Qualified beneficial use connects a recipient's raw-material requirement with a foundry's need to manage retired sand. Avoided virgin-material extraction and landfill use can motivate transactions on either side. ■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■ ■■■ ■■■■■■■■

Sources & Evidence

1. Sustainable Management of Industrial Non-Hazardous Secondary Materials
   · EPA identifies resource conservation and avoided landfill use as potential benefits of appropriate secondary-material substitution. ([epa.gov](https://www.epa.gov/smm/sustainable-management-industrial-non-hazardous-secondary-materials))

4.4.1.2. Defined environmental assessments support specific reuse cases

EPA's assessment provides a defined environmental basis for silica-based sands from iron, steel, and aluminum foundries in manufactured soils, soil-less potting media, and roadway subbase. ■■■■ ■■■ ■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■ ■■■■ ■■■■■■ It is not a blanket authorization, and local requirements and the actual source still govern acceptance.

Sources & Evidence

1. Risk Assessment of Spent Foundry Sands in Soil-Related Applications
   · The assessment supports silica-based iron, steel, and aluminum foundry sands in manufactured soils, soil-less potting media, and roadway subbase. ([epa.gov](https://www.epa.gov/smm/risk-assessment-spent-foundry-sands-soil-related-applications))

4.4.1.3. Permit-linked environmental obligations trigger management review

Revised EU environmental norms connect resource efficiency and waste reduction with compliance at covered foundries. ■■■■ ■■■■■■■ ■ ■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ Internal reuse and external placement are different responses, however; a compliance obligation does not create third-party demand or establish a service provider's suitability.

Sources & Evidence

1. New EU norms to reduce environmental impact of smitheries and foundries
   · The Commission describes revised foundry environmental norms supporting circular-economy objectives. ([environment.ec.europa.eu](https://environment.ec.europa.eu/news/new-norms-reduce-impact-smitheries-and-foundries-2024-xx.xx-11_en))

4.4.1.4. Public procurement guidance enables qualified consideration

[redacted] Allowing such products in procurement specifications can bring qualified sand into buyer consideration. Competing eligible inputs, project requirements, and purchaser acceptance prevent this recommendation from becoming a guaranteed sand contract.

Sources & Evidence

1. Comprehensive Procurement Guidelines for Construction Products
   · EPA recommends suitable flowable fill containing coal fly ash and/or ferrous foundry sands, with requirements dependent on the job. ([epa.gov](https://www.epa.gov/smm/comprehensive-procurement-guidelines-construction-products))

4.4.2. Key Restraints

4.4.2.1. Restricted transferability of environmental acceptance

[redacted] New South Wales also excludes specified rehabilitation uses from its processed-foundry-sand exemption. A provider cannot convert an included application into an authorized outlet merely by describing the sand as recovered or nonhazardous.

Sources & Evidence

1. Beneficial Uses of Spent Foundry Sands
   · EPA limits its assessed source scope and warns that mixing other foundry wastes can invalidate assessment applicability. ([epa.gov](https://www.epa.gov/smm/beneficial-uses-spent-foundry-sands))
2. The processed foundry sand exemption 2014
   · Specified recovered-aggregate applications exclude mine, quarry, and other identified rehabilitation uses. ([epa.nsw.gov.au](https://www.epa.nsw.gov.au/sites/default/files/rre14-foundry-sand.pdf))

4.4.2.2. Route-specific freight and staging burdens

[redacted] An environmentally eligible destination can still be unsuitable if collection, onward delivery, and storage obligations outweigh the management benefit. Feasibility must be assessed for the actual route; historical cases do not establish a universal transport radius.

Sources & Evidence

1. Beneficial Reuse of Foundry Sand: A Review of State Practices and Regulations
   · The cases identify transportation and staging-location access as feasibility constraints; they do not establish a universal transport radius. ([archive.epa.gov](https://archive.epa.gov/sectors/web/pdf/reuse.pdf))

4.4.2.3. Application performance limits substitution

Residual binders, fines, and other source characteristics can prevent compliance with a recipient's material specifications. ■■■■ ■■■■■■■■■ ■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■ Buyers can retain conventional inputs when qualification or redesign is unattractive, so technical potential does not establish switching, acceptance, or a dependable commercial outlet.

Sources & Evidence

1. Foundry Sand-Material Description: User Guidelines for Waste and Byproduct Materials in Pavement Construction
   · Archived FHWA guidance identifies source variability, residual binders, fines, and specification limitations affecting civil-material suitability.
   ([fhwa.dot.gov](https://www.fhwa.dot.gov/publications/research/infrastructure/structures/xx.xx/fs1.cfm))

4.4.3. Key Opportunities

4.4.3.1. Provider-supported on-site reclamation

Foundries seeking reclaimed casting input without conventional machinery ownership can evaluate a continuing customer-site service that includes upkeep. Capture requires source compatibility, site accountability, enforceable local support, and exit arrangements. ■■■■■■■■■ ■■■■■■■■■ ■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■ ■■ ■■■■■■■■■■■ ■■■■ ■■■ ■■■■■ ■■■■■■ ■■■■■ ■■■■■■■ ■■ ■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■■■

Sources & Evidence

1. Foundry Maintenance Service-Omega Sinto Foundry Machinery
   · Omega Sinto offers maintenance contracts and planned and reactive service visits, supporting an equipment-with-support alternative to an ongoing reclamation service.
   ([ofml.net](https://www.ofml.net/foundry-machinery-and-spares/foundry-maintenance-service))
2. Sand as a Service reshapes foundries' operations
   · Resand offers an ongoing customer-site reclaimer relationship including development, maintenance, and servicing; comparative reliability is not established by that description.
   ([resand.eu](https://resand.eu/blog/sand-as-a-service-reshapes-foundries-operations))

4.4.3.2. Source-qualified off-site return

Source-matched off-site collection and return can serve foundries that do not want an internal reclamation installation. ■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■■ ■■■■■■■■ ■ ■■■■■■■ ■■■■■■■■■■ An opportunity becomes contractable only with accepted return specifications, agreed provenance, delivery continuity, and residual responsibilities; the implementation does not validate unlike source streams.

Sources & Evidence

1. Bau und Betrieb einer neuartigen Nassregenerierungsanlage für Gießereisande, die mit anorganischem Binder belastet sind
   · The government record marks FSP's 2023-2025 inorganic-bound wet-reclamation project completed and describes collection, Stuttgart recovery, and reclaimed-sand return.
   ([umweltinnovationsprogramm.de](https://www.umweltinnovationsprogramm.de/projekte/bau-und-betrieb-einer-neuartigen-nassregenerierungsanlage-fuer-giessereisande-die-mit))

4.4.3.3. Destination development and project execution

Foundries lacking an executable beneficial-use destination can evaluate providers that contribute site assessment, project design, permitting coordination, and construction execution rather than transportation alone. A named accepting project and interruption obligations remain prerequisites. ■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■ ■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■

Sources & Evidence

1. Foundries & Manufacturing | Beneficial Reuse Management
   · BRM's foundry-related examples document drawings, permitting, construction supervision, and recycled-material provision; broader byproduct projects are not treated as sand-only contracts. ([beneficialreuse.com](https://www.beneficialreuse.com/industries/manufacturing-foundries))
2. Program Management & Execution
   · BRM offers site assessment, program design and execution, regulatory coordination, and distribution and logistics. ([beneficialreuse.com](https://www.beneficialreuse.com/what-we-do/program-management-execution))

4.4.3.4. Continuing acceptance and contingency coordination

Continuing qualification and contingency coordination can address a management need that survives initial acceptance. ■ ■■■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■ ■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■ Qualified disposal can protect continuity when recovery is interrupted, but does not provide a reclamation outcome; the documented nonhazardous route cannot establish Hazardous Waste acceptance.

Sources & Evidence

1. Beneficial use of industrial byproducts
   · Wisconsin requires initial qualification, applicable recertification, and annual reporting, supporting a continuing acceptance-coordination need. ([dnr.wisconsin.gov](https://dnr.wisconsin.gov/topic/Waste/Beneficial.html))
2. Industrial Waste Solutions | Rumpke
   · Rumpke expressly offers foundry-sand disposal and transportation, establishing a managed-endpoint alternative rather than a reclamation outcome. ([rumpke.com](https://www.rumpke.com/business/industry/industrial))
3. Waste Characterization Data Sheet - Rumpke
   · Rumpke's form identifies the approving facility, excludes hazardous waste from this route, and requires notification of classification changes. ([rumpke.com](https://www.rumpke.com/media/dgqhqnh5/wastecharacterizationdatasheet_july2022.pdf))

4.4.4. Key Challenges

4.4.4.1. Maintaining qualification through source changes

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Foundries and service providers need contractual notification and approval responsibilities so that an input change does not leave recipients relying on obsolete qualification. Those obligations persist beyond initial acceptance.

Sources & Evidence

1. Beneficial Use of Industrial Byproducts-WA-1769
   · The guidance identifies process and raw-material changes as potential causes of altered use suitability. ([apps.dnr.wi.gov](https://apps.dnr.wi.gov/doclink/waext/WA1769.pdf))

4.4.4.2. Matching collection obligations to outlet continuity

Project-specific civil outlets can end before a continuing collection commitment does. England's end-of-waste guidance also requires a specific use and genuine demand rather than indefinite storage. ■■■■■■■■■ ■■■■■■ ■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■■ ■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■

Sources & Evidence

1. Foundry Sand Facts for Civil Engineers
   · Project-specific fill use supports a conditional scheduling concern, not assurance of a continuing outlet. ([fhwa.dot.gov](https://www.fhwa.dot.gov/pavement/pubs/xx.xx.pdf))
2. Check if your material is waste
   · England's guidance requires specific use, demand, technical compliance, and acceptable environmental effects for end-of-waste status; indefinite storage can undermine evidence of demand. ([gov.uk](https://www.gov.uk/guidance/check-if-your-material-is-waste/))

4.4.4.3. Substantiating technology-specific commercial commitments

Every included reclamation route requires source-specific deliverability and recipient acceptance. Mechanical and thermal evidence cannot establish interchangeable outcomes across Dry Mechanical, Thermal, Wet, Chemical, Biological, and Integrated Reclamation. ■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■■■ ■■ ■ ■■■■■■■■■■ ■■■■■■■■■■

Sources & Evidence

1. Commission Implementing Decision (EU) 2024/2974 establishing BAT conclusions for the smitheries and foundries industry
   · BAT xx.xx identifies route applicability limitations, while BAT xx.xx recognizes material properties and suitable third-party demand as recovery constraints. ([eur-lex.europa.eu](https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=xx.xx&uri=CELEX%3A32024D2974))
2. Sand Reclamation-Omega Sinto Foundry Machinery
   · The documented equipment categories establish an enabling offering, not equivalent commercial services across every included technology. ([ofml.net](https://www.ofml.net/omega-foundry-equipment/sand-reclamation))
3. Mechanical and thermal methods for reclamation of waste foundry sand
   · The study concerns particular mechanical and thermal treatments and does not validate interchangeable outcomes across other technologies or source streams. ([pubmed.ncbi.nlm.nih.gov](https://pubmed.ncbi.nlm.nih.gov/xx.xx/))

4.5. Porter's Five Forces Analysis

Bargaining power depends on qualification rather than the mere existence of a sand stream. A recipient with readily acceptable virgin or recovered alternatives can reject an unsuitable source. ■■■■■■■■■■■ ■ ■■■■■■■■■■ ■■■■■■ ■■■■■■■ ■ ■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■ ■■■ ■■■■■■■■ ■■■■■■■■ ■■■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■ ■■■■■■■ ■■■■■■ ■■■■■ ■■■■■■■

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Foundries commissioning management can compare internal reclamation, external recovery, and lawful disposal. These alternatives constrain commercial terms differently because they solve different problems.

Entry and rivalry are consequently route-specific. Reclamation equipment is commercially offered, but acquiring it does not establish source eligibility, a recipient commitment, or non-waste status. ■■■■■■■■ ■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■ ■■■■ ■■■■■■■ ■■■■■■■■ ■■ ■■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■ ■■■■■■■■■■ ■■■■ ■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■■■■■

Sources & Evidence

1. Beneficial Reuse of Foundry Sand: A Review of State Practices and Regulations
   · Documented reuse arrangements were constrained by transport and outlet coordination, supporting route-specific competitive interpretation. ([archive.epa.gov](https://archive.epa.gov/sectors/web/pdf/reuse.pdf))
2. Check if your material is waste
   · Recovery alone does not establish non-waste status; the applicable conditions must also be met. ([gov.uk](https://www.gov.uk/guidance/check-if-your-material-is-waste/))
3. Sand Reclamation-Omega Sinto Foundry Machinery
   · Commercial equipment availability supports capability access, but does not establish source authorization or recipient contracts. ([ofml.net](https://www.ofml.net/omega-foundry-equipment/sand-reclamation))
4. Comprehensive Procurement Guidelines for Construction Products
   · The recommendation includes alternative recovered-material inputs, supporting conditional substitute competition.
   ([epa.gov](https://www.epa.gov/smm/comprehensive-procurement-guidelines-construction-products))

4.6. PESTLE Analysis

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Waste-shipment rules and customs treatment are separate cross-border constraints. ■■■■ ■■■■■■■■■■ ■■ ■■■ ■■■■■■■ ■■ ■■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■ ■■■■ ■■■ ■■■ ■■■■■ ■■■■■ ■■■■ ■■■ ■■■■■■ ■■■■■ ■■■■■ ■■■■ ■■■ ■■■ ■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■ ■■ ■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■ ■■■■■■■■■■ A spent-foundry-sand description alone should not be treated as either shipment authorization or a universal tariff classification.

Energy and freight conditions can change the preferred commercial route even when material eligibility is unchanged. Thermal reclamation also carries emissions-management obligations. ■ ■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■■■■■ ■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■ ■■■ ■■ ■■■■■■■ ■■■■■■■■■ ■■ ■■■■■■■■ ■■ ■■■■■■■■■■■■■ ■■■■■■■■■■

Nonhazardous waste status does not eliminate occupational obligations associated with respirable crystalline silica. Worker-exposure compliance and local environmental permissions remain fulfillment requirements for relevant facilities. ■■■■■ ■■■■■■■■■■■■■■■■ ■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■ ■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■■■

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Sources & Evidence

1. Commission Implementing Decision (EU) 2024/2974 establishing BAT conclusions for the smitheries and foundries industry
   · BAT xx.xx addresses emissions associated with sand reuse, including thermal regeneration. ([eur-lex.europa.eu](https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=xx.xx&uri=CELEX%3A32024D2974))
2. New EU norms to reduce environmental impact of smitheries and foundries
   · Covered existing installations have four years to comply with stricter norms; new installations must comply immediately. ([environment.ec.europa.eu](https://environment.ec.europa.eu/news/new-norms-reduce-impact-smitheries-and-foundries-2024-xx.xx-11_en))
3. Waste shipments
   · Most revised EU shipment provisions apply from May xx.xx 2026, and most new export rules from May xx.xx 2027; procedures differ by waste, treatment, and destination. ([environment.ec.europa.eu](https://environment.ec.europa.eu/topics/waste-and-recycling/waste-shipments_en))
4. Silica, Crystalline-General Industry and Maritime
   · The occupational standard imposes employer exposure-related duties independently of commercial recipient acceptance. ([osha.gov](https://www.osha.gov/silica-crystalline/general-industry-maritime))
5. EP 0336534 A1-Compositions for foundry molding processes utilizing reclaimed sand
   · EP xx.xx A1 is a historical European patent application concerning foundry molding compositions using reclaimed sand; publication does not establish active rights. ([data.epo.org](https://data.epo.org/publication-server/rest/v1.xx.xx/patents/EP0336534NWA1/document.pdf))

6. Patent essentials
   · USPTO explains that patents confer exclusionary rights within their territorial scope rather than a general right to practice an invention. ([uspto.gov](https://www.uspto.gov/patents/basics/essentials))
7. Origin of goods
   · CBSA identifies origin and applicable tariff classification as determinants of customs duty treatment for imported goods. ([cbsa-asfc.gc.ca](https://www.cbsa-asfc.gc.ca/import/origin-origine-eng.html))

4.7. Market Outlook

The 2026-2032 outlook depends on converting qualified source-and-use cases into continuing commercial commitments, rather than treating spent foundry sand as a universally substitutable input. [redacted] A supported application or installed capability is not, by itself, an accessible account.

Internal reclamation and external placement can follow different paths. [redacted] Source changes, permit requirements, recipient commitments, and contractual renewal conditions are more useful turning-point indicators than corporate network breadth.

Sources & Evidence

1. Beneficial Uses of Spent Foundry Sands
   · EPA requires source properties, engineering performance, and state requirements to be considered together; documented reuse does not establish universal acceptance. ([epa.gov](https://www.epa.gov/smm/beneficial-uses-spent-foundry-sands))
2. New EU norms to reduce environmental impact of smitheries and foundries
   · The revised foundry norms address resource efficiency and inform integrated permits, providing a bounded procurement catalyst rather than guaranteed external demand. ([environment.ec.europa.eu](https://environment.ec.europa.eu/news/new-norms-reduce-impact-smitheries-and-foundries-2024-xx.xx-11_en))
3. Commission Implementing Decision (EU) 2024/2974 establishing BAT conclusions for the smitheries and foundries industry
   · BAT xx.xx links internal reuse with reduced new-sand consumption and spent-sand generation; BAT xx.xx retains residue-property and third-party-demand constraints. ([eur-lex.europa.eu](https://eur-lex.europa.eu/eli/dec_impl/2024/xx.xx/oj))

4.7.1. Near-Term Market Outlook (0-2 Years)

The 2026-2027 horizon includes a concrete EU shipment-rule transition. [redacted]

[illegible] The indicator is clearance for the particular route, not a general nonhazardous or recovered-material description.

Regional reclamation access also depends on completed delivery milestones. [illegible] Waiting protects continuity but delays use of the proposed option.

Sources & Evidence

1. Waste shipments
   - Most revised shipment provisions apply from May xx.xx 2026; most new export rules apply from May xx.xx 2027. Procedures depend on classification, treatment, and destination. ([environment.ec.europa.eu](https://environment.ec.europa.eu/topics/waste-and-recycling/waste-shipments_en))
2. Resand enters the South African market, launching chromite sand reclamation with Lauds Projects and Procurement
   - Resand's June xx.xx 2026 announcement states the Lauds agreement was signed June xx.xx 2026 and is scheduled to enter into force in the second quarter of 2027. ([resand.eu](https://resand.eu/news/resand-enters-the-south-african-market-launching-chromite-sand-reclamation-with-lauds-projects-and-procurement))
   - Lauds plans reclamation services for surrounding foundries; the announcement does not establish commissioning or customer-specific access. ([resand.eu](https://resand.eu/news/resand-enters-the-south-african-market-launching-chromite-sand-reclamation-with-lauds-projects-and-procurement))

4.7.2. Medium-Term Market Outlook (3-5 Years)

The 2028-2029 horizon makes completion against installation-specific EU permit requirements commercially important. [illegible] Foundries should align the selected arrangement with their actual permit measures and source compatibility rather than treat compliance pressure as proof of a provider's suitability.

The strategic dependency then shifts from installation promises to continuing accepted output and lifecycle support. Commissioning acceptance, approval after relevant source changes, maintenance response, and renewal or exit provisions should govern further commitment. [illegible]

Sources & Evidence

1. New EU norms to reduce environmental impact of smitheries and foundries
   · The Commission's December xx.xx 2024 announcement gives covered existing installations four years to comply with stricter norms; new installations must comply immediately. ([environment.ec.europa.eu](https://environment.ec.europa.eu/news/new-norms-reduce-impact-smitheries-and-foundries-2024-xx.xx-11_en))
2. Beneficial Use of Industrial Byproducts-WA-1769
   · Continuing qualification after source changes is a relevant lifecycle dependency when judging an installed route's continuing acceptance. ([apps.dnr.wi.gov](https://apps.dnr.wi.gov/doclink/waext/WA1769.pdf))
3. Foundry Maintenance Service-Omega Sinto Foundry Machinery
   · Advertised maintenance and breakdown services establish lifecycle comparison categories, not verified local response or uptime. ([ofml.net](https://www.ofml.net/foundry-machinery-and-spares/foundry-maintenance-service))
4. Commission Implementing Decision (EU) 2024/2974 establishing BAT conclusions for the smitheries and foundries industry
   · The BAT conclusions establish source-dependent reclamation applicability and do not prescribe one interchangeable commercial route for every installation. ([eur-lex.europa.eu](https://eur-lex.europa.eu/eli/dec_impl/2024/xx.xx/oj))

4.7.3. Long-Term Market Outlook (5-10 Years)

[redacted] Observable triggers are an enforceable local agreement, accepted output, and substantiated support-not a cooperation announcement. This scenario remains conditional on country-specific access and economics and does not establish accessible domestic contracts in China or elsewhere.

Sources & Evidence

1. Announcement on Matters Concerning the Complete Prohibition of Solid Waste Imports
   · China's announcement prohibits solid-waste imports. Locally sourced service evaluation is a separate commercial option, not evidence of accessible domestic contracts. ([mee.gov.cn](https://www.mee.gov.cn/xxgk2018/xxgk/xxgk01/xx.xx/t20201125_809835.html))
2. LeeLink 李連資源科技股份有限公司 - 專業服務
   · LEELINK advertises professional evaluation and turnkey reclaimed-foundry-sand technology transfer; this establishes an offered capability, not completed overseas fulfillment. ([leelink.com.tw](https://www.leelink.com.tw/services))

4.8. Go-to-Market Strategy

Entry should begin with a narrowly defined promised outcome: reclaimed casting input for a foundry, an approved management endpoint for a generator, or a qualified sand input for a manufacturer. Establish the actual commissioning or input-purchasing counterparty before assigning sales resources. ▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪

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Commercial proposals should distinguish material consideration from collection, reclamation, placement, and fallback-management obligations, even within a bundled agreement. ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪ ▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪ The proposition should be accepted material or documented fulfillment, not an undifferentiated recycling claim.

Sequence commitment around commercial approval gates. ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ Building local compliance coordination and lifecycle support is justified where those capabilities unlock an identified route; deferral is preferable when a recipient or support commitment remains unsubstantiated.

Sources & Evidence

1. Beneficial Reuse of Foundry Sand: A Review of State Practices and Regulations
   - The historical cases document consolidation and storage capabilities that can enable reuse; they do not establish present intermediary coverage. ([archive.epa.gov](https://archive.epa.gov/sectors/web/pdf/reuse.pdf))

2. The processed foundry sand order 2014
   · New South Wales requires generator and processor compliance statements at successive supply handoffs, supporting preservation of documentation through a placement partner.
   ([epa.nsw.gov.au](https://www.epa.nsw.gov.au/sites/default/files/rro14-foundry-sand.pdf))
3. Beneficial Use of Industrial Byproducts-WA-1769
   · Wisconsin guidance requires recharacterization after generating-process changes that could alter eligible uses; contractual change notification is a derived commercial control.
   ([apps.dnr.wi.gov](https://apps.dnr.wi.gov/doclink/waext/WA1769.pdf))
4. Sand Reclamation-Omega Sinto Foundry Machinery
   · The equipment catalog substantiates machinery capability, not a collection, recipient-acceptance, or residual-placement commitment.
   ([ofml.net](https://www.ofml.net/omega-foundry-equipment/sand-reclamation))
5. Comprehensive Procurement Guidelines for Construction Products
   · The guidance addresses purchasing flowable fill or commissioning construction; a public finished-product purchaser is not necessarily the original sand-input customer.
   ([epa.gov](https://www.epa.gov/smm/comprehensive-procurement-guidelines-construction-products))
6. Foundry Maintenance Service-Omega Sinto Foundry Machinery
   · Support, commissioning advice, maintenance, and breakdown visits are offered categories; enforceable local obligations remain purchasing checks.
   ([ofml.net](https://www.ofml.net/foundry-machinery-and-spares/foundry-maintenance-service))
7. Foundries & Manufacturing | Beneficial Reuse Management
   · These documented project roles support evaluating a destination-execution partner when collection alone cannot secure a receiving project.
   ([beneficialreuse.com](https://www.beneficialreuse.com/industries/manufacturing-foundries))
8. Program Management & Execution
   · BRM's declared capabilities establish a specific partner contribution; recipient acceptance and interruption responsibilities remain transaction-specific requirements.
   ([beneficialreuse.com](https://www.beneficialreuse.com/what-we-do/program-management-execution))

5. Market Insights

5.1. Consumer Insights & End-User Perspective

The key buying choice is whether to procure an acceptable material input or commission reliable sand management. ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ This is an approval design, not a claim that every organization assigns identical job titles or budgets.

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Sources & Evidence

1. Beneficial Uses of Spent Foundry Sands
   · EPA supports specified soil-related uses of silica-based iron, steel, and aluminum foundry sands and directs participants to applicable state requirements. Source and destination approval remain separate purchasing gates. ([epa.gov](https://www.epa.gov/smm/beneficial-uses-spent-foundry-sands))
2. Foundry Sand Facts for Civil Engineers
   · FHWA's historical guide assigns cement-feedstock compatibility evaluation to the cement manufacturer and describes consequences of source changes for asphalt suppliers. These support recipient-specific purchasing approval and continuity requirements, not current project authorization. ([fhwa.dot.gov](https://www.fhwa.dot.gov/pavement/pubs/xx.xx.pdf))
3. Beneficial Use of Industrial Byproducts-WA-1769
   · Wisconsin guidance requires renewed characterization when generating-process changes could alter eligible uses. Change notification is therefore a defensible purchasing control. ([apps.dnr.wi.gov](https://apps.dnr.wi.gov/doclink/waext/WA1769.pdf))

4. Comprehensive Procurement Guidelines for Construction Products
   · EPA recommends suitable flowable fill containing coal fly ash and/or ferrous foundry sands, while retaining job-specific performance considerations. Procurement consideration is not guaranteed acceptance. ([epa.gov](https://www.epa.gov/smm/comprehensive-procurement-guidelines-construction-products))

5.2. Consumer Experience Benchmarking

An application-matched comparator is more defensible than a recycled-content label. ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ England's end-of-waste comparator approach separately requires an appropriate non-waste material matched to the intended use; it is not a universal performance certification.

Service experience requires a different comparison. Omega Sinto offers reclamation equipment and maintenance support, whereas Kore Mart offers collection and off-site reclamation through a consumables-linked program. ▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪

Sources & Evidence

1. Foundry Sand-Material Description: User Guidelines for Waste and Byproduct Materials in Pavement Construction
   · Archived FHWA guidance identifies residual binders, fines, and source variability that can constrain aggregate suitability. Application-matched performance comparison is an interpretation of these constraints, not a supplier rating. ([fhwa.dot.gov](https://www.fhwa.dot.gov/publications/research/infrastructure/structures/xx.xx/fs1.cfm))
2. Check if your material is waste
   · England's guidance requires a suitable non-waste comparator matched to the intended use when applying its comparator approach. This supports a bounded comparison framework, not universal material equivalence. ([gov.uk](https://www.gov.uk/guidance/check-if-your-material-is-waste))
3. Sand Reclamation-Kore Mart
   · Kore Mart offers spent-sand collection and reclamation and identifies purchasers of its resin-coated sand, raw sand, or foundry resins as eligible for its recycling program. ([koremart.com](https://www.koremart.com/sand-reclamation/))
4. Sand Reclamation-Omega Sinto Foundry Machinery
   · Omega Sinto lists primary, secondary, and thermal sand-reclamation equipment. Equipment availability establishes an enabling procurement option, not accepted output or comparative service reliability. ([ofml.net](https://www.ofml.net/omega-foundry-equipment/sand-reclamation))
5. Foundry Maintenance Service-Omega Sinto Foundry Machinery
   · Omega Sinto offers on-site and remote technical support, planned service visits, maintenance contracts, and reactive breakdown visits. These establish service-scope comparison dimensions, not measured performance. ([ofml.net](https://www.ofml.net/foundry-machinery-and-spares/foundry-maintenance-service))

5.3. Opportunity Mapping

Commercial priority should follow an identifiable buyer, source-compatible capability, and accepted output rather than the breadth of an application list. [redacted] Neither route is preferable solely because it is outsourced.

[redacted] It also cannot establish concrete-product acceptance: FHWA's concrete-paving summary reports mixed performance findings and does not suggest foundry-sand use in the concrete applications discussed. Generators can pursue cement acceptance when that outcome fits their obligation; concrete and other product manufacturers must approve their own substitution independently.

Local soil and civil-material arrangements warrant attention when both environmental and purchasing gates are identifiable. EPA's favorable soil-related assessment is bounded to specified silica-based iron, steel, and aluminum sources, while suitable ferrous-foundry-sand flowable fill remains subject to project requirements and competition from other eligible inputs. [redacted]

[redacted] Foundries should obtain aggregate eligibility, accepted output, ownership, and purchasing conditions before combining recycling with material supply. Supplier integration can simplify interfaces, but independent processing may preserve broader sourcing flexibility; a specialty capability does not establish externally available material or acceptance at another factory.

Chemical Reclamation and Biological Reclamation remain included options with unresolved recurring provider commitments. [illegible]
Development participation can be evaluated separately, without treating it as assurance of dependable service or inferring that commercial participants do not exist.

Sources & Evidence

1. Beneficial Uses of Spent Foundry Sands
   · EPA supports specified silica-based iron, steel, and aluminum sands in manufactured soils, soil-less media, and roadway subbase, subject to applicable state requirements. ([epa.gov](https://www.epa.gov/smm/beneficial-uses-spent-foundry-sands))
2. The processed foundry sand exemption 2014
   · The New South Wales recovered-aggregate pathway excludes mine and quarry rehabilitation, demonstrating application-specific limits rather than a global category exclusion. ([epa.nsw.gov.au](https://www.epa.nsw.gov.au/sites/default/files/rre14-foundry-sand.pdf))
3. Beneficial use of industrial byproducts
   · Wisconsin provides eligible-use pathways after applicable qualification; certain geotechnical applications require additional notification or concurrence. ([dnr.wisconsin.gov](https://dnr.wisconsin.gov/topic/Waste/Beneficial.html))
4. Sand Reclamation-Omega Sinto Foundry Machinery
   · Omega Sinto offers primary, secondary, and thermal reclamation equipment, establishing an enabling asset-procurement alternative rather than completed material management. ([ofml.net](https://www.ofml.net/omega-foundry-equipment/sand-reclamation))
5. Comprehensive Procurement Guidelines for Construction Products
   · EPA recommends suitable flowable fill containing coal fly ash and/or ferrous foundry sand, retaining job-specific requirements and alternative recovered inputs. ([epa.gov](https://www.epa.gov/smm/comprehensive-procurement-guidelines-construction-products))
6. Bau und Betrieb einer neuartigen Nassregenerierungsanlage für Gießereisande, die mit anorganischem Binder belastet sind
   · FSP supplies a completed, binder-specific implementation reference for an operator-service alternative without a customer's own reclamation installation. ([umweltinnovationsprogramm.de](https://www.umweltinnovationsprogramm.de/projekte/bau-und-betrieb-einer-neuartigen-nassregenerierungsanlage-fuer-giessereisande-die-mit))
7. A Process for Reclaiming Waste Foundry Sand
   · IIT Bombay describes its chemical-reclamation invention at demonstration in an operational environment; the page does not establish recurring external-service commitments. ([rnd.iitb.ac.in](https://rnd.iitb.ac.in/index.php/node/xx.xx))
8. Tupy S/A - Fourth-Quarter 2022 Results Conference Call Transcript, March 28, 2023
   · Tupy's March xx.xx 2023 results call describes a Microciclo proof of concept investigating foundry-sand recycling, not recurring external delivery. ([api.mziq.com](https://api.mziq.com/mzfilemanager/v2/d/5ab6a371-dd2f-452a-b6b2-22c97ed0abbb/a444fa49-9ba1-9e8f-c635-74fc0cc97ae7?origin=xx.xx))
9. Use of Industrial Byproducts in Concrete Paving Applications: Technical Summary
   · FHWA reports mixed concrete-performance findings and does not suggest foundry-sand use in the concrete applications discussed in its paving summary. ([fhwa.dot.gov](https://www.fhwa.dot.gov/pavement/concrete/pubs/hif24049.pdf))

10. Sand as a Service reshapes foundries' operations
    - The customer-site service is a documented alternative to conventional machinery ownership, conditional on customer-specific specifications and obligations. ([resand.eu](https://resand.eu/blog/sand-as-a-service-reshapes-foundries-operations))
11. Reclaimed Sand | Foundry Materials and Functional Resins | ASAHI YUKIZAI CORPORATION
    - ASAHI YUKIZAI identifies separate Cerabeads and other specialty-sand reclamation at Hiroshima only; facility capability does not establish every customer's eligibility. ([asahi-yukizai.co.jp](https://www.asahi-yukizai.co.jp/en/product/detail/140125_000544.html))
12. Alternative Raw Materials | Systech Environmental Corporation
    - Systech lists spent foundry sand as nonhazardous cement raw material and places approval and contracting before delivery. ([go2systech.com](https://www.go2systech.com/services/alternative-raw-materials/))
13. Areia de Fundição (ADF) - Tupy
    - Tupy offers a generating-plant contact route and states that foundry-sand composition varies with the generating process, supporting source-specific direct sourcing. ([tupy.com.br](https://www.tupy.com.br/coprodutos/areia-de-fundicao-adf/))

5.4. Distribution Channel Analysis

Channel choice determines who coordinates fulfillment, not whether the sand is acceptable. Direct transactions preserve direct source-recipient communication but leave the counterparties to coordinate documentation and delivery. ■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■ ■■■■ ■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■ ■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■

A capable intermediary can address scheduling, source coordination, and access to lawful staging. ■■ ■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■ ■■■■ ■■ ■■■■■■■■■ ■■■■■■ ■■■ ■■■ ■■■■■■ ■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■■ Direct contracting is preferable when counterparties can manage that coordination themselves; an intermediary becomes useful when it supplies demonstrable fulfillment capabilities, with additional counterparty dependence as the trade-off.

■■■■■■■■■ ■■■■■■■ ■■■■■ ■■■■ ■■■■ ■■ ■■■■■■■■■■ ■■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■ ■■■■■■ ■■■■■ ■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ That supports an enabling route for On-Site Reclamation, not an equally broad collection network or authorized external outlets. Commissioners should verify local installation and service coverage independently from collection and destination commitments.

Sources & Evidence

1. Beneficial Reuse of Foundry Sand: A Review of State Practices and Regulations
   - EPA's historical Resource Recovery Corporation case documents source consolidation, staging, and residual destinations. It supports a coordination mechanism rather than present-day channel coverage. ([archive.epa.gov](https://archive.epa.gov/sectors/web/pdf/reuse.pdf))

2. The processed foundry sand order 2014
   · The New South Wales order requires generator and processor compliance statements and records at specified supply handoffs. Intermediation does not replace these role-specific duties. ([epa.nsw.gov.au](https://www.epa.nsw.gov.au/sites/default/files/rro14-foundry-sand.pdf))
3. Foundry Maintenance Service-Omega Sinto Foundry Machinery
   · Omega Sinto describes worldwide equipment support. Distinguishing that support reach from spent-sand collection and authorized-outlet reach is an analytical implication; the page does not establish a material collection network. ([ofml.net](https://www.ofml.net/foundry-machinery-and-spares/foundry-maintenance-service))

5.5. Pricing Trend Analysis

Commercial terms should distinguish payment for an accepted input from payment for a management obligation. Recipient-Paid Transfers, Supplier-Paid Acceptance, and No-Consideration Transfers can each involve different responsibilities for collection, qualification, rejection, and the final destination. ■■■■■■■■■ ■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■■■■ ■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■ ■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■

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Bundling can also shape negotiation. Kore Mart links recycling eligibility to purchases of specified consumables, illustrating why an off-site reclamation offer may not be independently negotiable. ■■■ ■■■■■■■■ ■■■■■■ ■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■ ■■ ■■■ ■■■■ ■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■

Sources & Evidence

1. Sustainable Management of Industrial Non-Hazardous Secondary Materials
   · EPA identifies input substitution and avoided landfill use as potential benefits of appropriate secondary-material use. Their role in commercial negotiation is an interpretation, not an assured economic outcome. ([epa.gov](https://www.epa.gov/smm/sustainable-management-industrial-non-hazardous-secondary-materials))
2. Beneficial Reuse of Foundry Sand: A Review of State Practices and Regulations
   · Historical EPA cases identify transport, preparation, recipient approval, and disposal alternatives as commercial considerations. Contractual pass-through and fixed-term exposure are conditional interpretations, not observed universal terms. ([archive.epa.gov](https://archive.epa.gov/sectors/web/pdf/reuse.pdf))
3. Sand Reclamation-Kore Mart
   · Kore Mart's recycling eligibility is linked to specified consumables purchasing. The implication for unbundled negotiation and switching is analytical and does not establish industry-wide contract terms. ([koremart.com](https://www.koremart.com/sand-reclamation/))

RESEARCH SAMPLE REPORT

5.6. Regulatory Compliance & Standards Framework

Access requires an identified material, use, and jurisdiction. [redacted] Buyers should identify the versions and acceptance requirements incorporated into the actual purchasing contract.

[redacted] England's end-of-waste guidance requires recovery, a specific purpose, genuine demand, technical and legal compliance, and acceptable environmental and health effects. A reclaimed description alone does not establish non-waste status.

The EU's 2024 foundry BAT conclusions inform integrated permits for covered installations. Existing installations have four years to comply with stricter norms, while new installations must comply immediately. [redacted]

[redacted] Proprietary reclamation procurement also requires activity- and jurisdiction-specific licensing review. Patent ownership provides territorial exclusionary rights, not general permission to operate, so buyers should not infer clearance from a supplier's patent or ownership of equipment.

Sources & Evidence

1. Beneficial Uses of Spent Foundry Sands
   • EPA's assessment is bounded by source and application; nonhazardous industrial-waste management is predominantly subject to state and local requirements. ([epa.gov](https://www.epa.gov/smm/beneficial-uses-spent-foundry-sands))
2. New EU norms to reduce environmental impact of smitheries and foundries
   • The European Commission's December xx.xx 2024 announcement states that covered existing installations have four years to comply with stricter foundry norms, while new installations must comply immediately; BAT conclusions inform integrated permits. ([environment.ec.europa.eu](https://environment.ec.europa.eu/news/new-norms-reduce-impact-smitheries-and-foundries-2024-xx.xx-11_en))

3. The processed foundry sand order 2014
   · Participants relying on the processed-foundry-sand framework must meet the order's generator and processor requirements. ([epa.nsw.gov.au](https://www.epa.nsw.gov.au/sites/default/files/rro14-foundry-sand.pdf))
4. The processed foundry sand exemption 2014
   · The New South Wales exemption conditions eligible land applications and excludes mine and quarry rehabilitation from its recovered-aggregate pathway. These restrictions apply to that exemption, not the study's global category membership. ([epa.nsw.gov.au](https://www.epa.nsw.gov.au/sites/default/files/rre14-foundry-sand.pdf))
5. Beneficial use of industrial byproducts
   · Wisconsin's program includes specified foundry sands and requires characterization, certification, applicable recertification, and annual reporting; certain fill uses may need additional notification or concurrence. ([dnr.wisconsin.gov](https://dnr.wisconsin.gov/topic/Waste/Beneficial.html))
6. Check if your material is waste
   · England's end-of-waste guidance requires recovery, a specific purpose, genuine demand, technical and legal compliance, and acceptable environmental and health effects. Recovery alone is insufficient. ([gov.uk](https://www.gov.uk/guidance/check-if-your-material-is-waste))
7. Waste shipments
   · Most revised EU Waste Shipments Regulation provisions apply from May xx.xx 2026, and most new export rules from May xx.xx 2027. Procedures differ by waste classification, treatment, and destination, including information requirements for eligible green-listed recovery shipments. ([environment.ec.europa.eu](https://environment.ec.europa.eu/topics/waste-and-recycling/waste-shipments_en))
8. Patent essentials
   · USPTO explains that a patent grants territorial exclusionary rights rather than a general right to practice an invention. Procurement-specific licensing and clearance are recommendations, not conclusions about active reclamation patents. ([uspto.gov](https://www.uspto.gov/patents/basics/essentials))
9. Comprehensive Procurement Guidelines for Construction Products
   · EPA recommends relevant ACI and ASTM specifications for flowable-fill purchasing. These specification references do not independently establish waste-use permission. ([epa.gov](https://www.epa.gov/smm/comprehensive-procurement-guidelines-construction-products))
10. Canadian customs tariff
    · Canada's customs tariff framework distinguishes tariff classification and country-linked preferential treatment and provides access to rulings. A particular spent-sand transfer requires its own customs determination; no universal tariff treatment is inferred. ([cbsa-asfc.gc.ca](https://www.cbsa-asfc.gc.ca/trade-commerce/tariff-tarif/menu-eng.html))

5.7. ESG & Sustainability Analysis

The environmental case for reclamation depends on the complete sand-management route. ■ ■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■■ ■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■ ■■■ ■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■ ■■■■■■■ ■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■ ■■■■■■■ ■■■■■■ ■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■ ■■■■■■■■ ■ ■■■■■■ Additional reclamation is not automatically preferable when its burdens outweigh the substitution and transport benefits represented in the comparison.

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traceable handoffs can make a supplier's circularity claim more defensible, while adding documentation and counterparty-control obligations. Suppliers should describe the actual use rather than treating every managed destination as equivalent recovery.

Worker stewardship is a separate purchasing consideration for silica-based streams. Applicable U.S. employers retain silica-exposure protection, training, and recordkeeping duties. ■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■ ■■■■■■■■ ■■ ■■■■ ■■■■■■■■■■■■ ■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■■■■■ ■■■■■■ ■■■ ■■■■■■■ ■■■ ■■■■ ■■■■ ■■ ■■■■■■■■■■■■ ■■■■■ ■■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■

Sources & Evidence

1. Sustainable Management of Industrial Non-Hazardous Secondary Materials
   · EPA defines beneficial use through functional substitution, specification compliance, and acceptable health and environmental effects, supporting destination-specific rather than collection-only sustainability claims. ([epa.gov](https://www.epa.gov/smm/sustainable-management-industrial-non-hazardous-secondary-materials))
2. The processed foundry sand order 2014
   · Required compliance statements and counterparty records support traceable handoffs. Requiring destination evidence for circularity claims is a governance recommendation derived from these controls. ([epa.nsw.gov.au](https://www.epa.nsw.gov.au/sites/default/files/rro14-foundry-sand.pdf))
3. Silica, Crystalline-General Industry and Maritime
   · OSHA's general-industry silica standard imposes applicable employer exposure-protection, training, and recordkeeping duties. Supplier screening for retained worker responsibilities is a commercial recommendation. ([osha.gov](https://www.osha.gov/silica-crystalline/general-industry-maritime))
4. Foundry Sand Source Reduction Options: Life Cycle Assessment Evaluation
   · A foundry-specific LCA modeled increased on-site reclamation energy alongside lower life-cycle impacts under its assumptions; transportation sensitivity could reverse the environmental conclusion. These are modeled case results, not universal outcomes. ([digitalcommons.unl.edu](https://digitalcommons.unl.edu/mechengfacpub/xx.xx/))

5.8. Disruption & Risk Scenarios

A source-change scenario begins when a foundry changes a generating process or raw material in a way that could alter eligibility. ■■■■■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■ ■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■■■■■ ■■ ■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■ ■ ■■■■■■■■■ ■■■■■■■■ ■■■■ ■■■■■■ Requalification may preserve eligible uses, so the response should be review rather than an assumed permanent loss of the outlet.

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[redacted] A multi-kiln network can supply rerouting candidates, but each replacement still needs the relevant approval. The trade-off is continuity protection without necessarily preserving the recovery outcome.

A hypothetical energy or haulage-cost shock can change the preference between internal reclamation, external return, and qualified conventional inputs. Exposure follows the actual energy and transport obligations and the contract's allocation of changes, not the recycling label. [redacted]

Internal circularity can also disrupt external sourcing. [redacted] Material eventually retired from casting can still need outside management; the appropriate response is contractual review of the source arrangement, not a blanket assumption that external recovery disappears.

Sources & Evidence

1. Beneficial Uses of Spent Foundry Sands
   · EPA describes eventual retirement of sand from casting use and external recycling or landfill destinations; internal reuse does not eliminate every external management need. ([epa.gov](https://www.epa.gov/smm/beneficial-uses-spent-foundry-sands))
2. Beneficial Reuse of Foundry Sand: A Review of State Practices and Regulations
   · Transport and preparation burdens affect reuse feasibility. Changes in those burdens are scenario inputs, not evidence of an observed shock. ([archive.epa.gov](https://archive.epa.gov/sectors/web/pdf/reuse.pdf))
3. Beneficial Use of Industrial Byproducts-WA-1769
   · Relevant process or raw-material changes can alter use eligibility. Renewed approval may preserve eligibility rather than necessarily eliminate an outlet. ([apps.dnr.wi.gov](https://apps.dnr.wi.gov/doclink/waext/WA1769.pdf))
4. Check if your material is waste
   · England's end-of-waste guidance requires recovery, a specific purpose, genuine demand, technical and legal compliance, and acceptable impacts; indefinite storage can undermine demand evidence. ([gov.uk](https://www.gov.uk/guidance/check-if-your-material-is-waste))
5. Foundry Sand Source Reduction Options: Life Cycle Assessment Evaluation
   · A foundry-specific life-cycle model found transportation assumptions could reverse reclamation's environmental benefit; this does not establish universal financial or location superiority. ([digitalcommons.unl.edu](https://digitalcommons.unl.edu/mechengfacpub/xx.xx/))
6. Alternative Raw Materials | Systech Environmental Corporation
   · Systech advertises alternative kiln locations; that network description does not establish automatic approval for a particular stream at another facility. ([go2systech.com](https://www.go2systech.com/services/alternative-raw-materials/))

7. Industrial Waste Solutions | Rumpke
   · The disposal offering provides a potential fallback candidate, conditional on actual facility acceptance and agreed fulfillment. ([rumpke.com](https://www.rumpke.com/business/industry/industrial))
8. Waste Characterization Data Sheet - Rumpke
   · A contingency endpoint must match actual classification and facility approval; the documented nonhazardous route cannot establish hazardous-waste acceptance. ([rumpke.com](https://www.rumpke.com/media/dgqhqnh5/wastecharacterizationdatasheet_july2022.pdf))
9. Commission Implementing Decision (EU) 2024/2974 establishing BAT conclusions for the smitheries and foundries industry
   · Reduced spent-sand generation is an explicit internal-reuse objective. External feedstock discontinuity is a conditional commercial implication, not a measured market outcome. ([eur-lex.europa.eu](https://eur-lex.europa.eu/eli/dec_impl/2024/xx.xx/oj))

5.9. Return on Investment & Cost-Benefit Analysis

The foundry's decision is whether an accepted reuse or management outcome justifies the complete obligation relative to its qualified alternative. Potential benefits include substitution of new casting input and avoided disposal, but realization requires accepted reclaimed material and dependable fulfillment. ■■■■■ ■■■■■■■■■■■ ■■■■■■■ ■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■ ■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■ ■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■ ■■■■ ■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■ ■■ ■■■■■■■ ■■■■■■■■■■ ■■■■ ■■■ ■■■■■■■■■ ■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■

A material recipient has a different benefit case. ■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■ ■■ ■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■ ■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■ ■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■■■ ■■ ■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■ ■■ ■■■■■■■■■■ ■■■■ ■■■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■ ■■ ■■■■■■■■■■■■■■■ An authorized disposal arrangement likewise remains a management alternative, although it does not deliver return-to-foundry or beneficial-use outcomes.

■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■ ■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■ ■■ ■■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ Buyers should compare the proposed route with a consistent qualified baseline and distinguish functional reuse, management completion, and environmental claims. A staged contractual commitment is more defensible than an irreversible asset or collection obligation when source acceptance, local support, or the receiving arrangement remains unsettled.

Sources & Evidence

1. Sustainable Management of Industrial Non-Hazardous Secondary Materials
   · EPA's potential substitution and disposal benefits support arrangement-specific cost-benefit evaluation, not assured savings for either counterparty. ([epa.gov](https://www.epa.gov/smm/sustainable-management-industrial-non-hazardous-secondary-materials))
2. Beneficial Reuse of Foundry Sand: A Review of State Practices and Regulations
   · EPA's historical cases distinguish generator disposal alternatives from recipients' input and approval burdens, supporting separate decision perspectives. ([archive.epa.gov](https://archive.epa.gov/sectors/web/pdf/reuse.pdf))
3. Sand Reclamation-Omega Sinto Foundry Machinery
   · Commercially offered reclamation machinery provides an ownership alternative whose operating and management obligations require separate allocation. ([ofml.net](https://www.ofml.net/omega-foundry-equipment/sand-reclamation))
4. Foundry Maintenance Service-Omega Sinto Foundry Machinery
   · Separately procured equipment support remains a feasible comparator when assessing provider-supported reclamation against asset ownership. ([ofml.net](https://www.ofml.net/foundry-machinery-and-spares/foundry-maintenance-service))
5. Foundry Sand Source Reduction Options: Life Cycle Assessment Evaluation
   · Modeled environmental improvements depended on the comparison assumptions and must not be treated as proof of a customer's financial return. ([digitalcommons.unl.edu](https://digitalcommons.unl.edu/mechengfacpub/xx.xx/))
6. Bau und Betrieb einer neuartigen Nassregenerierungsanlage für Gießereisande, die mit anorganischem Binder belastet sind
   · The collection-and-return model introduces external fulfillment and return logistics; its documented source scope does not establish universal customer acceptance. ([umweltinnovationsprogramm.de](https://www.umweltinnovationsprogramm.de/projekte/bau-und-betrieb-einer-neuartigen-nassregenerierungsanlage-fuer-giessereisande-die-mit))
7. Sand as a Service reshapes foundries' operations
   · Included upkeep changes the ownership-versus-service comparison but does not prove a customer's financial return or remove every retained responsibility. ([resand.eu](https://resand.eu/blog/sand-as-a-service-reshapes-foundries-operations))
8. Industrial Waste Solutions | Rumpke
   · Disposal is a documented management comparator but does not provide return-to-foundry or beneficial-use fulfillment. ([rumpke.com](https://www.rumpke.com/business/industry/industrial))

6. Cumulative Impact of Artificial Intelligence 2026

Documented AI adoption is clearest in adjacent foundry production rather than autonomous spent-sand acceptance. On April xx.xx 2022, MAT reported employing DISA's AI software for foundry production, and DISA offers connected foundry data tools with AI-driven recommendations. ■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■ ■■ ■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■ ■■ ■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■

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Commercial implementation requires permissioned, traceable data, compatible information systems, confidentiality safeguards, intended-use validation, and accountable human review. ■■■■■■ ■■■■■■■■■ ■■ ■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■■ ■■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■ ■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■■ ■■■■■■■■ The defensible labor implication is an added need for data stewardship and oversight, not an established reduction in staffing or qualification work.

Sources & Evidence

1. Beneficial Uses of Spent Foundry Sands
   - EPA requires attention to material properties, intended use, and state requirements. An AI prediction cannot independently establish these approvals; this is a commercial interpretation of the stated requirements. ([epa.gov](https://www.epa.gov/smm/beneficial-uses-spent-foundry-sands))
2. Beneficial Use of Industrial Byproducts-WA-1769
   - Source changes can alter industrial-byproduct eligibility. Revisiting an AI model's applicability after such changes is an analytical recommendation, not a documented deployment outcome. ([apps.dnr.wi.gov](https://apps.dnr.wi.gov/doclink/waext/WA1769.pdf))
3. Using Artificial Intelligence to accelerate into a more sustainable future
   - On April xx.xx 2022, MAT reported employing DISA's AI software for foundry production. This establishes reported upstream adoption, not automated spent-sand qualification or placement. ([matholdingsinc.com](https://www.matholdingsinc.com/news_detail.php?date=xx.xx))
4. Monitizer-Connected Foundry Intelligence
   - DISA offers a connected green-sand-foundry platform that includes data visibility and AI-driven recommendations. Its offering does not establish deployed AI across spent-sand management services. ([disagroup.com](https://www.disagroup.com/monitizer/))

5. Forecasting the strength characteristics of concrete incorporating waste foundry sand using advance machine algorithms including deep learning

   · The peer-reviewed study used literature-derived data to model strength characteristics of concrete incorporating waste foundry sand. It establishes predictive research, not recipient qualification or commercial deployment.
   ([psau.sa.elsevierpure.com](https://psau.sa.elsevierpure.com/en/publications/forecasting-the-strength-characteristics-of-concrete-incorporatin/))

6. Artificial Intelligence Risk Management Framework (AI RMF 1.0)

   · NIST's voluntary framework addresses intended-use validity, data provenance, security, human oversight, personnel training, and third-party risks. Applying these controls to sand-related decision support is a conditional commercial recommendation.
   ([nvlpubs.nist.gov](https://nvlpubs.nist.gov/nistpubs/ai/NIST.AI.xx.xx-xx.xx.pdf))

7. Spent Foundry Sand Market, by Commercial Offering

Buyers should distinguish procurement of an acceptable sand input from commissioning responsibility for its management. Within Sand Material Supply, Unreclaimed Spent Sand requires source-and-application qualification; Reclaimed Sand additionally requires evidence that the recovered output meets the recipient's specification. ■■■■■■■■■■■■ ■■■■■ ■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■ ■■ ■■■■■■■■■■■ ■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■ ■ ■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■ ■■ ■■■■■ ■■■■■■■ ■■■■ ■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■ ■■■■■■■■■■

Sand Management Services should be compared by their completion obligations. ■■■■■■■■■■■ ■ ■■■■■■■■■■■■■■ ■■■■■ ■■■■■■■■■ ■■■■■■■■■■■ ■ ■■■■■■■■■■■■ ■■■■■■■■ ■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■ ■■■■■■■■ ■■■■■■■■ ■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■ ■■■■ ■■■■■■■■ ■■■■■ ■■■■■■■ ■■■■■■■■■ ■ ■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■ ■■ ■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■ ■■■■■■■■■■■ ■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■■■ The commercial lesson is that collection and an intended outlet do not establish completed fulfillment.

A foundry commissioning management should specify accepted sources, destination evidence, rejection responsibilities, and funding for interrupted arrangements. A recipient purchasing sand should instead prioritize its input specification and delivery acceptance. ■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■ ■■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■ ■■■ ■■■■■ ■■■■■ ■■■■■■■■ ■■■■ ■■■ ■■■■■■■■■■■ ■■ ■■■■■ ■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■

Figure 7. Global Spent Foundry Sand Market, by Commercial Offering: Market share evolution, 2025-2032

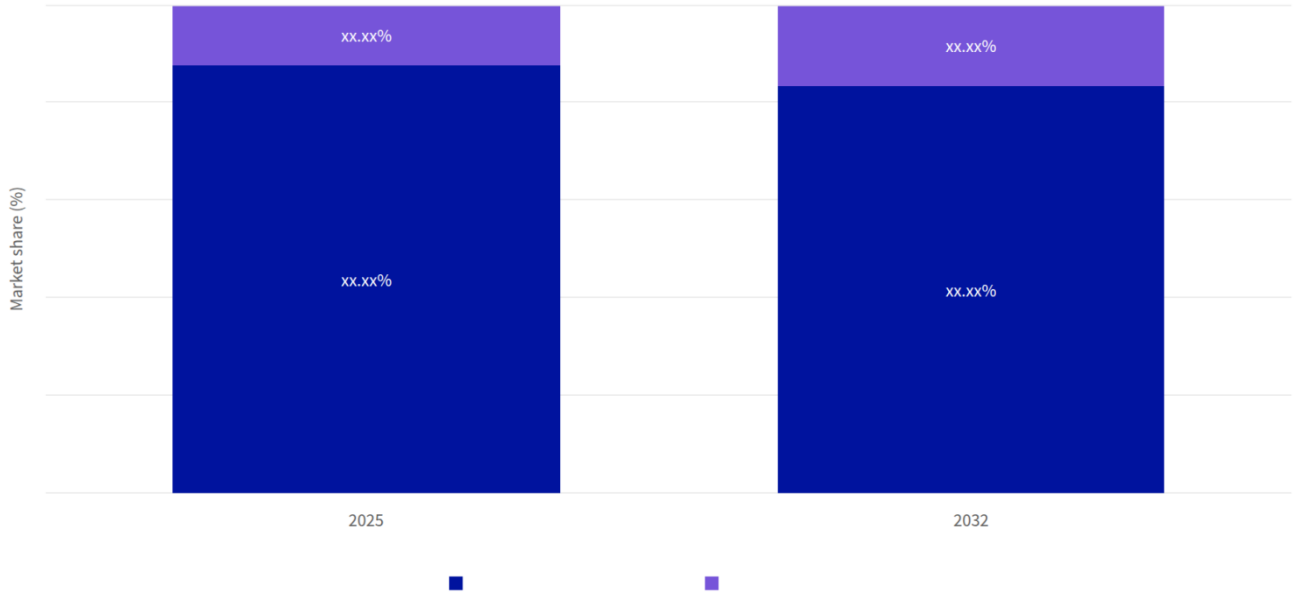


Figure 8. Global Spent Foundry Sand Market, by Commercial Offering: Market size by category, 2025

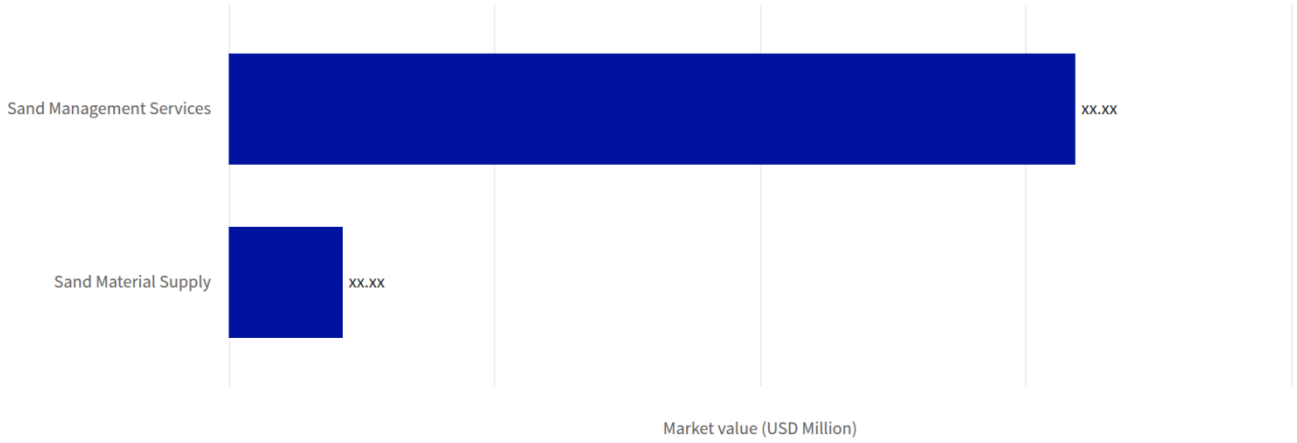


Table 4. Global Spent Foundry Sand Market, by Commercial Offering growth contribution, 2025-2032

Category	2025 value (USD Million)	2032 value (USD Million)	Added value (USD Million)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 5. Global Spent Foundry Sand Market Size, by Commercial Offering, 2017-2032 (USD Million)

Commercial Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. Check if your material is waste
   · England's end-of-waste guidance separates recovery from the requirements for a specific use, demand, technical compliance, and acceptable impacts. ([gov.uk](https://www.gov.uk/guidance/check-if-your-material-is-waste))
2. Frequent Questions about EPA's Risk Assessment of Spent Foundry Sands in Soil Related Applications
   · EPA recognizes spent-sand material sales separately from disposal-management benefits; this supports distinguishing contractual objects. ([epa.gov](https://www.epa.gov/smm/frequent-questions-about-epas-risk-assessment-spent-foundry-sands-soil-related-applications))
3. Advance Ruling GST-ARA-55/2019-20/B-47: Kolhapur Foundry and Engineering Cluster
   · The Kolhapur ruling treats ready-to-use reclaimed sand as goods rather than job-work services, illustrating a material offering. ([kolhapurfoundrycluster.org](https://www.kolhapurfoundrycluster.org/tenders/2020-xx.xx/gst-ara-order-2020.pdf))
4. FLM, LLC, Daimler Chrysler Corp., n/k/a Chrysler, LLC v. The Cincinnati Insurance Company
   · The August xx.xx 2012 opinion records collection, transportation, reuse-or-disposal obligations and abandonment after the generator stopped paying. Completion and interruption controls are analytical implications. ([public.courts.in.gov](https://public.courts.in.gov/Decisions/api/Document/Opinion?Id=7Xz6178prGp-N0UvSV_XuOU7q9UVUF4ege7dmyfsxPAxTs4KtmS1XO4tBUdsioed0))

7.1. Sand Management Services

Table 6. Global Spent Foundry Sand Market, by Sand Management Services growth contribution, 2025-2032

Category	2025 value (USD Million)	2032 value (USD Million)	Added value (USD Million)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Beneficial-Use Placement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Collection & Transportation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Reclamation & Regeneration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Treatment & Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 7. Global Spent Foundry Sand Market Size, by Sand Management Services, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 8. Global Spent Foundry Sand Market Size, by Sand Management Services, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 9. Global Spent Foundry Sand Market Size, by Sand Management Services, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

7.1.1. Treatment & Disposal

Table 10. Global Spent Foundry Sand Market Size, by Treatment & Disposal, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 11. Global Spent Foundry Sand Market Size, by Treatment & Disposal, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 12. Global Spent Foundry Sand Market Size, by Treatment & Disposal, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

7.1.2. Collection & Transportation

Table 13. Global Spent Foundry Sand Market Size, by Collection & Transportation, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 14. Global Spent Foundry Sand Market Size, by Collection & Transportation, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 15. Global Spent Foundry Sand Market Size, by Collection & Transportation, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

7.1.3. Reclamation & Regeneration

Table 16. Global Spent Foundry Sand Market Size, by Reclamation & Regeneration, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 17. Global Spent Foundry Sand Market Size, by Reclamation & Regeneration, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 18. Global Spent Foundry Sand Market Size, by Reclamation & Regeneration, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

7.1.4. Beneficial-Use Placement

Table 19. Global Spent Foundry Sand Market Size, by Beneficial-Use Placement, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 20. Global Spent Foundry Sand Market Size, by Beneficial-Use Placement, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 21. Global Spent Foundry Sand Market Size, by Beneficial-Use Placement, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

7.2. Sand Material Supply

Table 22. Global Spent Foundry Sand Market, by Sand Material Supply growth contribution, 2025-2032

Category	2025 value (USD Million)	2032 value (USD Million)	Added value (USD Million)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Reclaimed Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unreclaimed Spent Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 23. Global Spent Foundry Sand Market Size, by Sand Material Supply, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 24. Global Spent Foundry Sand Market Size, by Sand Material Supply, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 25. Global Spent Foundry Sand Market Size, by Sand Material Supply, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

7.2.1. Reclaimed Sand

Table 26. Global Spent Foundry Sand Market Size, by Reclaimed Sand, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 27. Global Spent Foundry Sand Market Size, by Reclaimed Sand, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 28. Global Spent Foundry Sand Market Size, by Reclaimed Sand, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

7.2.2. Unreclaimed Spent Sand

Table 29. Global Spent Foundry Sand Market Size, by Unreclaimed Spent Sand, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 30. Global Spent Foundry Sand Market Size, by Unreclaimed Spent Sand, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 31. Global Spent Foundry Sand Market Size, by Unreclaimed Spent Sand, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

8. Spent Foundry Sand Market, by Reclamation Technology

[redacted] Integrated Reclamation should therefore be assessed as a substantive combined recovery offering, not inferred merely from routine preparation equipment. A purchaser should compare the complete provider commitment against the actual source stream; a broader technology package adds interfaces without necessarily improving recipient acceptance.

[redacted] Buyers should establish responsibility for water-related compliance, residual management, and accepted output before choosing between routes. The project establishes a specific implementation, not equivalent capability at every facility.

[redacted] Both categories remain included, but a continuing purchasing commitment requires a named provider's commercial offer, source eligibility, recipient-qualified outcome, and support obligations. Development participation may offer access to a new capability while exposing the buyer to unresolved fulfillment; it is unsuitable as a substitute for a dependable management contract without those commitments.

Figure 9. Global Spent Foundry Sand Market Size, by Reclamation Technology, 2025 vs 2032 (%)

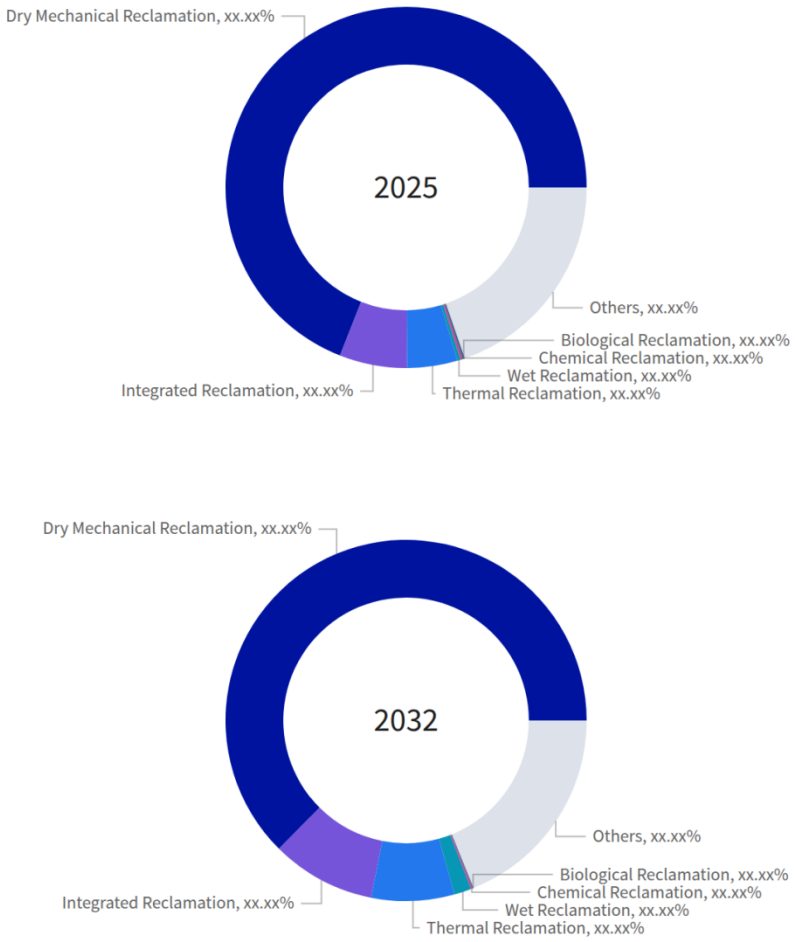


Figure 10. Global Spent Foundry Sand Market, by Reclamation Technology: Market size by category, 2025

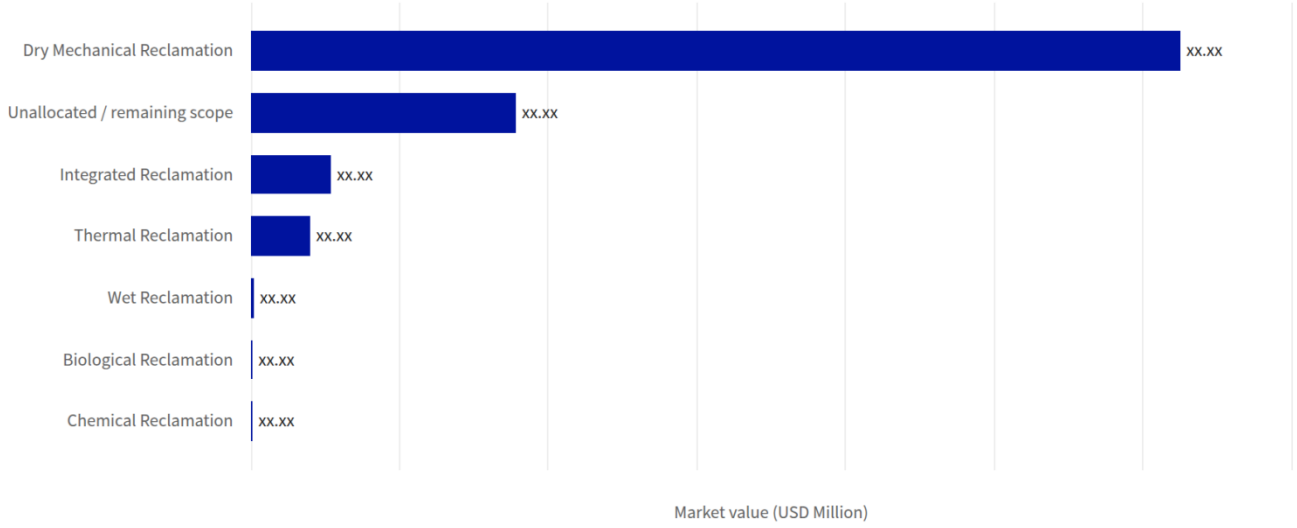


Figure 11. Global Spent Foundry Sand Market, by Reclamation Technology: Market size and growth, 2025-2032

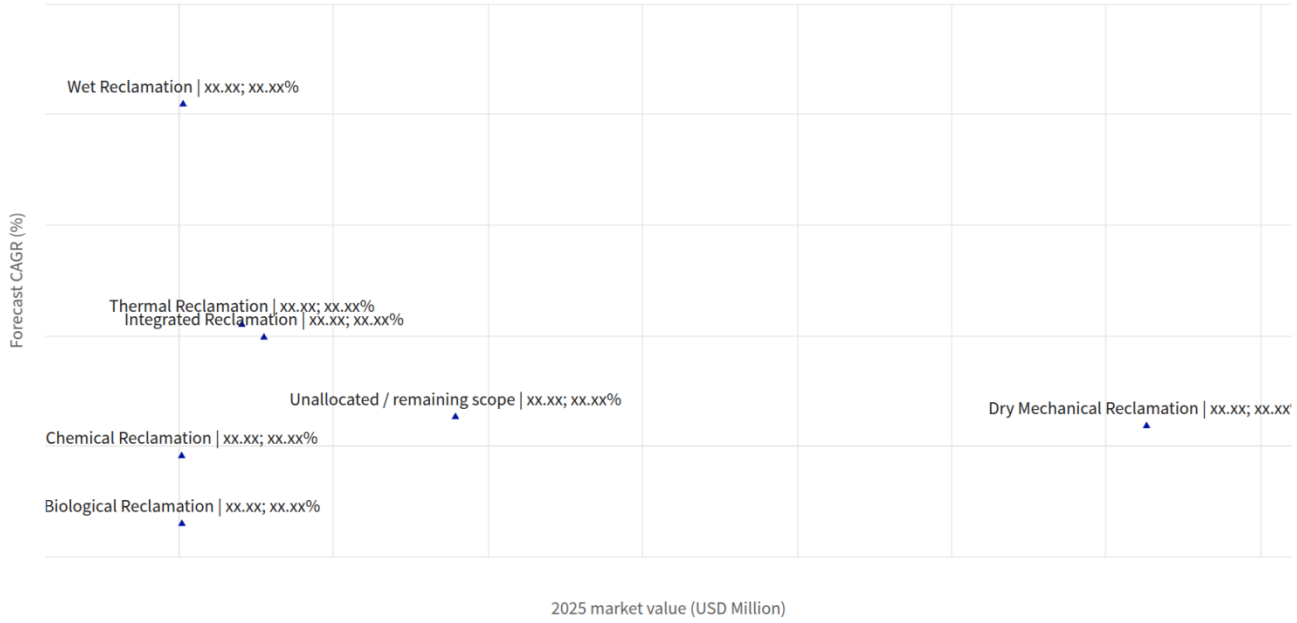


Table 32. Global Spent Foundry Sand Market, by Reclamation Technology growth contribution, 2025-2032

Category	2025 value (USD Million)	2032 value (USD Million)	Added value (USD Million)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unallocated / remaining scope	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 33. Global Spent Foundry Sand Market Size, by Reclamation Technology, 2017-2032 (USD Million)

Reclamation Technology	2023	2024	2025	2026	2027	2032	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. Commission Implementing Decision (EU) 2024/2974 establishing BAT conclusions for the smitheries and foundries industry

   · BAT xx.xx identifies binder-dependent applicability limits and combined recovery; BAT xx.xx addresses sand-reuse air emissions. These support route-specific capability comparison, not operating guidance. ([aida.ineris.fr](https://aida.ineris.fr/sites/aida/files/documents-bref/OJ_L_202402974_EN_TXT_0.pdf))

2. Bau und Betrieb einer neuartigen Nassregenerierungsanlage für Gießereisande, die mit anorganischem Binder belastet sind

   · The completed 2023-2025 FSP project documents industrial wet recovery of inorganic-bound sand with water-management infrastructure. ([umweltinnovationsprogramm.de](https://www.umweltinnovationsprogramm.de/projekte/bau-und-betrieb-einer-neuartigen-nassregenerierungsanlage-fuer-giessereisande-die-mit))

3. A Process for Reclaiming Waste Foundry Sand

   · IIT Bombay describes its chemical-reclamation invention at pilot or full-scale demonstration in an operational environment; the record does not establish recurring external-service contracts. ([rnd.iitb.ac.in](https://rnd.iitb.ac.in/index.php/node/xx.xx))

4. Tupy S/A - Fourth-Quarter 2022 Results Conference Call Transcript, March 28, 2023

   · Tupy's March xx.xx 2023 call describes a Microciclo proof of concept investigating application to foundry-sand recycling, not recurring commercial recovery delivery. ([api.mziq.com](https://api.mziq.com/mzfilemanager/v2/d/5ab6a371-dd2f-452a-b6b2-22c97ed0abbb/a444fa49-9ba1-9e8f-c635-74fc0cc97ae7?origin=xx.xx))

5. TransFIRe Case Study: Spent Foundry Sand Technical Literature Review

   · The review distinguishes thermal and combined recovery limitations for different sands; it does not certify individual providers. ([transfire-hub.org](https://transfire-hub.org/wp-content/uploads/2023/xx.xx/TransFIRe_Spent_Foundry_Sand_Tech_Report_Issue01_External.pdf))

8.1. Dry Mechanical Reclamation

Table 34. Global Spent Foundry Sand Market Size, by Dry Mechanical Reclamation, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 35. Global Spent Foundry Sand Market Size, by Dry Mechanical Reclamation, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 36. Global Spent Foundry Sand Market Size, by Dry Mechanical Reclamation, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

8.2. Integrated Reclamation

Table 37. Global Spent Foundry Sand Market Size, by Integrated Reclamation, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 38. Global Spent Foundry Sand Market Size, by Integrated Reclamation, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 39. Global Spent Foundry Sand Market Size, by Integrated Reclamation, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

8.3. Thermal Reclamation

Table 40. Global Spent Foundry Sand Market Size, by Thermal Reclamation, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 41. Global Spent Foundry Sand Market Size, by Thermal Reclamation, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 42. Global Spent Foundry Sand Market Size, by Thermal Reclamation, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

8.4. Wet Reclamation

Table 43. Global Spent Foundry Sand Market Size, by Wet Reclamation, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 44. Global Spent Foundry Sand Market Size, by Wet Reclamation, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 45. Global Spent Foundry Sand Market Size, by Wet Reclamation, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

8.5. Biological Reclamation

Table 46. Global Spent Foundry Sand Market Size, by Biological Reclamation, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 47. Global Spent Foundry Sand Market Size, by Biological Reclamation, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 48. Global Spent Foundry Sand Market Size, by Biological Reclamation, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

8.6. Chemical Reclamation

Table 49. Global Spent Foundry Sand Market Size, by Chemical Reclamation, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 50. Global Spent Foundry Sand Market Size, by Chemical Reclamation, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 51. Global Spent Foundry Sand Market Size, by Chemical Reclamation, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

9. Spent Foundry Sand Market, by Application

[redacted] FHWA's concrete-paving technical summary reports mixed concrete-performance findings and does not suggest foundry-sand use in those concrete applications. This cautions against transferring a cement-feedstock precedent into concrete-paving approval; separately qualified flowable-fill uses remain a different purchasing case.

Asphalt & Bituminous Products likewise requires application-specific approval. [redacted] A qualified project can provide an outlet without supporting an indefinite collection commitment.

[redacted] EPA's favorable soil-related assessment concerns specified silica-based sands from iron, steel, and aluminum foundries and specified uses. Placement providers should obtain approval for the actual source and land use rather than extend construction or soil precedents to unlike restoration projects.

Specialty manufacturing destinations demand their own recipient commitments. [redacted] Suppliers should retain a qualified alternative destination until a specialty recipient approves the intended substitution and delivery arrangement.

Road Traction & Surface Dressing must be qualified for the actual road-surface function; a historical snow-and-ice traction reference does not establish bituminous surface-dressing acceptance. Waste Stabilization Media should be contracted against the receiving waste-management function, while Landfill Cover & Engineering requires evidence of the authorized functional use. [redacted]

RESEARCH SAMPLE REPORT

Figure 12. Global Spent Foundry Sand Market Size, by Application, 2025 vs 2032 (%)

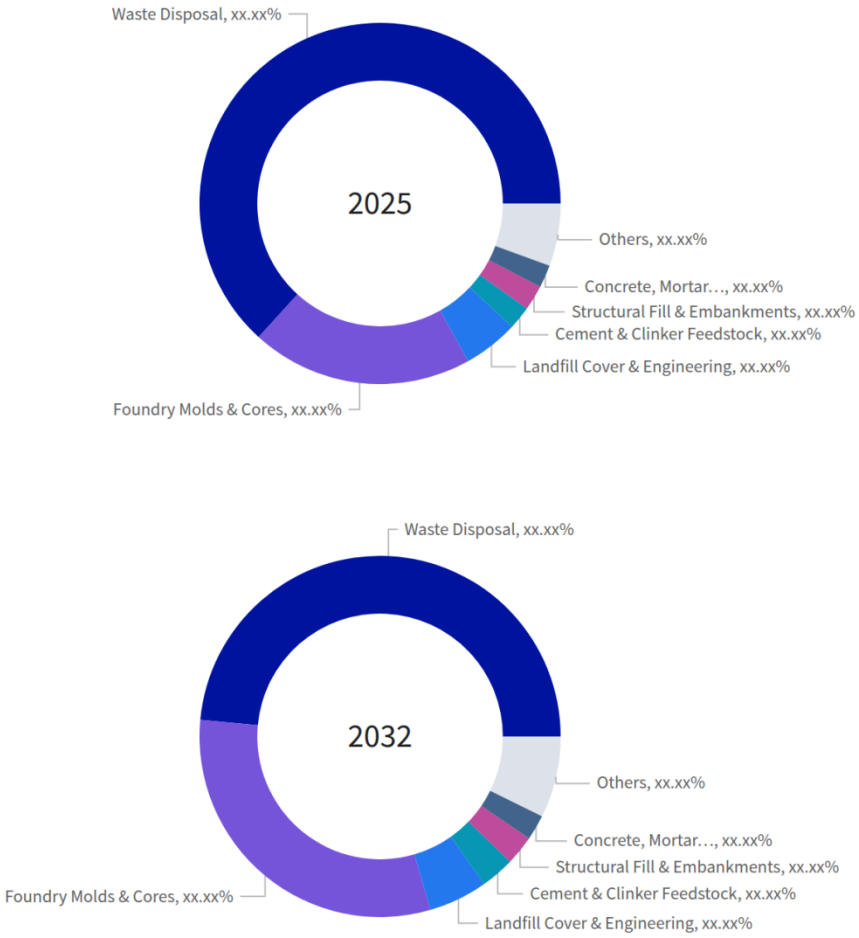


Figure 13. Global Spent Foundry Sand Market Size, by Application, 2025 vs 2026 vs 2032

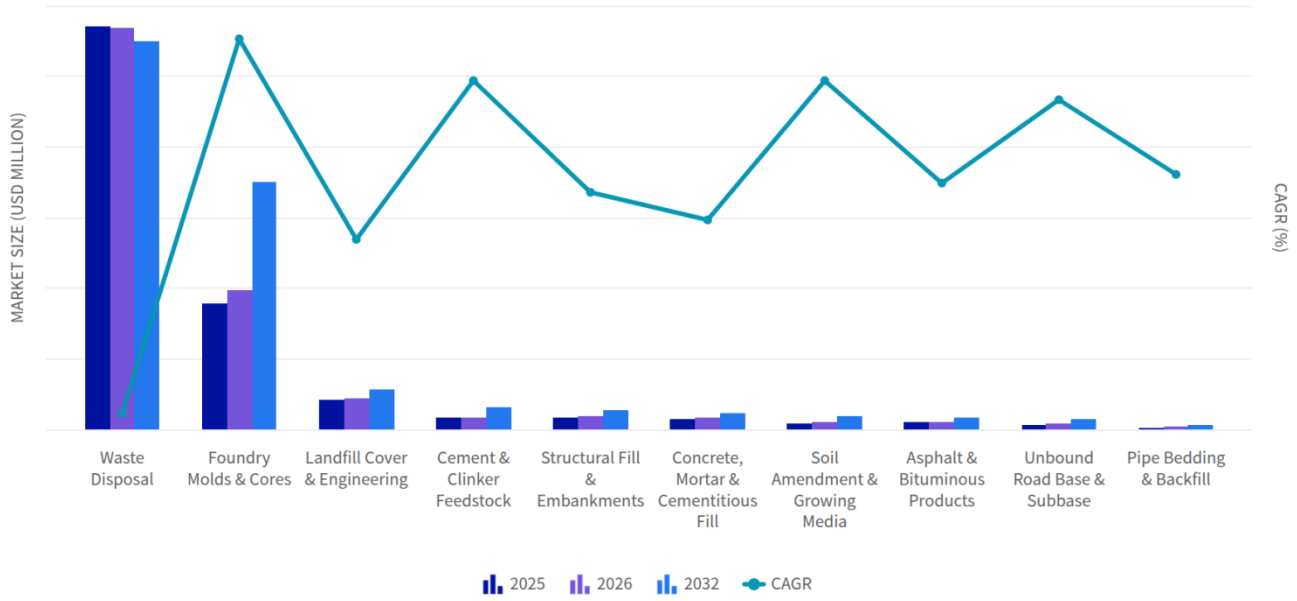


Table 52. Global Spent Foundry Sand Market, by Application growth contribution, 2025-2032

Category	2025 value (USD Million)	2032 value (USD Million)	Added value (USD Million)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 53. Global Spent Foundry Sand Market Size, by Application, 2017-2032 (USD Million)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. Foundry Sand-Material Description: User Guidelines for Waste and Byproduct Materials in Pavement Construction

   · Archived FHWA guidance identifies binder residues, fines, and other source characteristics that can constrain aggregate suitability. Application-specific approval is the commercial implication. ([fhwa.dot.gov](https://www.fhwa.dot.gov/publications/research/infrastructure/structures/xx.xx/fs1.cfm))

2. Foundry Sand Facts for Civil Engineers

   · FHWA distinguishes cement-manufacturer feedstock acceptance from engineering uses and discusses historical smelting, traction, and landfill-functional-use references. These are not current project approvals. ([fhwa.dot.gov](https://www.fhwa.dot.gov/pavement/pubs/xx.xx.pdf))

3. Beneficial Reuse of Foundry Sand: A Review of State Practices and Regulations

   · EPA's historical guide lists plastics, paint, pipe bedding, structural fill, and landfill engineering among reuse destinations. ([archive.epa.gov](https://archive.epa.gov/sectors/web/pdf/reuse.pdf))

4. The processed foundry sand exemption 2014
   · The New South Wales exemption excludes mine and quarry rehabilitation from its recovered-aggregate pathway and separately conditions soil-amendment use.
   ([epa.nsw.gov.au](https://www.epa.nsw.gov.au/sites/default/files/rre14-foundry-sand.pdf))
5. Check if your material is waste
   · A specific purpose and genuine demand are end-of-waste conditions; continuing outlet assurance is a contractual implication, not established by an application label.
   ([gov.uk](https://www.gov.uk/guidance/check-if-your-material-is-waste))
6. Comprehensive Procurement Guidelines for Construction Products
   · EPA recommends consideration of suitable ferrous-foundry-sand flowable fill while retaining job-specific performance requirements.
   ([epa.gov](https://www.epa.gov/smm/comprehensive-procurement-guidelines-construction-products))
7. Frequent Questions about EPA's Risk Assessment of Spent Foundry Sands in Soil Related Applications
   · EPA's favorable assessment covers specified silica-based iron, steel, and aluminum sands in manufactured soils, soil-less media, and roadway subbase.
   ([epa.gov](https://www.epa.gov/smm/frequent-questions-about-epas-risk-assessment-spent-foundry-sands-soil-related-applications))
8. TransFIRe Case Study: Spent Foundry Sand Technical Literature Review
   · The academic review examines ceramics and glass applications through feasibility studies and identifies case-dependent evidence and incomplete comprehensive evaluation.
   ([transfire-hub.org](https://transfire-hub.org/wp-content/uploads/2023/xx.xx/TransFIRe_Spent_Foundry_Sand_Tech_Report_Issue01_External.pdf))
9. Use of Industrial Byproducts in Concrete Paving Applications: Technical Summary
   · The concrete-paving summary reports mixed concrete-performance findings and does not suggest foundry-sand use in the discussed concrete applications, while separately recognizing other uses.
   ([fhwa.dot.gov](https://www.fhwa.dot.gov/pavement/concrete/pubs/hif24049.pdf))
10. Residual Waste Beneficial Use General Permits
    · Pennsylvania lists foundry-sand uses in concrete, asphalt, roadway and nonroadway construction, and soils; written approval for general-permit coverage is required.
    ([pa.gov](https://www.pa.gov/agencies/dep/programs-and-services/business/residual-waste-permitting/list-of-residual-waste-beneficial-use-general-permits))
11. Case Study: Foundry Sand as Backfill Material
    · EPA records an agency-approved Wisconsin gravel-pit restoration project using spent foundry sand.
    ([archive.epa.gov](https://archive.epa.gov/sectors/web/pdf/waupaca_1%2031%xx.xx.pdf))
12. Waste duty of care: code of practice
    · The England and Wales code distinguishes useful recovery from disposal; separating functional waste-management destinations is a commercial interpretation.
    ([gov.uk](https://www.gov.uk/government/publications/waste-duty-of-care-code-of-practice/waste-duty-of-care-code-of-practice))

9.1. Waste Disposal

Table 54. Global Spent Foundry Sand Market Size, by Waste Disposal, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 55. Global Spent Foundry Sand Market Size, by Waste Disposal, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 56. Global Spent Foundry Sand Market Size, by Waste Disposal, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

9.2. Foundry Molds & Cores

Table 57. Global Spent Foundry Sand Market Size, by Foundry Molds & Cores, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 58. Global Spent Foundry Sand Market Size, by Foundry Molds & Cores, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 59. Global Spent Foundry Sand Market Size, by Foundry Molds & Cores, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

9.3. Landfill Cover & Engineering

Table 60. Global Spent Foundry Sand Market Size, by Landfill Cover & Engineering, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 61. Global Spent Foundry Sand Market Size, by Landfill Cover & Engineering, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 62. Global Spent Foundry Sand Market Size, by Landfill Cover & Engineering, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

9.4. Structural Fill & Embankments

Table 63. Global Spent Foundry Sand Market Size, by Structural Fill & Embankments, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 64. Global Spent Foundry Sand Market Size, by Structural Fill & Embankments, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 65. Global Spent Foundry Sand Market Size, by Structural Fill & Embankments, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

9.5. Cement & Clinker Feedstock

Table 66. Global Spent Foundry Sand Market Size, by Cement & Clinker Feedstock, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 67. Global Spent Foundry Sand Market Size, by Cement & Clinker Feedstock, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 68. Global Spent Foundry Sand Market Size, by Cement & Clinker Feedstock, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

9.6. Concrete, Mortar & Cementitious Fill

Table 69. Global Spent Foundry Sand Market Size, by Concrete, Mortar & Cementitious Fill, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 70. Global Spent Foundry Sand Market Size, by Concrete, Mortar & Cementitious Fill, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 71. Global Spent Foundry Sand Market Size, by Concrete, Mortar & Cementitious Fill, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

9.7. Asphalt & Bituminous Products

Table 72. Global Spent Foundry Sand Market Size, by Asphalt & Bituminous Products, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 73. Global Spent Foundry Sand Market Size, by Asphalt & Bituminous Products, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 74. Global Spent Foundry Sand Market Size, by Asphalt & Bituminous Products, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

9.8. Soil Amendment & Growing Media

Table 75. Global Spent Foundry Sand Market Size, by Soil Amendment & Growing Media, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 76. Global Spent Foundry Sand Market Size, by Soil Amendment & Growing Media, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 77. Global Spent Foundry Sand Market Size, by Soil Amendment & Growing Media, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

9.9. Unbound Road Base & Subbase

Table 78. Global Spent Foundry Sand Market Size, by Unbound Road Base & Subbase, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 79. Global Spent Foundry Sand Market Size, by Unbound Road Base & Subbase, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 80. Global Spent Foundry Sand Market Size, by Unbound Road Base & Subbase, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

9.10. Pipe Bedding & Backfill

Table 81. Global Spent Foundry Sand Market Size, by Pipe Bedding & Backfill, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 82. Global Spent Foundry Sand Market Size, by Pipe Bedding & Backfill, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 83. Global Spent Foundry Sand Market Size, by Pipe Bedding & Backfill, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

9.11. Land Restoration Fill

Table 84. Global Spent Foundry Sand Market Size, by Land Restoration Fill, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 85. Global Spent Foundry Sand Market Size, by Land Restoration Fill, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 86. Global Spent Foundry Sand Market Size, by Land Restoration Fill, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

9.12. Ceramics & Engineered Mineral Products

Table 87. Global Spent Foundry Sand Market Size, by Ceramics & Engineered Mineral Products, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 88. Global Spent Foundry Sand Market Size, by Ceramics & Engineered Mineral Products, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 89. Global Spent Foundry Sand Market Size, by Ceramics & Engineered Mineral Products, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

9.13. Waste Stabilization Media

Table 90. Global Spent Foundry Sand Market Size, by Waste Stabilization Media, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 91. Global Spent Foundry Sand Market Size, by Waste Stabilization Media, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 92. Global Spent Foundry Sand Market Size, by Waste Stabilization Media, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

9.14. Metallurgical Fluxes

Table 93. Global Spent Foundry Sand Market Size, by Metallurgical Fluxes, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 94. Global Spent Foundry Sand Market Size, by Metallurgical Fluxes, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 95. Global Spent Foundry Sand Market Size, by Metallurgical Fluxes, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

9.15. Glass & Glass Fiber

Table 96. Global Spent Foundry Sand Market Size, by Glass & Glass Fiber, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 97. Global Spent Foundry Sand Market Size, by Glass & Glass Fiber, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 98. Global Spent Foundry Sand Market Size, by Glass & Glass Fiber, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

9.16. Road Traction & Surface Dressing

Table 99. Global Spent Foundry Sand Market Size, by Road Traction & Surface Dressing, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 100. Global Spent Foundry Sand Market Size, by Road Traction & Surface Dressing, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 101. Global Spent Foundry Sand Market Size, by Road Traction & Surface Dressing, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

9.17. Polymer & Coating Fillers

Table 102. Global Spent Foundry Sand Market Size, by Polymer & Coating Fillers, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 103. Global Spent Foundry Sand Market Size, by Polymer & Coating Fillers, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 104. Global Spent Foundry Sand Market Size, by Polymer & Coating Fillers, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

10. Spent Foundry Sand Market, by Buyer Industry

[redacted] Foundries & Primary Metal Producers can therefore commission management, while Soil & Growing-Media Producers can receive material under an acceptance arrangement. Public Administration demand for a sand-containing product does not, by itself, establish a separate sand-input purchase.

Mineral & Construction-Material Manufacturers need approval for incorporation into their own products. [redacted] These routes have different customer relationships and should not be treated as the same sales opportunity.

For Polymer & Coating Manufacturers, Agriculture, Horticulture & Landscaping, and Mining & Quarrying, account qualification should establish the actual input-purchasing or service-commissioning role. [redacted] The practical trigger for committing sales resources is an identifiable counterparty with an approved use and contractual responsibility, rather than an application precedent alone.

Resource Recovery & Waste Management and Industrial Material Wholesale also require activity-based differentiation. The UN's industrial classification separates waste collection and transformation into secondary material from wholesale purchase and resale without substantive transformation. [redacted]

Figure 14. Global Spent Foundry Sand Market Size, by Buyer Industry, 2025 vs 2032 (%)

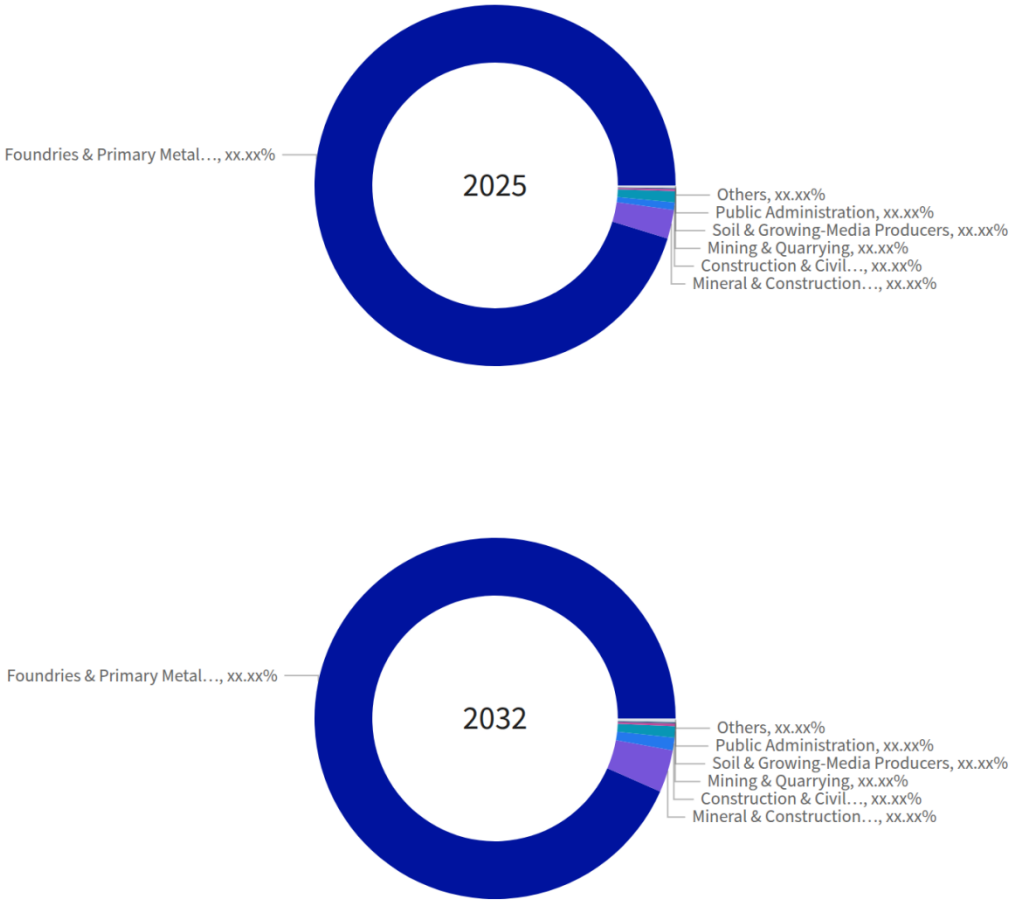


Figure 15. Global Spent Foundry Sand Market, by Buyer Industry: Market size by category, 2025

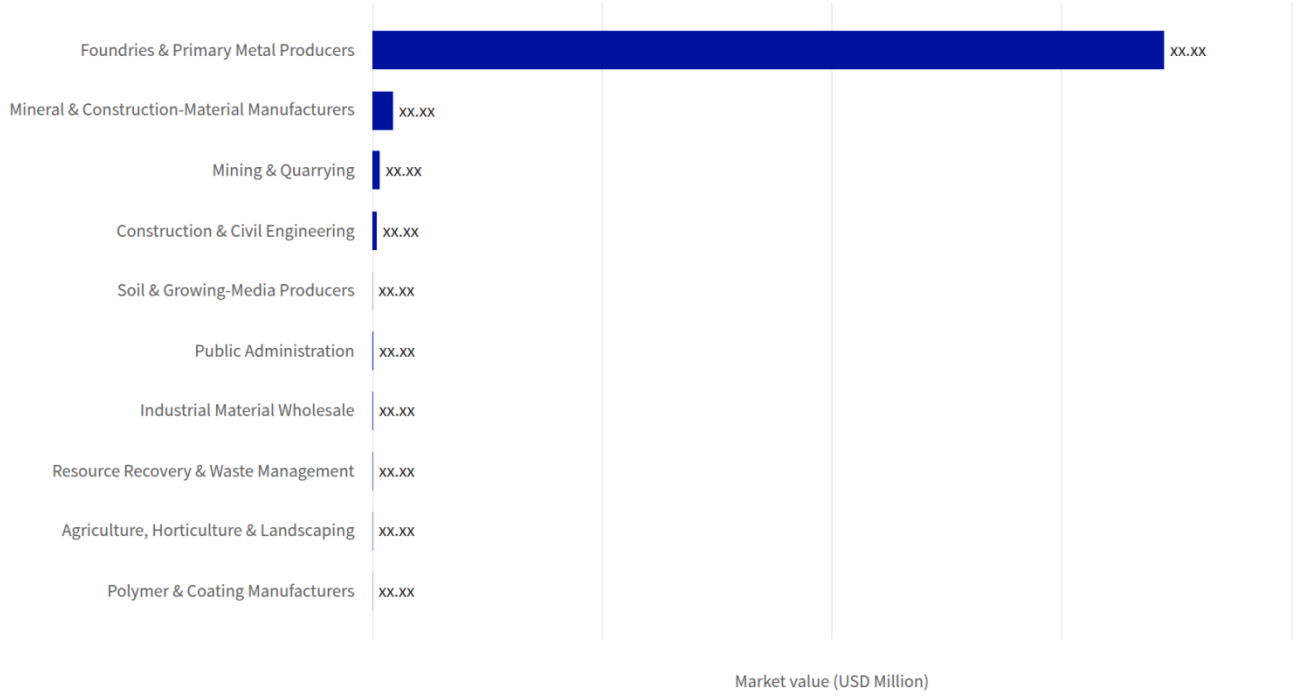


Table 105. Global Spent Foundry Sand Market, by Buyer Industry growth contribution, 2025-2032

Category	2025 value (USD Million)	2032 value (USD Million)	Added value (USD Million)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 106. Global Spent Foundry Sand Market Size, by Buyer Industry, 2017-2032 (USD Million)

Buyer Industry	2023	2024	2025	2026	2027	2032	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. Comprehensive Procurement Guidelines for Construction Products
   · The guidance addresses procuring agencies purchasing flowable fill or contracting for construction, not necessarily separate sand-input procurement.
   ([epa.gov](https://www.epa.gov/smm/comprehensive-procurement-guidelines-construction-products))
2. Case Study: Foundry Sand as Backfill Material
   · The case assigns transportation and placement responsibilities to the foundry; a mining-sector sand purchase is not established by the restoration endpoint.
   ([archive.epa.gov](https://archive.epa.gov/sectors/web/pdf/waupaca_1%2031%xx.xx.pdf))
3. Case Study: Foundry Sand in Land Application
   · Foundries paid Kurtz Bros. to accept sand, while Seven Hills purchased the resulting soil product, establishing different transaction-stage customer roles.
   ([archive.epa.gov](https://archive.epa.gov/sectors/web/pdf/kurtz_raingarden_1_31_2008.pdf))
4. ISIC, Revision 5: Code 4679 - Wholesale of chemicals, waste and scrap and other products n.e.c.
   · ISIC Revision xx.xx class xx.xx distinguishes wholesale purchase and resale without substantive transformation from waste collection, disposal-oriented treatment, and secondary-material production.
   ([unstats.un.org](https://unstats.un.org/unsd/classifications/Econ/Structure/Detail/EN/2095/xx.xx))

10.1. Foundries & Primary Metal Producers

Table 107. Global Spent Foundry Sand Market Size, by Foundries & Primary Metal Producers, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 108. Global Spent Foundry Sand Market Size, by Foundries & Primary Metal Producers, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 109. Global Spent Foundry Sand Market Size, by Foundries & Primary Metal Producers, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

10.2. Mineral & Construction-Material Manufacturers

Table 110. Global Spent Foundry Sand Market Size, by Mineral & Construction-Material Manufacturers, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 111. Global Spent Foundry Sand Market Size, by Mineral & Construction-Material Manufacturers, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 112. Global Spent Foundry Sand Market Size, by Mineral & Construction-Material Manufacturers, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

10.3. Mining & Quarrying

Table 113. Global Spent Foundry Sand Market Size, by Mining & Quarrying, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 114. Global Spent Foundry Sand Market Size, by Mining & Quarrying, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 115. Global Spent Foundry Sand Market Size, by Mining & Quarrying, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

10.4. Construction & Civil Engineering

Table 116. Global Spent Foundry Sand Market Size, by Construction & Civil Engineering, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 117. Global Spent Foundry Sand Market Size, by Construction & Civil Engineering, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 118. Global Spent Foundry Sand Market Size, by Construction & Civil Engineering, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

10.5. Soil & Growing-Media Producers

Table 119. Global Spent Foundry Sand Market Size, by Soil & Growing-Media Producers, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 120. Global Spent Foundry Sand Market Size, by Soil & Growing-Media Producers, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 121. Global Spent Foundry Sand Market Size, by Soil & Growing-Media Producers, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

10.6. Public Administration

Table 122. Global Spent Foundry Sand Market Size, by Public Administration, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 123. Global Spent Foundry Sand Market Size, by Public Administration, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 124. Global Spent Foundry Sand Market Size, by Public Administration, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

10.7. Industrial Material Wholesale

Table 125. Global Spent Foundry Sand Market Size, by Industrial Material Wholesale, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 126. Global Spent Foundry Sand Market Size, by Industrial Material Wholesale, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 127. Global Spent Foundry Sand Market Size, by Industrial Material Wholesale, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

10.8. Resource Recovery & Waste Management

Table 128. Global Spent Foundry Sand Market Size, by Resource Recovery & Waste Management, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 129. Global Spent Foundry Sand Market Size, by Resource Recovery & Waste Management, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 130. Global Spent Foundry Sand Market Size, by Resource Recovery & Waste Management, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

10.9. Agriculture, Horticulture & Landscaping

Table 131. Global Spent Foundry Sand Market Size, by Agriculture, Horticulture & Landscaping, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 132. Global Spent Foundry Sand Market Size, by Agriculture, Horticulture & Landscaping, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 133. Global Spent Foundry Sand Market Size, by Agriculture, Horticulture & Landscaping, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

10.10. Polymer & Coating Manufacturers

Table 134. Global Spent Foundry Sand Market Size, by Polymer & Coating Manufacturers, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 135. Global Spent Foundry Sand Market Size, by Polymer & Coating Manufacturers, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 136. Global Spent Foundry Sand Market Size, by Polymer & Coating Manufacturers, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

11. Spent Foundry Sand Market, by Reclamation Location

Reclamation Location does not determine asset ownership or who provides the service. On-Site Reclamation can use a foundry-owned installation or a supplier-provided service. ■■■■■■ ■■■■■■■■■ ■■ ■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■ ■■■■■■■■ ■■ ■■■■■■■■■■■■ ■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■ ■■■■■ ■■■■■■■■■■■■ ■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■ ■■■■■■■■ ■■■■■ ■■■■ ■■■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■ ■■■■■■■■ ■■ ■■■■■■■ ■■■■■■■■■■■■■

Off-Site Reclamation can substitute an external recovery relationship for investment in an internal installation. FSP's documented operator model includes collection, recovery at its Stuttgart facility, and return of reclaimed material. ■■■■■■■■ ■■■■■■■■■■ ■■■■ ■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■ ■■■■ ■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■ ■■■■■■■ ■■ ■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■ ■■■ ■■ ■■■■■■■■■■ ■■ ■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■■■■■■■■

The location choice should compare the complete route rather than assume an inherent environmental or service advantage. A foundry-specific life-cycle study found that transportation assumptions could reverse the modeled environmental benefit of additional reclamation. ■■■■■■■ ■■■■■■■■■■■ ■■■■ ■■■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■ ■■■■■ ■■■■■■■ ■■■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■ ■■■■■■■■ ■■■■■ ■■■■■■■■■■ ■■■■ ■■■■ ■■■■■■■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■ ■■■ ■■ ■■■■■■■■ ■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■ ■■■ ■■■■■■■■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■■■ ■■■■ ■■ ■■■■■■■■ ■■ ■■ ■■■■■■■■ ■■■■■■ ■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■ ■■ ■■■ ■■■■■■■

Figure 16. Global Spent Foundry Sand Market Size, by Reclamation Location, 2025 vs 2032 (%)

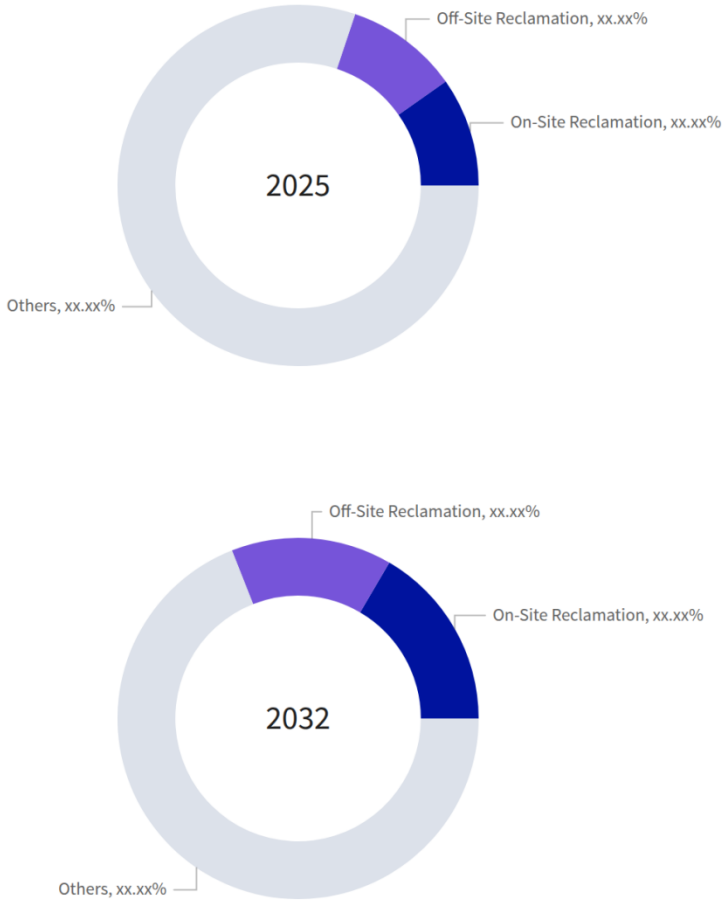


Figure 17. Global Spent Foundry Sand Market, by Reclamation Location: Market size by category, 2025

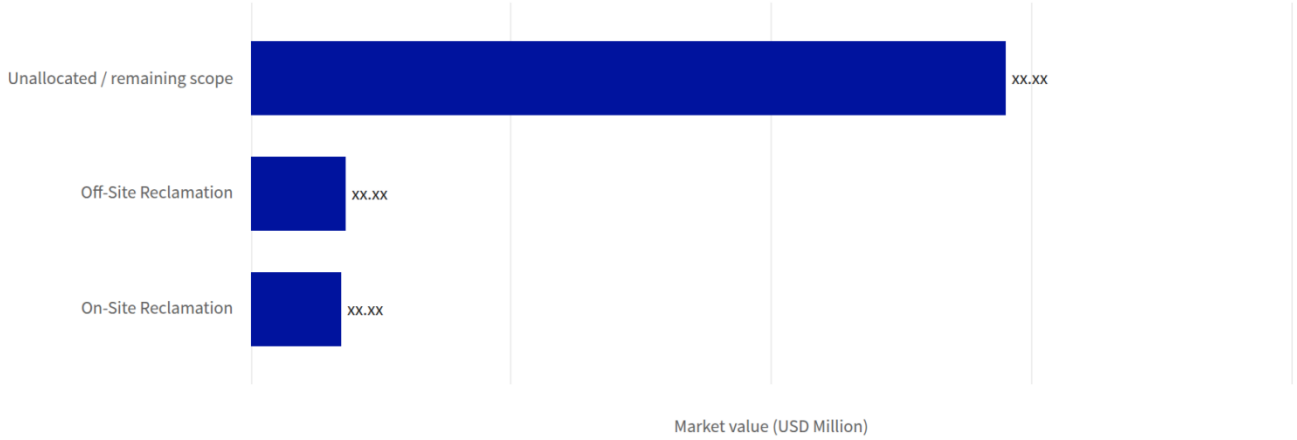


Figure 18. Global Spent Foundry Sand Market, by Reclamation Location: Market size and growth, 2025-2032

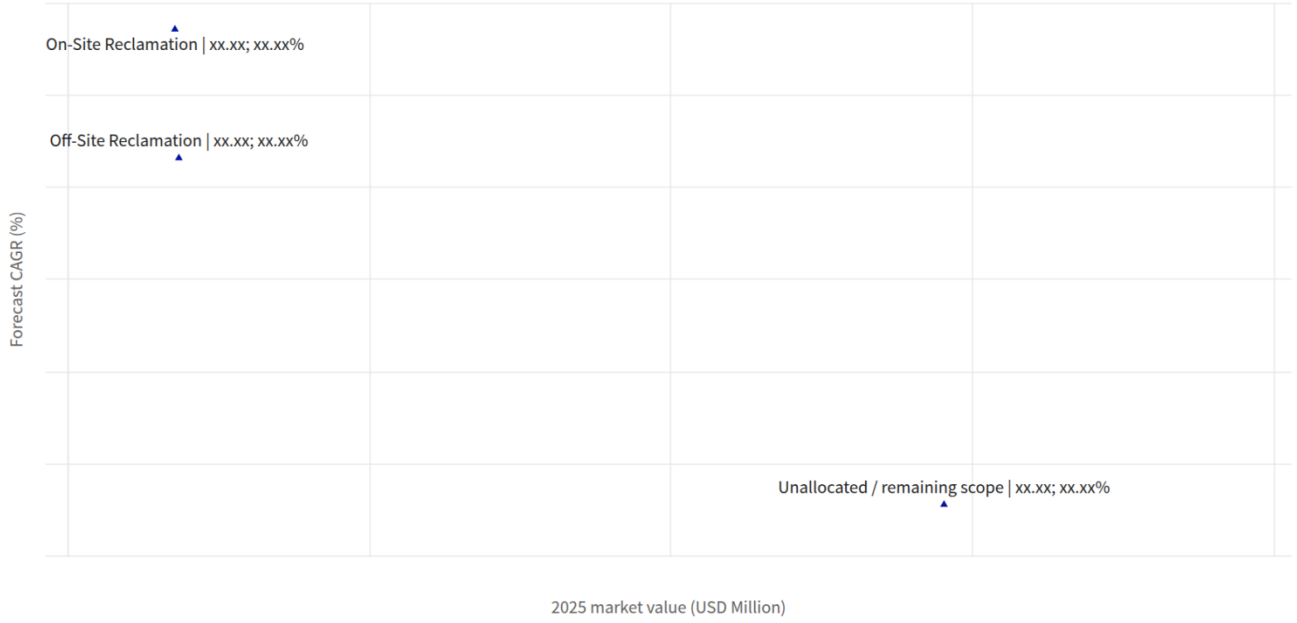


Table 137. Global Spent Foundry Sand Market, by Reclamation Location growth contribution, 2025-2032

Category	2025 value (USD Million)	2032 value (USD Million)	Added value (USD Million)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unallocated / remaining scope	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 138. Global Spent Foundry Sand Market Size, by Reclamation Location, 2017-2032 (USD Million)

Reclamation Location	2023	2024	2025	2026	2027	2032	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. Foundry Maintenance Service-Omega Sinto Foundry Machinery
   · Omega Sinto lists equipment-maintenance contracts, planned service visits, and reactive breakdown visits, establishing support categories rather than measured reliability. ([ofml.net](https://www.ofml.net/foundry-machinery-and-spares/foundry-maintenance-service))
2. Foundry Sand Source Reduction Options: Life Cycle Assessment Evaluation
   · A foundry-specific life-cycle model found transportation sensitivity could reverse reclamation's modeled environmental benefit; this does not establish universal location superiority. ([digitalcommons.unl.edu](https://digitalcommons.unl.edu/mechengfacpub/xx.xx/))
3. Advance Ruling GST-ARA-55/2019-20/B-47: Kolhapur Foundry and Engineering Cluster
   · The record describes pooled incoming sands whose recovered output could not be attributed to an individual foundry. ([kolhapurfoundrycluster.org](https://www.kolhapurfoundrycluster.org/tenders/2020-xx.xx/gst-ara-order-2020.pdf))
4. Bau und Betrieb einer neuartigen Nassregenerierungsanlage für Gießereisande, die mit anorganischem Binder belastet sind
   · The operator model includes customer collection, recovery at Stuttgart, and return without customer investment in a recovery installation. ([umweltinnovationsprogramm.de](https://www.umweltinnovationsprogramm.de/projekte/bau-und-betrieb-einer-neuartigen-nassregenerierungsanlage-fuer-giessereisande-die-mit))
5. Sand as a Service reshapes foundries' operations
   · Resand describes delivering reclamation equipment to the foundry under an ongoing service including development, maintenance, and servicing; comparative reliability is not independently established. ([resand.eu](https://resand.eu/blog/sand-as-a-service-reshapes-foundries-operations))

11.1. Off-Site Reclamation

Table 139. Global Spent Foundry Sand Market Size, by Off-Site Reclamation, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 140. Global Spent Foundry Sand Market Size, by Off-Site Reclamation, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 141. Global Spent Foundry Sand Market Size, by Off-Site Reclamation, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

11.2. On-Site Reclamation

Table 142. Global Spent Foundry Sand Market Size, by On-Site Reclamation, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 143. Global Spent Foundry Sand Market Size, by On-Site Reclamation, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 144. Global Spent Foundry Sand Market Size, by On-Site Reclamation, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

12. Spent Foundry Sand Market, by Transaction Channel

Transaction Channel changes contractual control without making an unsuitable sand stream acceptable. ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ These definitions apply to waste-classified transfers there; non-waste arrangements require their own contractual role analysis.

Intermediation is useful when it supplies a capability the principals cannot efficiently provide themselves. EPA's historical Resource Recovery Corporation case documents consolidation, staging, and residual destinations. ▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪ ▪ ▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪

Neither agency involvement nor merchant ownership should be assumed to eliminate compliance responsibilities. ▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪ A coordinating provider's description does not establish an executed agency or resale arrangement; contractual authority and assumed obligations are the decisive verification points before collection begins.

Figure 19. Global Spent Foundry Sand Market, by Transaction Channel: Market share evolution, 2025-2032

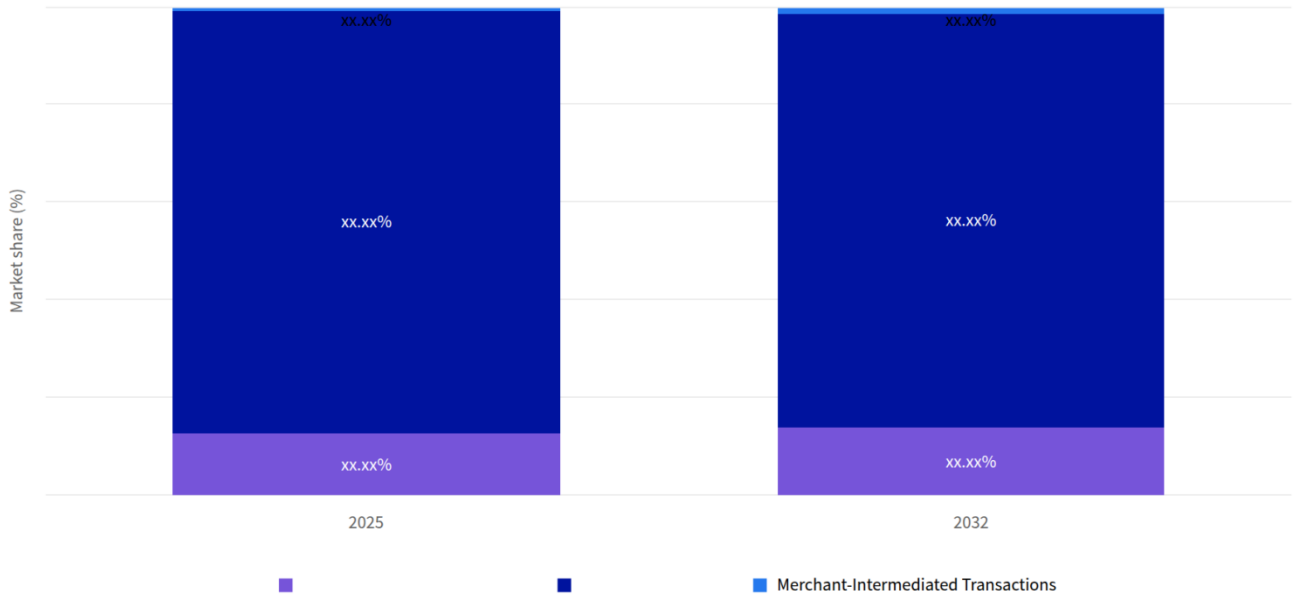


Figure 20. Global Spent Foundry Sand Market, by Transaction Channel: Market size by category, 2025

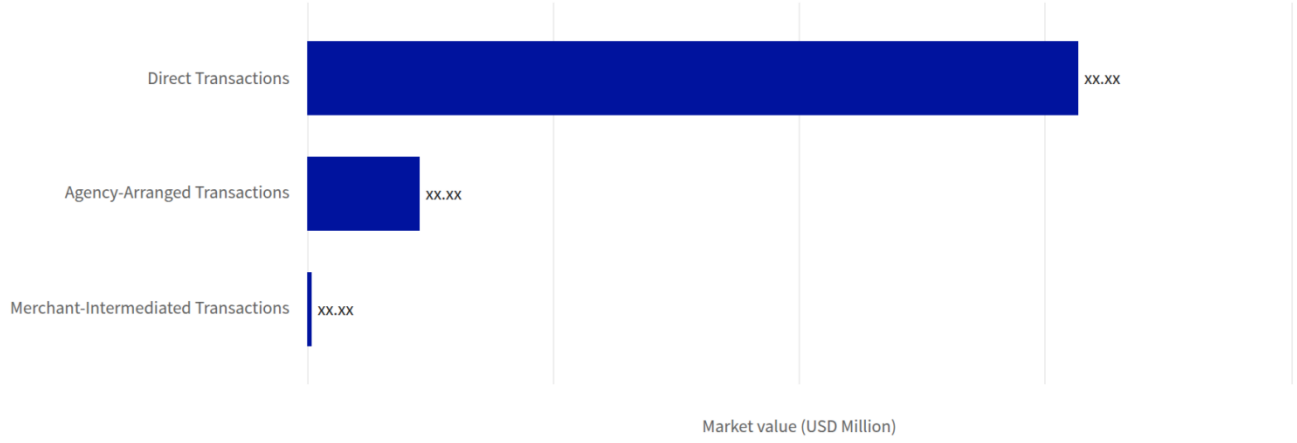


Figure 21. Global Spent Foundry Sand Market, by Transaction Channel: Market size and growth, 2025-2032

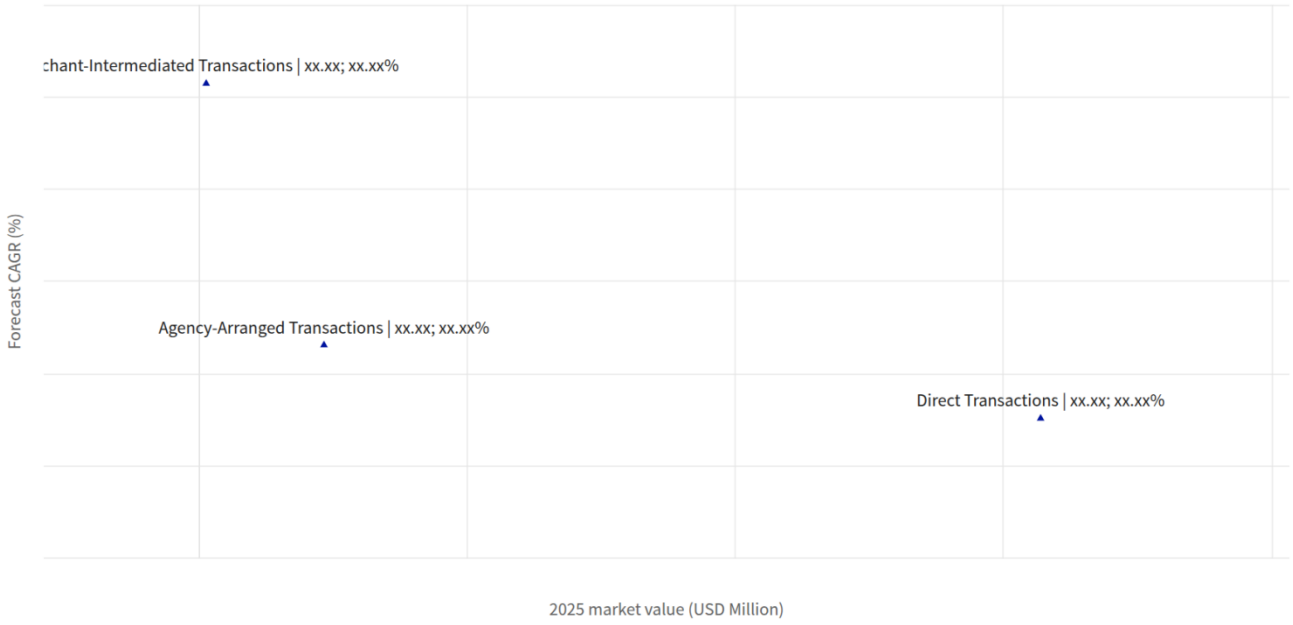


Table 145. Global Spent Foundry Sand Market, by Transaction Channel growth contribution, 2025-2032

Category	2025 value (USD Million)	2032 value (USD Million)	Added value (USD Million)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 146. Global Spent Foundry Sand Market Size, by Transaction Channel, 2017-2032 (USD Million)

Transaction Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. Beneficial Reuse of Foundry Sand: A Review of State Practices and Regulations

   · The Resource Recovery Corporation case documents consolidated sources, staging, and residual destinations, supporting a coordination mechanism rather than current channel coverage. ([archive.epa.gov](https://archive.epa.gov/sectors/web/pdf/reuse.pdf))

2. The processed foundry sand order 2014
   - The New South Wales order requires generator-to-processor and processor-to-recipient compliance statements and counterparty records. Preserving these through intermediation is a contractual implication. ([epa.nsw.gov.au](https://www.epa.nsw.gov.au/sites/default/files/rro14-foundry-sand.pdf))
3. Waste duty of care: code of practice
   - The code distinguishes dealers buying for resale, including without possession, from brokers arranging management for another party; duty-of-care responsibilities extend through the waste journey. ([gov.uk](https://www.gov.uk/government/publications/waste-duty-of-care-code-of-practice/waste-duty-of-care-code-of-practice))

12.1. Direct Transactions

Table 147. Global Spent Foundry Sand Market Size, by Direct Transactions, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 148. Global Spent Foundry Sand Market Size, by Direct Transactions, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 149. Global Spent Foundry Sand Market Size, by Direct Transactions, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

12.2. Agency-Arranged Transactions

Table 150. Global Spent Foundry Sand Market Size, by Agency-Arranged Transactions, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 151. Global Spent Foundry Sand Market Size, by Agency-Arranged Transactions, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 152. Global Spent Foundry Sand Market Size, by Agency-Arranged Transactions, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

12.3. Merchant-Intermediated Transactions

Table 153. Global Spent Foundry Sand Market Size, by Merchant-Intermediated Transactions, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 154. Global Spent Foundry Sand Market Size, by Merchant-Intermediated Transactions, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 155. Global Spent Foundry Sand Market Size, by Merchant-Intermediated Transactions, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

13. Spent Foundry Sand Market, by Base Aggregate

Base aggregate changes which acceptance evidence a buyer can use. ■■■■■■ ■■■■ ■■■ ■ ■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■ ■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■ ■■ ■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■ ■■■■■■■■■■ ■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■ ■■■■■■ ■■■■■ ■■■■■■■ ■■■■■ ■■ ■■■■■■■ ■ ■■■■■■■■■■■■■■■■ ■■■■■ ■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■ ■■■■■■■■■■■■ ■■■ ■■ ■■■ ■■■■■ ■■ ■■■■■■■■■■■■ ■■■ ■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■ Buyers should identify the actual mineral input being displaced and obtain mineral-specific acceptance rather than compare all categories as interchangeable recovered aggregate.

Mixed Aggregate Sand creates a separate sourcing-control decision. ■■■■■■■■■■■ ■■■■■ ■■■■■■■ ■■ ■■■■■ ■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■ ■■■■■■■■ ■■■ ■■■■■■■ ■■■■■ ■■■■■■■■■■■■■■ ■■■■■ ■■■■■■■■ ■■■■■ ■■■■ ■■■■■■■■■■■■ ■ ■■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■ ■ ■■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■ ■■ ■■■■■■■■■ ■■■■■■■■ ■■■ ■■ ■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■■■■ Pooling becomes defensible only when the recipient accepts the documented delivered combination; constituent recognition alone cannot establish a commercial commitment for engineered specialty aggregates or mixed streams.

Figure 22. Global Spent Foundry Sand Market, by Base Aggregate: Market share evolution, 2025-2032

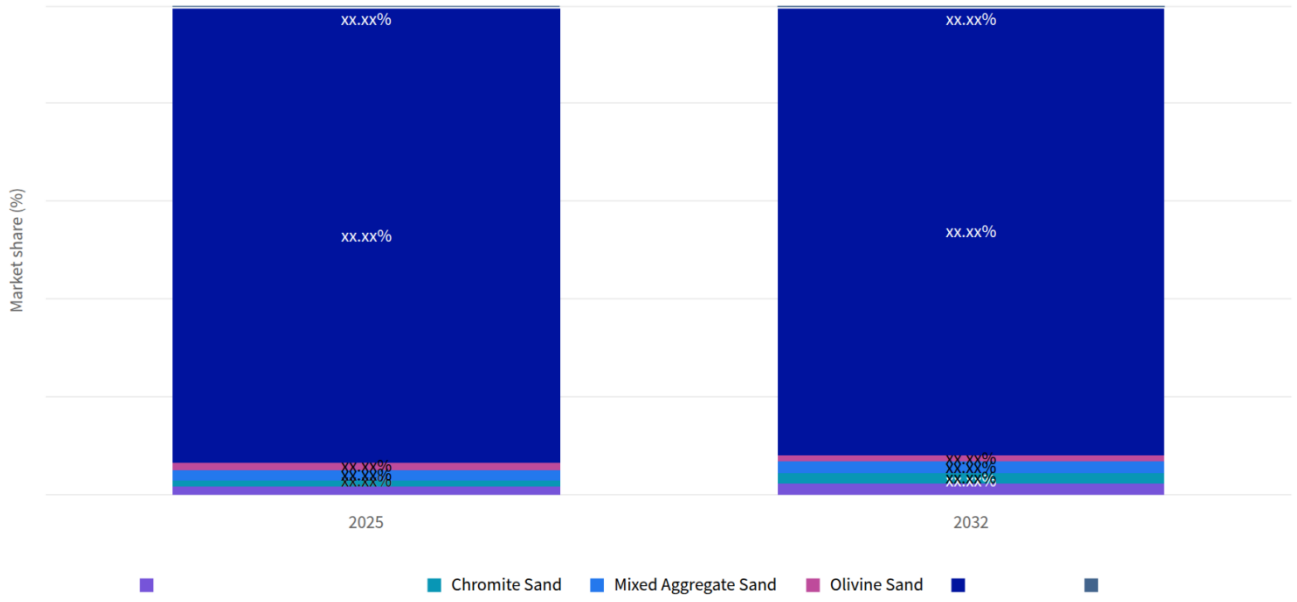


Figure 23. Global Spent Foundry Sand Market, by Base Aggregate: Market size by category, 2025

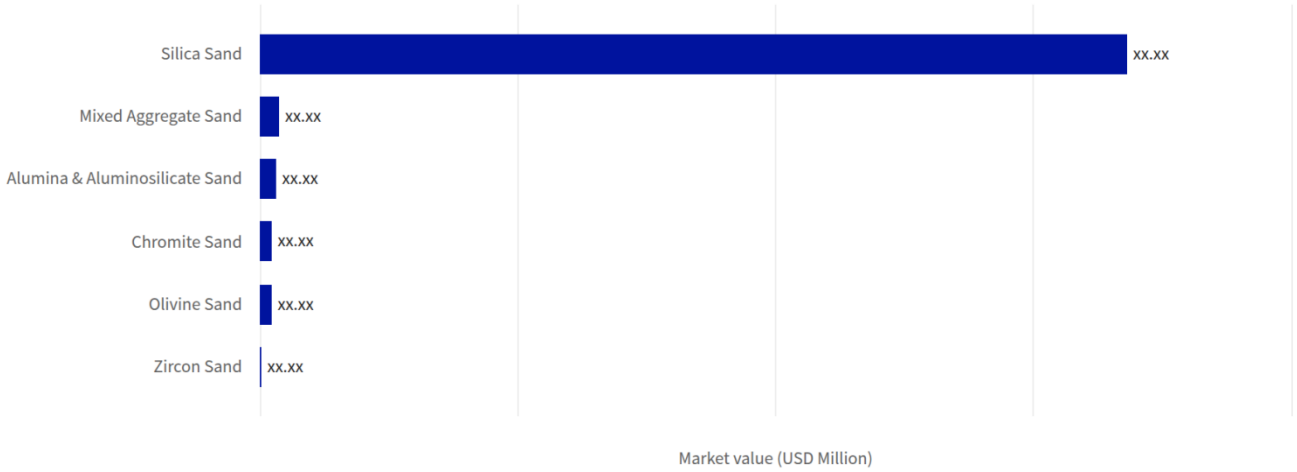


Figure 24. Global Spent Foundry Sand Market, by Base Aggregate: Market size and growth, 2025-2032

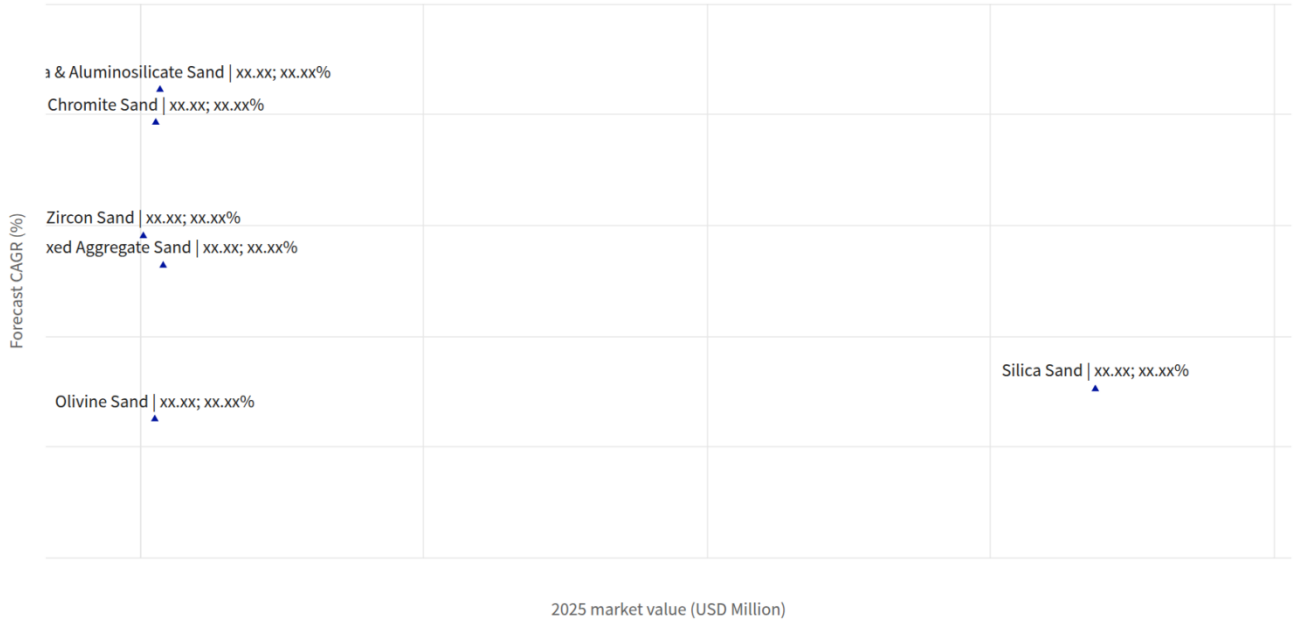


Table 156. Global Spent Foundry Sand Market, by Base Aggregate growth contribution, 2025-2032

Category	2025 value (USD Million)	2032 value (USD Million)	Added value (USD Million)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 157. Global Spent Foundry Sand Market Size, by Base Aggregate, 2017-2032 (USD Million)

Base Aggregate	2023	2024	2025	2026	2027	2032	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. Risk Assessment of Spent Foundry Sands in Soil-Related Applications
   · The assessment concerns specified silica-based source sands and identifies chromite, olivine, zircon, and staurolite as specialty casting minerals; mineral-specific purchasing implications are analytical. ([epa.gov](https://www.epa.gov/sites/default/files/2016-xx.xx/documents/risk_assessment_sfs_in_soil.pdf))
2. Recovery of chromite and silica from steel industry waste molding sands.
   · The historical Bureau of Mines publication documents captive chromite and silica recovery from steel-foundry waste molding sand, not an external purchasing commitment. ([stacks.cdc.gov](https://stacks.cdc.gov/view/cdc/xx.xx))

13.1. Silica Sand

Table 158. Global Spent Foundry Sand Market Size, by Silica Sand, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 159. Global Spent Foundry Sand Market Size, by Silica Sand, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 160. Global Spent Foundry Sand Market Size, by Silica Sand, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

13.2. Mixed Aggregate Sand

Table 161. Global Spent Foundry Sand Market Size, by Mixed Aggregate Sand, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 162. Global Spent Foundry Sand Market Size, by Mixed Aggregate Sand, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 163. Global Spent Foundry Sand Market Size, by Mixed Aggregate Sand, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

13.3. Alumina & Aluminosilicate Sand

Table 164. Global Spent Foundry Sand Market Size, by Alumina & Aluminosilicate Sand, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 165. Global Spent Foundry Sand Market Size, by Alumina & Aluminosilicate Sand, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 166. Global Spent Foundry Sand Market Size, by Alumina & Aluminosilicate Sand, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

13.4. Chromite Sand

Table 167. Global Spent Foundry Sand Market Size, by Chromite Sand, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 168. Global Spent Foundry Sand Market Size, by Chromite Sand, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 169. Global Spent Foundry Sand Market Size, by Chromite Sand, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

13.5. Olivine Sand

Table 170. Global Spent Foundry Sand Market Size, by Olivine Sand, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 171. Global Spent Foundry Sand Market Size, by Olivine Sand, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 172. Global Spent Foundry Sand Market Size, by Olivine Sand, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

13.6. Zircon Sand

Table 173. Global Spent Foundry Sand Market Size, by Zircon Sand, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 174. Global Spent Foundry Sand Market Size, by Zircon Sand, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 175. Global Spent Foundry Sand Market Size, by Zircon Sand, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

14. Spent Foundry Sand Market, by Binder System

Binder System changes both reclamation eligibility and recipient fit. Clay-Bonded Systems can leave clay and carbon-related residues, while Organic Binder Systems and Inorganic Chemical Binder Systems present different compatibility requirements. ■■■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■ ■■ ■■■ ■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■ ■■■■ ■■ ■ ■■■■■■■■■■■■■■ ■■■■■■■

Inorganic Chemical Binder Systems have a documented, source-specific outsourcing alternative. ■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■■ ■■■■ ■■■ ■■ ■■■■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■ ■■ ■■■■■■■■■ ■■■■■■■■■■■ ■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■ ■■■■■■■■■ ■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■ ■■■■■■ ■■■■ ■■ ■■■■■■■■■■ ■■ ■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■ ■■■■■ ■■■■■■■■■■ ■■■■■■■■ EU BAT conclusions similarly recognize mixed organic-clay sands and warn that thermal reclamation may not be applicable where inorganic binder residues are present.

■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■ ■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■ ■■ ■■ ■■■■■ ■■■■■■■ ■■ ■■■ ■ ■■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■ ■■■■■■■■■■■■ ■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■ ■■■■■ ■■■■■■■ ■■■■ ■■■ ■■■■■■■■■■■■ ■■ ■■■■■■■■ ■■■ ■■■■ ■■■■■■■■ ■■ ■■■ ■■■■■■■■■ A binder change or newly combined stream should trigger provider and recipient review. Specialized outsourcing can avoid an incompatible asset commitment, but introduces provider-acceptance and delivery dependence; internal procurement is preferable only when the foundry can substantiate compatibility and retained support obligations.

Figure 25. Global Spent Foundry Sand Market, by Binder System: Market share evolution, 2025-2032

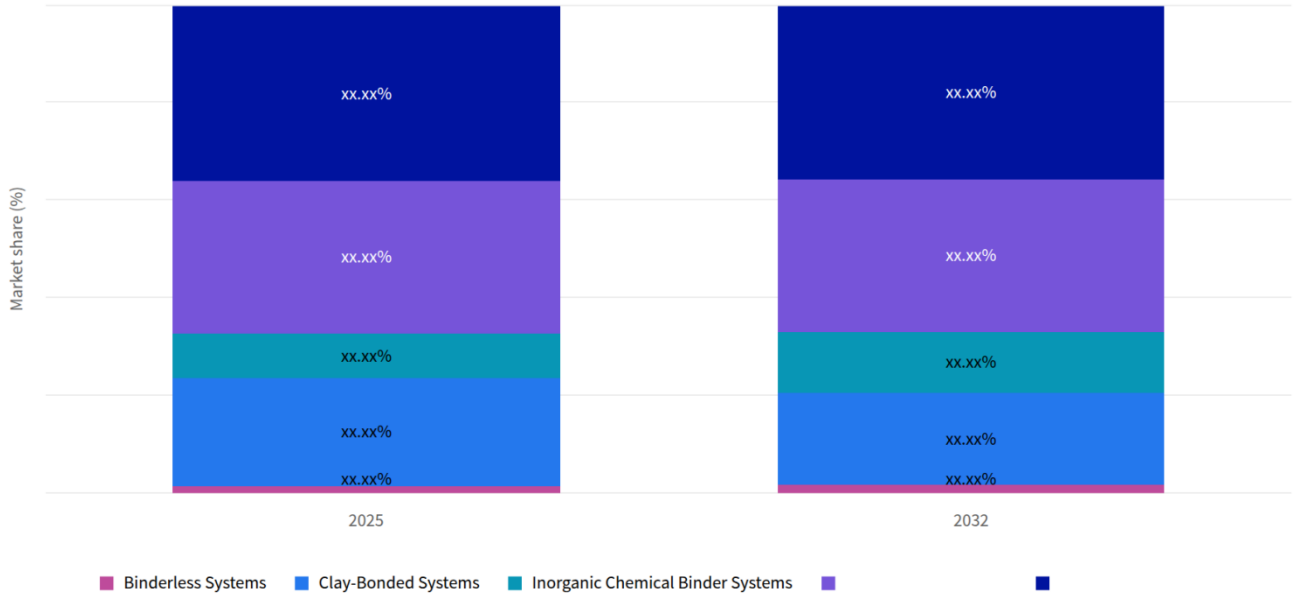


Figure 26. Global Spent Foundry Sand Market, by Binder System: Market size by category, 2025

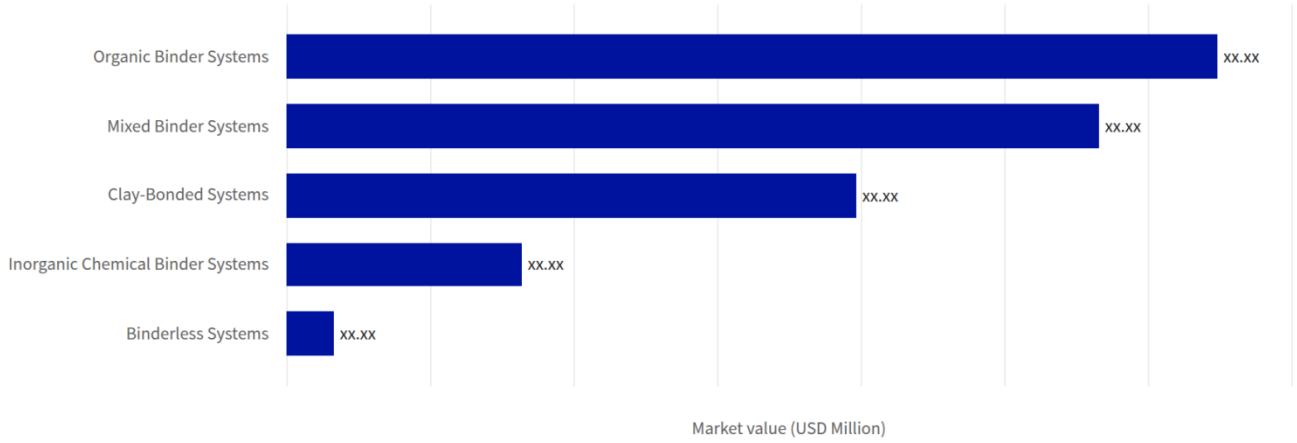


Figure 27. Global Spent Foundry Sand Market, by Binder System: Market size and growth, 2025-2032

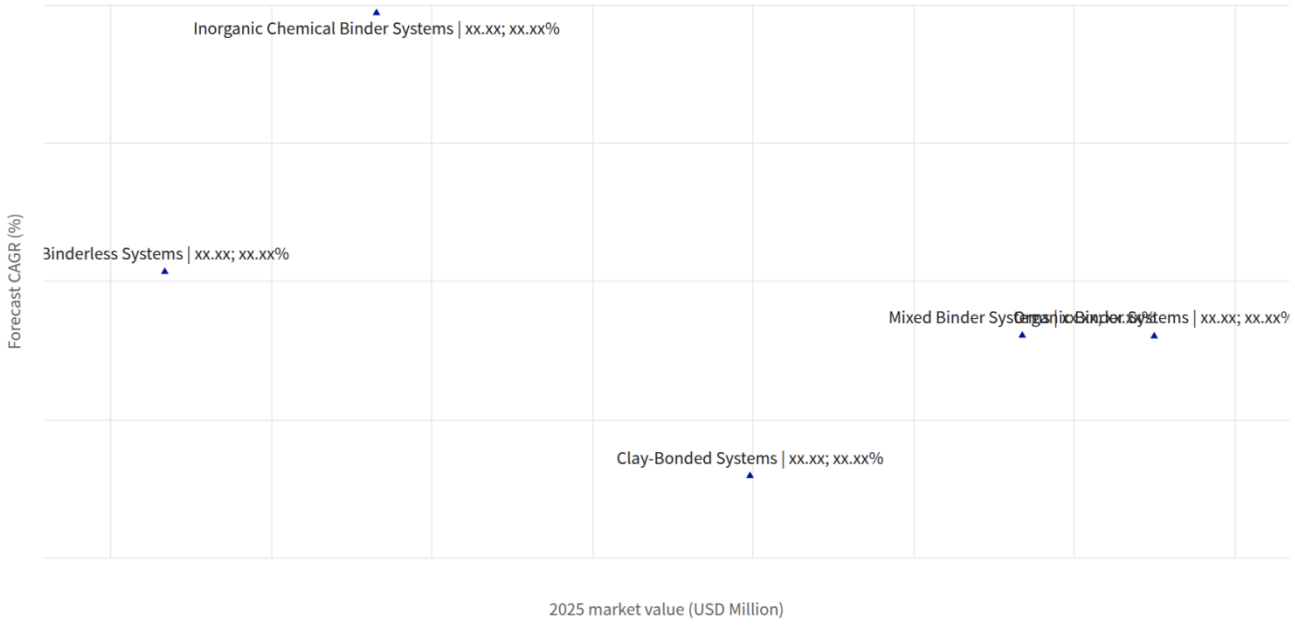


Table 176. Global Spent Foundry Sand Market, by Binder System growth contribution, 2025-2032

Category	2025 value (USD Million)	2032 value (USD Million)	Added value (USD Million)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 177. Global Spent Foundry Sand Market Size, by Binder System, 2017-2032 (USD Million)

Binder System	2023	2024	2025	2026	2027	2032	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. Foundry Sand-Material Description: User Guidelines for Waste and Byproduct Materials in Pavement Construction
   · Archived FHWA guidance identifies residual binders, clay-related material, and organic impurities that can constrain construction-material suitability. ([fhwa.dot.gov](https://www.fhwa.dot.gov/publications/research/infrastructure/structures/xx.xx/fs1.cfm))
2. Beneficial Use of Industrial Byproducts-WA-1769
   · Wisconsin requires recharacterization after generating-process changes that could alter eligible uses; binder-change notification is a purchasing recommendation derived from this control. ([apps.dnr.wi.gov](https://apps.dnr.wi.gov/doclink/waext/WA1769.pdf))
3. Commission Implementing Decision (EU) 2024/2974 establishing BAT conclusions for the smitheries and foundries industry
   · BAT conclusions recognize unbonded and mixed organic-clay sands and specify reclamation-applicability limitations for inorganic binder residues. ([aida.ineris.fr](https://aida.ineris.fr/sites/aida/files/documents-bref/OJ_L_202402974_EN_TXT_0.pdf))
4. Bau und Betrieb einer neuartigen Nassregenerierungsanlage für Gießereisande, die mit anorganischem Binder belastet sind
   · The completed FSP project concerns industrial wet reclamation of water-glass-bound sand and an operator service involving collection and reclaimed-sand return. ([umweltinnovationsprogramm.de](https://www.umweltinnovationsprogramm.de/projekte/bau-und-betrieb-einer-neuartigen-nassregenerierungsanlage-fuer-giessereisande-die-mit))

14.1. Organic Binder Systems

Table 178. Global Spent Foundry Sand Market Size, by Organic Binder Systems, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 179. Global Spent Foundry Sand Market Size, by Organic Binder Systems, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 180. Global Spent Foundry Sand Market Size, by Organic Binder Systems, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

14.2. Mixed Binder Systems

Table 181. Global Spent Foundry Sand Market Size, by Mixed Binder Systems, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 182. Global Spent Foundry Sand Market Size, by Mixed Binder Systems, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 183. Global Spent Foundry Sand Market Size, by Mixed Binder Systems, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

14.3. Clay-Bonded Systems

Table 184. Global Spent Foundry Sand Market Size, by Clay-Bonded Systems, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 185. Global Spent Foundry Sand Market Size, by Clay-Bonded Systems, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 186. Global Spent Foundry Sand Market Size, by Clay-Bonded Systems, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

14.4. Inorganic Chemical Binder Systems

Table 187. Global Spent Foundry Sand Market Size, by Inorganic Chemical Binder Systems, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 188. Global Spent Foundry Sand Market Size, by Inorganic Chemical Binder Systems, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 189. Global Spent Foundry Sand Market Size, by Inorganic Chemical Binder Systems, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

14.5. Binderless Systems

Table 190. Global Spent Foundry Sand Market Size, by Binderless Systems, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 191. Global Spent Foundry Sand Market Size, by Binderless Systems, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 192. Global Spent Foundry Sand Market Size, by Binderless Systems, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

15. Spent Foundry Sand Market, by Source Metal

[illegible] EPA's favorable soil-use case includes specified silica-based iron, steel, and aluminum sands. Aluminum does not represent the entire nonferrous category: leaded brass and bronze sands are often hazardous, and non-leaded brass falls outside that assessment.

For Mixed Ferrous & Nonferrous Sources, procurement should preserve the delivered lot's actual casting origins rather than rely on the foundry's corporate metal portfolio. Obtain acceptance for the combined source-and-use case before pooling suppliers. [illegible]

Figure 28. Global Spent Foundry Sand Market, by Source Metal: Market share evolution, 2025-2032

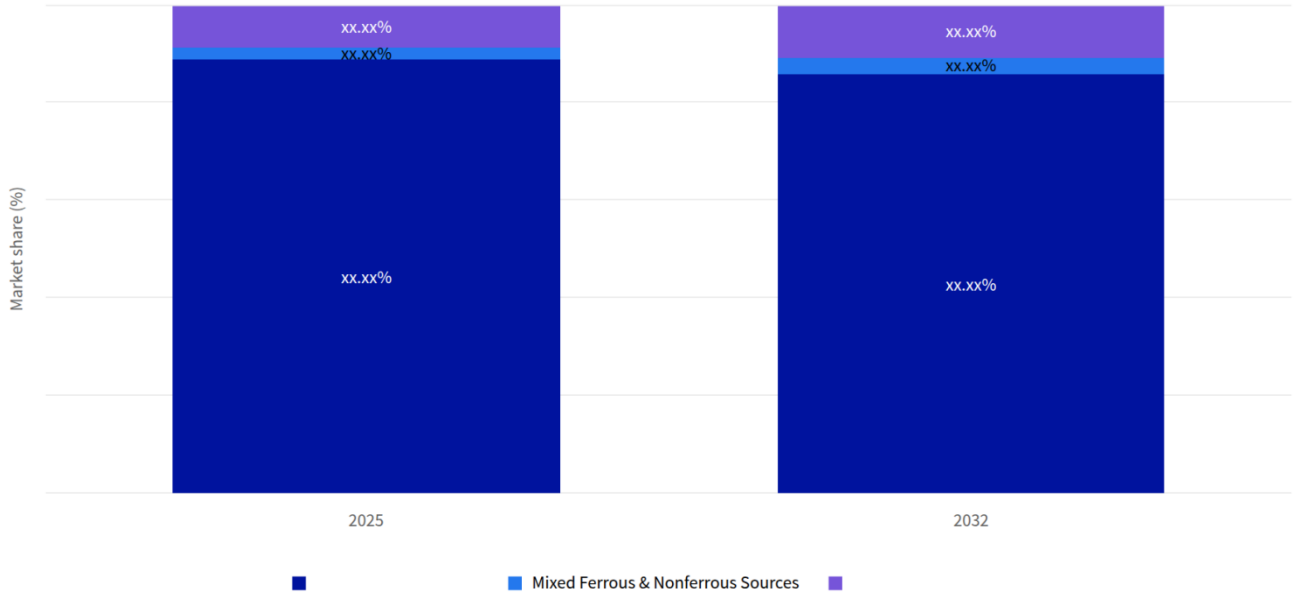


Figure 29. Global Spent Foundry Sand Market, by Source Metal: Market size by category, 2025

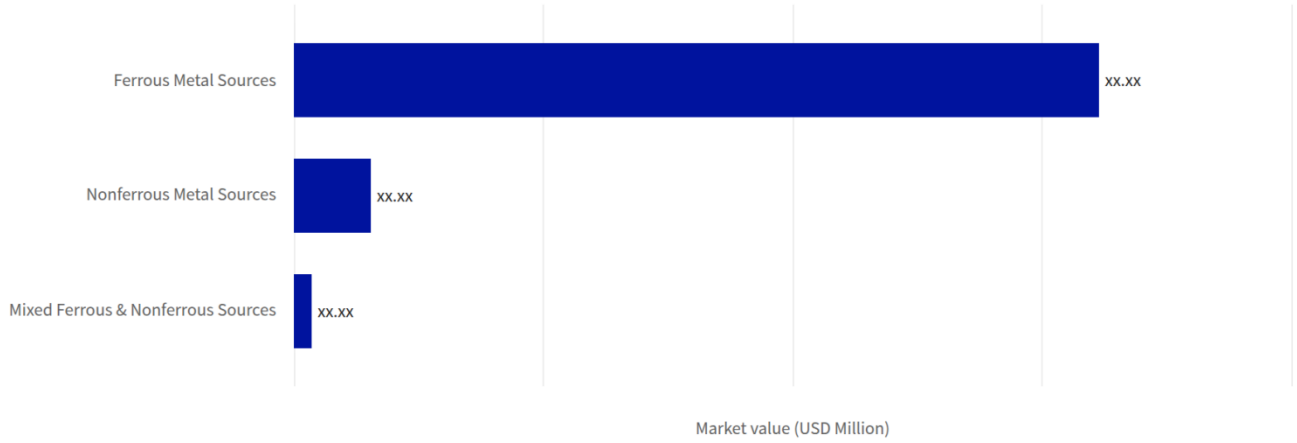


Figure 30. Global Spent Foundry Sand Market, by Source Metal: Market size and growth, 2025-2032



Table 193. Global Spent Foundry Sand Market, by Source Metal growth contribution, 2025-2032

Category	2025 value (USD Million)	2032 value (USD Million)	Added value (USD Million)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 194. Global Spent Foundry Sand Market Size, by Source Metal, 2017-2032 (USD Million)

Source Metal	2023	2024	2025	2026	2027	2032	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. Beneficial Uses of Spent Foundry Sands
   - EPA's assessed source scope includes specified iron, steel, and aluminum sands, excludes non-leaded brass, and identifies hazardous-waste concerns for leaded brass and bronze. ([epa.gov](https://www.epa.gov/smm/beneficial-uses-spent-foundry-sands))
2. Beneficial Use of Industrial Byproducts-WA-1769
   - Process or raw-material changes can alter byproduct-use potential; reviewing a newly added alloy or source is a conditional commercial implication. ([apps.dnr.wi.gov](https://apps.dnr.wi.gov/doclink/waext/WA1769.pdf))

15.1. Ferrous Metal Sources

Table 195. Global Spent Foundry Sand Market Size, by Ferrous Metal Sources, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 196. Global Spent Foundry Sand Market Size, by Ferrous Metal Sources, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 197. Global Spent Foundry Sand Market Size, by Ferrous Metal Sources, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

15.2. Nonferrous Metal Sources

Table 198. Global Spent Foundry Sand Market Size, by Nonferrous Metal Sources, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 199. Global Spent Foundry Sand Market Size, by Nonferrous Metal Sources, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 200. Global Spent Foundry Sand Market Size, by Nonferrous Metal Sources, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

15.3. Mixed Ferrous & Nonferrous Sources

Table 201. Global Spent Foundry Sand Market Size, by Mixed Ferrous & Nonferrous Sources, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 202. Global Spent Foundry Sand Market Size, by Mixed Ferrous & Nonferrous Sources, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 203. Global Spent Foundry Sand Market Size, by Mixed Ferrous & Nonferrous Sources, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

16. Spent Foundry Sand Market, by Regulatory Status

[illegible] Source metal alone therefore does not settle the Hazardous Waste versus Nonhazardous Waste decision. Buyers should establish the actual classification and verify a proposed provider's acceptance and permissions against it, rather than assume that all spent foundry sand follows one management route.

[illegible] Queensland's foundry-sand code provides another bounded route: resource supply requires producer registration and code compliance, and material from an unregistered producer remains waste. Neither framework is a worldwide classification rule.

[illegible] Retaining a permitted waste-management arrangement is the alternative when those conditions cannot be substantiated. A destination or use change should trigger reassessment before a buyer treats the previous classification as transferable.

Figure 31. Global Spent Foundry Sand Market, by Regulatory Status: Market share evolution, 2025-2032

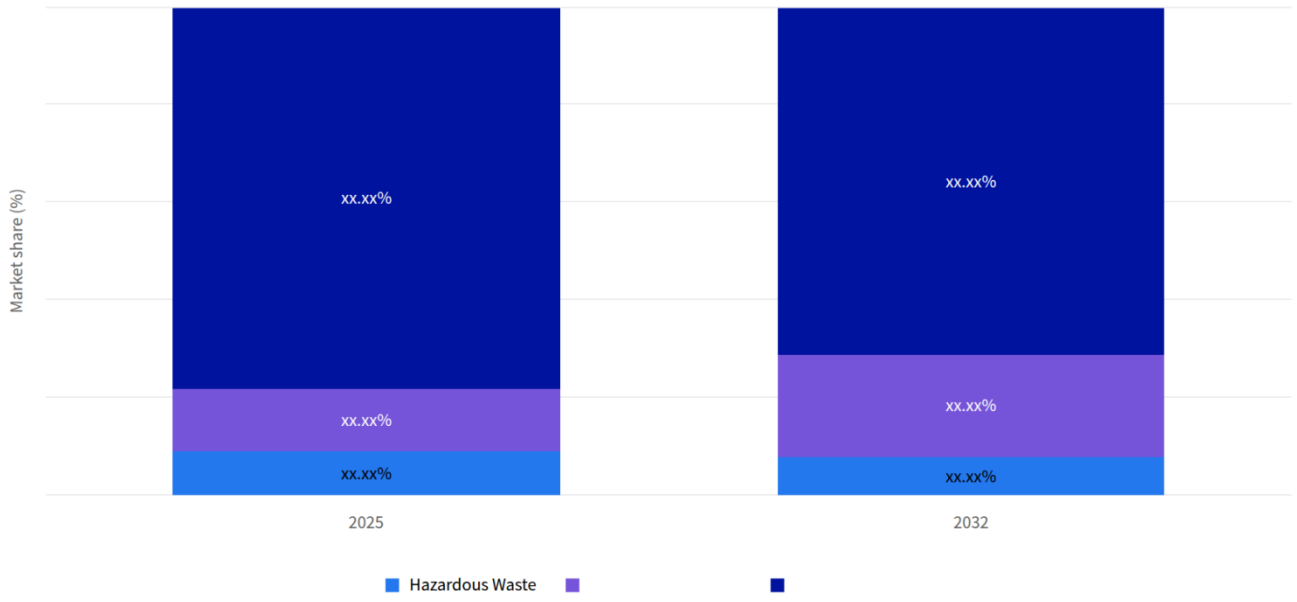


Figure 32. Global Spent Foundry Sand Market, by Regulatory Status: Market size by category, 2025

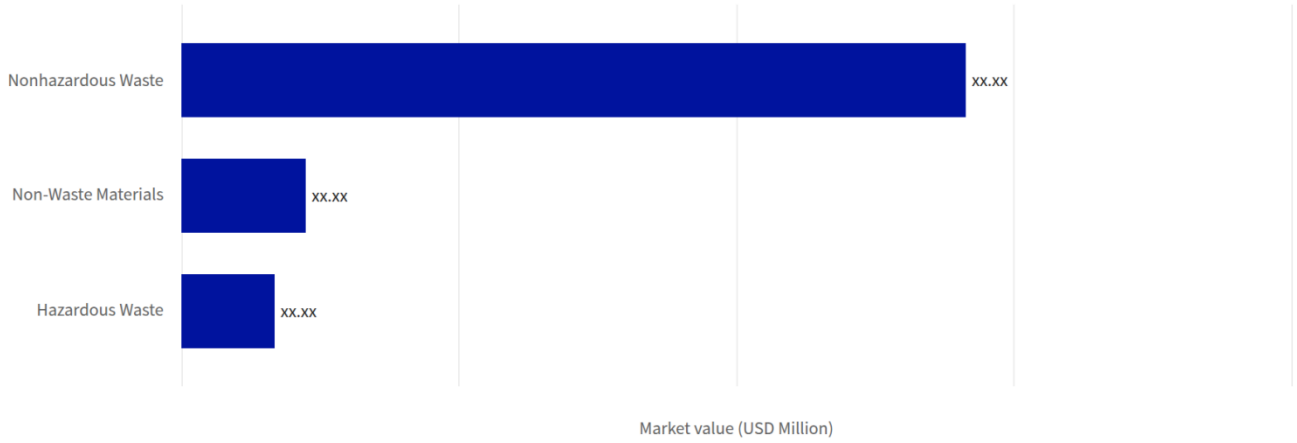


Figure 33. Global Spent Foundry Sand Market, by Regulatory Status: Market size and growth, 2025-2032

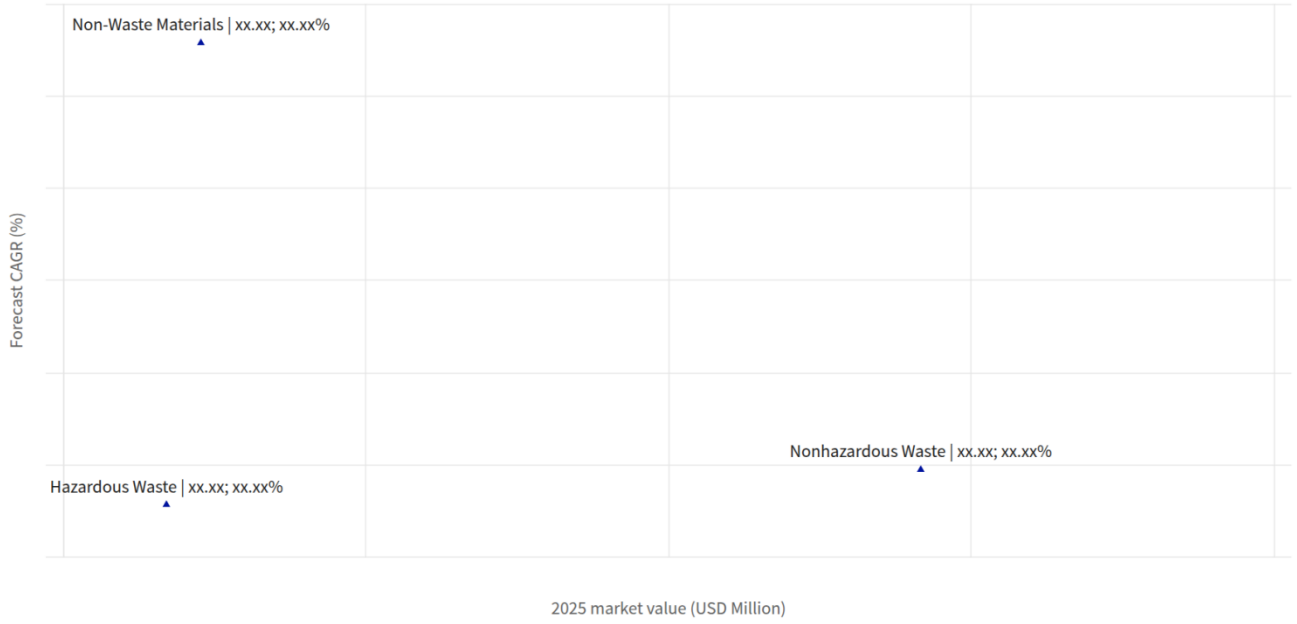


Table 204. Global Spent Foundry Sand Market, by Regulatory Status growth contribution, 2025-2032

Category	2025 value (USD Million)	2032 value (USD Million)	Added value (USD Million)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 205. Global Spent Foundry Sand Market Size, by Regulatory Status, 2017-2032 (USD Million)

Regulatory Status	2023	2024	2025	2026	2027	2032	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. Check if your material is waste
   - England requires recovery and satisfaction of end-of-waste conditions, including specific use, demand, technical and legal compliance, and acceptable impacts. ([gov.uk](https://www.gov.uk/guidance/check-if-your-material-is-waste))
2. Waste Classification: Guidance on the Classification and Assessment of Waste-Technical Guidance WM3
   - WM3 provides hazardous and nonhazardous post-pouring casting-core and mold entries in both ferrous and nonferrous groups. ([assets.publishing.service.gov.uk](https://assets.publishing.service.gov.uk/media/6152d0b78fa8f5610b9c222b/Waste_classification_technical_guidance_WM3.pdf))
3. End of waste codes-Business Queensland
   - Queensland lists a foundry-sand code; resource supply requires producer registration and code compliance, while an unregistered producer's material remains waste. ([business.qld.gov.au](https://www.business.qld.gov.au/running-business/environment/waste-management/regulated-waste/eow-codes))

16.1. Nonhazardous Waste

Table 206. Global Spent Foundry Sand Market Size, by Nonhazardous Waste, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 207. Global Spent Foundry Sand Market Size, by Nonhazardous Waste, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 208. Global Spent Foundry Sand Market Size, by Nonhazardous Waste, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

16.2. Non-Waste Materials

Table 209. Global Spent Foundry Sand Market Size, by Non-Waste Materials, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 210. Global Spent Foundry Sand Market Size, by Non-Waste Materials, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 211. Global Spent Foundry Sand Market Size, by Non-Waste Materials, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

16.3. Hazardous Waste

Table 212. Global Spent Foundry Sand Market Size, by Hazardous Waste, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 213. Global Spent Foundry Sand Market Size, by Hazardous Waste, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 214. Global Spent Foundry Sand Market Size, by Hazardous Waste, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

17. Spent Foundry Sand Market, by Material Transfer Economics

[redacted] A Maharashtra ruling dated August xx.xx 2020 distinguished incoming used-sand supply without material consideration from an outgoing reclaimed-sand sale classified as a supply of goods. The same arrangement can therefore contain different transfer economics at successive stages without becoming interchangeable with a processing-service contract.

[redacted] Those are distinct contractual objects; the downstream product purchase is not another sand offering. England's waste guidance separately demonstrates that economic value does not by itself establish non-waste status.

Foundries and recipients should specify consideration, output ownership, collection, accepted destination, rejection handling, and fallback responsibilities before comparing integrated arrangements. A combined agreement can simplify coordination, while separate agreements preserve sourcing flexibility and leave more interface responsibility with the commissioning party. [redacted]

Figure 34. Global Spent Foundry Sand Market, by Material Transfer Economics: Market share evolution, 2025-2032



Figure 35. Global Spent Foundry Sand Market, by Material Transfer Economics: Market size by category, 2025

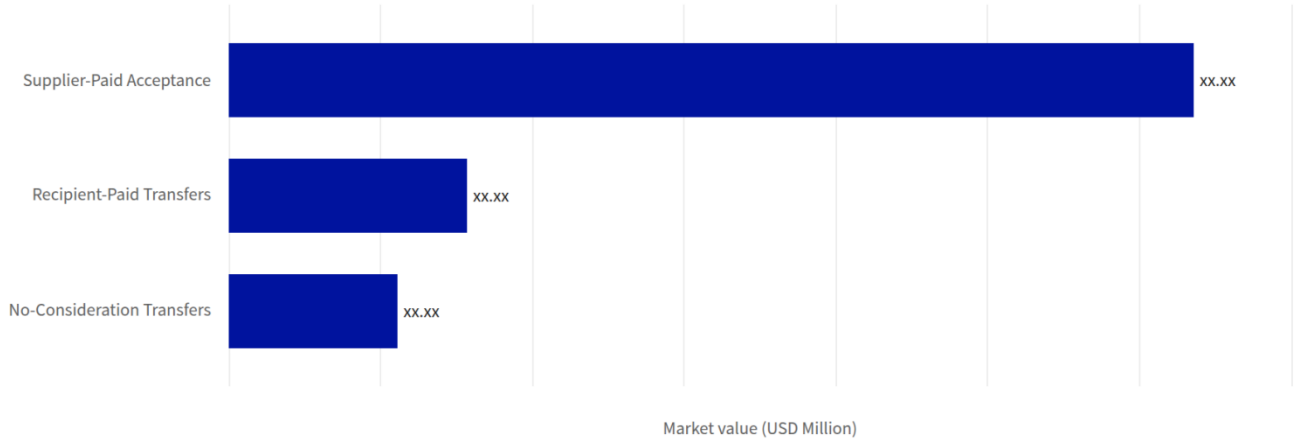


Figure 36. Global Spent Foundry Sand Market, by Material Transfer Economics: Market size and growth, 2025-2032

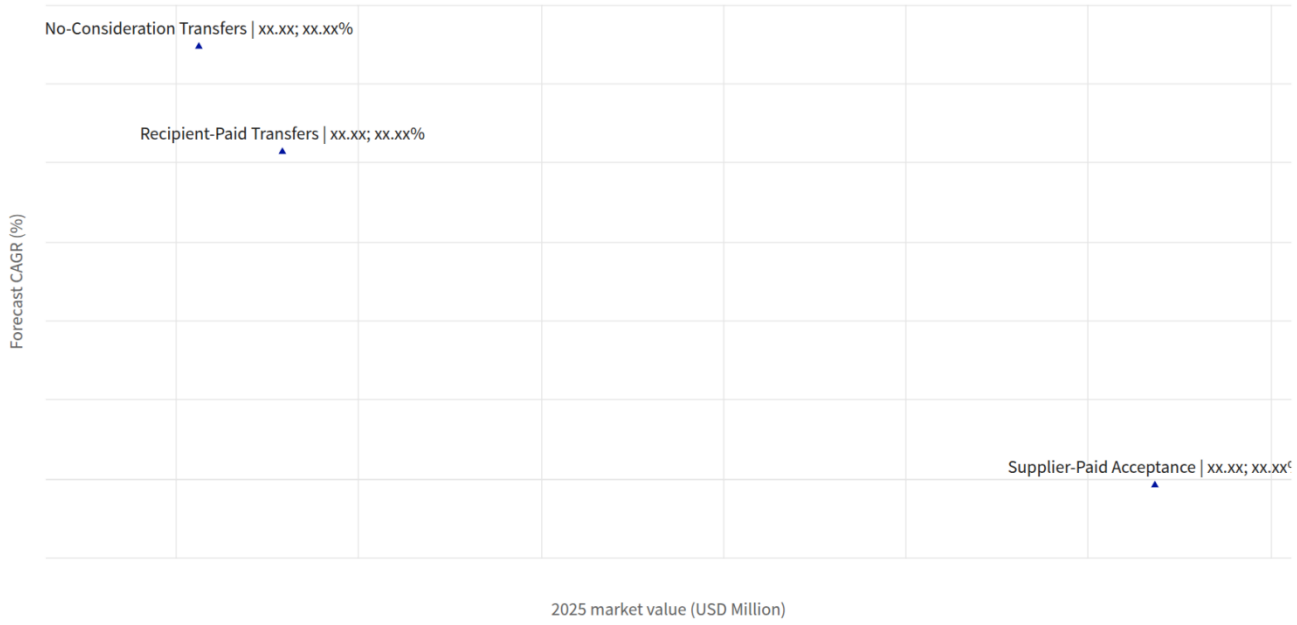


Table 215. Global Spent Foundry Sand Market, by Material Transfer Economics growth contribution, 2025-2032

Category	2025 value (USD Million)	2032 value (USD Million)	Added value (USD Million)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 216. Global Spent Foundry Sand Market Size, by Material Transfer Economics, 2017-2032 (USD Million)

Material Transfer Economics	2023	2024	2025	2026	2027	2032	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. Check if your material is waste

   · The guidance explains that material with economic value can remain waste; transfer consideration does not independently settle status. ([gov.uk](https://www.gov.uk/guidance/check-if-your-material-is-waste))

2. Advance Ruling GST-ARA-55/2019-20/B-47: Kolhapur Foundry and Engineering Cluster

   · The August xx.xx 2020 ruling accepts incoming used-sand supply without material consideration and classifies the outgoing reclaimed-sand transaction as a supply of goods. ([kolhapurfoundrycluster.org](https://www.kolhapurfoundrycluster.org/tenders/2020-xx.xx/gst-ara-order-2020.pdf))

3. Case Study: Foundry Sand in Land Application

   · EPA's historical case records foundries paying Kurtz Bros. to receive spent sand and a municipality purchasing the resulting soil product. These are distinct transfer objects. ([archive.epa.gov](https://archive.epa.gov/sectors/web/pdf/kurtz_raingarden_1_31_2008.pdf))

17.1. Supplier-Paid Acceptance

Table 217. Global Spent Foundry Sand Market Size, by Supplier-Paid Acceptance, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 218. Global Spent Foundry Sand Market Size, by Supplier-Paid Acceptance, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 219. Global Spent Foundry Sand Market Size, by Supplier-Paid Acceptance, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

17.2. Recipient-Paid Transfers

Table 220. Global Spent Foundry Sand Market Size, by Recipient-Paid Transfers, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 221. Global Spent Foundry Sand Market Size, by Recipient-Paid Transfers, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 222. Global Spent Foundry Sand Market Size, by Recipient-Paid Transfers, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

17.3. No-Consideration Transfers

Table 223. Global Spent Foundry Sand Market Size, by No-Consideration Transfers, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 224. Global Spent Foundry Sand Market Size, by No-Consideration Transfers, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 225. Global Spent Foundry Sand Market Size, by No-Consideration Transfers, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

RESEARCH SAMPLE REPORT

18. Spent Foundry Sand Market, by Region

In North America, purchasing access is better evaluated through source qualification and recipient-site permission than through a regional recycled-material label. [redacted] Maintaining qualified local arrangements limits outlet flexibility but avoids assuming that authorization travels with the material.

In Europe, the EU's 2024 foundry BAT conclusions create a permit-linked procurement trigger at covered installations. Existing installations have four years to comply with stricter norms, while new installations must comply immediately. [redacted]

Asia-Pacific offers materially different authorization routes even within Australia. [redacted] These Australian examples do not establish permission elsewhere in Asia-Pacific.

[redacted] Entrants can pursue project-specific development access, but should require recipient approval and defined contractual responsibilities before relying on road construction as a continuing outlet. Participation can build application knowledge while leaving purchasing commitments and fulfillment continuity unresolved.

In Latin America, Brazil's São Paulo framework demonstrates a generator-led approval route rather than unrestricted aggregate substitution. CETESB's decision published on April xx.xx 2025 requires a favorable technical opinion and transport-manifest registration before specified foundry-sand movements. [illegible]

Middle East entry requires separating service authorization from material acceptance. Saudi Arabia's framework provides MWAN licensing for relevant waste-management activities and permits for recycling facilities before competent-authority licensing. [illegible]

[illegible] Reuse may enable a material destination, but the disposal alternative remains commercially relevant when recipient acceptance is unresolved. These South African examples do not establish a continent-wide supplier network or approval regime.

Figure 37. Global Spent Foundry Sand Market, by Region: Market share evolution, 2025-2032

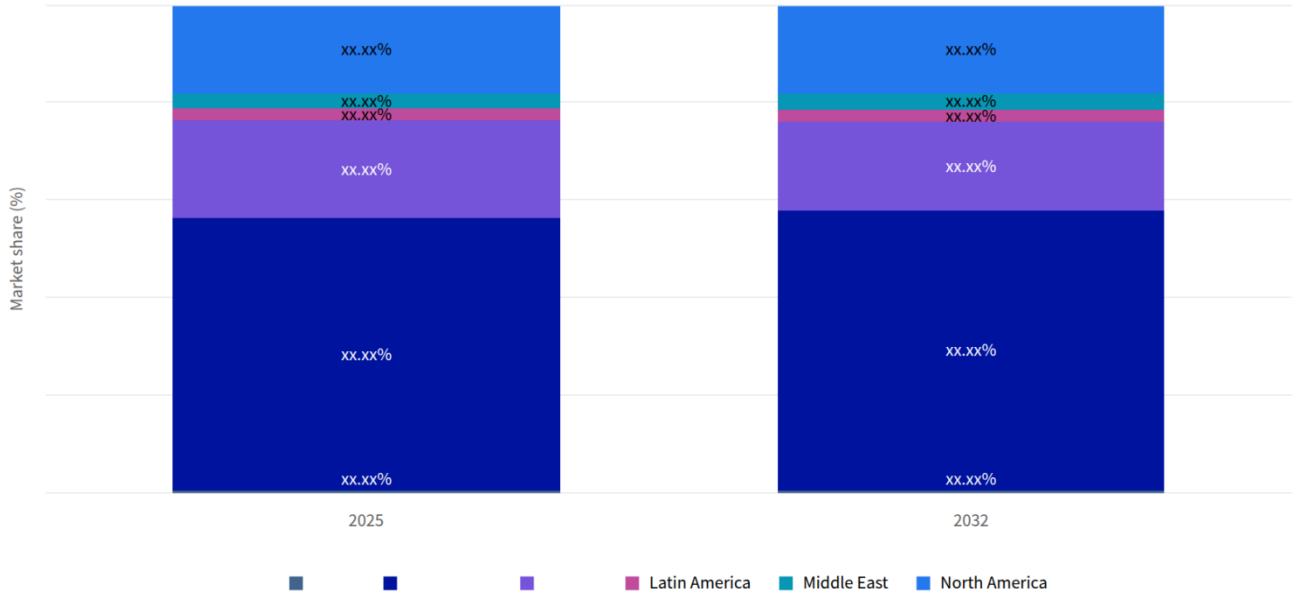


Figure 38. Global Spent Foundry Sand Market, by Region: Market size by category, 2025

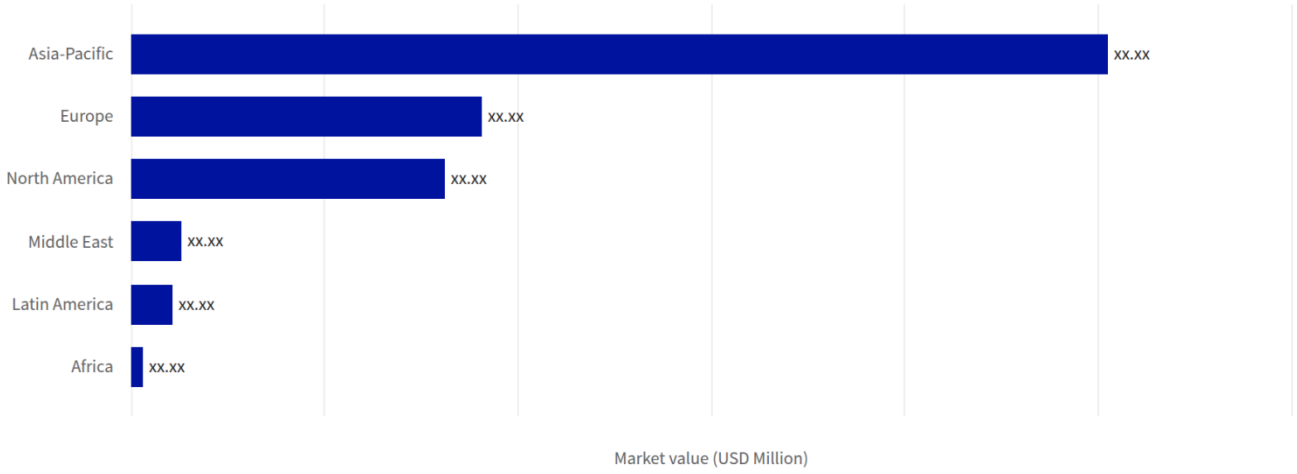


Figure 39. Global Spent Foundry Sand Market, Regional growth by Regulatory Status, 2025-2032 (CAGR %)

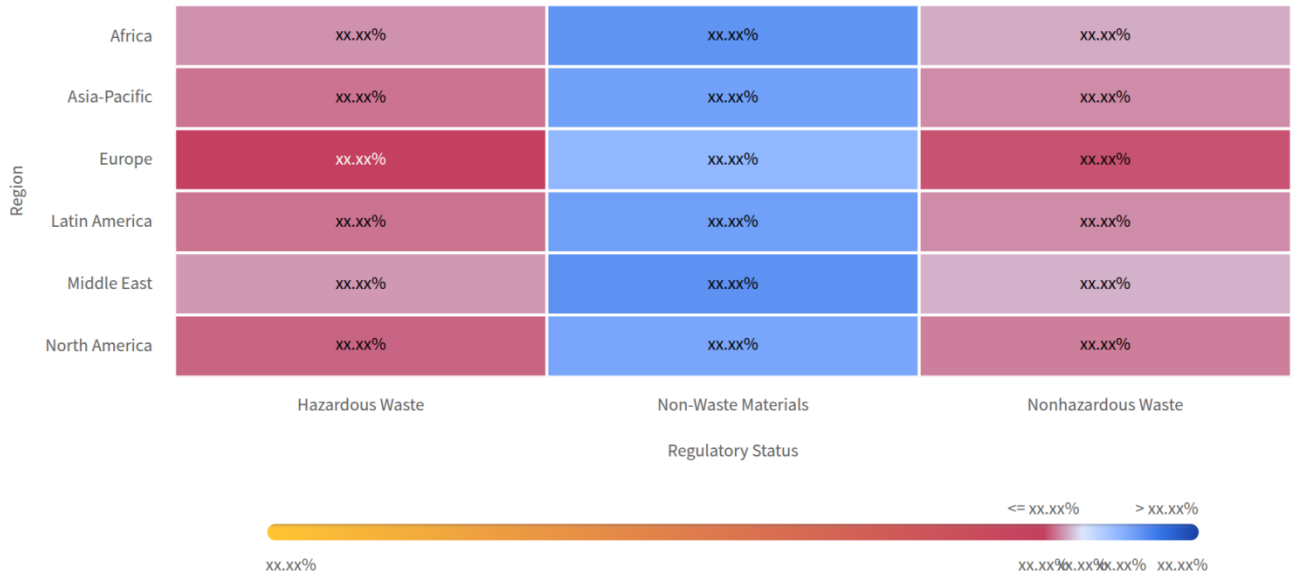


Table 226. Global Spent Foundry Sand Market, by Region growth contribution, 2025-2032

Category	2025 value (USD Million)	2032 value (USD Million)	Added value (USD Million)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 227. Global Spent Foundry Sand Market Size, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Asia-Pacific	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Europe	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latin America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Middle East	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North America	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. New EU norms to reduce environmental impact of smitheries and foundries
   · The Commission states that covered existing installations have four years to comply with stricter norms, new installations comply immediately, and BAT conclusions inform integrated permits. ([environment.ec.europa.eu](https://environment.ec.europa.eu/news/new-norms-reduce-impact-smitheries-and-foundries-2024-xx.xx-11_en))
2. The processed foundry sand exemption 2014
   · New South Wales' exemption conditions processed-foundry-sand use and excludes mine and quarry rehabilitation from its recovered-aggregate pathway. ([epa.nsw.gov.au](https://www.epa.nsw.gov.au/sites/default/files/rre14-foundry-sand.pdf))
3. Beneficial use of industrial byproducts
   · Wisconsin's program requires characterization, initial certification, applicable recertification, and annual reporting; certain geotechnical uses require additional notification or concurrence. ([dnr.wisconsin.gov](https://dnr.wisconsin.gov/topic/Waste/Beneficial.html))
4. Check if your material is waste
   · England's end-of-waste requirements establish a distinct legal basis for qualified external supply, not an EU-wide authorization. ([gov.uk](https://www.gov.uk/guidance/check-if-your-material-is-waste))
5. Integrating Industrial Waste into Road Construction is Key to India's Circular Economy Vision
   · The March xx.xx 2026 announcement describes a CSIR-CRRI, IIF, and Suyog Elements R&D agreement for Coimbatore foundry-sand road-use solutions, not completed general commercialization. ([pib.gov.in](https://www.pib.gov.in/PressReleasePage.aspx?PRID=xx.xx&lang=xx.xx®=xx.xx))
6. Commission Implementing Decision (EU) 2024/2974 establishing BAT conclusions for the smitheries and foundries industry
   · BAT xx.xx links internal sand reuse to reduced new-sand consumption and spent-sand generation; external feedstock effects are conditional commercial implications. ([aida.ineris.fr](https://aida.ineris.fr/sites/aida/files/documents-bref/OJ_L_202402974_EN_TXT_0.pdf))
7. End of waste codes-Business Queensland
   · Queensland's registration-and-code route supports state-specific access analysis, not permission in another Australian state or Asia-Pacific jurisdiction. ([business.qld.gov.au](https://www.business.qld.gov.au/running-business/environment/waste-management/regulated-waste/eow-codes))
8. Environmental Compliance Approval 5640-CYHM2T-Re-Source Disposal Inc.
   · This September xx.xx 2024 Ontario approval directs specified liquid soil containing foundry sands to appropriately authorized destinations; the requirement is site-specific. ([ero.ontario.ca](https://ero.ontario.ca/public/2024-xx.xx/Re-Source%20Disposal%20Inc.%20waste%20disposal%20site%20ECA%20No%xx.xx-CYHM2T%20dated%20September%2020%2C%xx.xx.pdf))
9. CETESB Decisão de Diretoria nº 026/2025/C-Procedimentos para Gerenciamento de Areia Descartada de Fundição
   · The decision published April xx.xx 2025 requires favorable technical opinion and transport-manifest registration for specified movements; CETESB's environmental review excludes product-engineering quality approval. ([cetesb.sp.gov.br](https://cetesb.sp.gov.br/solo/wp-content/uploads/2025/xx.xx/DD-xx.xx.C-Procedimentos-para-Gerenciamento-de-Areia-Descartada-de-Fundicao-ADF.pdf))
10. Saudi Arabia-Waste Management
    · The official commercial guide describes MWAN licensing for relevant waste-management participants and recycling-facility permits before competent-authority licensing; sand-specific partner screening is an analytical recommendation. ([trade.gov](https://www.trade.gov/country-commercial-guides/saudi-arabia-waste-management))

11. Waste and Sewerage Agency Technical Guidelines
    - Dubai Municipality separately lists facility guidance for waste trading, collection and transportation, and treatment and recycling; this supports role differentiation, not spent-sand authorization. ([dm.gov.ae](https://www.dm.gov.ae/municipality-business/waste-department-technical-guidelines-xx.xx/))
12. National Environmental Management: Waste Act: Notice: Waste exclusion Regulations
    - The February xx.xx 2023 gazette records approved exclusions for identified foundry-sand sources and construction uses, including tile adhesives and blockmaking; these are source-specific decisions. ([gov.za](https://www.gov.za/sites/default/files/gcis_document/xx.xx/48101gon3075.pdf))
13. Specification for Provision of Removal Foundry Sand within Koedoespoort Centre
    - Transnet's specification requires collection, safe disposal at a registered landfill, manifests, and disposal documentation, while also requesting investigation of reuse or recycling. ([etenders.gov.za](https://www.etenders.gov.za/home/Download/?blobName=09b2ed4a-xx.xx-4d58-ad11-b803ae33d15c.pdf&downloadedFileName=Annexure+A+-+Specification+-+KDS+Centre+foundry+sand+Removal.pdf))

18.1. Asia-Pacific

Table 228. Asia-Pacific Spent Foundry Sand Market, by Country growth contribution, 2025-2032

Category	2025 value (USD Million)	2032 value (USD Million)	Added value (USD Million)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Indonesia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Malaysia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Philippines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Singapore	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Taiwan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thailand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unallocated / remaining scope	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 229. Asia-Pacific Spent Foundry Sand Market Size, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Indonesia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Malaysia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Philippines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Singapore	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Taiwan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thailand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 230. Asia-Pacific Spent Foundry Sand Market Size, by Commercial Offering, 2017-2032 (USD Million)

Commercial Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 231. Asia-Pacific Spent Foundry Sand Market Size, by Sand Management Services, 2017-2032 (USD Million)

Sand Management Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Beneficial-Use Placement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Collection & Transportation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Reclamation & Regeneration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Treatment & Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 232. Asia-Pacific Spent Foundry Sand Market Size, by Sand Material Supply, 2017-2032 (USD Million)

Sand Material Supply	2023	2024	2025	2026	2027	2032	CAGR (%)
Reclaimed Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unreclaimed Spent Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 233. Asia-Pacific Spent Foundry Sand Market Size, by Reclamation Technology, 2017-2032 (USD Million)

Reclamation Technology	2023	2024	2025	2026	2027	2032	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 234. Asia-Pacific Spent Foundry Sand Market Size, by Application, 2017-2032 (USD Million)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 235. Asia-Pacific Spent Foundry Sand Market Size, by Buyer Industry, 2017-2032 (USD Million)

Buyer Industry	2023	2024	2025	2026	2027	2032	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 236. Asia-Pacific Spent Foundry Sand Market Size, by Reclamation Location, 2017-2032 (USD Million)

Reclamation Location	2023	2024	2025	2026	2027	2032	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 237. Asia-Pacific Spent Foundry Sand Market Size, by Transaction Channel, 2017-2032 (USD Million)

Transaction Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 238. Asia-Pacific Spent Foundry Sand Market Size, by Base Aggregate, 2017-2032 (USD Million)

Base Aggregate	2023	2024	2025	2026	2027	2032	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 239. Asia-Pacific Spent Foundry Sand Market Size, by Binder System, 2017-2032 (USD Million)

Binder System	2023	2024	2025	2026	2027	2032	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 240. Asia-Pacific Spent Foundry Sand Market Size, by Source Metal, 2017-2032 (USD Million)

Source Metal	2023	2024	2025	2026	2027	2032	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 241. Asia-Pacific Spent Foundry Sand Market Size, by Regulatory Status, 2017-2032 (USD Million)

Regulatory Status	2023	2024	2025	2026	2027	2032	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 242. Asia-Pacific Spent Foundry Sand Market Size, by Material Transfer Economics, 2017-2032 (USD Million)

Material Transfer Economics	2023	2024	2025	2026	2027	2032	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

18.2. Europe

Table 243. Europe Spent Foundry Sand Market, by Country growth contribution, 2025-2032

Category	2025 value (USD Million)	2032 value (USD Million)	Added value (USD Million)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Austria	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Belgium	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Denmark	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Finland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Netherlands	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Norway	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Poland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Portugal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sweden	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switzerland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unallocated / remaining scope	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 244. Europe Spent Foundry Sand Market Size, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Austria	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Belgium	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Denmark	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Finland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Netherlands	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Norway	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Poland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Portugal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sweden	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Switzerland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 245. Europe Spent Foundry Sand Market Size, by Commercial Offering, 2017-2032 (USD Million)

Commercial Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 246. Europe Spent Foundry Sand Market Size, by Sand Management Services, 2017-2032 (USD Million)

Sand Management Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Beneficial-Use Placement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Collection & Transportation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Reclamation & Regeneration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Treatment & Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 247. Europe Spent Foundry Sand Market Size, by Sand Material Supply, 2017-2032 (USD Million)

Sand Material Supply	2023	2024	2025	2026	2027	2032	CAGR (%)
Reclaimed Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unreclaimed Spent Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 248. Europe Spent Foundry Sand Market Size, by Reclamation Technology, 2017-2032 (USD Million)

Reclamation Technology	2023	2024	2025	2026	2027	2032	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 249. Europe Spent Foundry Sand Market Size, by Application, 2017-2032 (USD Million)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 250. Europe Spent Foundry Sand Market Size, by Buyer Industry, 2017-2032 (USD Million)

Buyer Industry	2023	2024	2025	2026	2027	2032	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 251. Europe Spent Foundry Sand Market Size, by Reclamation Location, 2017-2032 (USD Million)

Reclamation Location	2023	2024	2025	2026	2027	2032	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 252. Europe Spent Foundry Sand Market Size, by Transaction Channel, 2017-2032 (USD Million)

Transaction Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 253. Europe Spent Foundry Sand Market Size, by Base Aggregate, 2017-2032 (USD Million)

Base Aggregate	2023	2024	2025	2026	2027	2032	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 254. Europe Spent Foundry Sand Market Size, by Binder System, 2017-2032 (USD Million)

Binder System	2023	2024	2025	2026	2027	2032	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 255. Europe Spent Foundry Sand Market Size, by Source Metal, 2017-2032 (USD Million)

Source Metal	2023	2024	2025	2026	2027	2032	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 256. Europe Spent Foundry Sand Market Size, by Regulatory Status, 2017-2032 (USD Million)

Regulatory Status	2023	2024	2025	2026	2027	2032	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 257. Europe Spent Foundry Sand Market Size, by Material Transfer Economics, 2017-2032 (USD Million)

Material Transfer Economics	2023	2024	2025	2026	2027	2032	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

18.3. North America

Table 258. North America Spent Foundry Sand Market, by Country growth contribution, 2025-2032

Category	2025 value (USD Million)	2032 value (USD Million)	Added value (USD Million)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unallocated / remaining scope	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 259. North America Spent Foundry Sand Market Size, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 260. North America Spent Foundry Sand Market Size, by Commercial Offering, 2017-2032 (USD Million)

Commercial Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 261. North America Spent Foundry Sand Market Size, by Sand Management Services, 2017-2032 (USD Million)

Sand Management Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Beneficial-Use Placement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Collection & Transportation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Reclamation & Regeneration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Treatment & Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 262. North America Spent Foundry Sand Market Size, by Sand Material Supply, 2017-2032 (USD Million)

Sand Material Supply	2023	2024	2025	2026	2027	2032	CAGR (%)
Reclaimed Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unreclaimed Spent Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 263. North America Spent Foundry Sand Market Size, by Reclamation Technology, 2017-2032 (USD Million)

Reclamation Technology	2023	2024	2025	2026	2027	2032	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 264. North America Spent Foundry Sand Market Size, by Application, 2017-2032 (USD Million)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 265. North America Spent Foundry Sand Market Size, by Buyer Industry, 2017-2032 (USD Million)

Buyer Industry	2023	2024	2025	2026	2027	2032	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 266. North America Spent Foundry Sand Market Size, by Reclamation Location, 2017-2032 (USD Million)

Reclamation Location	2023	2024	2025	2026	2027	2032	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 267. North America Spent Foundry Sand Market Size, by Transaction Channel, 2017-2032 (USD Million)

Transaction Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 268. North America Spent Foundry Sand Market Size, by Base Aggregate, 2017-2032 (USD Million)

Base Aggregate	2023	2024	2025	2026	2027	2032	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 269. North America Spent Foundry Sand Market Size, by Binder System, 2017-2032 (USD Million)

Binder System	2023	2024	2025	2026	2027	2032	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 270. North America Spent Foundry Sand Market Size, by Source Metal, 2017-2032 (USD Million)

Source Metal	2023	2024	2025	2026	2027	2032	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 271. North America Spent Foundry Sand Market Size, by Regulatory Status, 2017-2032 (USD Million)

Regulatory Status	2023	2024	2025	2026	2027	2032	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 272. North America Spent Foundry Sand Market Size, by Material Transfer Economics, 2017-2032 (USD Million)

Material Transfer Economics	2023	2024	2025	2026	2027	2032	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

18.4. Middle East

Table 273. Middle East Spent Foundry Sand Market, by Country growth contribution, 2025-2032

Category	2025 value (USD Million)	2032 value (USD Million)	Added value (USD Million)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Israel	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qatar	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Saudi Arabia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Turkey	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unallocated / remaining scope	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Arab Emirates	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 274. Middle East Spent Foundry Sand Market Size, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Israel	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qatar	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Saudi Arabia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Turkey	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Arab Emirates	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 275. Middle East Spent Foundry Sand Market Size, by Commercial Offering, 2017-2032 (USD Million)

Commercial Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 276. Middle East Spent Foundry Sand Market Size, by Sand Management Services, 2017-2032 (USD Million)

Sand Management Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Beneficial-Use Placement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Collection & Transportation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Reclamation & Regeneration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Treatment & Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 277. Middle East Spent Foundry Sand Market Size, by Sand Material Supply, 2017-2032 (USD Million)

Sand Material Supply	2023	2024	2025	2026	2027	2032	CAGR (%)
Reclaimed Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unreclaimed Spent Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 278. Middle East Spent Foundry Sand Market Size, by Reclamation Technology, 2017-2032 (USD Million)

Reclamation Technology	2023	2024	2025	2026	2027	2032	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 279. Middle East Spent Foundry Sand Market Size, by Application, 2017-2032 (USD Million)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 280. Middle East Spent Foundry Sand Market Size, by Buyer Industry, 2017-2032 (USD Million)

Buyer Industry	2023	2024	2025	2026	2027	2032	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 281. Middle East Spent Foundry Sand Market Size, by Reclamation Location, 2017-2032 (USD Million)

Reclamation Location	2023	2024	2025	2026	2027	2032	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 282. Middle East Spent Foundry Sand Market Size, by Transaction Channel, 2017-2032 (USD Million)

Transaction Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 283. Middle East Spent Foundry Sand Market Size, by Base Aggregate, 2017-2032 (USD Million)

Base Aggregate	2023	2024	2025	2026	2027	2032	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 284. Middle East Spent Foundry Sand Market Size, by Binder System, 2017-2032 (USD Million)

Binder System	2023	2024	2025	2026	2027	2032	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 285. Middle East Spent Foundry Sand Market Size, by Source Metal, 2017-2032 (USD Million)

Source Metal	2023	2024	2025	2026	2027	2032	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 286. Middle East Spent Foundry Sand Market Size, by Regulatory Status, 2017-2032 (USD Million)

Regulatory Status	2023	2024	2025	2026	2027	2032	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 287. Middle East Spent Foundry Sand Market Size, by Material Transfer Economics, 2017-2032 (USD Million)

Material Transfer Economics	2023	2024	2025	2026	2027	2032	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

18.5. Latin America

Table 288. Latin America Spent Foundry Sand Market, by Country growth contribution, 2025-2032

Category	2025 value (USD Million)	2032 value (USD Million)	Added value (USD Million)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Argentina	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chile	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Colombia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Peru	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unallocated / remaining scope	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 289. Latin America Spent Foundry Sand Market Size, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Argentina	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chile	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Colombia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Peru	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 290. Latin America Spent Foundry Sand Market Size, by Commercial Offering, 2017-2032 (USD Million)

Commercial Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 291. Latin America Spent Foundry Sand Market Size, by Sand Management Services, 2017-2032 (USD Million)

Sand Management Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Beneficial-Use Placement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Collection & Transportation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Reclamation & Regeneration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Treatment & Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 292. Latin America Spent Foundry Sand Market Size, by Sand Material Supply, 2017-2032 (USD Million)

Sand Material Supply	2023	2024	2025	2026	2027	2032	CAGR (%)
Reclaimed Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unreclaimed Spent Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 293. Latin America Spent Foundry Sand Market Size, by Reclamation Technology, 2017-2032 (USD Million)

Reclamation Technology	2023	2024	2025	2026	2027	2032	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 294. Latin America Spent Foundry Sand Market Size, by Application, 2017-2032 (USD Million)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 295. Latin America Spent Foundry Sand Market Size, by Buyer Industry, 2017-2032 (USD Million)

Buyer Industry	2023	2024	2025	2026	2027	2032	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 296. Latin America Spent Foundry Sand Market Size, by Reclamation Location, 2017-2032 (USD Million)

Reclamation Location	2023	2024	2025	2026	2027	2032	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 297. Latin America Spent Foundry Sand Market Size, by Transaction Channel, 2017-2032 (USD Million)

Transaction Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 298. Latin America Spent Foundry Sand Market Size, by Base Aggregate, 2017-2032 (USD Million)

Base Aggregate	2023	2024	2025	2026	2027	2032	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 299. Latin America Spent Foundry Sand Market Size, by Binder System, 2017-2032 (USD Million)

Binder System	2023	2024	2025	2026	2027	2032	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 300. Latin America Spent Foundry Sand Market Size, by Source Metal, 2017-2032 (USD Million)

Source Metal	2023	2024	2025	2026	2027	2032	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 301. Latin America Spent Foundry Sand Market Size, by Regulatory Status, 2017-2032 (USD Million)

Regulatory Status	2023	2024	2025	2026	2027	2032	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 302. Latin America Spent Foundry Sand Market Size, by Material Transfer Economics, 2017-2032 (USD Million)

Material Transfer Economics	2023	2024	2025	2026	2027	2032	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

18.6. Africa

Table 303. Africa Spent Foundry Sand Market, by Country growth contribution, 2025-2032

Category	2025 value (USD Million)	2032 value (USD Million)	Added value (USD Million)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Egypt	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Kenya	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nigeria	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unallocated / remaining scope	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 304. Africa Spent Foundry Sand Market Size, by Region, 2017-2032 (USD Million)

Region	2023	2024	2025	2026	2027	2032	CAGR (%)
Egypt	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Kenya	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nigeria	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 305. Africa Spent Foundry Sand Market Size, by Commercial Offering, 2017-2032 (USD Million)

Commercial Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 306. Africa Spent Foundry Sand Market Size, by Sand Management Services, 2017-2032 (USD Million)

Sand Management Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Beneficial-Use Placement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Collection & Transportation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Reclamation & Regeneration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Treatment & Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 307. Africa Spent Foundry Sand Market Size, by Sand Material Supply, 2017-2032 (USD Million)

Sand Material Supply	2023	2024	2025	2026	2027	2032	CAGR (%)
Reclaimed Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unreclaimed Spent Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 308. Africa Spent Foundry Sand Market Size, by Reclamation Technology, 2017-2032 (USD Million)

Reclamation Technology	2023	2024	2025	2026	2027	2032	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 309. Africa Spent Foundry Sand Market Size, by Application, 2017-2032 (USD Million)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 310. Africa Spent Foundry Sand Market Size, by Buyer Industry, 2017-2032 (USD Million)

Buyer Industry	2023	2024	2025	2026	2027	2032	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 311. Africa Spent Foundry Sand Market Size, by Reclamation Location, 2017-2032 (USD Million)

Reclamation Location	2023	2024	2025	2026	2027	2032	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 312. Africa Spent Foundry Sand Market Size, by Transaction Channel, 2017-2032 (USD Million)

Transaction Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 313. Africa Spent Foundry Sand Market Size, by Base Aggregate, 2017-2032 (USD Million)

Base Aggregate	2023	2024	2025	2026	2027	2032	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 314. Africa Spent Foundry Sand Market Size, by Binder System, 2017-2032 (USD Million)

Binder System	2023	2024	2025	2026	2027	2032	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 315. Africa Spent Foundry Sand Market Size, by Source Metal, 2017-2032 (USD Million)

Source Metal	2023	2024	2025	2026	2027	2032	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 316. Africa Spent Foundry Sand Market Size, by Regulatory Status, 2017-2032 (USD Million)

Regulatory Status	2023	2024	2025	2026	2027	2032	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 317. Africa Spent Foundry Sand Market Size, by Material Transfer Economics, 2017-2032 (USD Million)

Material Transfer Economics	2023	2024	2025	2026	2027	2032	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

19. Spent Foundry Sand Market, by Group

The geographic groups overlap and are non-additive. [redacted]

[redacted] Centralized documentation can support coordination, but acceptance and retained responsibilities must remain identifiable at each destination. A domestic arrangement is an alternative when cross-border requirements add dependencies without improving access to an approved recipient.

Europe, Middle East & Africa requires a portfolio approach to sand-management procurement. [redacted] Foundries responding to permit requirements should distinguish installation compliance services from external placement, whose recipient and authorization requirements remain separate.

ASEAN's circular-economy framework identifies standards harmonization, mutual recognition, and trade facilitation as proposed initiatives while recognizing members' differing circumstances. [redacted] A regional documentation template is useful only when it preserves local classification and acceptance requirements; an applicable adopted recognition arrangement would be a trigger to reassess duplicated approval work.

[redacted] A local provider contributes value only if its

authorization and destination access cover the actual contract. Delegation adds counterparty dependence and does not turn customs clearance into a regional waste-use permission.

Australasia offers a bounded product-recognition mechanism rather than automatic portability of waste arrangements. ■■■ ■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■ ■ ■■■■■■■■■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■■ ■■■■■■■■■■■ ■■■■ ■■■■■ ■■■■■■■■■■■■■ ■■■■■■ ■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■ ■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■■■ A qualified domestic outlet avoids the additional cross-border dependencies; a trans-Tasman route becomes defensible only when its status, approvals, and recipient commitments are established.

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BRICS industrial cooperation includes a circular-economy commitment, but commercial entry requires separation of capability transfer from material movement. ■■■■■■■ ■■■■■■■■■■■ ■■ ■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■■ ■■■ ■■■■■■■ ■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■ ■ ■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■■■ ■■■■■■■■■ ■■ ■■■■ ■■■■■ ■■■■■ ■■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■ ■■ ■■■ ■■ ■■■■■■■■■■■■■ ■■■■■■■■ Country rules and recipient acceptance determine whether a proposed arrangement is accessible; the group's policy commitment alone cannot justify feedstock-import or placement commitments.

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[redacted] This can make proposals easier to compare without overstating their portability. The purchasing trigger is the customer's actual documentation and acceptance requirement, not G7 membership; additional reporting is worthwhile only when it supports a defined approval or corporate obligation.

NATO is a procurement-access lens, not evidence of a spent-sand outlet. Its common-funded procurement policy, effective July xx.xx 2025, covers goods, works, and services. [redacted]

Figure 40. Global Spent Foundry Sand Market Size, by Group, 2025 vs 2026 vs 2032

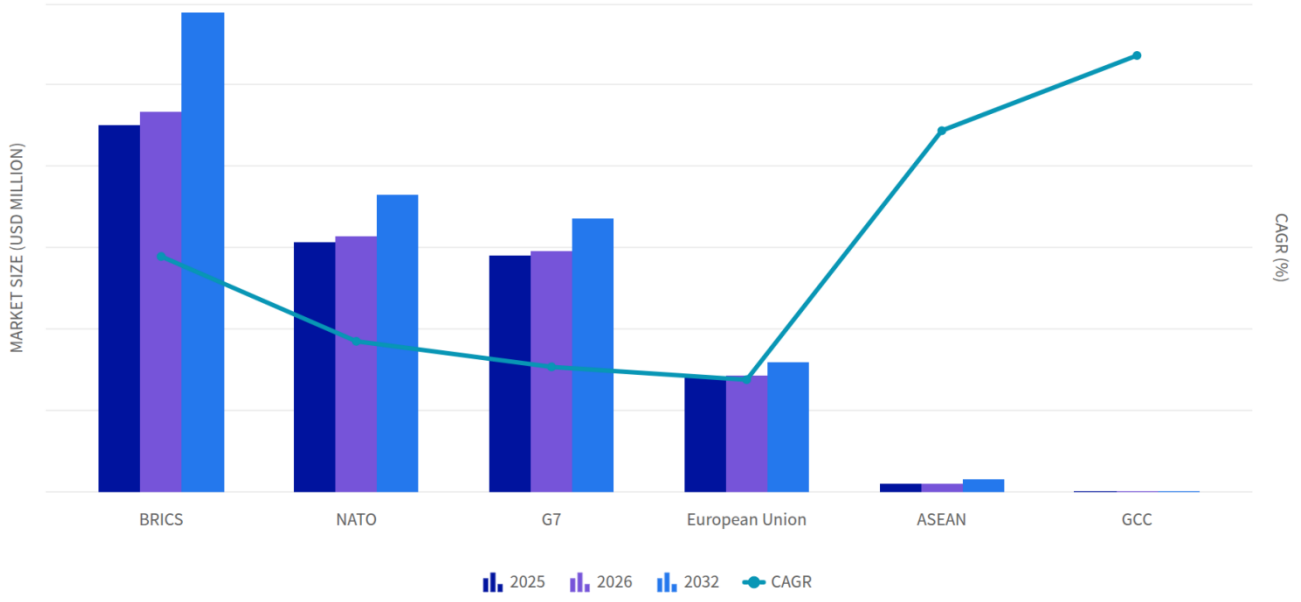


Table 318. Global Spent Foundry Sand Market Size, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
ASEAN	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
BRICS	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
European Union	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
G7	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
GCC	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
NATO	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Sources & Evidence

1. Beneficial Uses of Spent Foundry Sands
   · EPA identifies predominantly state and local control of nonhazardous waste and bounds its favorable foundry-sand assessment by source and use. This supports the Americas and G7 authorization distinctions. ([epa.gov](https://www.epa.gov/smm/beneficial-uses-spent-foundry-sands))
2. New EU norms to reduce environmental impact of smitheries and foundries
   · The revised EU norms inform covered installations' environmental requirements. Existing installations have four years to comply with stricter norms; new installations comply immediately. ([environment.ec.europa.eu](https://environment.ec.europa.eu/news/new-norms-reduce-impact-smitheries-and-foundries-2024-xx.xx-11_en))
3. Check if your material is waste
   · England's end-of-waste conditions provide a distinct status mechanism, supporting the EMEA and G7 limits to common approval assumptions. ([gov.uk](https://www.gov.uk/guidance/check-if-your-material-is-waste))
4. Waste shipments
   · Most revised shipment provisions apply from May xx.xx 2026, and most new export rules from May xx.xx 2027; procedures depend on waste, treatment, and destination. ([environment.ec.europa.eu](https://environment.ec.europa.eu/topics/waste-and-recycling/waste-shipments_en))
5. CETESB Decisão de Diretoria n° 026/2025/C-Procedimentos para Gerenciamento de Areia Descartada de Fundição
   · São Paulo imposes generator and recipient requirements and provides case-specific review for other uses, supporting the Americas and BRICS distinctions. ([cetesb.sp.gov.br](https://cetesb.sp.gov.br/solo/wp-content/uploads/2025/xx.xx/DD-xx.xx.C-Procedimentos-para-Gerenciamento-de-Areia-Descartada-de-Fundicao-ADF.pdf))
6. Cross-border Movement of Hazardous Waste and Hazardous Recyclable Material Regulations - Overview
   · Canada separately controls covered transboundary waste movements; this supports corridor-specific rather than Americas-wide authorization. ([canada.ca](https://www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/cross-border-regulations.html))
7. Waste Exclusion Regulations, 2018 - Government Notice 715
   · South Africa's exclusions attach to identified streams and permitted uses, supporting the EMEA distinction between status mechanisms. ([faolex.fao.org](https://faolex.fao.org/docs/pdf/saf189533.pdf))
8. Framework for Circular Economy for the ASEAN Economic Community
   · The ASEAN framework recognizes differing national circumstances and proposes harmonization, mutual recognition, and trade-facilitation initiatives. It does not establish spent-sand approval. ([asean.org](https://asean.org/wp-content/uploads/2021/xx.xx/Framework-for-Circular-Economy-for-the-AEC_Final.pdf))
9. GCC Unified Guide for Customs Procedures at First Points of Entry
   · The GCC guide coordinates first-entry customs procedures while retaining restricted-goods approvals and local or international prohibitions. Separate waste authorization is a commercial implication. ([gcc-sg.org](https://www.gcc-sg.org/en/MediaCenter/DigitalLibrary/Documents/xx.xx.pdf))
10. Waste Management Law
    · Saudi law requires licenses or permits for waste-management activities, establishing a national gate separate from GCC customs coordination. ([misa.gov.sa](https://misa.gov.sa/app/uploads/2025/xx.xx/Waste-Management-Law.pdf))
11. Text of the Trans Tasman Mutual Recognition Arrangement
    · Trans-Tasman recognition addresses lawful sale of goods while retaining relevant international-obligation and import-control exclusions, including waste-related controls. Applicability to a sand product is conditional. ([worksafe.govt.nz](https://www.worksafe.govt.nz/dmsdocument/xx.xx-trans-tasman-mutual-recognition-agreement-ttmra/))

12. Nordic Foundries - Best Available Techniques
    · The Nordic Council of Ministers commissioned a foundry BAT report covering environmental techniques and issues across Nordic foundries. This supports shared technical dialogue, not destination authorization. ([norden.org](https://www.norden.org/en/publication/nordic-foundries))
13. Government Decree on the Recovery of Certain Wastes in Earth Construction (843/2017)
    · Finland's decree provides a conditional permit-exemption framework for specified waste uses; it supports a national pathway rather than Nordic-wide authorization. ([finlex.fi](https://www.finlex.fi/api/media/statute-foreign-language-translation/xx.xx/mainPdf/main.pdf?timestamp=2017-xx.xx-06T22%3A00%3A00.000Z))
14. Joint Declaration of the Ninth BRICS Industry Ministers Meeting
    · The BRICS industry-ministers declaration commits to circular-economy approaches and industrial green-development cooperation. It establishes a policy commitment, not sand authorization or supplier capability. ([gov.br](https://www.gov.br/mdic/pt-br/centrais-de-conteudo/publicacoes/brics/industria/ingles/joint-declaration-industry-ministers_final-version_2025-xx.xx-xx.xx.pdf))
15. Announcement on Matters Concerning the Complete Prohibition of Solid Waste Imports
    · China prohibits solid-waste imports, illustrating why BRICS cooperation cannot be treated as a common material-movement pathway. ([mee.gov.cn](https://www.mee.gov.cn/xxgk2018/xxgk/xxgk01/xx.xx/t20201125_809835.html))
16. G7-B7 Joint Workshop on Circular Economy and Resource Efficiency Principles - Summary of Discussions
    · The official G7-B7 workshop summary describes adoption of circular-economy principles and business implementation discussions. A shared information package is a conditional commercial interpretation. ([env.go.jp](https://www.env.go.jp/content/xx.xx.pdf))
17. NATO Allies agree new procurement policy
    · NATO's common-funded procurement policy covers goods, works, and services and entered into force on July xx.xx 2025. It does not establish a sand-specific award. ([nato.int](https://www.nato.int/en/news-and-events/articles/news/2025/xx.xx/xx.xx/nato-allies-agree-new-procurement-policy))
18. Procurement Opportunities
    · Eligibility is specified in each procurement call; opportunities generally concern firms registered in member nations, with exceptions, and bids receive case-specific evaluation. ([nato.int](https://www.nato.int/en/work-with-us/business-and-project-opportunities/procurement-opportunities))

19.1. BRICS

Table 319. BRICS Spent Foundry Sand Market, by Country growth contribution, 2025-2032

Category	2025 value (USD Million)	2032 value (USD Million)	Added value (USD Million)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 320. BRICS Spent Foundry Sand Market Size, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Africa	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 321. BRICS Spent Foundry Sand Market Size, by Commercial Offering, 2017-2032 (USD Million)

Commercial Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 322. BRICS Spent Foundry Sand Market Size, by Sand Management Services, 2017-2032 (USD Million)

Sand Management Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Beneficial-Use Placement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Collection & Transportation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Reclamation & Regeneration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Treatment & Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 323. BRICS Spent Foundry Sand Market Size, by Sand Material Supply, 2017-2032 (USD Million)

Sand Material Supply	2023	2024	2025	2026	2027	2032	CAGR (%)
Reclaimed Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unreclaimed Spent Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 324. BRICS Spent Foundry Sand Market Size, by Reclamation Technology, 2017-2032 (USD Million)

Reclamation Technology	2023	2024	2025	2026	2027	2032	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 325. BRICS Spent Foundry Sand Market Size, by Application, 2017-2032 (USD Million)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 326. BRICS Spent Foundry Sand Market Size, by Buyer Industry, 2017-2032 (USD Million)

Buyer Industry	2023	2024	2025	2026	2027	2032	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 327. BRICS Spent Foundry Sand Market Size, by Reclamation Location, 2017-2032 (USD Million)

Reclamation Location	2023	2024	2025	2026	2027	2032	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 328. BRICS Spent Foundry Sand Market Size, by Transaction Channel, 2017-2032 (USD Million)

Transaction Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 329. BRICS Spent Foundry Sand Market Size, by Base Aggregate, 2017-2032 (USD Million)

Base Aggregate	2023	2024	2025	2026	2027	2032	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 330. BRICS Spent Foundry Sand Market Size, by Binder System, 2017-2032 (USD Million)

Binder System	2023	2024	2025	2026	2027	2032	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 331. BRICS Spent Foundry Sand Market Size, by Source Metal, 2017-2032 (USD Million)

Source Metal	2023	2024	2025	2026	2027	2032	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 332. BRICS Spent Foundry Sand Market Size, by Regulatory Status, 2017-2032 (USD Million)

Regulatory Status	2023	2024	2025	2026	2027	2032	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 333. BRICS Spent Foundry Sand Market Size, by Material Transfer Economics, 2017-2032 (USD Million)

Material Transfer Economics	2023	2024	2025	2026	2027	2032	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

19.2. NATO

Table 334. NATO Spent Foundry Sand Market, by Country growth contribution, 2025-2032

Category	2025 value (USD Million)	2032 value (USD Million)	Added value (USD Million)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Albania	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Belgium	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Bulgaria	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Croatia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Czech Republic	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Denmark	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Estonia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Finland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Greece	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Hungary	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Iceland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latvia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lithuania	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Luxembourg	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Montenegro	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Netherlands	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North Macedonia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 334 - continued

Category	2025 value (USD Million)	2032 value (USD Million)	Added value (USD Million)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Norway	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Poland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Portugal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Romania	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Slovakia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Slovenia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sweden	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Turkey	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 335. NATO Spent Foundry Sand Market Size, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
Albania	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Belgium	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Bulgaria	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Croatia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Czech Republic	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Denmark	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Estonia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Finland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Greece	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Hungary	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Iceland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latvia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lithuania	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Luxembourg	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Montenegro	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Netherlands	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
North Macedonia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Norway	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Poland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Portugal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Romania	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Slovakia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Slovenia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sweden	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Turkey	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 336. NATO Spent Foundry Sand Market Size, by Commercial Offering, 2017-2032 (USD Million)

Commercial Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 337. NATO Spent Foundry Sand Market Size, by Sand Management Services, 2017-2032 (USD Million)

Sand Management Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Beneficial-Use Placement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Collection & Transportation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Reclamation & Regeneration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Treatment & Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 338. NATO Spent Foundry Sand Market Size, by Sand Material Supply, 2017-2032 (USD Million)

Sand Material Supply	2023	2024	2025	2026	2027	2032	CAGR (%)
Reclaimed Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unreclaimed Spent Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 339. NATO Spent Foundry Sand Market Size, by Reclamation Technology, 2017-2032 (USD Million)

Reclamation Technology	2023	2024	2025	2026	2027	2032	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 340. NATO Spent Foundry Sand Market Size, by Application, 2017-2032 (USD Million)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 341. NATO Spent Foundry Sand Market Size, by Buyer Industry, 2017-2032 (USD Million)

Buyer Industry	2023	2024	2025	2026	2027	2032	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 342. NATO Spent Foundry Sand Market Size, by Reclamation Location, 2017-2032 (USD Million)

Reclamation Location	2023	2024	2025	2026	2027	2032	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 343. NATO Spent Foundry Sand Market Size, by Transaction Channel, 2017-2032 (USD Million)

Transaction Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 344. NATO Spent Foundry Sand Market Size, by Base Aggregate, 2017-2032 (USD Million)

Base Aggregate	2023	2024	2025	2026	2027	2032	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 345. NATO Spent Foundry Sand Market Size, by Binder System, 2017-2032 (USD Million)

Binder System	2023	2024	2025	2026	2027	2032	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 346. NATO Spent Foundry Sand Market Size, by Source Metal, 2017-2032 (USD Million)

Source Metal	2023	2024	2025	2026	2027	2032	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 347. NATO Spent Foundry Sand Market Size, by Regulatory Status, 2017-2032 (USD Million)

Regulatory Status	2023	2024	2025	2026	2027	2032	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 348. NATO Spent Foundry Sand Market Size, by Material Transfer Economics, 2017-2032 (USD Million)

Material Transfer Economics	2023	2024	2025	2026	2027	2032	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

19.3. G7

Table 349. G7 Spent Foundry Sand Market, by Country growth contribution, 2025-2032

Category	2025 value (USD Million)	2032 value (USD Million)	Added value (USD Million)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 350. G7 Spent Foundry Sand Market Size, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 351. G7 Spent Foundry Sand Market Size, by Commercial Offering, 2017-2032 (USD Million)

Commercial Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 352. G7 Spent Foundry Sand Market Size, by Sand Management Services, 2017-2032 (USD Million)

Sand Management Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Beneficial-Use Placement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Collection & Transportation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Reclamation & Regeneration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Treatment & Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 353. G7 Spent Foundry Sand Market Size, by Sand Material Supply, 2017-2032 (USD Million)

Sand Material Supply	2023	2024	2025	2026	2027	2032	CAGR (%)
Reclaimed Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unreclaimed Spent Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 354. G7 Spent Foundry Sand Market Size, by Reclamation Technology, 2017-2032 (USD Million)

Reclamation Technology	2023	2024	2025	2026	2027	2032	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 355. G7 Spent Foundry Sand Market Size, by Application, 2017-2032 (USD Million)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 356. G7 Spent Foundry Sand Market Size, by Buyer Industry, 2017-2032 (USD Million)

Buyer Industry	2023	2024	2025	2026	2027	2032	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 357. G7 Spent Foundry Sand Market Size, by Reclamation Location, 2017-2032 (USD Million)

Reclamation Location	2023	2024	2025	2026	2027	2032	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 358. G7 Spent Foundry Sand Market Size, by Transaction Channel, 2017-2032 (USD Million)

Transaction Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 359. G7 Spent Foundry Sand Market Size, by Base Aggregate, 2017-2032 (USD Million)

Base Aggregate	2023	2024	2025	2026	2027	2032	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 360. G7 Spent Foundry Sand Market Size, by Binder System, 2017-2032 (USD Million)

Binder System	2023	2024	2025	2026	2027	2032	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 361. G7 Spent Foundry Sand Market Size, by Source Metal, 2017-2032 (USD Million)

Source Metal	2023	2024	2025	2026	2027	2032	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 362. G7 Spent Foundry Sand Market Size, by Regulatory Status, 2017-2032 (USD Million)

Regulatory Status	2023	2024	2025	2026	2027	2032	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 363. G7 Spent Foundry Sand Market Size, by Material Transfer Economics, 2017-2032 (USD Million)

Material Transfer Economics	2023	2024	2025	2026	2027	2032	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

19.4. European Union

Table 364. European Union Spent Foundry Sand Market, by Country growth contribution, 2025-2032

Category	2025 value (USD Million)	2032 value (USD Million)	Added value (USD Million)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Austria	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Belgium	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Bulgaria	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Croatia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cyprus	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Czech Republic	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Denmark	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Estonia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Finland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Greece	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Hungary	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ireland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latvia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lithuania	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Luxembourg	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Malta	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Netherlands	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Poland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Portugal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Romania	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Slovakia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Slovenia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sweden	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 365. European Union Spent Foundry Sand Market Size, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
Austria	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Belgium	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Bulgaria	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Croatia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cyprus	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Czech Republic	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Denmark	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Estonia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Finland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Greece	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Hungary	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ireland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Latvia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lithuania	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Luxembourg	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Malta	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Netherlands	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Poland	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Portugal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Romania	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Slovakia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Slovenia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sweden	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 366. European Union Spent Foundry Sand Market Size, by Commercial Offering, 2017-2032 (USD Million)

Commercial Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 367. European Union Spent Foundry Sand Market Size, by Sand Management Services, 2017-2032 (USD Million)

Sand Management Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Beneficial-Use Placement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Collection & Transportation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Reclamation & Regeneration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Treatment & Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 368. European Union Spent Foundry Sand Market Size, by Sand Material Supply, 2017-2032 (USD Million)

Sand Material Supply	2023	2024	2025	2026	2027	2032	CAGR (%)
Reclaimed Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unreclaimed Spent Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 369. European Union Spent Foundry Sand Market Size, by Reclamation Technology, 2017-2032 (USD Million)

Reclamation Technology	2023	2024	2025	2026	2027	2032	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 370. European Union Spent Foundry Sand Market Size, by Application, 2017-2032 (USD Million)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 371. European Union Spent Foundry Sand Market Size, by Buyer Industry, 2017-2032 (USD Million)

Buyer Industry	2023	2024	2025	2026	2027	2032	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 372. European Union Spent Foundry Sand Market Size, by Reclamation Location, 2017-2032 (USD Million)

Reclamation Location	2023	2024	2025	2026	2027	2032	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 373. European Union Spent Foundry Sand Market Size, by Transaction Channel, 2017-2032 (USD Million)

Transaction Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 374. European Union Spent Foundry Sand Market Size, by Base Aggregate, 2017-2032 (USD Million)

Base Aggregate	2023	2024	2025	2026	2027	2032	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 375. European Union Spent Foundry Sand Market Size, by Binder System, 2017-2032 (USD Million)

Binder System	2023	2024	2025	2026	2027	2032	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 376. European Union Spent Foundry Sand Market Size, by Source Metal, 2017-2032 (USD Million)

Source Metal	2023	2024	2025	2026	2027	2032	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 377. European Union Spent Foundry Sand Market Size, by Regulatory Status, 2017-2032 (USD Million)

Regulatory Status	2023	2024	2025	2026	2027	2032	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 378. European Union Spent Foundry Sand Market Size, by Material Transfer Economics, 2017-2032 (USD Million)

Material Transfer Economics	2023	2024	2025	2026	2027	2032	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

19.5. ASEAN

Table 379. ASEAN Spent Foundry Sand Market, by Country growth contribution, 2025-2032

Category	2025 value (USD Million)	2032 value (USD Million)	Added value (USD Million)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Brunei	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cambodia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Indonesia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lao People's Democratic Republic	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Malaysia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Myanmar	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Philippines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Singapore	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thailand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Vietnam	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 380. ASEAN Spent Foundry Sand Market Size, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
Brunei	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cambodia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Indonesia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Lao People's Democratic Republic	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Malaysia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Myanmar	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Philippines	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Singapore	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thailand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Vietnam	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 381. ASEAN Spent Foundry Sand Market Size, by Commercial Offering, 2017-2032 (USD Million)

Commercial Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 382. ASEAN Spent Foundry Sand Market Size, by Sand Management Services, 2017-2032 (USD Million)

Sand Management Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Beneficial-Use Placement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Collection & Transportation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Reclamation & Regeneration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Treatment & Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 383. ASEAN Spent Foundry Sand Market Size, by Sand Material Supply, 2017-2032 (USD Million)

Sand Material Supply	2023	2024	2025	2026	2027	2032	CAGR (%)
Reclaimed Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unreclaimed Spent Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 384. ASEAN Spent Foundry Sand Market Size, by Reclamation Technology, 2017-2032 (USD Million)

Reclamation Technology	2023	2024	2025	2026	2027	2032	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 385. ASEAN Spent Foundry Sand Market Size, by Application, 2017-2032 (USD Million)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 386. ASEAN Spent Foundry Sand Market Size, by Buyer Industry, 2017-2032 (USD Million)

Buyer Industry	2023	2024	2025	2026	2027	2032	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 387. ASEAN Spent Foundry Sand Market Size, by Reclamation Location, 2017-2032 (USD Million)

Reclamation Location	2023	2024	2025	2026	2027	2032	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 388. ASEAN Spent Foundry Sand Market Size, by Transaction Channel, 2017-2032 (USD Million)

Transaction Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 389. ASEAN Spent Foundry Sand Market Size, by Base Aggregate, 2017-2032 (USD Million)

Base Aggregate	2023	2024	2025	2026	2027	2032	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 390. ASEAN Spent Foundry Sand Market Size, by Binder System, 2017-2032 (USD Million)

Binder System	2023	2024	2025	2026	2027	2032	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 391. ASEAN Spent Foundry Sand Market Size, by Source Metal, 2017-2032 (USD Million)

Source Metal	2023	2024	2025	2026	2027	2032	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 392. ASEAN Spent Foundry Sand Market Size, by Regulatory Status, 2017-2032 (USD Million)

Regulatory Status	2023	2024	2025	2026	2027	2032	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 393. ASEAN Spent Foundry Sand Market Size, by Material Transfer Economics, 2017-2032 (USD Million)

Material Transfer Economics	2023	2024	2025	2026	2027	2032	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

19.6. GCC

Table 394. GCC Spent Foundry Sand Market, by Country growth contribution, 2025-2032

Category	2025 value (USD Million)	2032 value (USD Million)	Added value (USD Million)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Bahrain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Kuwait	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Oman	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qatar	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Saudi Arabia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Arab Emirates	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 395. GCC Spent Foundry Sand Market Size, by Group, 2017-2032 (USD Million)

Group	2023	2024	2025	2026	2027	2032	CAGR (%)
Bahrain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Kuwait	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Oman	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Qatar	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Saudi Arabia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Arab Emirates	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx

Table 396. GCC Spent Foundry Sand Market Size, by Commercial Offering, 2017-2032 (USD Million)

Commercial Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 397. GCC Spent Foundry Sand Market Size, by Sand Management Services, 2017-2032 (USD Million)

Sand Management Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Beneficial-Use Placement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Collection & Transportation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Reclamation & Regeneration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Treatment & Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 398. GCC Spent Foundry Sand Market Size, by Sand Material Supply, 2017-2032 (USD Million)

Sand Material Supply	2023	2024	2025	2026	2027	2032	CAGR (%)
Reclaimed Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unreclaimed Spent Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 399. GCC Spent Foundry Sand Market Size, by Reclamation Technology, 2017-2032 (USD Million)

Reclamation Technology	2023	2024	2025	2026	2027	2032	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 400. GCC Spent Foundry Sand Market Size, by Application, 2017-2032 (USD Million)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 401. GCC Spent Foundry Sand Market Size, by Buyer Industry, 2017-2032 (USD Million)

Buyer Industry	2023	2024	2025	2026	2027	2032	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 402. GCC Spent Foundry Sand Market Size, by Reclamation Location, 2017-2032 (USD Million)

Reclamation Location	2023	2024	2025	2026	2027	2032	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 403. GCC Spent Foundry Sand Market Size, by Transaction Channel, 2017-2032 (USD Million)

Transaction Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 404. GCC Spent Foundry Sand Market Size, by Base Aggregate, 2017-2032 (USD Million)

Base Aggregate	2023	2024	2025	2026	2027	2032	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 405. GCC Spent Foundry Sand Market Size, by Binder System, 2017-2032 (USD Million)

Binder System	2023	2024	2025	2026	2027	2032	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 406. GCC Spent Foundry Sand Market Size, by Source Metal, 2017-2032 (USD Million)

Source Metal	2023	2024	2025	2026	2027	2032	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 407. GCC Spent Foundry Sand Market Size, by Regulatory Status, 2017-2032 (USD Million)

Regulatory Status	2023	2024	2025	2026	2027	2032	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 408. GCC Spent Foundry Sand Market Size, by Material Transfer Economics, 2017-2032 (USD Million)

Material Transfer Economics	2023	2024	2025	2026	2027	2032	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

20. Spent Foundry Sand Market, by Country

[illegible] A supplier targeting an eligible Wisconsin recipient should retain source-change notification and reporting responsibilities in the contract. Established qualification can support continuity, but neither the federal assessment nor one state's acceptance should be presented as nationwide approval.

Canada makes classification and retained permit responsibility central to cross-border contracts. Covered hazardous waste and hazardous recyclable material require permission before shipment, and permit-holder responsibilities cannot be delegated. [illegible]

[illegible] A novel use requires a separate approval commitment rather than a general reuse claim. These conclusions apply to São Paulo and should not be extended to other Brazilian states.

United Kingdom proposals require attention to the relevant jurisdiction; England's end-of-waste guidance is not a UK-wide material approval. In England, recovery must be accompanied by a specific purpose, genuine demand, technical and legal compliance, and acceptable environmental and health effects. [illegible]

Saudi Arabia retains a generator-side consequence when outsourced transport fails. Its Waste Management Law requires activity-specific authorization and provides that undelivered waste must be returned to the producer, which remains responsible for the necessary treatment and disposal measures. [illegible]

RESEARCH SAMPLE REPORT

[illegible] A provider proposing a non-waste transaction should establish the actual exclusion and use conditions for the source before accepting continuing placement obligations. An alternative waste-management arrangement must be evaluated if that match cannot be demonstrated; a circularity description alone does not settle the status question.

[illegible] A genuinely non-waste product proposal requires its own classification determination; reclamation alone cannot be presumed to establish that status. Domestic procurement likewise requires local recipient and compliance verification rather than an assumption that the import restriction creates accessible contracts.

India's Coimbatore road-use initiative is a development pathway rather than confirmed general commercial acceptance. The agreement announced on March xx.xx 2026, assigns scientific validation to CSIR-CRRI, industry outreach to the Institute of Indian Foundrymen, and implementation responsibilities to Suyog Elements. [illegible]

[illegible] Providers should preserve the source documentation through any intermediary and obtain a different lawful basis before offering that rehabilitation outlet. These are New South Wales conditions, not an Australian-wide approval template.

Finland's MARA decree identifies a conditional permit-exemption route for eligible foundry sand in roadway and field structures and industrial or storage-building floor structures. [illegible] Commitments must be checked against the applicable binding Finnish or Swedish requirements.

New Zealand requires an independent waste-import assessment even when the proposed source is Australian. [illegible]

[redacted] A nonhazardous description must not be assumed to settle every import or destination question; domestic sourcing remains an alternative when border dependencies provide no demonstrated recipient benefit.

Figure 41. Global Spent Foundry Sand Market Size, by Country, 2025 vs 2032 (%)

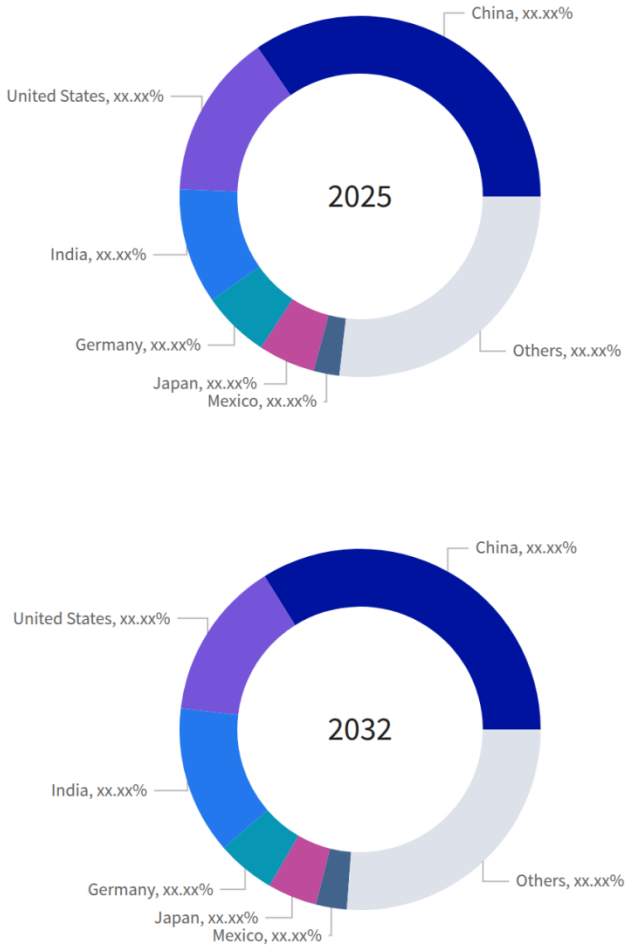


Figure 42. Global Spent Foundry Sand Market Size, by Country, 2025 vs 2026 vs 2032

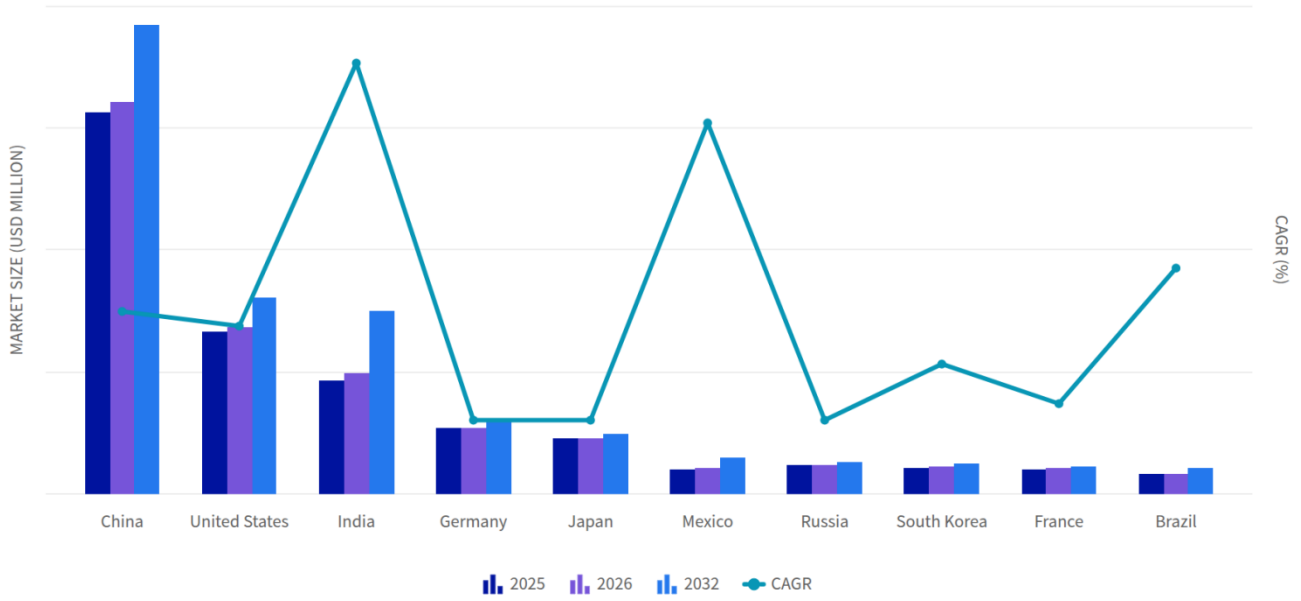


Figure 43. Global Spent Foundry Sand Market, Forecast growth by country, 2025-2032 (CAGR %)

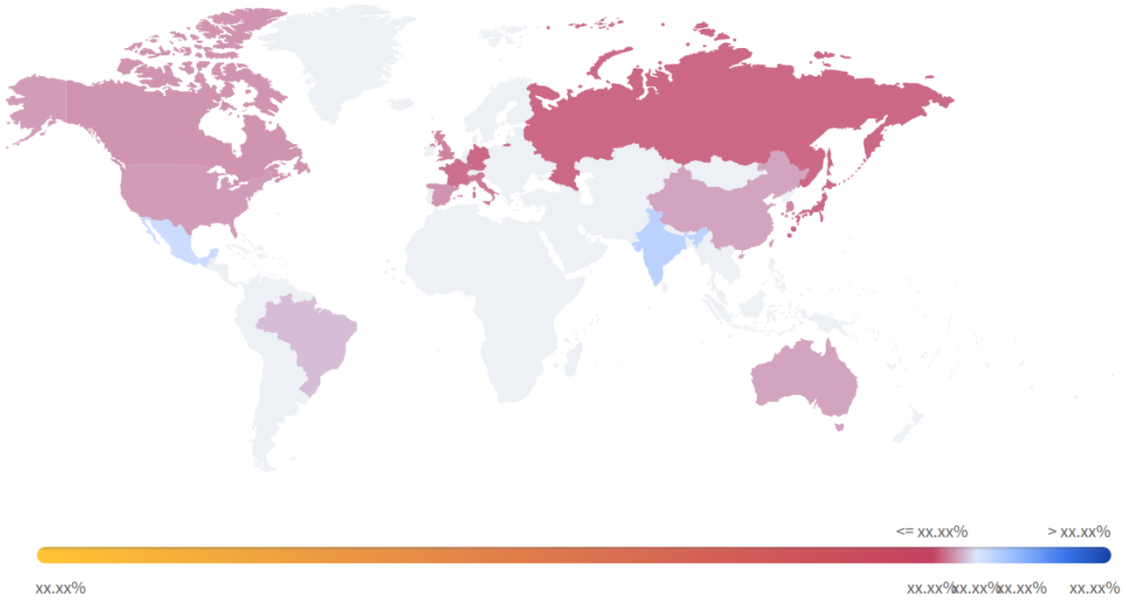


Table 409. Global Spent Foundry Sand Market, by Country growth contribution, 2025-2032

Category	2025 value (USD Million)	2032 value (USD Million)	Added value (USD Million)	2025 share (%)	2032 share (%)	Change (pp)	Growth share (%)	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unallocated / remaining scope	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Scope total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 410. Global Spent Foundry Sand Market Size, by Country, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Brazil	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Canada	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
China	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
France	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Germany	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
India	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Italy	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Japan	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mexico	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Russia	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
South Korea	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Spain	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United Kingdom	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
United States	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Sources & Evidence

1. Beneficial Uses of Spent Foundry Sands

   · EPA's favorable soil-related assessment covers specified silica-based iron, steel, and aluminum sands and directs participants to state requirements.
   ([epa.gov](https://www.epa.gov/smm/beneficial-uses-spent-foundry-sands))

2. The processed foundry sand order 2014

   · The New South Wales order requires compliance statements and records at generator and processor supply handoffs, supporting traceability through intermediaries.
   ([epa.nsw.gov.au](https://www.epa.nsw.gov.au/sites/default/files/rro14-foundry-sand.pdf))

3. The processed foundry sand exemption 2014

   · The New South Wales exemption limits eligible applications and excludes mine and quarry rehabilitation from its recovered-aggregate blend pathway. The restriction is not an Australian-wide scope decision.
   ([epa.nsw.gov.au](https://www.epa.nsw.gov.au/sites/default/files/rre14-foundry-sand.pdf))

4. Beneficial use of industrial byproducts

   · Wisconsin includes specified foundry sands in its program and requires initial certification, applicable recertification after process changes, and annual reporting. These are state-specific participation obligations.
   ([dnr.wisconsin.gov](https://dnr.wisconsin.gov/topic/Waste/Beneficial.html))

5. Check if your material is waste

   · England requires recovery, a specific purpose, genuine demand, technical and legal compliance, and acceptable environmental and health effects; indefinite storage can undermine demand evidence.
   ([gov.uk](https://www.gov.uk/guidance/check-if-your-material-is-waste))

6. Integrating Industrial Waste into Road Construction is Key to India's Circular Economy Vision
   · The March xx.xx 2026 Coimbatore development agreement assigns scientific validation, industry outreach, and implementation roles to CSIR-CRRI, IIF, and Suyog Elements respectively; it is not general recipient approval. ([pib.gov.in](https://www.pib.gov.in/PressReleasePage.aspx?PRID=xx.xx&lang=xx.xx®=xx.xx))
7. CETESB Decisão de Diretoria n° 026/2025/C-Procedimentos para Gerenciamento de Areia Descartada de Fundição
   · The decision was published on April xx.xx 2025; obligations apply to generators and recipients, and uses outside the annex can seek a case-specific technical opinion. ([cetesb.sp.gov.br](https://cetesb.sp.gov.br/solo/wp-content/uploads/2025/xx.xx/DD-xx.xx.C-Procedimentos-para-Gerenciamento-de-Areia-Descartada-de-Fundicao-ADF.pdf))
8. Cross-border Movement of Hazardous Waste and Hazardous Recyclable Material Regulations - Overview
   · Covered movements require prior permission and authorized facilities; permit responsibilities cannot be delegated, and destination restrictions can trigger export controls. ([canada.ca](https://www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/cross-border-regulations.html))
9. Waste Exclusion Regulations, 2018 - Government Notice 715
   · Exclusions require management under the relevant risk-management plan and do not remove other applicable legislation; a particular source-and-use match needs verification. ([faolex.fao.org](https://faolex.fao.org/docs/pdf/saf189533.pdf))
10. Waste Management Law
    · Undelivered waste must be returned to its producer, which remains responsible for necessary treatment and disposal measures. Contractual fallback verification is the derived recommendation. ([misa.gov.sa](https://misa.gov.sa/app/uploads/2025/xx.xx/Waste-Management-Law.pdf))
11. Government Decree on the Recovery of Certain Wastes in Earth Construction (843/2017)
    · Eligible foundry sand is included for roadway, field, and industrial or storage-floor structures, subject to conditions and site exclusions. The English translation is not the binding legal text. ([finlex.fi](https://www.finlex.fi/api/media/statute-foreign-language-translation/xx.xx/mainPdf/main.pdf?timestamp=2017-xx.xx-06T22%3A00%3A00.000Z))
12. Announcement on Matters Concerning the Complete Prohibition of Solid Waste Imports
    · The announcement prohibits importing solid waste by any means. Separating domestic service proposals from waste-import placement is a commercial implication, not evidence of accessible domestic contracts. ([mee.gov.cn](https://www.mee.gov.cn/xxgk2018/xxgk/xxgk01/xx.xx/t20201125_809835.html))
13. Importing hazardous and other waste
    · New Zealand requires prior permission for hazardous-waste imports and warns that noncompliant shipments may be refused or seized. Applying this to a particular sand stream requires classification verification. ([epa.govt.nz](https://www.epa.govt.nz/hazardous-substances/certificates-permits-and-permissions/hazardous-waste-shipping/importing-hazardous-waste/))

20.1. China

Table 411. China Spent Foundry Sand Market Size, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
China	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 412. China Spent Foundry Sand Market Size, by Commercial Offering, 2017-2032 (USD Million)

Commercial Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 413. China Spent Foundry Sand Market Size, by Sand Management Services, 2017-2032 (USD Million)

Sand Management Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Beneficial-Use Placement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Collection & Transportation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Reclamation & Regeneration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Treatment & Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 414. China Spent Foundry Sand Market Size, by Sand Material Supply, 2017-2032 (USD Million)

Sand Material Supply	2023	2024	2025	2026	2027	2032	CAGR (%)
Reclaimed Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unreclaimed Spent Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 415. China Spent Foundry Sand Market Size, by Reclamation Technology, 2017-2032 (USD Million)

Reclamation Technology	2023	2024	2025	2026	2027	2032	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 416. China Spent Foundry Sand Market Size, by Application, 2017-2032 (USD Million)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 417. China Spent Foundry Sand Market Size, by Buyer Industry, 2017-2032 (USD Million)

Buyer Industry	2023	2024	2025	2026	2027	2032	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 418. China Spent Foundry Sand Market Size, by Reclamation Location, 2017-2032 (USD Million)

Reclamation Location	2023	2024	2025	2026	2027	2032	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 419. China Spent Foundry Sand Market Size, by Transaction Channel, 2017-2032 (USD Million)

Transaction Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 420. China Spent Foundry Sand Market Size, by Base Aggregate, 2017-2032 (USD Million)

Base Aggregate	2023	2024	2025	2026	2027	2032	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 421. China Spent Foundry Sand Market Size, by Binder System, 2017-2032 (USD Million)

Binder System	2023	2024	2025	2026	2027	2032	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 422. China Spent Foundry Sand Market Size, by Source Metal, 2017-2032 (USD Million)

Source Metal	2023	2024	2025	2026	2027	2032	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 423. China Spent Foundry Sand Market Size, by Regulatory Status, 2017-2032 (USD Million)

Regulatory Status	2023	2024	2025	2026	2027	2032	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 424. China Spent Foundry Sand Market Size, by Material Transfer Economics, 2017-2032 (USD Million)

Material Transfer Economics	2023	2024	2025	2026	2027	2032	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

20.2. United States

Table 425. United States Spent Foundry Sand Market Size, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
United States	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 426. United States Spent Foundry Sand Market Size, by Commercial Offering, 2017-2032 (USD Million)

Commercial Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 427. United States Spent Foundry Sand Market Size, by Sand Management Services, 2017-2032 (USD Million)

Sand Management Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Beneficial-Use Placement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Collection & Transportation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Reclamation & Regeneration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Treatment & Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 428. United States Spent Foundry Sand Market Size, by Sand Material Supply, 2017-2032 (USD Million)

Sand Material Supply	2023	2024	2025	2026	2027	2032	CAGR (%)
Reclaimed Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unreclaimed Spent Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 429. United States Spent Foundry Sand Market Size, by Reclamation Technology, 2017-2032 (USD Million)

Reclamation Technology	2023	2024	2025	2026	2027	2032	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 430. United States Spent Foundry Sand Market Size, by Application, 2017-2032 (USD Million)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 431. United States Spent Foundry Sand Market Size, by Buyer Industry, 2017-2032 (USD Million)

Buyer Industry	2023	2024	2025	2026	2027	2032	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 432. United States Spent Foundry Sand Market Size, by Reclamation Location, 2017-2032 (USD Million)

Reclamation Location	2023	2024	2025	2026	2027	2032	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 433. United States Spent Foundry Sand Market Size, by Transaction Channel, 2017-2032 (USD Million)

Transaction Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 434. United States Spent Foundry Sand Market Size, by Base Aggregate, 2017-2032 (USD Million)

Base Aggregate	2023	2024	2025	2026	2027	2032	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 435. United States Spent Foundry Sand Market Size, by Binder System, 2017-2032 (USD Million)

Binder System	2023	2024	2025	2026	2027	2032	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 436. United States Spent Foundry Sand Market Size, by Source Metal, 2017-2032 (USD Million)

Source Metal	2023	2024	2025	2026	2027	2032	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 437. United States Spent Foundry Sand Market Size, by Regulatory Status, 2017-2032 (USD Million)

Regulatory Status	2023	2024	2025	2026	2027	2032	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 438. United States Spent Foundry Sand Market Size, by Material Transfer Economics, 2017-2032 (USD Million)

Material Transfer Economics	2023	2024	2025	2026	2027	2032	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

20.3. India

Table 439. India Spent Foundry Sand Market Size, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
India	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 440. India Spent Foundry Sand Market Size, by Commercial Offering, 2017-2032 (USD Million)

Commercial Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 441. India Spent Foundry Sand Market Size, by Sand Management Services, 2017-2032 (USD Million)

Sand Management Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Beneficial-Use Placement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Collection & Transportation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Reclamation & Regeneration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Treatment & Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 442. India Spent Foundry Sand Market Size, by Sand Material Supply, 2017-2032 (USD Million)

Sand Material Supply	2023	2024	2025	2026	2027	2032	CAGR (%)
Reclaimed Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unreclaimed Spent Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 443. India Spent Foundry Sand Market Size, by Reclamation Technology, 2017-2032 (USD Million)

Reclamation Technology	2023	2024	2025	2026	2027	2032	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 444. India Spent Foundry Sand Market Size, by Application, 2017-2032 (USD Million)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 445. India Spent Foundry Sand Market Size, by Buyer Industry, 2017-2032 (USD Million)

Buyer Industry	2023	2024	2025	2026	2027	2032	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 446. India Spent Foundry Sand Market Size, by Reclamation Location, 2017-2032 (USD Million)

Reclamation Location	2023	2024	2025	2026	2027	2032	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 447. India Spent Foundry Sand Market Size, by Transaction Channel, 2017-2032 (USD Million)

Transaction Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 448. India Spent Foundry Sand Market Size, by Base Aggregate, 2017-2032 (USD Million)

Base Aggregate	2023	2024	2025	2026	2027	2032	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 449. India Spent Foundry Sand Market Size, by Binder System, 2017-2032 (USD Million)

Binder System	2023	2024	2025	2026	2027	2032	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 450. India Spent Foundry Sand Market Size, by Source Metal, 2017-2032 (USD Million)

Source Metal	2023	2024	2025	2026	2027	2032	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 451. India Spent Foundry Sand Market Size, by Regulatory Status, 2017-2032 (USD Million)

Regulatory Status	2023	2024	2025	2026	2027	2032	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 452. India Spent Foundry Sand Market Size, by Material Transfer Economics, 2017-2032 (USD Million)

Material Transfer Economics	2023	2024	2025	2026	2027	2032	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

20.4. Germany

Table 453. Germany Spent Foundry Sand Market Size, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Germany	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 454. Germany Spent Foundry Sand Market Size, by Commercial Offering, 2017-2032 (USD Million)

Commercial Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 455. Germany Spent Foundry Sand Market Size, by Sand Management Services, 2017-2032 (USD Million)

Sand Management Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Beneficial-Use Placement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Collection & Transportation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Reclamation & Regeneration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Treatment & Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 456. Germany Spent Foundry Sand Market Size, by Sand Material Supply, 2017-2032 (USD Million)

Sand Material Supply	2023	2024	2025	2026	2027	2032	CAGR (%)
Reclaimed Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unreclaimed Spent Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 457. Germany Spent Foundry Sand Market Size, by Reclamation Technology, 2017-2032 (USD Million)

Reclamation Technology	2023	2024	2025	2026	2027	2032	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 458. Germany Spent Foundry Sand Market Size, by Application, 2017-2032 (USD Million)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 459. Germany Spent Foundry Sand Market Size, by Buyer Industry, 2017-2032 (USD Million)

Buyer Industry	2023	2024	2025	2026	2027	2032	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 460. Germany Spent Foundry Sand Market Size, by Reclamation Location, 2017-2032 (USD Million)

Reclamation Location	2023	2024	2025	2026	2027	2032	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 461. Germany Spent Foundry Sand Market Size, by Transaction Channel, 2017-2032 (USD Million)

Transaction Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 462. Germany Spent Foundry Sand Market Size, by Base Aggregate, 2017-2032 (USD Million)

Base Aggregate	2023	2024	2025	2026	2027	2032	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 463. Germany Spent Foundry Sand Market Size, by Binder System, 2017-2032 (USD Million)

Binder System	2023	2024	2025	2026	2027	2032	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 464. Germany Spent Foundry Sand Market Size, by Source Metal, 2017-2032 (USD Million)

Source Metal	2023	2024	2025	2026	2027	2032	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 465. Germany Spent Foundry Sand Market Size, by Regulatory Status, 2017-2032 (USD Million)

Regulatory Status	2023	2024	2025	2026	2027	2032	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 466. Germany Spent Foundry Sand Market Size, by Material Transfer Economics, 2017-2032 (USD Million)

Material Transfer Economics	2023	2024	2025	2026	2027	2032	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

20.5. Japan

Table 467. Japan Spent Foundry Sand Market Size, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Japan	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 468. Japan Spent Foundry Sand Market Size, by Commercial Offering, 2017-2032 (USD Million)

Commercial Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 469. Japan Spent Foundry Sand Market Size, by Sand Management Services, 2017-2032 (USD Million)

Sand Management Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Beneficial-Use Placement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Collection & Transportation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Reclamation & Regeneration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Treatment & Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 470. Japan Spent Foundry Sand Market Size, by Sand Material Supply, 2017-2032 (USD Million)

Sand Material Supply	2023	2024	2025	2026	2027	2032	CAGR (%)
Reclaimed Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unreclaimed Spent Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 471. Japan Spent Foundry Sand Market Size, by Reclamation Technology, 2017-2032 (USD Million)

Reclamation Technology	2023	2024	2025	2026	2027	2032	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 472. Japan Spent Foundry Sand Market Size, by Application, 2017-2032 (USD Million)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 473. Japan Spent Foundry Sand Market Size, by Buyer Industry, 2017-2032 (USD Million)

Buyer Industry	2023	2024	2025	2026	2027	2032	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 474. Japan Spent Foundry Sand Market Size, by Reclamation Location, 2017-2032 (USD Million)

Reclamation Location	2023	2024	2025	2026	2027	2032	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 475. Japan Spent Foundry Sand Market Size, by Transaction Channel, 2017-2032 (USD Million)

Transaction Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 476. Japan Spent Foundry Sand Market Size, by Base Aggregate, 2017-2032 (USD Million)

Base Aggregate	2023	2024	2025	2026	2027	2032	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 477. Japan Spent Foundry Sand Market Size, by Binder System, 2017-2032 (USD Million)

Binder System	2023	2024	2025	2026	2027	2032	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 478. Japan Spent Foundry Sand Market Size, by Source Metal, 2017-2032 (USD Million)

Source Metal	2023	2024	2025	2026	2027	2032	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 479. Japan Spent Foundry Sand Market Size, by Regulatory Status, 2017-2032 (USD Million)

Regulatory Status	2023	2024	2025	2026	2027	2032	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 480. Japan Spent Foundry Sand Market Size, by Material Transfer Economics, 2017-2032 (USD Million)

Material Transfer Economics	2023	2024	2025	2026	2027	2032	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

20.6. Russia

Table 481. Russia Spent Foundry Sand Market Size, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Russia	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 482. Russia Spent Foundry Sand Market Size, by Commercial Offering, 2017-2032 (USD Million)

Commercial Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 483. Russia Spent Foundry Sand Market Size, by Sand Management Services, 2017-2032 (USD Million)

Sand Management Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Beneficial-Use Placement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Collection & Transportation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Reclamation & Regeneration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Treatment & Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 484. Russia Spent Foundry Sand Market Size, by Sand Material Supply, 2017-2032 (USD Million)

Sand Material Supply	2023	2024	2025	2026	2027	2032	CAGR (%)
Reclaimed Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unreclaimed Spent Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 485. Russia Spent Foundry Sand Market Size, by Reclamation Technology, 2017-2032 (USD Million)

Reclamation Technology	2023	2024	2025	2026	2027	2032	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 486. Russia Spent Foundry Sand Market Size, by Application, 2017-2032 (USD Million)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 487. Russia Spent Foundry Sand Market Size, by Buyer Industry, 2017-2032 (USD Million)

Buyer Industry	2023	2024	2025	2026	2027	2032	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 488. Russia Spent Foundry Sand Market Size, by Reclamation Location, 2017-2032 (USD Million)

Reclamation Location	2023	2024	2025	2026	2027	2032	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 489. Russia Spent Foundry Sand Market Size, by Transaction Channel, 2017-2032 (USD Million)

Transaction Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 490. Russia Spent Foundry Sand Market Size, by Base Aggregate, 2017-2032 (USD Million)

Base Aggregate	2023	2024	2025	2026	2027	2032	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 491. Russia Spent Foundry Sand Market Size, by Binder System, 2017-2032 (USD Million)

Binder System	2023	2024	2025	2026	2027	2032	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 492. Russia Spent Foundry Sand Market Size, by Source Metal, 2017-2032 (USD Million)

Source Metal	2023	2024	2025	2026	2027	2032	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 493. Russia Spent Foundry Sand Market Size, by Regulatory Status, 2017-2032 (USD Million)

Regulatory Status	2023	2024	2025	2026	2027	2032	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 494. Russia Spent Foundry Sand Market Size, by Material Transfer Economics, 2017-2032 (USD Million)

Material Transfer Economics	2023	2024	2025	2026	2027	2032	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

20.7. South Korea

Table 495. South Korea Spent Foundry Sand Market Size, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
South Korea	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 496. South Korea Spent Foundry Sand Market Size, by Commercial Offering, 2017-2032 (USD Million)

Commercial Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 497. South Korea Spent Foundry Sand Market Size, by Sand Management Services, 2017-2032 (USD Million)

Sand Management Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Beneficial-Use Placement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Collection & Transportation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Reclamation & Regeneration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Treatment & Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 498. South Korea Spent Foundry Sand Market Size, by Sand Material Supply, 2017-2032 (USD Million)

Sand Material Supply	2023	2024	2025	2026	2027	2032	CAGR (%)
Reclaimed Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unreclaimed Spent Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 499. South Korea Spent Foundry Sand Market Size, by Reclamation Technology, 2017-2032 (USD Million)

Reclamation Technology	2023	2024	2025	2026	2027	2032	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 500. South Korea Spent Foundry Sand Market Size, by Application, 2017-2032 (USD Million)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 501. South Korea Spent Foundry Sand Market Size, by Buyer Industry, 2017-2032 (USD Million)

Buyer Industry	2023	2024	2025	2026	2027	2032	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 502. South Korea Spent Foundry Sand Market Size, by Reclamation Location, 2017-2032 (USD Million)

Reclamation Location	2023	2024	2025	2026	2027	2032	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 503. South Korea Spent Foundry Sand Market Size, by Transaction Channel, 2017-2032 (USD Million)

Transaction Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 504. South Korea Spent Foundry Sand Market Size, by Base Aggregate, 2017-2032 (USD Million)

Base Aggregate	2023	2024	2025	2026	2027	2032	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 505. South Korea Spent Foundry Sand Market Size, by Binder System, 2017-2032 (USD Million)

Binder System	2023	2024	2025	2026	2027	2032	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 506. South Korea Spent Foundry Sand Market Size, by Source Metal, 2017-2032 (USD Million)

Source Metal	2023	2024	2025	2026	2027	2032	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 507. South Korea Spent Foundry Sand Market Size, by Regulatory Status, 2017-2032 (USD Million)

Regulatory Status	2023	2024	2025	2026	2027	2032	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 508. South Korea Spent Foundry Sand Market Size, by Material Transfer Economics, 2017-2032 (USD Million)

Material Transfer Economics	2023	2024	2025	2026	2027	2032	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

20.8. France

Table 509. France Spent Foundry Sand Market Size, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
France	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 510. France Spent Foundry Sand Market Size, by Commercial Offering, 2017-2032 (USD Million)

Commercial Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 511. France Spent Foundry Sand Market Size, by Sand Management Services, 2017-2032 (USD Million)

Sand Management Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Beneficial-Use Placement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Collection & Transportation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Reclamation & Regeneration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Treatment & Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 512. France Spent Foundry Sand Market Size, by Sand Material Supply, 2017-2032 (USD Million)

Sand Material Supply	2023	2024	2025	2026	2027	2032	CAGR (%)
Reclaimed Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unreclaimed Spent Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 513. France Spent Foundry Sand Market Size, by Reclamation Technology, 2017-2032 (USD Million)

Reclamation Technology	2023	2024	2025	2026	2027	2032	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 514. France Spent Foundry Sand Market Size, by Application, 2017-2032 (USD Million)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 515. France Spent Foundry Sand Market Size, by Buyer Industry, 2017-2032 (USD Million)

Buyer Industry	2023	2024	2025	2026	2027	2032	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 516. France Spent Foundry Sand Market Size, by Reclamation Location, 2017-2032 (USD Million)

Reclamation Location	2023	2024	2025	2026	2027	2032	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 517. France Spent Foundry Sand Market Size, by Transaction Channel, 2017-2032 (USD Million)

Transaction Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 518. France Spent Foundry Sand Market Size, by Base Aggregate, 2017-2032 (USD Million)

Base Aggregate	2023	2024	2025	2026	2027	2032	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 519. France Spent Foundry Sand Market Size, by Binder System, 2017-2032 (USD Million)

Binder System	2023	2024	2025	2026	2027	2032	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 520. France Spent Foundry Sand Market Size, by Source Metal, 2017-2032 (USD Million)

Source Metal	2023	2024	2025	2026	2027	2032	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 521. France Spent Foundry Sand Market Size, by Regulatory Status, 2017-2032 (USD Million)

Regulatory Status	2023	2024	2025	2026	2027	2032	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 522. France Spent Foundry Sand Market Size, by Material Transfer Economics, 2017-2032 (USD Million)

Material Transfer Economics	2023	2024	2025	2026	2027	2032	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

20.9. Mexico

Table 523. Mexico Spent Foundry Sand Market Size, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Mexico	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 524. Mexico Spent Foundry Sand Market Size, by Commercial Offering, 2017-2032 (USD Million)

Commercial Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 525. Mexico Spent Foundry Sand Market Size, by Sand Management Services, 2017-2032 (USD Million)

Sand Management Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Beneficial-Use Placement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Collection & Transportation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Reclamation & Regeneration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Treatment & Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 526. Mexico Spent Foundry Sand Market Size, by Sand Material Supply, 2017-2032 (USD Million)

Sand Material Supply	2023	2024	2025	2026	2027	2032	CAGR (%)
Reclaimed Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unreclaimed Spent Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 527. Mexico Spent Foundry Sand Market Size, by Reclamation Technology, 2017-2032 (USD Million)

Reclamation Technology	2023	2024	2025	2026	2027	2032	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 528. Mexico Spent Foundry Sand Market Size, by Application, 2017-2032 (USD Million)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 529. Mexico Spent Foundry Sand Market Size, by Buyer Industry, 2017-2032 (USD Million)

Buyer Industry	2023	2024	2025	2026	2027	2032	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 530. Mexico Spent Foundry Sand Market Size, by Reclamation Location, 2017-2032 (USD Million)

Reclamation Location	2023	2024	2025	2026	2027	2032	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 531. Mexico Spent Foundry Sand Market Size, by Transaction Channel, 2017-2032 (USD Million)

Transaction Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 532. Mexico Spent Foundry Sand Market Size, by Base Aggregate, 2017-2032 (USD Million)

Base Aggregate	2023	2024	2025	2026	2027	2032	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 533. Mexico Spent Foundry Sand Market Size, by Binder System, 2017-2032 (USD Million)

Binder System	2023	2024	2025	2026	2027	2032	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 534. Mexico Spent Foundry Sand Market Size, by Source Metal, 2017-2032 (USD Million)

Source Metal	2023	2024	2025	2026	2027	2032	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 535. Mexico Spent Foundry Sand Market Size, by Regulatory Status, 2017-2032 (USD Million)

Regulatory Status	2023	2024	2025	2026	2027	2032	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 536. Mexico Spent Foundry Sand Market Size, by Material Transfer Economics, 2017-2032 (USD Million)

Material Transfer Economics	2023	2024	2025	2026	2027	2032	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

20.10. Italy

Table 537. Italy Spent Foundry Sand Market Size, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Italy	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 538. Italy Spent Foundry Sand Market Size, by Commercial Offering, 2017-2032 (USD Million)

Commercial Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 539. Italy Spent Foundry Sand Market Size, by Sand Management Services, 2017-2032 (USD Million)

Sand Management Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Beneficial-Use Placement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Collection & Transportation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Reclamation & Regeneration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Treatment & Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 540. Italy Spent Foundry Sand Market Size, by Sand Material Supply, 2017-2032 (USD Million)

Sand Material Supply	2023	2024	2025	2026	2027	2032	CAGR (%)
Reclaimed Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unreclaimed Spent Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 541. Italy Spent Foundry Sand Market Size, by Reclamation Technology, 2017-2032 (USD Million)

Reclamation Technology	2023	2024	2025	2026	2027	2032	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 542. Italy Spent Foundry Sand Market Size, by Application, 2017-2032 (USD Million)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 543. Italy Spent Foundry Sand Market Size, by Buyer Industry, 2017-2032 (USD Million)

Buyer Industry	2023	2024	2025	2026	2027	2032	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 544. Italy Spent Foundry Sand Market Size, by Reclamation Location, 2017-2032 (USD Million)

Reclamation Location	2023	2024	2025	2026	2027	2032	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 545. Italy Spent Foundry Sand Market Size, by Transaction Channel, 2017-2032 (USD Million)

Transaction Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 546. Italy Spent Foundry Sand Market Size, by Base Aggregate, 2017-2032 (USD Million)

Base Aggregate	2023	2024	2025	2026	2027	2032	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 547. Italy Spent Foundry Sand Market Size, by Binder System, 2017-2032 (USD Million)

Binder System	2023	2024	2025	2026	2027	2032	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 548. Italy Spent Foundry Sand Market Size, by Source Metal, 2017-2032 (USD Million)

Source Metal	2023	2024	2025	2026	2027	2032	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 549. Italy Spent Foundry Sand Market Size, by Regulatory Status, 2017-2032 (USD Million)

Regulatory Status	2023	2024	2025	2026	2027	2032	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 550. Italy Spent Foundry Sand Market Size, by Material Transfer Economics, 2017-2032 (USD Million)

Material Transfer Economics	2023	2024	2025	2026	2027	2032	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

20.11. Brazil

Table 551. Brazil Spent Foundry Sand Market Size, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Brazil	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 552. Brazil Spent Foundry Sand Market Size, by Commercial Offering, 2017-2032 (USD Million)

Commercial Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 553. Brazil Spent Foundry Sand Market Size, by Sand Management Services, 2017-2032 (USD Million)

Sand Management Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Beneficial-Use Placement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Collection & Transportation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Reclamation & Regeneration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Treatment & Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 554. Brazil Spent Foundry Sand Market Size, by Sand Material Supply, 2017-2032 (USD Million)

Sand Material Supply	2023	2024	2025	2026	2027	2032	CAGR (%)
Reclaimed Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unreclaimed Spent Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 555. Brazil Spent Foundry Sand Market Size, by Reclamation Technology, 2017-2032 (USD Million)

Reclamation Technology	2023	2024	2025	2026	2027	2032	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 556. Brazil Spent Foundry Sand Market Size, by Application, 2017-2032 (USD Million)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 557. Brazil Spent Foundry Sand Market Size, by Buyer Industry, 2017-2032 (USD Million)

Buyer Industry	2023	2024	2025	2026	2027	2032	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 558. Brazil Spent Foundry Sand Market Size, by Reclamation Location, 2017-2032 (USD Million)

Reclamation Location	2023	2024	2025	2026	2027	2032	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 559. Brazil Spent Foundry Sand Market Size, by Transaction Channel, 2017-2032 (USD Million)

Transaction Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 560. Brazil Spent Foundry Sand Market Size, by Base Aggregate, 2017-2032 (USD Million)

Base Aggregate	2023	2024	2025	2026	2027	2032	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 561. Brazil Spent Foundry Sand Market Size, by Binder System, 2017-2032 (USD Million)

Binder System	2023	2024	2025	2026	2027	2032	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 562. Brazil Spent Foundry Sand Market Size, by Source Metal, 2017-2032 (USD Million)

Source Metal	2023	2024	2025	2026	2027	2032	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 563. Brazil Spent Foundry Sand Market Size, by Regulatory Status, 2017-2032 (USD Million)

Regulatory Status	2023	2024	2025	2026	2027	2032	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 564. Brazil Spent Foundry Sand Market Size, by Material Transfer Economics, 2017-2032 (USD Million)

Material Transfer Economics	2023	2024	2025	2026	2027	2032	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

20.12. Spain

Table 565. Spain Spent Foundry Sand Market Size, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Spain	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 566. Spain Spent Foundry Sand Market Size, by Commercial Offering, 2017-2032 (USD Million)

Commercial Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 567. Spain Spent Foundry Sand Market Size, by Sand Management Services, 2017-2032 (USD Million)

Sand Management Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Beneficial-Use Placement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Collection & Transportation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Reclamation & Regeneration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Treatment & Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 568. Spain Spent Foundry Sand Market Size, by Sand Material Supply, 2017-2032 (USD Million)

Sand Material Supply	2023	2024	2025	2026	2027	2032	CAGR (%)
Reclaimed Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unreclaimed Spent Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 569. Spain Spent Foundry Sand Market Size, by Reclamation Technology, 2017-2032 (USD Million)

Reclamation Technology	2023	2024	2025	2026	2027	2032	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 570. Spain Spent Foundry Sand Market Size, by Application, 2017-2032 (USD Million)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 571. Spain Spent Foundry Sand Market Size, by Buyer Industry, 2017-2032 (USD Million)

Buyer Industry	2023	2024	2025	2026	2027	2032	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 572. Spain Spent Foundry Sand Market Size, by Reclamation Location, 2017-2032 (USD Million)

Reclamation Location	2023	2024	2025	2026	2027	2032	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 573. Spain Spent Foundry Sand Market Size, by Transaction Channel, 2017-2032 (USD Million)

Transaction Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 574. Spain Spent Foundry Sand Market Size, by Base Aggregate, 2017-2032 (USD Million)

Base Aggregate	2023	2024	2025	2026	2027	2032	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 575. Spain Spent Foundry Sand Market Size, by Binder System, 2017-2032 (USD Million)

Binder System	2023	2024	2025	2026	2027	2032	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 576. Spain Spent Foundry Sand Market Size, by Source Metal, 2017-2032 (USD Million)

Source Metal	2023	2024	2025	2026	2027	2032	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 577. Spain Spent Foundry Sand Market Size, by Regulatory Status, 2017-2032 (USD Million)

Regulatory Status	2023	2024	2025	2026	2027	2032	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 578. Spain Spent Foundry Sand Market Size, by Material Transfer Economics, 2017-2032 (USD Million)

Material Transfer Economics	2023	2024	2025	2026	2027	2032	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

20.13. United Kingdom

Table 579. United Kingdom Spent Foundry Sand Market Size, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
United Kingdom	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 580. United Kingdom Spent Foundry Sand Market Size, by Commercial Offering, 2017-2032 (USD Million)

Commercial Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 581. United Kingdom Spent Foundry Sand Market Size, by Sand Management Services, 2017-2032 (USD Million)

Sand Management Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Beneficial-Use Placement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Collection & Transportation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Reclamation & Regeneration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Treatment & Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 582. United Kingdom Spent Foundry Sand Market Size, by Sand Material Supply, 2017-2032 (USD Million)

Sand Material Supply	2023	2024	2025	2026	2027	2032	CAGR (%)
Reclaimed Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unreclaimed Spent Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 583. United Kingdom Spent Foundry Sand Market Size, by Reclamation Technology, 2017-2032 (USD Million)

Reclamation Technology	2023	2024	2025	2026	2027	2032	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 584. United Kingdom Spent Foundry Sand Market Size, by Application, 2017-2032 (USD Million)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 585. United Kingdom Spent Foundry Sand Market Size, by Buyer Industry, 2017-2032 (USD Million)

Buyer Industry	2023	2024	2025	2026	2027	2032	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 586. United Kingdom Spent Foundry Sand Market Size, by Reclamation Location, 2017-2032 (USD Million)

Reclamation Location	2023	2024	2025	2026	2027	2032	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 587. United Kingdom Spent Foundry Sand Market Size, by Transaction Channel, 2017-2032 (USD Million)

Transaction Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 588. United Kingdom Spent Foundry Sand Market Size, by Base Aggregate, 2017-2032 (USD Million)

Base Aggregate	2023	2024	2025	2026	2027	2032	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 589. United Kingdom Spent Foundry Sand Market Size, by Binder System, 2017-2032 (USD Million)

Binder System	2023	2024	2025	2026	2027	2032	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 590. United Kingdom Spent Foundry Sand Market Size, by Source Metal, 2017-2032 (USD Million)

Source Metal	2023	2024	2025	2026	2027	2032	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 591. United Kingdom Spent Foundry Sand Market Size, by Regulatory Status, 2017-2032 (USD Million)

Regulatory Status	2023	2024	2025	2026	2027	2032	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 592. United Kingdom Spent Foundry Sand Market Size, by Material Transfer Economics, 2017-2032 (USD Million)

Material Transfer Economics	2023	2024	2025	2026	2027	2032	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

20.14. Canada

Table 593. Canada Spent Foundry Sand Market Size, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Canada	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 594. Canada Spent Foundry Sand Market Size, by Commercial Offering, 2017-2032 (USD Million)

Commercial Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 595. Canada Spent Foundry Sand Market Size, by Sand Management Services, 2017-2032 (USD Million)

Sand Management Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Beneficial-Use Placement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Collection & Transportation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Reclamation & Regeneration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Treatment & Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 596. Canada Spent Foundry Sand Market Size, by Sand Material Supply, 2017-2032 (USD Million)

Sand Material Supply	2023	2024	2025	2026	2027	2032	CAGR (%)
Reclaimed Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unreclaimed Spent Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 597. Canada Spent Foundry Sand Market Size, by Reclamation Technology, 2017-2032 (USD Million)

Reclamation Technology	2023	2024	2025	2026	2027	2032	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 598. Canada Spent Foundry Sand Market Size, by Application, 2017-2032 (USD Million)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 599. Canada Spent Foundry Sand Market Size, by Buyer Industry, 2017-2032 (USD Million)

Buyer Industry	2023	2024	2025	2026	2027	2032	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 600. Canada Spent Foundry Sand Market Size, by Reclamation Location, 2017-2032 (USD Million)

Reclamation Location	2023	2024	2025	2026	2027	2032	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 601. Canada Spent Foundry Sand Market Size, by Transaction Channel, 2017-2032 (USD Million)

Transaction Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 602. Canada Spent Foundry Sand Market Size, by Base Aggregate, 2017-2032 (USD Million)

Base Aggregate	2023	2024	2025	2026	2027	2032	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 603. Canada Spent Foundry Sand Market Size, by Binder System, 2017-2032 (USD Million)

Binder System	2023	2024	2025	2026	2027	2032	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 604. Canada Spent Foundry Sand Market Size, by Source Metal, 2017-2032 (USD Million)

Source Metal	2023	2024	2025	2026	2027	2032	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 605. Canada Spent Foundry Sand Market Size, by Regulatory Status, 2017-2032 (USD Million)

Regulatory Status	2023	2024	2025	2026	2027	2032	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 606. Canada Spent Foundry Sand Market Size, by Material Transfer Economics, 2017-2032 (USD Million)

Material Transfer Economics	2023	2024	2025	2026	2027	2032	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

20.15. Australia

Table 607. Australia Spent Foundry Sand Market Size, 2017-2032 (USD Million)

Country	2023	2024	2025	2026	2027	2032	CAGR (%)
Australia	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 608. Australia Spent Foundry Sand Market Size, by Commercial Offering, 2017-2032 (USD Million)

Commercial Offering	2023	2024	2025	2026	2027	2032	CAGR (%)
Sand Management Services	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Sand Material Supply	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 609. Australia Spent Foundry Sand Market Size, by Sand Management Services, 2017-2032 (USD Million)

Sand Management Services	2023	2024	2025	2026	2027	2032	CAGR (%)
Beneficial-Use Placement	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Collection & Transportation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Reclamation & Regeneration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Treatment & Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 610. Australia Spent Foundry Sand Market Size, by Sand Material Supply, 2017-2032 (USD Million)

Sand Material Supply	2023	2024	2025	2026	2027	2032	CAGR (%)
Reclaimed Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unreclaimed Spent Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 611. Australia Spent Foundry Sand Market Size, by Reclamation Technology, 2017-2032 (USD Million)

Reclamation Technology	2023	2024	2025	2026	2027	2032	CAGR (%)
Biological Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chemical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Dry Mechanical Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Integrated Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Thermal Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Wet Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 612. Australia Spent Foundry Sand Market Size, by Application, 2017-2032 (USD Million)

Application	2023	2024	2025	2026	2027	2032	CAGR (%)
Asphalt & Bituminous Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Cement & Clinker Feedstock	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Ceramics & Engineered Mineral Products	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Concrete, Mortar & Cementitious Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundry Molds & Cores	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Glass & Glass Fiber	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Land Restoration Fill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Landfill Cover & Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Metallurgical Fluxes	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Pipe Bedding & Backfill	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Fillers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Road Traction & Surface Dressing	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil Amendment & Growing Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Structural Fill & Embankments	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Unbound Road Base & Subbase	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Disposal	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Waste Stabilization Media	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 613. Australia Spent Foundry Sand Market Size, by Buyer Industry, 2017-2032 (USD Million)

Buyer Industry	2023	2024	2025	2026	2027	2032	CAGR (%)
Agriculture, Horticulture & Landscaping	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Construction & Civil Engineering	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Foundries & Primary Metal Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Industrial Material Wholesale	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mineral & Construction-Material Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mining & Quarrying	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Polymer & Coating Manufacturers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Public Administration	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Resource Recovery & Waste Management	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Soil & Growing-Media Producers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 614. Australia Spent Foundry Sand Market Size, by Reclamation Location, 2017-2032 (USD Million)

Reclamation Location	2023	2024	2025	2026	2027	2032	CAGR (%)
Off-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
On-Site Reclamation	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Others	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 615. Australia Spent Foundry Sand Market Size, by Transaction Channel, 2017-2032 (USD Million)

Transaction Channel	2023	2024	2025	2026	2027	2032	CAGR (%)
Agency-Arranged Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Direct Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Merchant-Intermediated Transactions	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 616. Australia Spent Foundry Sand Market Size, by Base Aggregate, 2017-2032 (USD Million)

Base Aggregate	2023	2024	2025	2026	2027	2032	CAGR (%)
Alumina & Aluminosilicate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Chromite Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Aggregate Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Olivine Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Silica Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Zircon Sand	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 617. Australia Spent Foundry Sand Market Size, by Binder System, 2017-2032 (USD Million)

Binder System	2023	2024	2025	2026	2027	2032	CAGR (%)
Binderless Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Clay-Bonded Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Inorganic Chemical Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Organic Binder Systems	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 618. Australia Spent Foundry Sand Market Size, by Source Metal, 2017-2032 (USD Million)

Source Metal	2023	2024	2025	2026	2027	2032	CAGR (%)
Ferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Mixed Ferrous & Nonferrous Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonferrous Metal Sources	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 619. Australia Spent Foundry Sand Market Size, by Regulatory Status, 2017-2032 (USD Million)

Regulatory Status	2023	2024	2025	2026	2027	2032	CAGR (%)
Hazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Non-Waste Materials	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Nonhazardous Waste	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

Table 620. Australia Spent Foundry Sand Market Size, by Material Transfer Economics, 2017-2032 (USD Million)

Material Transfer Economics	2023	2024	2025	2026	2027	2032	CAGR (%)
No-Consideration Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Recipient-Paid Transfers	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Supplier-Paid Acceptance	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx	xx.xx
Total	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**	**xx.xx**

21. Competitive Landscape

21.1. Market Share Analysis, 2025

The relevant competitive set changes with the customer's required outcome. ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ An established relationship in one route does not demonstrate the capability needed to replace another.

▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ Direct contracting is preferable when the foundry and recipient already control those capabilities. New South Wales' documented generator and processor handoffs illustrate why delegation must preserve compliance information rather than merely transfer custody.

Material recipients also have direct sourcing alternatives. Tupy offers a generating-plant contact route and states that composition varies by process; BIRN supports external construction use and offers help with recipient permission applications. ▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪ ▪▪▪▪▪ ▪ ▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪

Figure 44. Global Spent Foundry Sand Market Share, by Key Player, 2025

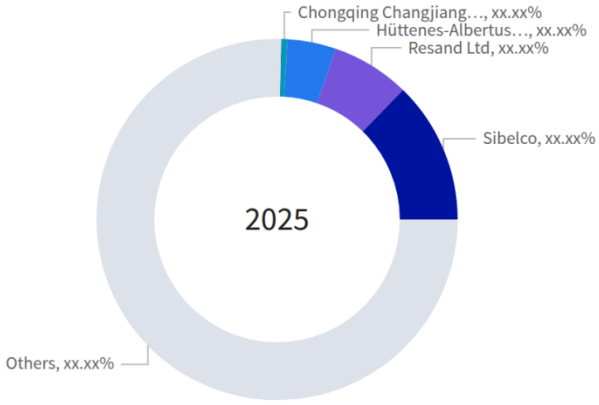


Table 621. Global Spent Foundry Sand Market Share, by Key Player, 2025

Key Player	Share (%)
4R Çevre	xx.xx
AMITA NAZA SDN. BHD.	xx.xx
Amrize	xx.xx
ASAHI YUKIZAI CORPORATION	xx.xx
Beneficial Reuse Management	xx.xx
Bentomar	xx.xx
BIRN	xx.xx
Chin Ching Group	xx.xx
Chongqing Changjiang River Moulding Material Group Co., Ltd.	xx.xx
CRAF Solutions	xx.xx
EnviroServ	xx.xx
Foundry Sand Service	xx.xx
FSP GmbH	xx.xx
Green Dune Enterprise S.A de C.V.	xx.xx
Hokuriku Kasei Industry Co., Ltd.	xx.xx
Holcim	xx.xx
Hüttenes-Albertus Chemische Werke GmbH	xx.xx
India GCI Resitop Private Limited	xx.xx
İZAYDAŞ	xx.xx
Kolhapur Engineering and Foundry Cluster	xx.xx
Kore Mart	xx.xx

Table 621 - continued

Key Player	Share (%)
Kurtz Bros., Inc.	xx.xx
LEELINK Resource Technology Co., Ltd.	xx.xx
Lianxin Sand Group	xx.xx
Liujing Technology Group Co., Ltd.	xx.xx
MAJOSE Recicladora S.A. de C.V.	xx.xx
ME Elecmetal	xx.xx
Nova Era	xx.xx
Pine Industrial Materials Co., Ltd.	xx.xx
Produits Minéra	xx.xx
Resand Ltd	xx.xx
Resource Recovery Corporation of West Michigan	xx.xx
Revival Environmental Industry Co.	xx.xx
Samarth Metallurgicals	xx.xx
Shimoda Industry Co., Ltd.	xx.xx
Sibelco	xx.xx
Tsuchiyoshi Industry Co., Ltd.	xx.xx
Tupy	xx.xx
Vicat	xx.xx
Willman Industries	xx.xx
Others	xx.xx

Sources & Evidence

1. The processed foundry sand order 2014
   · The New South Wales order requires compliance statements at generator-to-processor and processor-to-consumer handoffs. Delegated placement must preserve the applicable role-specific information chain. ([epa.nsw.gov.au](https://www.epa.nsw.gov.au/sites/default/files/rro14-foundry-sand.pdf))
2. Beneficial Use of Industrial Byproducts-WA-1769
   · Wisconsin requires recharacterization following generating-process changes that could alter eligible industrial-byproduct uses, supporting review before source substitution. ([apps.dnr.wi.gov](https://apps.dnr.wi.gov/doclink/waext/WA1769.pdf))
3. Sand as a Service reshapes foundries' operations
   · Resand advertises ongoing customer-site reclamation with development, maintenance, and servicing included, supporting an outcome-specific service comparison. ([resand.eu](https://resand.eu/blog/sand-as-a-service-reshapes-foundries-operations))
4. Foundries & Manufacturing | Beneficial Reuse Management
   · BRM's foundry-related project examples identify construction drawings, permitting, construction supervision, and recycled-material provision. Broader foundry-byproduct projects are not treated as sand-only contracts. ([beneficialreuse.com](https://www.beneficialreuse.com/industries/manufacturing-foundries))

5. Program Management & Execution
   · BRM offers site assessment, program design and execution, regulatory coordination, and distribution and logistics. Evaluating a partner for these capabilities rather than collection alone is a conditional commercial inference.
   ([beneficialreuse.com](https://www.beneficialreuse.com/what-we-do/program-management-execution))
6. Industrial Waste Solutions | Rumpke
   · Rumpke explicitly offers foundry-sand disposal and industrial-material transportation, supporting a managed-endpoint comparator distinct from reclamation.
   ([rumpke.com](https://www.rumpke.com/business/industry/industrial))
7. Areia de Fundição (ADF) - Tupy
   · Tupy identifies generating plants and provides a plant-contact route for its foundry-sand offering; it states that composition varies with the generating process. Source-specific switching controls are an analytical implication. ([tupy.com.br](https://www.tupy.com.br/coprodutos/areia-de-fundicao-adf/))
8. GF Industries - Services - Foundry Sands
   · GF Industries advertises reuse and recycling programs enabling foundry sands to be used in other companies' processes. This establishes its offered coordination role, not destination-specific execution guarantees. ([gfindustries.net](https://gfindustries.net/services_foundry.shtml))
9. Genanvendelse af støbesand | BIRN
   · BIRN describes external construction use for sand retired from internal casting and offers assistance with recipient permission applications. This supports a generator-led access alternative, not portable authorization.
   ([birn.dk](https://birn.dk/baeredygtighed/cirkulaer-forretningsmodel/genanvendelse-af-stoebesand))

21.2. Market Concentration Analysis, 2025

Control of an accepting destination can matter more than corporate breadth. Amrize's Systech affiliate connects spent foundry sand with cement raw-material acceptance; Vicat's CIRCULère combines mineral-waste recovery with cement-linked destinations and regional logistics. ▪▪▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪

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Shared infrastructure can substitute for individual ownership only when participation rights, scheduling priority, material acceptance, and present availability are enforceable. Foundries should compare those access commitments with an equipment-and-maintenance alternative, accepting either collective scheduling dependence or responsibility for their own asset.

Recipient alternatives constrain the leverage of recovery providers. EPA's flowable-fill guidance allows coal fly ash and/or ferrous foundry sand subject to project requirements, while Rumpke offers a disposal endpoint for eligible industrial sand. ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪▪▪▪▪▪▪▪▪▪▪ ▪▪▪ ▪▪▪▪▪▪▪

SAMPLE REPORT

[redacted]

Sources & Evidence

1. Comprehensive Procurement Guidelines for Construction Products
   · EPA recommends suitable flowable fill containing coal fly ash and/or ferrous foundry sand while retaining job-specific requirements. This supports conditional substitute competition, not technical interchangeability. ([epa.gov](https://www.epa.gov/smm/comprehensive-procurement-guidelines-construction-products))
2. Foundry Maintenance Service-Omega Sinto Foundry Machinery
   · Omega Sinto offers equipment maintenance contracts and service visits, establishing a machinery-support alternative to shared infrastructure access. ([ofml.net](https://www.ofml.net/foundry-machinery-and-spares/foundry-maintenance-service))
3. Advance Ruling GST-ARA-55/2019-20/B-47: Kolhapur Foundry and Engineering Cluster
   · The 2020 statutory proceedings describe shared reclamation arrangements and association participation in governance. Present access rights are not established by those historical descriptions. ([kolhapurfoundrycluster.org](https://www.kolhapurfoundrycluster.org/tenders/2020-xx.xx/gst-ara-order-2020.pdf))
4. About Systech | Systech Environmental Corporation
   · Systech identifies itself as an Amrize affiliate and describes continuing cement-kiln relationships, supporting the recipient-linked control-point comparison. ([go2systech.com](https://www.go2systech.com/about-systech/))
5. Alternative Raw Materials | Systech Environmental Corporation
   · Systech includes spent foundry sand in its nonhazardous cement raw-material offering and describes approval and contracting before delivery. Its multi-kiln description supports potential alternatives, not automatic source approval at another kiln. ([go2systech.com](https://www.go2systech.com/services/alternative-raw-materials/))
6. Industrial Waste Solutions | Rumpke
   · The disposal offering supplies an alternative management endpoint; customer eligibility is not established merely by its advertised inclusion. ([rumpke.com](https://www.rumpke.com/business/industry/industrial))
7. Improving the environmental performance of the foundry sector in Kolhapur, Maharashtra
   · The Centre for Science and Environment's June xx.xx 2023 publication records visits to installed reclamation units in Gokul Shirgaon and Shiroli. It corroborates infrastructure at that time, not current availability or participation rights. ([cseindia.org](https://www.cseindia.org/improving-the-environmental-performance-of-the-foundry-sector-in-kolhapur-maharashtra-xx.xx))
8. Malaysia Scheduled Waste Recycling Plant | Our Business | The AMITA Group
   · AMITA's Malaysian business page names foundry sand among receivable wastes and describes AMITA NAZA supplying alternative materials to cement manufacture. Downstream acceptance dependence is an analytical implication, not blanket authorization. ([en.amita-hd.co.jp](https://en.amita-hd.co.jp/service/recycle/absb-rc.html))
9. Notre solution - CIRCULère
   · CIRCULère expressly includes foundry sands among mineral wastes replacing natural mineral inputs and describes regional logistics platforms and cement-linked recovery. ([circulere.fr](https://www.circulere.fr/notre-solution))
10. A propos de nous - CIRCULère
    · CIRCulère identifies itself as a Vicat subsidiary and describes supplying substitution materials to group cement plants. This supports the integrated-recipient comparison without establishing unrestricted sand acceptance. ([circulere.fr](https://www.circulere.fr/propos))

21.3. Recent Developments & Impact Analysis, 2025

[redacted] Buyers should review the operating counterparty and any group-backed obligations rather than treat the former Holcim affiliation as an unchanged global acceptance network. The completed separation is not, by itself, evidence of additional spent-sand acceptance capability or approval at another facility.

Implementation evidence and compliance timing now inform different procurement decisions. Germany's Environmental Innovation Programme marks FSP's 2023-2025 inorganic-bound wet-reclamation project as completed and describes an operator-service collection-and-return model. [redacted]

[redacted] South African buyers should make commissioning, third-party eligibility, local support, and applicable acceptance commitments the triggers for relying on that route. Waiting preserves continuity discipline but delays access to the proposed alternative.

Sources & Evidence

1. New EU norms to reduce environmental impact of smitheries and foundries
   · The European Commission's December xx.xx 2024 announcement describes foundry BAT conclusions informing integrated permits. Covered existing installations have four years to meet stricter norms; new installations comply immediately. Procurement implications remain installation-specific. ([environment.ec.europa.eu](https://environment.ec.europa.eu/news/new-norms-reduce-impact-smitheries-and-foundries-2024-xx.xx-11_en))
2. Bau und Betrieb einer neuartigen Nassregenerierungsanlage für Gießereisande, die mit anorganischem Binder belastet sind
   · The record marks FSP's 2023-2025 inorganic-bound wet-reclamation project as completed. Its implementation scope does not establish universal customer acceptance. ([umweltinnovationsprogramm.de](https://www.umweltinnovationsprogramm.de/projekte/bau-und-betrieb-einer-neuartigen-nassregenerierungsanlage-fuer-giessereisande-die-mit))

3. Resand enters the South African market, launching chromite sand reclamation with Lauds Projects and Procurement
   - Resand's June xx.xx 2026 announcement states that the Lauds agreement was signed June xx.xx 2026 and will enter into force in the second quarter of 2027. Lauds plans services for surrounding foundries; operating third-party availability is not established.
   ([resand.eu](https://resand.eu/news/resand-enters-the-south-african-market-launching-chromite-sand-reclamation-with-lauds-projects-and-procurement))
4. About Systech | Systech Environmental Corporation
   - Systech identifies both itself and Geocycle as Amrize affiliates following the 2025 separation from Holcim. This establishes group attribution, not facility-specific acceptance.
   ([go2systech.com](https://www.go2systech.com/about-systech/))
5. Holcim completes spin-off of North America business - Media Release, June 23, 2025
   - Holcim's June xx.xx 2025 release confirms completion of the North American business separation as Amrize and describes the companies as independent. The event establishes ownership separation, not new sand-specific acceptance capability.
   ([holcim.com](https://www.holcim.com/sites/holcim/files/docs/xx.xx-media-holcim-spin-off-completion-en.pdf))

21.4. Product Portfolio Analysis, 2025

[redacted] Green Dune also advertises inorganic-sand recovery, but that description does not establish equivalence to FSP's wet-reclamation offering. Foundries should compare these alternatives against the actual source stream, required return specification, transportation responsibilities, and interruption arrangements rather than treat reclamation technologies as interchangeable services.

Equipment portfolios provide a separate enabling alternative. [redacted] Their commercial relevance depends on source compatibility, installation accountability, and lifecycle support; collection, residual management, and external destinations require separate allocation.

[redacted] Supplier integration can simplify coordination, but purchasing reclaimed material, commissioning processing, and securing return of an identifiable customer batch are different commitments. Specialty capability at one facility should not be extended to every aggregate, factory, or externally available product.

Downstream product breadth does not identify the original sand customer. ■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■ ■■■■■ ■■■■■■■■■■ ■■■■■ ■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■ ■■■ ■■■■ ■■■■■■■■■■ ■■■■ ■ ■■■■■■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■■ ■■■■ ■■■■■■■■ ■■■ ■■■■ ■■■■■■■■■■■ ■■■■ ■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■ ■■■■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■■■■■ Generators should evaluate the acceptance counterparty, while downstream buyers separately evaluate their finished-product requirements.

Availability under an enforceable contract is also the relevant condition for treating Chemical Reclamation or Biological Reclamation as a procurement alternative. Buyers need a named operator, accepted source, intended destination, continuing delivery obligation, and support arrangement before substituting either route for a documented commercial offering. ■■■■■■■■■ ■■ ■■■■■ ■■■■■■■■■■■■ ■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■■■■ ■■■■■■■■ ■■ ■■■■■■■ ■■■■■ ■■■■■■■■■■ ■■■■■ ■■■ ■■■■■■■■

Sources & Evidence

1. Sand Reclamation-Omega Sinto Foundry Machinery
   · Omega Sinto markets primary, secondary, and thermal reclamation equipment and chromite-separation equipment. These are enabling machinery capabilities, not material-management completion guarantees. ([ofml.net](https://www.ofml.net/omega-foundry-equipment/sand-reclamation))
2. Bau und Betrieb einer neuartigen Nassregenerierungsanlage für Gießereisande, die mit anorganischem Binder belastet sind
   · The government record describes FSP's Stuttgart operator-service model combining collection, reclamation, and return, specifically addressing inorganic-bound sand. ([umweltinnovationsprogramm.de](https://www.umweltinnovationsprogramm.de/projekte/bau-und-betrieb-einer-neuartigen-nassregenerierungsanlage-fuer-giessereisande-die-mit))
3. Case Study: Foundry Sand in Land Application
   · EPA's historical Seven Hills case describes foundries paying Kurtz for spent-sand acceptance and the municipality purchasing the resulting soil product. This distinguishes transaction stages without establishing current composition or continuing contracts. ([archive.epa.gov](https://archive.epa.gov/sectors/web/pdf/kurtz_raingarden_1_31_2008.pdf))
4. Sand as a Service reshapes foundries' operations
   · The provider-supplied customer-site reclaimer is offered through a continuing service relationship rather than only machinery purchase. ([resand.eu](https://resand.eu/blog/sand-as-a-service-reshapes-foundries-operations))
5. Reclaimed Sand | Foundry Materials and Functional Resins | ASAHI YUKIZAI CORPORATION
   · ASAHI YUKIZAI describes customer casting-waste recovery and reclaimed material used in resin-coated sand; separate Cerabeads and other specialty reclamation is limited to Hiroshima. ([asahi-yukizai.co.jp](https://www.asahi-yukizai.co.jp/en/product/detail/140125_000544.html))
6. グループ会社一覧（海外・国内）｜企業情報｜新東工業株式会社
   · SINTOKOGIO's official directory identifies Omega Sinto Foundry Machinery Limited as a group company, supporting portfolio attribution without treating the brand as a separate independent competitor. ([sinto.co.jp](https://www.sinto.co.jp/company/group/index.html))
7. LeeLink 李連資源科技股份有限公司 - About Us
   · LEELINK's business description explicitly distinguishes treatment income from product-sale income. Separating the commercial stages is an analytical implication. ([leelink.com.tw](https://www.leelink.com.tw/about))

8. LeeLink 李連資源科技股份有限公司 - 專業服務

   · LEELINK expressly lists waste foundry sand among its recycling services, supporting separation of commissioned processing from recovered-product purchasing. ([leelink.com.tw](https://www.leelink.com.tw/services))

9. LeeLink 李連資源科技股份有限公司 - 產品資訊

   · LEELINK separately lists recycled silica sand and recycled mullite sand as product categories. ([leelink.com.tw](https://www.leelink.com.tw/product))

10. Green Dune Enterprise

    · Green Dune identifies its own inorganic-sand recovery service. Equivalence to FSP's documented wet route is not established by this offer. ([green-dune.mx](https://www.green-dune.mx/index_ing.html))

11. Sand Reclamation Systems & Solutions | Simpson

    · Simpson markets the Pro-Claim Continuous Sand Reclaimer. Its product listing establishes an equipment alternative, not a recovered-material supply or collection contract. ([simpsongroup.com](https://www.simpsongroup.com/sand-reclamation/))

12. Our Businesses: DISA, Wheelabrator & More | Norican

    · Norican identifies Simpson among its businesses and describes sand cooling, mixing, testing, and reclamation offerings, supporting group-level portfolio attribution. ([norican.com](https://www.norican.com/our-businesses/))

21.5. Benchmarking Analysis, 2025

Return-to-foundry providers should be compared on accepted source characteristics, returned-material specifications, provenance, delivery continuity, and residual responsibilities. ■■■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■ ■■ ■■■ ■■■■■■■■■■■ ■■■ ■■■■ ■■ ■■■■■■■■■■ ■■ ■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■ ■■■■■■■■ ■■■■■ ■■■■■■■■ ■■■■■■■■ ■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■■■■■ Historical pooled processing does not establish the cluster's present contract terms.

For reclaimed-material purchasing, the meaningful peer group is the actual grade and supplying facility. ■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■ ■■ ■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■ ■■■■■■■■■ ■■■■■ ■■■■■■■■■ ■■■■■ ■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■ ■■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■■■ ■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■ ■■ ■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■ ■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■ These comparisons support qualification decisions, not an unsupported performance league table.

Placement and disposal comparisons require a different threshold: source eligibility, destination permission, written acceptance, and responsibility for interruption or rejection. EPA's favorable soil-related assessment concerns specified silica-based iron, steel, and aluminum sands and applications. ■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■ ■■■■ ■■■■ ■■■■■■■ ■ ■■■■■■■■■■ ■■■■■ ■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■ ■■■■ ■■■■■■■■ ■■ ■ ■■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■ ■■■■ ■■■■■■■■ ■■■■ ■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■■

Equipment and on-site-service procurement should be benchmarked on lifecycle obligations rather than advertised geographic reach. ■■■■■ ■■■■■ ■■■■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■ ■■■■■■■■■■ ■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■ ■■■■■■■ Advertised support does not establish comparative uptime, and equipment-service reach is not evidence of an equally broad sand-collection or placement network.

Sources & Evidence

1. Beneficial Uses of Spent Foundry Sands
   · EPA supports specified soil-related uses of silica-based iron, steel, and aluminum foundry sands and directs participants to state requirements. This is a bounded acceptance reference, not universal authorization. ([epa.gov](https://www.epa.gov/smm/beneficial-uses-spent-foundry-sands))
2. Beneficial Use of Industrial Byproducts-WA-1769
   · Recharacterization after relevant process or raw-material changes supports benchmarking continued qualification rather than treating initial approval as permanent. ([apps.dnr.wi.gov](https://apps.dnr.wi.gov/doclink/waext/WA1769.pdf))
3. Foundry Maintenance Service-Omega Sinto Foundry Machinery
   · Planned visits, reactive breakdown support, maintenance contracts, and remote or on-site advice are advertised offerings. Local response and comparative uptime remain contractual verification questions. ([ofml.net](https://www.ofml.net/foundry-machinery-and-spares/foundry-maintenance-service))
4. Advance Ruling GST-ARA-55/2019-20/B-47: Kolhapur Foundry and Engineering Cluster
   · The proceedings describe pooled processing without identifiable customer-specific returned batches. This supports distinguishing reclaimed-material access from original-source return. ([kolhapurfoundrycluster.org](https://www.kolhapurfoundrycluster.org/tenders/2020-xx.xx/gst-ara-order-2020.pdf))
5. Sand as a Service reshapes foundries' operations
   · Included upkeep supports comparing contractual lifecycle obligations, not inferring verified uptime superiority. ([resand.eu](https://resand.eu/blog/sand-as-a-service-reshapes-foundries-operations))
6. Reclaimed Sand | Foundry Materials and Functional Resins | ASAHI YUKIZAI CORPORATION
   · Facility-specific specialty capability supports benchmarking the actual aggregate and supplying facility rather than extending a company-wide reclaimed-sand label. ([asahi-yukizai.co.jp](https://www.asahi-yukizai.co.jp/en/product/detail/140125_000544.html))
7. Waste Characterization Data Sheet - Rumpke
   · Rumpke's published form identifies an approving disposal facility, excludes hazardous waste from the documented route, and requires notification of classification changes. This supports classification-specific endpoint benchmarking. ([rumpke.com](https://www.rumpke.com/media/dgqhqnh5/wastecharacterizationdatasheet_july2022.pdf))
8. LeeLink 李連資源科技股份有限公司 - 產品資訊
   · Distinct silica and mullite product categories support grade-specific comparisons, not assumed interchangeability with another supplier's specialty offering. ([leelink.com.tw](https://www.leelink.com.tw/product))

22. Company Profiles

22.1. Beneficial Reuse Management

Beneficial Reuse Management is a placement and project-execution option for foundries seeking an external destination rather than sand returned to casting. Its foundry offering emphasizes geotechnical fill. [illegible] For continuing management, the agreement should address construction-outlet completion or interruption, replacement destinations, and rejected-material responsibilities. Documented project roles do not establish unrestricted acceptance or service availability in every jurisdiction.

Sources & Evidence

1. Foundries & Manufacturing | Beneficial Reuse Management
   · BRM describes excess foundry system sand in the Griffin project and drawing preparation, permitting, construction supervision, and recycled-material provision in other foundry-byproduct projects. These are company-reported project capabilities, not unrestricted acceptance guarantees. ([beneficialreuse.com](https://www.beneficialreuse.com/industries/manufacturing-foundries))
2. Program Management & Execution
   · BRM offers site assessment, program design, program execution, distribution and logistics, and coordination with local and state regulators. This supports evaluating its contribution beyond transportation alone. ([beneficialreuse.com](https://www.beneficialreuse.com/what-we-do/program-management-execution))
3. Foundry By-Products
   · BRM's foundry-byproducts page identifies geotechnical construction-fill applications, supporting the profile's placement orientation rather than a return-to-foundry reclamation claim. ([beneficialreuse.com](https://www.beneficialreuse.com/what-we-do/products/foundry-by-products))

22.2. Resand Ltd

[illegible] The Finnish company describes supplying the reclaimer at the foundry and including development, maintenance, servicing, training, and support. This gives buyers a provider-supported on-site alternative to purchasing machinery or sending sand to an external processor.

Its modular offering includes electric and gas-powered options, making site energy compatibility part of procurement. Foundries should compare the service commitment with equipment ownership after agreeing reclaimed-sand specifications, installation responsibilities, maintenance response, interruption arrangements, and exit terms. ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■ ■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■ ■■ ■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■ ■■■■■■■■■ ■■■ ■■■■ ■■ ■■■■■■■■ ■■■■■■■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■ ■■■■■■ ■■■■■ ■■■■■■■■■

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Sources & Evidence

1. Sand as a Service reshapes foundries' operations
   · Resand describes ongoing customer-site reclamation through a provider-supplied reclaimer, with development, maintenance, and servicing included. Reliability and contract-exit protections are verification recommendations, not demonstrated outcomes. ([resand.eu](https://resand.eu/blog/sand-as-a-service-reshapes-foundries-operations))
2. About Resand
   · Resand identifies itself as a Finnish reclamation company and states that it installs the reclaimer at the foundry and provides training, support, and maintenance. This establishes the advertised service model, not independently verified uptime. ([resand.eu](https://resand.eu/about))
3. Waste sand undone - Resand
   · Resand's modular reclaimer offering includes electric and gas-powered alternatives. Considering site energy compatibility is an analytical implication of those offered configurations. ([resand.eu](https://resand.eu/solution))
4. Resand enters the South African market, launching chromite sand reclamation with Lauds Projects and Procurement
   · Resand's June xx.xx 2026 announcement states that its chromite-reclamation agreement with Lauds was signed on June xx.xx 2026 and will enter into force in the second quarter of 2027. It does not establish an already operating South African service. ([resand.eu](https://resand.eu/news/resand-enters-the-south-african-market-launching-chromite-sand-reclamation-with-lauds-projects-and-procurement))

22.3. FSP GmbH

FSP GmbH offers an off-site collection, reclamation, and return model centered on Stuttgart. Germany's Environmental Innovation Programme marks its 2023-2025 wet-reclamation project for inorganic-bound foundry sands as completed and identifies an operator-service business. ■■■■ ■■■■■■■■ ■ ■■■■■■■■■■■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■ ■■■■ ■■■■■ ■■■■■■■■ ■■■■■■ ■■ ■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■■■

FSP states that customer batches remain separate, with customers receiving reclaimed material from their own used sand. Its full-service offering covers collection, return logistics, quality documentation, and management of reclamation residues. ■■■■■■■■■■ ■■■ ■■■■■■■■

[redacted]

[redacted]

The model avoids purchasing an internal reclamation plant but introduces two-way transport and dependence on an external operator. Buyers whose sources fall outside the documented inorganic-bound implementation should obtain source-specific commercial confirmation rather than extend the project reference automatically.

Sources & Evidence

1. Bau und Betrieb einer neuartigen Nassregenerierungsanlage für Gießereisande, die mit anorganischem Binder belastet sind
   · The government project record identifies FSP's Stuttgart processing and operator-service activities and marks its 2023-2025 inorganic-bound wet-reclamation project as completed. This is a source-specific implementation reference, not universal binder acceptance. ([umweltinnovationsprogramm.de](https://www.umweltinnovationsprogramm.de/projekte/bau-und-betrieb-einer-neuartigen-nassregenerierungsanlage-fuer-giessereisande-die-mit))
2. Full-Service für Ihren Gießerei-Altsand
   · FSP describes collection, reclamation, return delivery, documented quality, and disposal of reclamation residues. It states that batches remain separate and customers receive reclaimed material from their own used sand. ([fsp.gmbh](https://fsp.gmbh/portfolio/?utm_source=openai))

22.4. ASAHI YUKIZAI CORPORATION

ASAHI YUKIZAI CORPORATION combines customer-sand recycling with its foundry-material offering. The company describes receiving casting-waste sand, supplying reclaimed sand, and reusing recovered material in resin-coated sand. [redacted]

The company identifies separate reclamation capability for Cerabeads and other specialty sands at Hiroshima. Buyers should retain that facility-specific boundary: specialty-aggregate capability does not establish that every aggregate is accepted at every factory or externally available as reclaimed material. [redacted]

[redacted]

Integration can simplify coordination with the material supplier, while an independent reclamation service may better preserve sourcing flexibility. The advertised recycling relationship does not establish a universal purchasing restriction.

Sources & Evidence

1. Reclaimed Sand | Foundry Materials and Functional Resins | ASAHI YUKIZAI CORPORATION
   · ASAHI YUKIZAI describes receiving customer casting-waste sand, offering reclaimed sand, reusing recovered material in resin-coated sand, and compatibility with its own resin-coated-sand products. It does not establish universal compatibility or purchasing eligibility terms. ([asahi-yukizai.co.jp](https://www.asahi-yukizai.co.jp/en/product/detail/140125_000544.html))
2. 再生砂 | 旭有機材
   · The Japanese product page identifies reclamation equipment at Aichi, Tochigi, and Hiroshima and limits separate specialty-sand reclamation, including Cerabeads, to Hiroshima. This supports a facility-specific capability boundary. ([asahi-yukizai.co.jp](https://www.asahi-yukizai.co.jp/product_detail/NDKRVYnOVx/))

22.5. Amrize

Amrize participates through cement-linked waste-management affiliates rather than the documented offering of sand returned to foundry use. ■■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■ ■■■■■■■■ ■■ ■■■■■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■ ■■■■■■■■■■ ■■■■ ■■■■■■■■ ■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■■■ Systech expressly includes spent foundry sand in its alternative raw-material offering for cement manufacture.

■■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■■■■■■■■■ ■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■ Its cement-kiln relationships provide an identifiable recipient route. Generators should seek a source- and destination-specific acceptance commitment rather than interpret the materials list as blanket approval.

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Sources & Evidence

1. About Systech | Systech Environmental Corporation
   · Systech identifies itself and Geocycle as Amrize affiliates following the 2025 separation of Holcim's North American business and describes continuing cement-kiln relationships and U.S. co-processing operations. ([go2systech.com](https://www.go2systech.com/about-systech/))
2. Alternative Raw Materials | Systech Environmental Corporation
   · Systech lists spent foundry sand for nonhazardous cement raw-material use, offers evaluation and logistics support, and describes approval and contracting before delivery. Its network claim does not establish automatic source approval at substitute kilns. ([go2systech.com](https://www.go2systech.com/services/alternative-raw-materials/))
3. Amrize Ltd - Exhibit 21: Subsidiaries of the Registrant
   · Amrize's Exhibit xx.xx lists Geocycle LLC and Geocycle Canada Inc. as subsidiaries, corroborating group attribution without establishing facility-specific sand acceptance. ([sec.gov](https://www.sec.gov/Archives/edgar/data/xx.xx/xx.xx/exhibit21-amrizesubsidiari.htm))

22.6. SINTOKOGIO, LTD.

[redacted] The group's directory identifies Omega Sinto Foundry Machinery in the United Kingdom, whose catalog includes primary, secondary, and thermal reclamation equipment and chromite-separation equipment. These are machinery capabilities, not evidence that a material collection or external placement contract has been fulfilled.

Omega Sinto advertises worldwide on-site and remote technical support, planned service visits, maintenance contracts, breakdown support, and equipment upgrades. This supports a machinery-service relationship, but local engineer availability, response commitments, parts supply, and installation responsibilities still require project-specific agreement. [redacted]

Foundries prioritizing asset control can evaluate the group when the proposed equipment fits their source sand and local installation and support requirements. [redacted] Purchasing equipment preserves asset control while leaving operating, acceptance, and residual-outlet responsibilities to be explicitly allocated; an equipment label alone does not settle them.

Sources & Evidence

1. Sand Reclamation-Omega Sinto Foundry Machinery
   · Omega Sinto offers primary, secondary, and thermal reclamation equipment and chromite-separation equipment. Catalog breadth does not establish source-specific suitability or an external sand outlet. ([ofml.net](https://www.ofml.net/omega-foundry-equipment/sand-reclamation))
2. Foundry Maintenance Service-Omega Sinto Foundry Machinery
   · Omega Sinto advertises worldwide on-site and remote technical advice, maintenance contracts, planned visits, breakdown visits, and upgrades. Local response and collection-network availability remain separate commercial questions. ([ofml.net](https://www.ofml.net/foundry-machinery-and-spares/foundry-maintenance-service))
3. Chemically bonded sand｜Foundry｜SINTOKOGIO, LTD.
   · SINTOKOGIO markets chemically bonded sand recovery, reclamation, cooling, and transport systems. These establish equipment capabilities rather than completed material-management transactions. ([sinto.co.jp](https://www.sinto.co.jp/en/product/foundry/self-hard/))
4. グループ会社一覧（海外・国内）｜企業情報｜新東工業株式会社
   · SINTOKOGIO's official group directory identifies Omega Sinto Foundry Machinery Limited in the United Kingdom, supporting attribution of its equipment and support offering to the captured group identity. ([sinto.co.jp](https://www.sinto.co.jp/company/group/index.html))

22.7. Kurtz Bros., Inc.

Kurtz Bros., Inc. combines foundry-byproduct services with an Ohio-based materials and environmental-services business. [redacted]

■■■■■■■■■■■■■■■ ■■■■■■■■■■■■■■ These complementary activities provide a route for evaluating sand acceptance alongside downstream product requirements.

EPA's historical Seven Hills case documents a June 2007 rain-garden project using Kurtz soil containing spent foundry sand. ■■■■■■■■■ ■■■■ ■■■■■ ■■ ■■■■■■ ■■■ ■■■■■ ■■■■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■ ■■■■ ■■■■■■■■ ■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■ ■ ■■■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■ ■■■ ■■■■■■■■■ ■■ ■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■ This distinction identifies Kurtz as the relevant acceptance counterparty for the generator in that arrangement.

Foundries considering this route should confirm the current accepting entity, source eligibility, authorized destination, and continuing management commitment. ■■■■■■■■■■■■■ ■■■■■■■ ■■■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■ ■■■■■■■ ■■■■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■ ■■■■■■■■■■■ ■ ■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■ ■■■ ■■■■■■■ ■■■■■■■■■■■ ■■ ■■■■■ ■■■■■ ■■■■ ■■■■■■■■ Access through a product manufacturer can connect acceptance with a downstream outlet, but leaves the generator dependent on that manufacturer's input requirements and outlet continuity.

Sources & Evidence

1. Case Study: Foundry Sand in Land Application
   - EPA's Seven Hills case describes a June 2007 project using Kurtz soil containing spent foundry sand, generator-paid sand acceptance, and the municipality's purchase of the finished soil. It establishes a historical transaction distinction, not a current contract. ([archive.epa.gov](https://archive.epa.gov/sectors/web/pdf/kurtz_raingarden_1_31_2008.pdf))
2. About Kurtz Bros: Ohio’s Experienced Environmental Services Firm
   - Kurtz identifies KB Foundry Services as its foundry waste-to-resource division and describes Ohio manufacturing, transportation, environmental-services, and engineered-soil capabilities. These disclosures do not specify foundry sand in every current soil product. ([kurtz-bros.com](https://kurtz-bros.com/about-us/))

22.8. Rumpke

Rumpke offers a disposal comparator for foundries whose sand requires a managed endpoint rather than reclamation or beneficial-use placement. Its industrial-waste offering explicitly includes foundry sand, waste characterization, and transportation to its sites. ■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■■■■ ■■■■■■■■■■ ■■ ■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■■ ■■ ■■■■■ ■■■■■■■■■

The published characterization form makes approval facility-specific and requires generator certification and notification of changes affecting regulatory classification. ■■ ■■■■■■■■ ■■■■■■■■■ ■■■■■ ■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■ Consequently, an included Hazardous Waste category in the global market cannot be translated into an acceptance claim for this offering.

Foundries can evaluate Rumpke as a primary disposal provider or a contingency endpoint when a recovery outlet is interrupted. Before relying on that option, they should obtain approval for the actual stream and named facility and confirm collection and interruption commitments. ■■ ■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■ ■■ ■ ■■■■■■■■■■■■■■■■■■ ■■■■■■ ■■■ ■■■■ ■■■ ■■■■■■■ ■■■ ■■■■■■■■■■■■■■■■■ ■■

[redacted]

Sources & Evidence

1. Industrial Waste Solutions | Rumpke
   • Rumpke explicitly offers industrial disposal and transportation for foundry sand and describes disposal facilities in Ohio, Kentucky, and Indiana. The offering supports a disposal comparator, not blanket facility acceptance or a recovery outcome. ([rumpke.com](https://www.rumpke.com/business/industry/industrial))
2. Waste Characterization Data Sheet - Rumpke
   • Rumpke's published characterization form identifies an approving disposal facility, requires generator certification and classification-change notification, and excludes hazardous waste from the documented route. These are commercial acceptance boundaries, not operational testing instructions. ([rumpke.com](https://www.rumpke.com/media/dgqhqnh5/wastecharacterizationdatasheet_july2022.pdf))

22.9. Tupy

Tupy provides a generator-side sourcing route for buyers evaluating spent foundry sand as a construction-material input. [redacted] These are declared applications, not evidence that material from every listed plant has received approval for every destination.

The offering has an organizational basis beyond a general recycling statement. Tupy reports that residual sand was directed to construction, landscape recovery, cement, and ceramic applications in 2024. [redacted]

Buyers should qualify the actual generating plant and stream before making recurring sourcing commitments. [redacted] A plant or source change should trigger review rather than automatic continuation.

Sources & Evidence

1. Areia de Fundição (ADF) - Tupy
   - Tupy's dedicated foundry-sand offering names Joinville, Betim, Saltillo, and Ramos Arizpe as generating locations and lists construction, earthwork, road, and landfill-cover applications. These are company-declared applications. ([tupy.com.br](https://www.tupy.com.br/coprodutos/areia-de-fundicao-adf/))
   - Tupy states that composition can vary with the generating process and provides a co-products inquiry route. Plant-specific qualification and review after source changes are analytical procurement implications. ([tupy.com.br](https://www.tupy.com.br/coprodutos/areia-de-fundicao-adf/))
2. Tupy - Relatório de Sustentabilidade 2024-2025: Resumo Executivo
   - Tupy's executive sustainability disclosure reports residual sand directed in 2024 to construction, landscape recovery, cement, and ceramic applications. This supports a reported external-material route, not approval of every plant-source and recipient combination. ([tupy.com.br](https://www.tupy.com.br/wp-content/uploads/2025/xx.xx/ResumoExecutivo2024.pdf))
3. Tupy - Relatório de Sustentabilidade 2025: Resumo Executivo
   - Tupy's 2025 sustainability disclosure describes standardization of its co-products function, creation of a co-products standard, and integration with environmental and compliance functions. These statements concern the broader function and do not establish sand-specific recipient approval. ([tupy.com.br](https://www.tupy.com.br/wp-content/uploads/2026/xx.xx/ResumoExecutivo2025.pdf))

22.10. LEELINK Resource Technology Co., Ltd.

LEELINK Resource Technology Co., Ltd. combines waste-foundry-sand acceptance with recovered-material supply, creating different purchasing decisions for generators and product recipients. Its Taiwanese services offering specifically lists waste foundry sand under R-xx.xx while its business description separates treatment income from recovered-product sales. ■■■ ■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■ ■■■■ ■■■■ ■■■■■■■■ ■■■■■■■ ■■■■■ ■■■■■ ■■■■■■■■■ ■■■■■■■ ■ ■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■ ■■■■■ ■■■■■■ ■■■■ ■■ ■■■■■■■■■■ ■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■ ■■■ ■■■■■■■■■■■ ■■■ ■■■■■■

A Taiwan government resource-recycling casebook identifies LEELINK's recycled silica sand as derived from foundry residues and spent foundry sand, with application categories covering foundries, ceramics, brick manufacture, and cement manufacture. This corroborates the product identity and stated destinations, not universal recipient qualification or comparative performance. ■■■■■■■ ■■■■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■ ■■■■■■■■■■■■■■■■■■■ ■■■■■■■■■ ■■■■■ ■■■■■■■■ ■■■■■■■ ■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■ ■■ ■■■ ■■■■■■■■■ ■■ ■■■■■■■■ ■■■■■■■■■■ ■■■■■■■ ■■ ■■■■■■■■■ ■■■■■■■■■■■■■ ■■ ■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■

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Sources & Evidence

1. LeeLink 李連資源科技股份有限公司 - About Us

   · LEELINK identifies its English corporate name, Taiwanese location, waste-foundry-sand resource business, and a commercial model distinguishing treatment income from product-sale income. Separate generator and recipient contracting needs are an analytical implication of those roles. ([leelink.com.tw](https://www.leelink.com.tw/about))

2. LeeLink 李連資源科技股份有限公司 - 專業服務

   · LEELINK's services page lists waste foundry sand under R-xx.xx and advertises professional evaluation and turnkey recycled-foundry-sand technology-transfer services. The page establishes declared offerings, not customer-specific acceptance or overseas service coverage. ([leelink.com.tw](https://www.leelink.com.tw/services))

3. LeeLink 李連資源科技股份有限公司 - 產品資訊

   · LEELINK's product catalog separately identifies recycled silica sand and recycled mullite sand. The profile uses these as distinct declared product categories without adopting promotional superiority claims or assuming identical source eligibility. ([leelink.com.tw](https://www.leelink.com.tw/product))

4. 資源再生減碳效益案例彙編 - Resource Recycling Carbon-Reduction Casebook

   · The government-hosted resource-recycling casebook identifies LEELINK's recycled silica sand as derived from foundry residues and spent foundry sand and lists foundry, ceramic, brick, and cement applications. This corroborates product identity and stated application categories, not universal recipient qualification. ([sdd.nat.gov.tw](https://sdd.nat.gov.tw/riw/ReadFile/?n=dc6c9adb-1bd3-4c64-a25b-d60525b99c9f.pdf&p=carbon))

22.11. Kolhapur Engineering and Foundry Cluster

[redacted] Historical statutory proceedings describe reclamation plants at Shiroli and Gokul Shirgaon, while a Centre for Science and Environment field study published in 2023 records visits to the installed reclamation units. The distinguishing capability is collective access to reclamation assets, not demonstrated unrestricted outsourcing availability.

The arrangement described in the 2020 proceedings involved pooled material processing rather than a dedicated customer-specific return. Prospective users therefore need to distinguish obtaining reclaimed material from recovering their own identifiable source stream. [redacted]

[redacted] Current eligibility and booking terms remain unresolved. Individual on-site assets are a more defensible alternative when access cannot be secured or customer-specific provenance is

indispensable; shared reclamation remains conditional on an enforceable access agreement and acceptable delivery arrangements.

Sources & Evidence

1. Advance Ruling GST-ARA-55/2019-20/B-47: Kolhapur Foundry and Engineering Cluster
   - The 2020 statutory proceedings describe reclamation plants at Shiroli and Gokul Shirgaon and an arrangement involving pooled material processing rather than a dedicated customer-specific return. These are historical arrangement facts, not confirmation of present access terms. ([kolhapurfoundrycluster.org](https://www.kolhapurfoundrycluster.org/tenders/2020-xx.xx/gst-ara-order-2020.pdf))
   - The distinction between shared reclaimed-material access and customer-specific provenance supports verification of current custody, traceability, and delivery terms before commitment. This is a commercial inference, not a new tax conclusion. ([kolhapurfoundrycluster.org](https://www.kolhapurfoundrycluster.org/tenders/2020-xx.xx/gst-ara-order-2020.pdf))
2. About - Kolhapur Foundry & Engineering Cluster
   - The cluster's corporate account describes a special-purpose vehicle, coordination by Kolhapur Engineering Association, and participation by local associations including GOSHIMA and SMAK. This supports collective governance, not unrestricted customer access. ([kolhapurfoundrycluster.org](https://www.kolhapurfoundrycluster.org/about.php))
3. Improving the environmental performance of the foundry sector in Kolhapur, Maharashtra
   - The Centre for Science and Environment's June xx.xx 2023 publication describes field visits to the installed sand-reclamation units at Gokul Shirgaon and Shiroli. It corroborates installed infrastructure at that time, not current participation rights or operating availability. ([cseindia.org](https://www.cseindia.org/improving-the-environmental-performance-of-the-foundry-sector-in-kolhapur-maharashtra-xx.xx))
4. Tenders - Kolhapur Foundry & Engineering Cluster
   - The cluster published an April xx.xx 2026 invitation for quotations to repair and maintain the factory shed at its Gokul Shirgaon sand-reclamation plant. The invitation supports facility-related procurement activity, not completed maintenance or uninterrupted operation. ([kolhapurfoundrycluster.org](https://www.kolhapurfoundrycluster.org/tender.php))

22.12. AMITA NAZA SDN. BHD.

AMITA NAZA SDN. ■■■■ ■■■■■■ ■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■ ■■■■■■■ ■■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■ ■■■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■ ■■■■■ ■■■■■■■■■■■ ■■■ ■■■■■ ■■■■■ ■■■■■■■■■■■■■■■■■■■ ■■■■■■ ■■ ■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■ ■■■■ ■■■■■ ■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■■ ■■■■■■■■■■ ■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■■■■■ ■■■ ■■■■■■■■■■ ■■■ ■■■■■ ■■ ■■■■■■ ■■■■■■■■■■■■ ■■■■■■ ■■■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■ ■■ ■■■ ■■■■■■■■■■■■ ■■■■■■■■■ Foundry sand's inclusion should not be interpreted as establishing fuel suitability or acceptance of every sand classification.

The Malaysian Department of Environment's eSWIS register separately lists AMITA NAZA as an off-site treatment facility and a scheduled-waste carrier. This substantiates named facility and transportation roles beyond the company's own service description, while retaining waste-category boundaries. ■■■ ■■■■■ ■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■ ■■■■■ ■■■■■■ ■■■■■■■■■ ■■■ ■■■■■ ■■■■■■■■■ ■■■■■■ ■■■■■ ■■■■■ ■■ ■■■ ■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■ ■■■■■■■■■ ■■■■■■■■ ■■■ ■■■■■ ■■■■■■■■■■■ ■■■■■■■■■ ■■■■■■■■■■■■ ■■■■■■■ ■■■■■ ■■■■■■■■ ■■■■■ ■■■ ■■■■■■ ■■■■■■■■ ■■■■■ ■■■■■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■ ■■■■■ ■■ ■■■ ■■■■■■■■■■■■

[illegible] A foundry requiring return to its own molds and cores should assess a return-focused reclamation contract separately. Registry inclusion establishes defined licensed roles, not the full acceptance conditions or continuing recipient commitment for a particular transaction.

Sources & Evidence

1. Malaysia Scheduled Waste Recycling Plant | Our Business | The AMITA Group
   - The AMITA Group identifies the Malaysian resource-management center at Bukit Tagar, names AMITA NAZA as the operator, lists foundry sand among receivable wastes, and describes supplying alternative raw materials and fuels to the cement industry. This does not classify every foundry-sand stream as fuel or establish unrestricted acceptance. ([en.amita-hd.co.jp](https://en.amita-hd.co.jp/service/recycle/absb-rc.html))
2. AMITA NAZA SDN. BHD. | Corporate information | The AMITA Group
   - The AMITA Group's corporate information, stated as of March 2026, identifies AMITA NAZA as the Malaysian joint venture and names NAZA ENVIRO HOLDINGS and AMITA CIRCULAR DESIGN SDN. BHD. as its ownership parties. The profile distinguishes the local contracting operator from wider group capabilities. ([en.amita-hd.co.jp](https://en.amita-hd.co.jp/company/outline/amitacorp/akbk.html))
3. eSWIS - List of Licensed Facility, Department of Environment Malaysia
   - Malaysia's Department of Environment eSWIS licensed-facility register lists AMITA NAZA at Bukit Tagar under separate off-site treatment-facility and prescribed-carrier entries, with specified waste categories attached to the facility entry. ([eswisv2.doe.gov.my](https://eswisv2.doe.gov.my/portal/facility?page=xx.xx&view=xx.xx))
   - The category-specific entries support checking the actual stream against facility authorization; they do not supply every acceptance condition or establish a downstream recipient commitment for an individual transaction. That procurement limitation is an analytical interpretation of the register's scope. ([eswisv2.doe.gov.my](https://eswisv2.doe.gov.my/portal/facility?page=xx.xx&view=xx.xx))
4. AMITA NAZA SDN BHD - Our Services
   - AMITA NAZA's own services page describes facility-based scheduled-waste management, licensed transportation, and conversion into cement-industry alternative materials. Its facility and carrier roles are corroborated by the regulator's separate entries; the profile does not adopt unrestricted recycling-performance claims. ([amitanaza.com.my](https://www.amitanaza.com.my/services.php))

23. Companies Covered

Table 622. Global Spent Foundry Sand Market, Companies Covered

Company
4R Çevre
Abrasive Removal Services
Actal
Alex Fraser Group
ALUFONTE INC.
American Castings, LLC
AMITA NAZA SDN. BHD.
Amrize
Artes Elektrik
ASAHI YUKIZAI CORPORATION
ATM Atılım Teknik Makina
Bajrang Engineering
Belgarena
Belloi e Romagnoli S.r.l.
Beneficial Reuse Management
Bentomar
Big City Concrete
BIRN
Boniface Machines de Fonderie
Bradken
Carrier Vibrating Equipment
Caxiense Fagundes
CFlo
Chin Ching Group
Chongqing Changjiang River Moulding Material Group Co., Ltd.
Concremaf
CRAF Solutions
Del Sol Industrial Services, Inc.
Delta Reciclagem de Areia de Fundicao Ltda - ME
Denizgrup Atık Yönetimi

Table 622 - continued

Company
DIDION
Dipromet Ltda.
Eco Máquinas
Eco Sand Sistemas e Equipamentos Industriais Ltda
ECOFOND
Ekolojik Enerji
ElevateSilica
EnviroAir
EnviroServ
FATA Aluminum
FEMAQ
Fiday Gestion
FMS Limited
Fonderie Ortel Aluminium
Foundequip S.r.l.
Foundry Sand Service
FSP GmbH
Fundición Ventanilla SA
Förder- und Anlagentechnik GmbH
GEMCO
General Kinematics
General Motors
GF Industries
GFL Environmental Inc.
Glass Technology Services Ltd
Global Recovery LLC
Goryeo Hwangyeong
Grede Holdings LLC
Green Dune Enterprise S.A de C.V.
Grupo Menegotti
Grupo MSP
Gudgeon Thermfire International

Table 622 - continued

Company
GUT Giesserei Umwelt Technik GmbH
GVF Impianti
HazRad Australia
Hensley Industries
Hokuriku Kasei Industry Co., Ltd.
Holcim
Hüttenes-Albertus Chemische Werke GmbH
IMF Foundry Machinery s.r.l.
India GCI Resitop Private Limited
Inductotherm Group
Ingeniero Ricardo Gerosa S.R.L.
Interwaste Holdings Ltd
IR Process
İZAYDAŞ
J. K. Foundry Engineers
J.M.L. Italy S.r.l.
JFE Mineral & Alloy Company, Ltd.
Joseph Grieveson
Jöst GmbH + Co. KG
Kimia Pazhoohan Saba
Kleen Industrial Services
KLEIN Anlagenbau AG
Kolhapur Engineering and Foundry Cluster
Kore Mart
Kurtz Bros., Inc.
Kuttner No-Bake Solutions
Lauds Projects and Procurement Ltd
LEELINK Resource Technology Co., Ltd.
Lianxin Sand Group
Limin Zaisheng Ziyuan
Liujing Technology Group Co., Ltd.
LPM S.p.A.

Table 622 - continued

Company
MAJOSE Recicladora S.A. de C.V.
Mangalore Minerals Pvt. Ltd.
MCM Foundry S.r.l.
MCS Ambiental - Reciclagem de Areia de Fundição Ltda
ME Elecmetal
Metalúrgica Riosulense S.A.
MicroCiclo
Monferrato
Mungyeong Sinsojae
Norican Group
Nova Era
Opta Minerals
Palmer Manufacturing & Supply, Inc.
Pincelli & Associates, Inc.
Pine Industrial Materials Co., Ltd.
Prescription Soils LLC
Prima Industrial Holdings (Pty) Ltd
Prodlew Sp. z o.o.
Produits Minéra
PROSERVICE S.R.L.
PROTEK MACHINE INDUSTRY and TRADE LIMITED COMPANY
PT Tochu Silika Indonesia
Qingdao Huaxin Shengye
Randoncorp
Rapid Factory Renovators
RATHORE EXIM
RE-FLEX
Recibloco Indústria e Comércio Ltda.
Recicon Sistemas Ambientais Ltda
Resand Ltd
Resource Recovery Corporation of West Michigan
RESSA

Table 622 - continued

Company
Revival Environmental Industry Co.
Rhino Machines Pvt Ltd
Rieco
Rumpke
Ruslittekh
Samarth Metallurgicals
SAND TEAM, spol. s r.o.
Satco
Segab Engineering BV
SGM 2003 Ltd
Shimoda Industry Co., Ltd.
Shree Bommu Industries
SIAPRO d.o.o.
SIB S.r.l.
Sibelco
Sider Technology srl
Sinsegye Jawon
SINTOKOGIO, LTD.
SKTMPL
Sogemi Engineering Srl
Soma Çimento
STEINERT
Suma Robotic
Sílicas Recicladas, S.A. de C.V.
Taytek
Tecno Vibrazioni Venanzetti S.r.l.
TERRAG France SAS
TES-SAN
TRANSTEK
Tsentr Podderzhki Liteynogo Proizvodstva
Tsuchiyoshi Industry Co., Ltd.
TTPL

Table 622 - continued

Company
Tupy
Veolia
Vicat
Vulcan Engineering Co.
Waste X Industrial (Pty) Ltd
Waupaca Foundry
Willman Industries
WM
Wöhr
Y-MatTec
Zhi Chun Shiye

24. Key Experts

Every expert listed below was interviewed for this report. The roster brings together foundry and equipment-company executives, sand-technology and binder specialists, association leaders, and academic and public-research professionals in foundry engineering, construction materials, soils, and environmental management. ■■■■■ ■■■■■ ■■■■■■ ■■■■■■■■■■■■■ ■■ ■■■ ■■■■■■■■■ ■■■■■■■ ■■■■■■■ ■■■ ■■■■ ■■■ ■■■■■■■■ ■■ ■■■■■■■■■■ ■■■■■■■■ ■■■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■■■■ ■■■ ■■■ ■■■■■■■■■■■■■■■■ ■■■■■■■■■■ ■■■■ ■■■■■■■■■■■ ■■■■■■■ ■■■■■■■■■■ ■■■ ■■■■■■■■■■■■

Table 623. Global Spent Foundry Sand Market, Key Experts

Name	Professional Role	Organization	Country
Ahmet H. Aydilek	Professor of Civil and Environmental Engineering	University of Maryland, College Park	United States
Ahmet Tuncan	Professor of Civil Engineering	Eskişehir Technical University	Turkey
Alaa M. Rashad	Professor, Building Materials Research and Quality Control Institute	Housing and Building National Research Center	Egypt
Albert Noumowé	Professor of Civil Engineering	CY Cergy Paris Université	France
Andrés Alberto Porta	Professor and Researcher in Environmental Chemistry and Risk Assessment	Universidad Nacional de La Plata	Argentina
Anna Pribulová	Professor, Faculty of Materials, Metallurgy and Recycling	Technical University of Košice	Slovakia
Anthony Ede	Professor of Civil Engineering	Covenant University	Nigeria
Artur Bobrowski	Associate Professor, Faculty of Foundry Engineering	AGH University of Krakow	Poland
Atsushi Nagai	President and Chief Executive Officer	Sintokogio, Ltd.	Japan
Beata Grabowska	Professor of Foundry Engineering	AGH University of Krakow	Poland
Bruce Dienst	President and Chief Executive Officer	Simpson Technologies Corporation	United States
Carlos Alberto Mendes Moraes	Professor and Researcher in Materials Engineering and Industrial-Waste Valorization	Universidade do Vale do Rio dos Sinos	Brazil
Carlos Pérez Bergmann	Professor and Researcher in Materials Engineering and Ceramic-Waste Recycling	Universidade Federal do Rio Grande do Sul	Brazil
Cengiz Özel	Civil Engineering and Concrete Materials Academic	Isparta University of Applied Sciences	Turkey
Chris Wilding	Sales Director	Omega Sinto Foundry Machinery	United Kingdom

Table 623 - continued

Name	Professional Role	Organization	Country
Dachamir Hotza	Professor of Chemical Engineering and Ceramic-Materials Researcher	Universidade Federal de Santa Catarina	Brazil
Dariusz Drożyński	Researcher, Faculty of Foundry Engineering	AGH University of Krakow	Poland
Deepak Dukkipati	Managing Director	Nelcast Limited	India
Douglas Trinowski	Foundry Binder Research and Development Specialist	HA International, LLC	United States
Edwin Dreyer	Chief Executive Officer	Thos Begbie & Co.	South Africa
Elizabeth A. Dayton	Research Scientist, School of Environment and Natural Resources	The Ohio State University	United States
Ermanno Savelli	Managing Director	SAVELLI Technologies	Italy
Francesca Tittarelli	Professor of Materials Science and Technology	Università Politecnica delle Marche	Italy
Fuat Köksal	Professor of Civil Engineering	Yozgat Bozok University	Turkey
Geert De Schutter	Professor of Concrete Technology	Ghent University	Belgium
Gurpreet Singh	Researcher, Department of Civil Engineering	Thapar Institute of Engineering and Technology	India
Ingo Ederer	Co-Founder and Former Chief Executive Officer	voxeljet	Germany
Jack Palmer	President	Palmer Manufacturing & Supply, Inc.	United States
James A. Ippolito	Rattan Lal Endowed Professor of Soil Health and Soil Fertility	The Ohio State University	United States
Janaíde Cavalcante Rocha	Professor of Civil Engineering and Construction-Materials Researcher	Universidade Federal de Santa Catarina	Brazil
Jay LaFay	Director, Sand Technologies	ASK Chemicals	United States
Jerry Senk	President	Equipment Manufacturers International, Inc.	United States
John Davies	Chief Executive Officer	South African Institute of Foundrymen	South Africa
John M. Ndambuki	Professor, Department of Civil Engineering	Tshwane University of Technology	South Africa
Joseph Ajibade Omotoyinbo	Professor of Metallurgical and Materials Engineering	Federal University of Technology, Akure	Nigeria
Juhani Orkas	Professor of Foundry Technology	Aalto University	Finland

Table 623 - continued

Name	Professional Role	Organization	Country
Kae-Long Lin	Professor of Environmental Engineering	National Ilan University	Taiwan
Katarzyna Major-Gabryś	Associate Professor, Faculty of Foundry Engineering	AGH University of Krakow	Poland
Kenneth Kanayo Alaneme	Professor of Metallurgical and Materials Engineering	Federal University of Technology, Akure	Nigeria
Linda Godfrey	Principal Scientist and Waste RDI Roadmap Manager	Council for Scientific and Industrial Research	South Africa
Luciana Paulo Gomes	Professor and Researcher in Environmental Engineering and Solid-Waste Management	Universidade do Vale do Rio dos Sinos	Brazil
Luiz Roberto Prudêncio Júnior	Professor of Civil Engineering and Concrete-Technology Researcher	Universidade Federal de Santa Catarina	Brazil
M. C. Nataraja	Professor of Civil Engineering	Sri Jayachamarajendra College of Engineering	India
Manish Kothari	Managing Director	Rhino Machines Pvt. Ltd.	India
Maria Letizia Ruello	Associate Professor of Environmental Engineering	Università Politecnica delle Marche	Italy
Mariusz Łucarz	Associate Professor, Faculty of Foundry Engineering	AGH University of Krakow	Poland
Mark Fenyes	Chairman	Omega Sinto Foundry Machinery	United Kingdom
Mark Lewis	Managing Director	Omega Sinto Foundry Machinery	United Kingdom
Marlova Piva Kulakowski	Professor and Researcher in Construction Materials	Universidade do Vale do Rio dos Sinos	Brazil
Mohd Mustafa Al Bakri Abdullah	Professor of Materials Engineering	Universiti Malaysia Perlis	Malaysia
Mustafa Tuncan	Professor of Civil Engineering	Eskişehir Technical University	Turkey
Ndivhuho Raphulu	Director, National Cleaner Production Centre South Africa	Council for Scientific and Industrial Research	South Africa
Nicholas T. Basta	Professor of Soil and Environmental Chemistry	The Ohio State University	United States
Niyazi Akdaş	Founder and Chairman	Akdaş Döküm Sanayi ve Ticaret A.Ş.	Turkey
Olumide I. Sekunowo	Metallurgical and Materials Engineering Academic	University of Lagos	Nigeria
Olumoyewa Olofinnade	Associate Professor, Department of Civil Engineering	Covenant University	Nigeria

Table 623 - continued

Name	Professional Role	Organization	Country
Osman Gencel	Professor of Civil Engineering	Bartın University	Turkey
Pam Murrell	Chief Executive Officer	Cast Metals Federation	United Kingdom
Paratibha Aggarwal	Professor of Civil Engineering	National Institute of Technology Kurukshetra	India
Paul J. Tikalsky	Former Dean, College of Engineering, Architecture and Technology	Oklahoma State University	United States
Pieter du Plessis	Chief Executive Officer	Atlantis Foundries	South Africa
Prinya Chindaprasirt	Professor of Civil Engineering	Khon Kaen University	Thailand
Rafat Siddique	Senior Professor of Civil Engineering	Thapar Institute of Engineering and Technology	India
Rafał Dańko	Professor of Foundry Engineering	AGH University of Krakow	Poland
Ravindra V. Gumaste	Managing Director	Kirloskar Ferrous Industries Limited	India
Regina Célia Espinosa Modolo	Professor and Researcher in Civil Engineering and Waste Valorization	Universidade do Vale do Rio dos Sinos	Brazil
Richard C. Stehouwer	Professor of Environmental Soil Science	Pennsylvania State University	United States
Robert S. Dungan	Research Microbiologist	USDA Agricultural Research Service	United States
Roy Dias	Managing Director	Endeco Omega Sinto	South Africa
Scott Strobl	Vice President, Technology	Simpson Technologies Corporation	United States
Stephanie Salmon	Vice President, Government Affairs	American Foundry Society	United States
Stephen O. Ekolu	Professor of Civil Engineering	University of Johannesburg	South Africa
Steve Robison	Chief Technical Services Officer	American Foundry Society	United States
Suzan Oelofse	Principal Researcher, Waste Management	Council for Scientific and Industrial Research	South Africa
Sylwia Żymankowska-Kumon	Associate Professor, Faculty of Foundry Engineering	AGH University of Krakow	Poland
Sérgio Rainho Teixeira	Professor and Researcher in Ceramic Materials and Industrial-Waste Reuse	Universidade Estadual Paulista	Brazil
Ta-Wui Cheng	Professor of Materials and Mineral Resources Engineering	National Taipei University of Technology	Taiwan
Tarek Abichou	Professor of Civil and Environmental Engineering	Florida State University	United States

Table 623 - continued

Name	Professional Role	Organization	Country
Tuncer B. Edil	Professor Emeritus of Civil and Environmental Engineering	University of Wisconsin-Madison	United States
Turhan Bilir	Civil Engineering Academic	Zonguldak Bülent Ecevit University	Turkey
Vanchai Sata	Associate Professor of Civil Engineering	Khon Kaen University	Thailand
Wolfram Volk	Professor of Metal Forming and Casting	Technical University of Munich	Germany
Yogesh Aggarwal	Professor of Civil Engineering	National Institute of Technology Kurukshetra	India
Yun-Yong Kim	Professor of Civil Engineering	Chungnam National University	South Korea

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Contributors



Shikha Sachan

Chief Executive Officer

A transformational leader with a strong focus on integrating new technology frameworks into market research. She focuses on reshaping business models in line with evolving technologies and geopolitical shifts, while actively engaging with decision-makers and experts to deliver trustworthy insights, strategic clarity, and lasting business value.



Shraddha Bhirud

Research Manager

With extensive experience in market intelligence, leads complex client engagements by overseeing multiple research projects from initiation to delivery. Strengthens research operations timely through standardized methods, process optimization, and cross-functional collaboration while supporting sales initiatives. Her commitment to quality, and client success ensures the delivery of actionable insights.



Shailesh Sachan

Research Lead

Leads market intelligence projects by guiding research analysts and ensuring accurate, insight-driven deliverables. Specializes in competitive benchmarking, market assessment, research planning, data validation, and project execution. Delivers high-quality outcomes through effective client coordination, structured workflows, and consistent adherence to project timelines and quality standards.



Vivek Paymode

Research Lead

Oversees end-to-end research engagements by mentoring analysts and delivering reliable market intelligence. Specializes in industry analysis, company profiling, trend evaluation, opportunity assessment, and quality assurance. Collaborates closely with clients and internal teams to ensure actionable insights that support informed strategic business decisions.

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