QDB
بنك قطر للتنمية
Qatar Development Bank

Qatar's Recycling Sector

Executive Summary

SME Industry Series 2024-2025

As part of Qatar's efforts to strengthen the private sector and advance the country's entrepreneurship, SME, and innovation ecosystems in line with its National Vision 2030, Qatar Development Bank (QDB) continues to play a central role as a growth partner for entrepreneurs—supporting them from ideation to execution.

Through its SME Industry Series, QDB publishes sector-focused reports that provide Qatari entrepreneurs with valuable insights such as market demand analysis, competitive landscape assessments, and information on existing market players, enabling them to make informed decisions regarding market entry and business development.

This summary presents an overview of Qatar's evolving Recycling sector, focusing on key material segments in Qatar's recycling sector, each presenting distinct opportunities for growth and innovation. It provides key market insights, emerging trends, an overview of the local ecosystem, and highlights potential opportunities for SMEs to adapt to market changes and strengthen their competitive edge in Qatar's evolving economy.

The detailed report, on which this summary is based, is available on the QDB website.

While the recycling sector encompasses a wide range of materials, this report has selected and examined the following material segments, based on relevance to the Qatar market

Recycling Market Segmentation

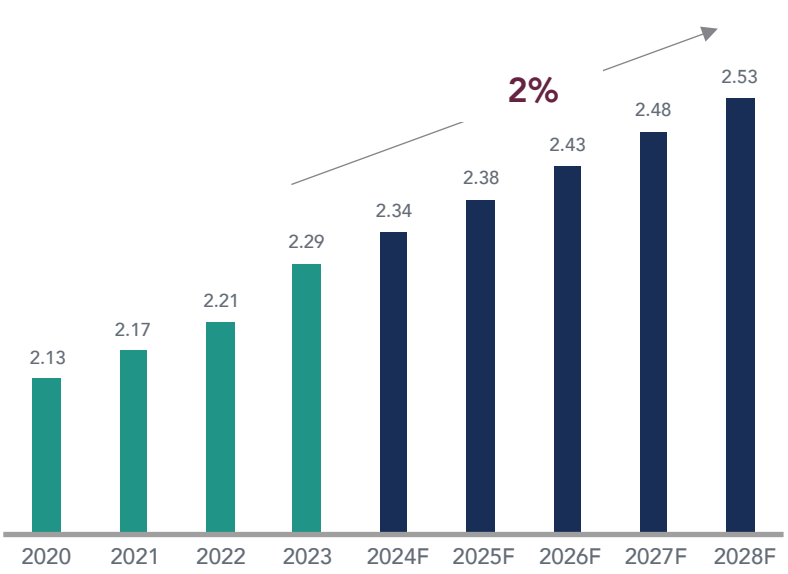
Material Segment	Description	Source of Waste	Applications
Paper	This segment addresses the collection, processing, and recycling of paper and its derivatives, transforming paper waste into pulp to produce new paper-based products.	• Municipal Solid Waste (MSW)	• Packaging • Construction materials • Printing and publishing • Agriculture
Plastic	Plastic recovery and recycling primarily involve converting plastic waste into resins for manufacturing use. Key materials in this segment include polyethylene (PE), polypropylene (PP), and polyethylene terephthalate (PET).	• Municipal Solid Waste • Construction and Demolition Waste	• Packaging • Construction materials • Textiles • Landscaping and gardening
Metal	**Steel (Ferrous)** Steel recycling involves the recovery and processing of steel scrap, which comes largely from construction and industrial manufacturing waste. **Iron (Ferrous)** Iron recycling, like steel, involves the collection and processing of iron scrap, which is commonly derived from construction and industrial manufacturing waste. **Aluminum (Non-Ferrous)** Aluminum recycling addresses the recovery and recycling of aluminum scrap, sourced from packaging, automotive and construction waste. **Copper (Non-Ferrous)** Copper recycling involves the recovery of copper scrap from sources such as industrial manufacturing and construction. This segment transforms copper waste into two primary products: ingots and bullions.	• Municipal Solid Waste • Industrial Waste • Construction and Demolition Waste	• Industrial machinery and equipment • Automotive industry • Construction • Infrastructure and urban development • Energy sector • Aerospace • Packaging • Furniture and appliances
Glass	Glass recycling focuses on recovering glass waste, mainly from municipal sources like bottles and packaging, and transforming it for reuse in various applications.	• Municipal Solid Waste	• Beverage bottling • Construction materials • Household products • Art and design
Rubber	This material segment involves the recovery and recycling of discarded rubber items mainly from vehicle tires, seals, gaskets, conveyor belts, hoses, and footwear.	• Municipal Solid Waste	• Construction and infrastructure • Sports and recreation • Agriculture
Recycled Aggregates	The recycling of construction and demolition debris including recycled concrete aggregates (RCA), recycled asphalt pavements (RAP), and mixed materials, which are processed into materials that can be reused in construction projects.	• Construction and Demolition Waste (CDW)	• Asphalt production • Road construction • Landscaping • Drainage systems
E-Waste	**Lead-Acid Batteries** Lead-acid battery recycling focuses on recovering valuable materials from used automotive and industrial batteries. The process extracts lead metal, which can be reused, reducing the need for virgin materials. **Waste Electronics and Electrical Equipment (WEEE)** This category covers discarded electronic devices and electrical appliances, including computers, mobile phones, home appliances, and industrial equipment. WEEE recycling extracts precious metals, plastics, and other components, helping to reduce landfill waste and conserve resources through material recovery and reuse.	• Municipal Solid Waste • Industrial Waste	• Metals recovery • Battery components • Industrial applications • Artisanal uses
Waste Oil	The recovery and recycling of waste lubricant oil, generated from automotive, industrial, and machinery use. Lubricant oil recycling processes aim to reclaim hydrocarbons, enabling the production of re-refined oils for reuse.	• Industrial Waste	• Biofuels • Industrial lubricants • Energy generation • Asphalt production

*Please note that the examples listed are not exhaustive

Material use and waste generation are expected to grow steadily in line with global development, requiring systemic improvements in waste governance

Global Solid Waste Generation

Global Solid Waste Generation (Bn Tons, 2020 -2028F)



KEY INSIGHTS

A **steady CAGR of 2%** is projected for global waste generation from 2023 to 2028F.

Global solid waste generation in 2023 amounted to **2.29 Bn tons.**

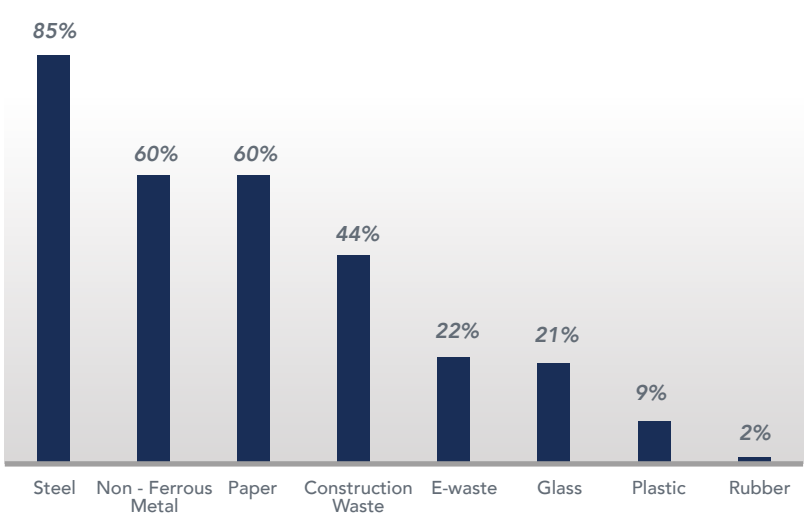
Global solid waste generation is projected to reach **2.53 Bn tons in 2028.**

Source: UNEP

Global awareness of recycling and recycling rates have increased, playing a pivotal role in influencing the global recycling and material recovery sector

Global Recycling Overview

Global Recycling Rates by Material



KEY INSIGHTS

Steel has the highest recycling rate at 85%, indicating its well-established recovery and reuse processes.

E-waste (22%) and glass (21%) have relatively low recycling rates, reflecting the complexity of handling and processing these materials.

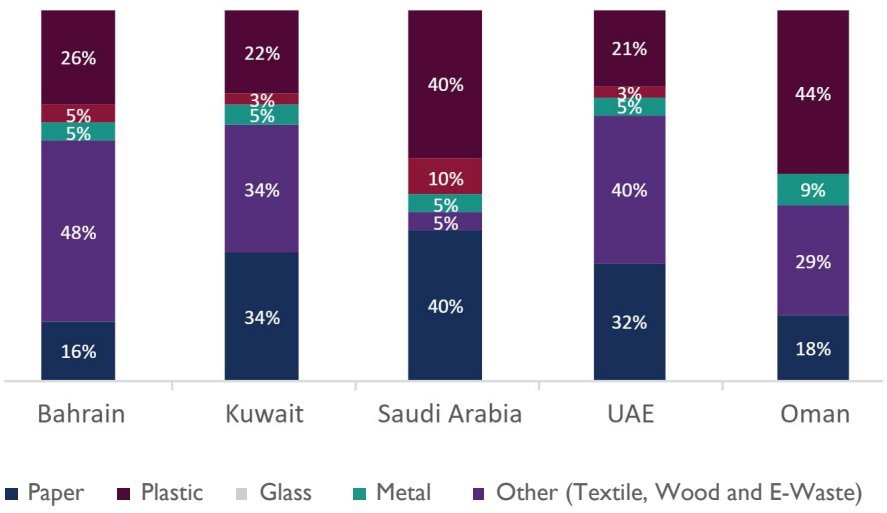
Plastic (9%) and rubber (2%) have the lowest recycling rates, underscoring ongoing challenges in managing these waste streams and the need for improved recycling infrastructure.

Source: UNDP, European Association for the Paper Industry (CEPI), Global Energy Monitor (GEM)

The GCC region produces higher recyclable waste compared to the rest of the world, indicating significant potential for the recycling sector

Regional Solid Waste Generation

GCC Municipal Waste Breakdown by Material*



Note: Remaining waste categories under discussion (Rubber, Aggregates, Waste Oil) do not make up MSW and thus are not shown in this breakdown. E-Waste makes up a small portion of 'Other' in addition to textile and wood waste.

KEY INSIGHTS

Paper waste is highest in **Saudi Arabia (40%)** and **Kuwait (34%),** while **Oman (18%)** has the lowest share.

Glass waste rates are low across all countries, **ranging from 5% to 9%.**

Plastic waste accounts for the largest share **in Bahrain (48%) and the UAE (40%) but is** notably low in **Saudi Arabia at only 5%.**

GCC Waste Driving Factors

GCC economies' focus on hydrocarbon drives petrochemical production, leading to a wide array of plastic products. Consequently, the waste stream in these countries includes a substantial amount of plastic waste.

High GDP per capita in the GCC drives consumption rates and disposable item use. This consumption boosts the generation of inorganic waste.

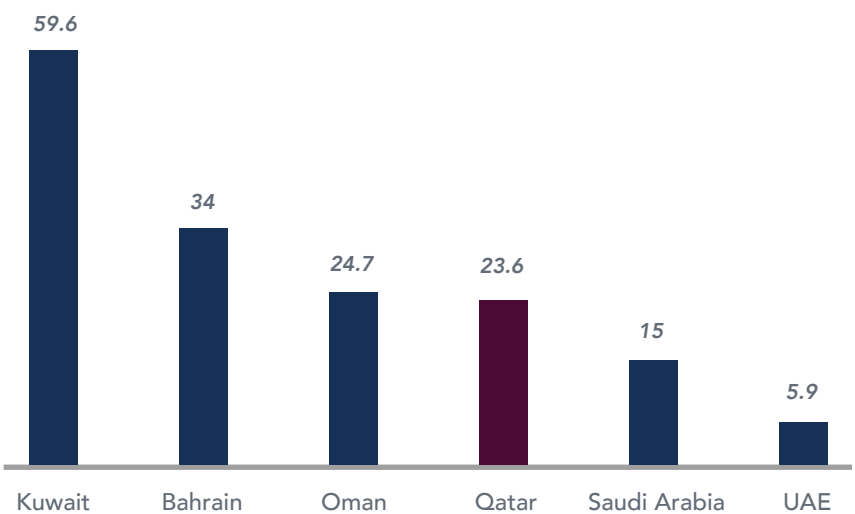
Rapid urbanization and infrastructural development in the GCC drives inorganic waste. As the region continues to expand its urban centers, construction and demolition activities generate CDW.

Sources: Yale Center for Environmental Law & Policy, Strategy&, Waste Management in Qatar: A Systematic Literature Review and Recommendations for System Strengthening, The World Bank

Waste recovery efforts vary across GCC nations, with Kuwait demonstrating a relatively mature capability in comparison to other nations

GCC Waste Recovery Rates

Waste Recovery Rate (Environmental Performance Index Score, 2024)



KEY INSIGHTS

Qatar's waste recovery rate score stands at 23.6, placing it behind Bahrain and Oman, suggesting emerging progress and unrealized potential.

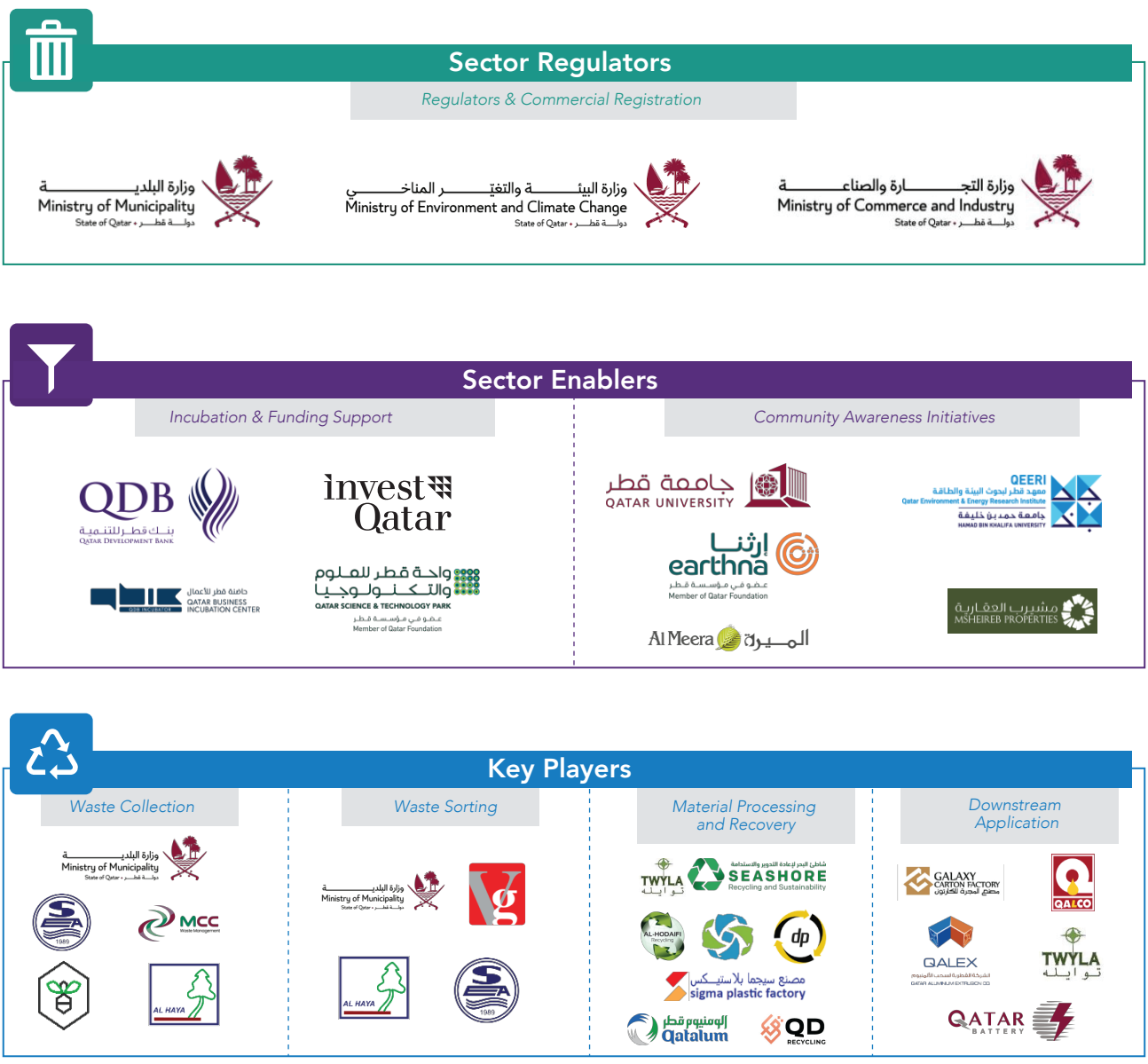
Kuwait records the highest score (59.6), suggesting relatively stronger performance on waste recovery indicators compared to its regional peers.

Saudi Arabia and the UAE recorded lower scores, which may have reflected gaps due to limited reporting of ongoing waste recovery initiatives.

Source: Yale University

Qatar's recycling ecosystem supports local industry through policymaking and infrastructure development to optimize the value chain

Qatar's Recycling Ecosystem



Source: Primary Research

*Please note that the list of entities provided is not exhaustive.

Sector Regulators

Sector regulators in Qatar play a critical role in facilitating business entry, ensuring regulatory compliance, and promoting sustainable growth across key industries. The Ministry of Commerce and Industry (MOCI) facilitates private sector entry into the recycling sector by providing land allocations as well as company registration and trading license services. MM grants initial approvals for waste collection, sorting, and recycling activities and coordinates land allocation for industrial recycling operations. MECC issues environmental permits, ensuring compliance with national standards, and conducts regular monitoring and inspections to enforce waste management regulations.

Sector Enablers

Sector enablers, including funding institutions, incubators, innovation hubs, and community initiatives, play a vital role in supporting SME growth, fostering innovation, and promoting sustainability in the recycling sector. QDB provides financing options for SMEs participating in the recycling value chain, while QBIC offers incubation and mentorship support. QSTP supports innovative and sustainable startups through funding and infrastructure. Community awareness initiatives, such as Al Meera's reverse vending and e-waste collection programs and Msheireb Properties' green building efforts, help improve national sustainability and recycling rates. Entities like Earthna, part of Qatar Foundation, implements circular economy programs and builds networks among businesses, universities, and policymakers to develop data-driven recommendations for the recycling sector. Additionally, QEERI, part of HBKU is a national institute addressing challenges related to energy, water and environment.

Key Players

The entities involved in waste management ecosystem collect, sort, and process waste into raw materials, which are then used by manufacturing entities to produce new products. Collection of MSW, managed primarily by MM and a large portion of waste originates from industrial activities, with private companies such as Al Haya and Beehive providing specialized collection services, including hazardous waste handling. Waste is then sorted at facilities like the DSWMC and private companies. In Qatar, 12% of MSW is diverted to recycling centers, with 9% processed by DSWMC and the remainder managed by private operators. Sorted waste is then sent to recycling centers for cleaning, recovery, treatment and processing into new raw materials. Finally, manufacturing entities use these raw materials in their production processes. Companies like Twyla and Sigma Plastic operate vertically integrated systems, combining material recovery and manufacturing using recycled plastics.

Sources: Gulf Times, The Peninsula, Qatar's Waste and Recycling Landscape: An Overview

The supporting environment for SMEs in Qatar's recycling industry features strategic initiatives which aim to foster a circular economy, reduce environmental impact, and create opportunities for SMEs in the sector

Analysis Of Sector Enablers

National Environment & Climate Change Strategy

The **MECC's 2021 QNE strategy** aims to balance safeguarding the environment and achieving economic growth, committing to improving waste management practices and **targeting a 15% material recycling rate** for municipal waste. By prioritizing recovery and reuse, the QNE aims to **establish a circular economy** in Qatar. As part of its **2024–2030 strategy, MM** is implementing the **National Integrated Solid Waste Program**, which includes developing a new engineered landfill, closing and rehabilitating old sites, promoting waste segregation at source, and increasing recycling rates. The strategy also supports smart city initiatives, including a smart waste management system.

Domestic Waste Management

The MM is responsible for the collection and treatment of domestic waste across the country. MM has introduced a **national waste sorting program**, providing recycling bins to 80% of households in Doha. The collected recyclables are processed at the **Mesaieed Recycling Hub**, which currently houses 11 recycling factories, The DSWMC, operating under MM, receives waste and undertakes AI waste sorting and WtE processes. Recyclable materials are then supplied to recycling companies, providing a flow of raw materials for players in the sector. MM aims to allocate **153 land plots to the private sector** for waste recycling projects to increase recycling rates.

Infrastructure Development

To bolster Qatar's sustainability and reinforce the country's commitment to waste reduction, recycling, and circular economy transformation, MM and MOCI has recently established a designated hub for recycling at **Al Afja**. This hub, strategically positioned near the DSWMC and other waste disposal sites, helps to reduce logistical challenges, reduce costs, improve operational efficiency, and encourage more companies to participate in the industry. Al Afja currently currently holds **24 under construction factories** and **16 existing factories** that are specializing in recycling various types of waste.

Laws and Regulations

To improve the efficiency of the recycling value chain, the MM mandated that commercial buildings must provide and place containers for **sorting solid waste at their facilities.** This regulation has improved the initial stages of waste management by ensuring that waste is sorted at the source, making it easier for processing and recycling companies to access raw materials and allowing them to operate more efficiently.

Source: MECC – National Environment and Climate Change Strategy, Waste Management in Qatar: A Systematic Literature Review and Recommendations for System Strengthening, Qatar's Waste and Recycling Landscape: An Overview, The Peninsula, Gulf Times

Qatar offers a multifaceted support system for SMEs, providing essential resources for their success

Support For SMEs In Qatar

Financial Support

In addition to retail banking institutions, QDB offers support to SMEs through green financing—also known as eco-friendly financing for those producing or manufacturing products that contribute to improved environmental outcomes such as waste to resource products.

Regulatory & Policy Support

In 2022, a Ministerial Decision was introduced to restrict the use of plastic bags. This regulation complements the "No for Plastic" campaign, a government-led initiative that encourages alternatives to single-use plastics. As mentioned in the previous section, MM now requires commercial buildings to sort solid waste on-site, improving access to raw materials and efficiency for recycling companies.

Infrastructure & Technological Resources

As part of its digital transformation initiative, MM launched the 'Oun' app, offering hundreds of municipal services—including waste sorting guidance and requests for large solid waste removal. In addition, as mentioned in the previous section, MM has designated the Al Afja area specifically for recycling, offering companies dedicated land to carry out recycling activities.

Education & Awareness

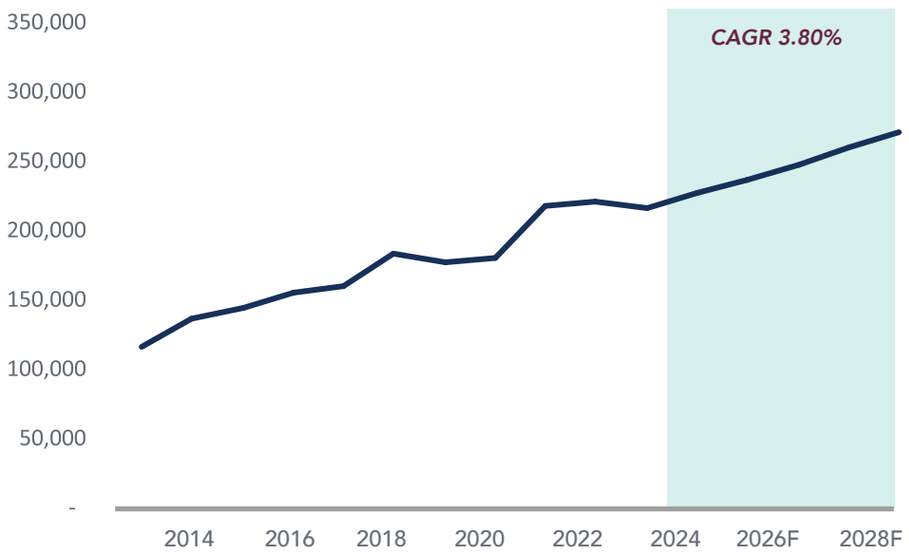
Qatar Foundation's Green Island initiative serves as an educational platform designed to incubate locally grown SMEs in the recycling field. It offers opportunities for research, education, and community engagement to promote sustainable living and environmental protection. Additionally, MM has launched the "Zero Waste" campaign to raise public awareness of waste's impact on resource sustainability.

Source: Primary Research, The Peninsula – Oun App, The Peninsula – New Services on Oun App, QDB – Green Financing Program, QF – Green Island, The Peninsula – Student Education

To fully realize the potential of the paper recycling industry, it is crucial to enhance collection mechanisms to capture larger volumes of paper waste

Paper Recycling

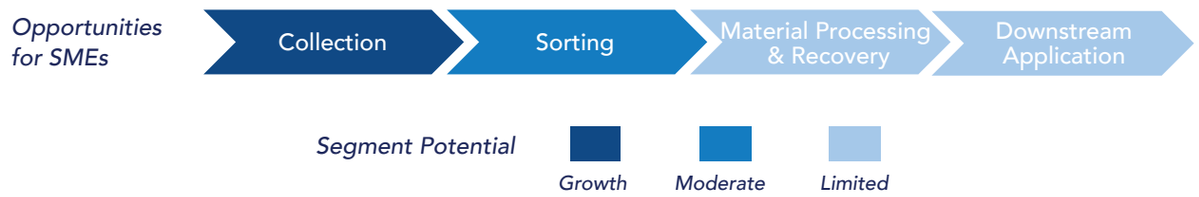
Paper Waste Generation (Tons, 2013-2028F)



KEY INSIGHTS

The forecast projects growth at a rate of **3.80%,** culminating in an estimated total waste generation of approximately **308,760 tons by 2028.**

Paper waste from sectors like **Food and Beverage, retail, logistics, and education** is often managed outside the formal municipality system, typically via private entities or direct recycling.



KEY TAKEAWAYS

High Market Concentration

The paper recycling sector in Qatar consists of two primary companies: Elite Paper Recycling and Al Suwaidi Paper Factory, with the industry operating at 80% of its total production capacity.

Export Focused Industry

Qatar primarily exports the majority of its recycled paper products, with paper waste exports growing at a CAGR of 50% since 2018. This trend presents SMEs with an opportunity to explore international markets not only for paper products but also for paper waste.

Untapped Potential in Waste Collection

It is inefficient for companies to sort and collect unsegregated waste from landfills, which means that it cannot be added to the recycling stream. Establishment of direct collection mechanisms for domestic users will enable improvements in recycling rates.

Recommendation

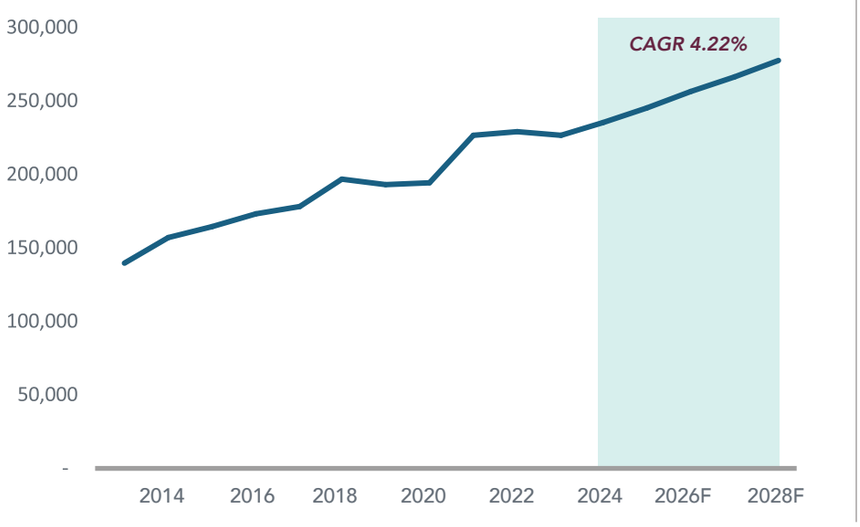
SMEs looking to enter the market should explore collection of domestic paper waste at source, enabling them to access a waste stream that is not currently being utilized by the recycling industry. SMEs must establish efficient, well-coordinated logistics to capitalize on this opportunity.

Source: NPC

The recycling of materials such as PE and PET within the plastic industry holds potential for import substitution

Plastic Recycling

Plastic Waste Generation (Tons, 2013-2028F)

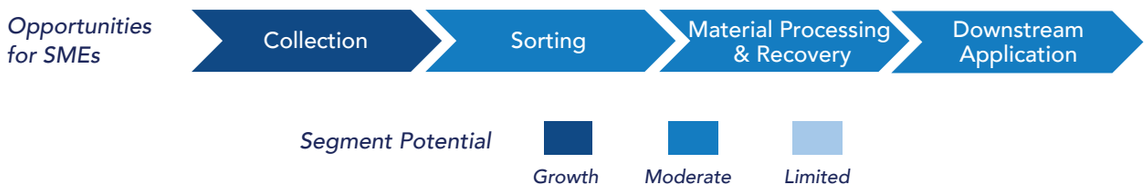


KEY INSIGHTS

Plastic waste generation is expected to grow at a CAGR of **4.22%,** reaching **278,122 tons** by 2028.

Growth is driven by **rising domestic and commercial plastic** consumption in Qatar.

The projection emphasizes the need for **waste collection, sorting, and recycling** infrastructure to manage the increasing plastic waste from sources beyond MSW.



KEY TAKEAWAYS

Well-Developed Ecosystem

Qatar's plastic recycling subsector has a well-developed ecosystem, driven by numerous plastic factories that consume recycled plastic, supporting sustainability objectives. SMEs can tap into strong local demand by forming partnerships with these factories.

High-Potential Materials

Materials such as polyethylene (PE) and polyethylene terephthalate (PET) have high potential for import substitution. These materials are also readily available, making up **50%** and **20%** of the incoming waste stream respectively.

Target Export Markets

Target markets for the export of different forms of plastic granules are China and India, due to their high-volume demand. Nevertheless, the expected demand generated from the development of the local plastic recycling infrastructure should be prioritized.

Recommendation

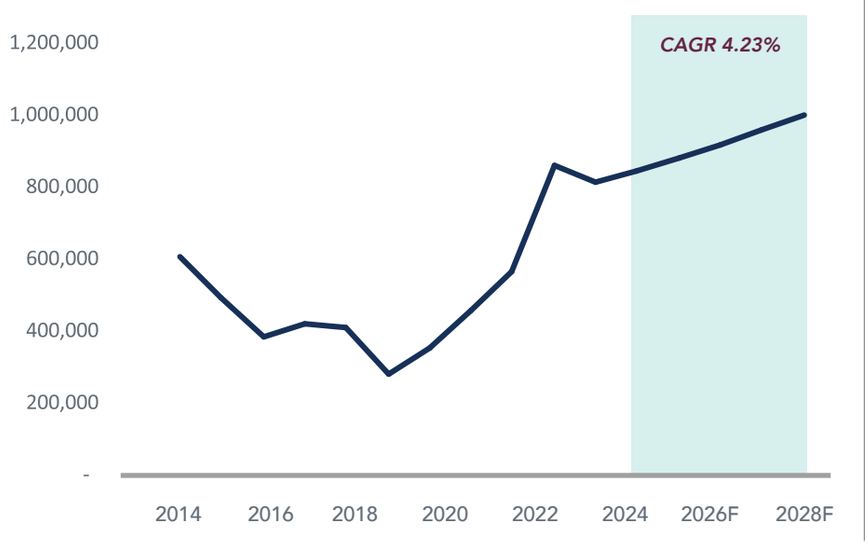
SMEs should target waste collection from residential sources of high potential materials (PE bags, wraps, sheets and PET bottles). SMEs must establish efficient, well-coordinated logistics to capitalize on this opportunity.

Source: NPC

Qatar's metal recycling sector features opportunities for companies across the value chain, particularly in the Copper Recycling Market

Metal Recycling

Metal Waste Generation (Tons, 2013-2028F)



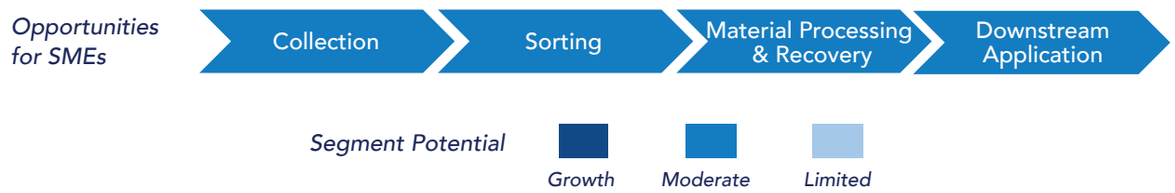
KEY INSIGHTS

Metal waste is projected to grow at a **CAGR of 4.23%**, driven by construction, industrial activities, and automotive scrap recovery.

Steel waste will remain the largest contributor, accounting for over **649,137 tons annually by 2028.**

The most significant growth driver is the **manufacture of basic metals,** which has increased at a CAGR of 13% over the past decade.

The **decline in metal waste generation** from **2022 to 2023** is likely linked to reduced construction activity after the FIFA World Cup.



KEY TAKEAWAYS

Market Monopoly

The steel industry features a monopoly with Qatar Steel at its core, ensuring a stable demand for ferrous scrap processors. SMEs looking to set up business as metal scrap collectors and processors require agreements with Qatar Steel to become certified suppliers.

Upstream Market Gap

Qatar Steel aims to increase scrap utilization to 35% of total inputs but is currently operating only at 25.2%. Based on their latest production figures, this presents a market gap of ~145,000 tons for scrap suppliers.

Low Recycling Rate

Qatalum recycles 7,000 tons of aluminum scrap, just 1% of its total production. In 2023, 259,000 tons of copper waste were generated, with only 24,000 tons recycled, reflecting a 9.3% recycling rate.

Recommendation

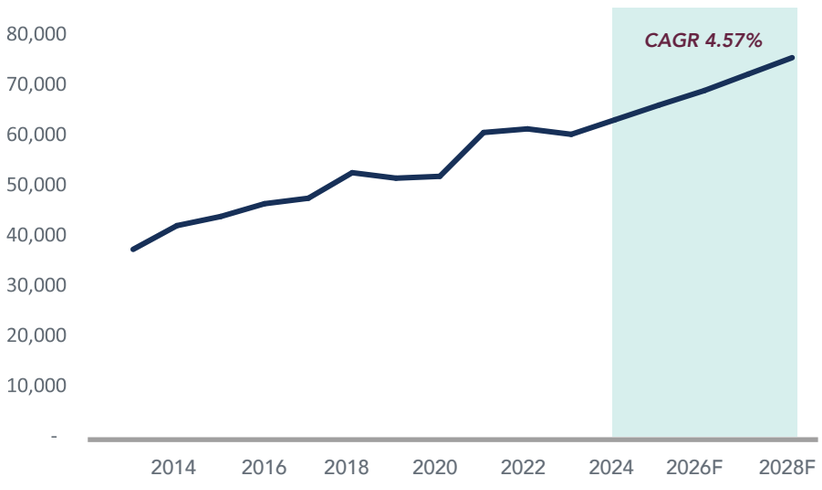
The copper recycling market is less centralized than those of steel and aluminum, with players such as NFCA, QD Recycling, and Al Wajba Alloys. This allows for more competition and reduces barriers for SMEs to enter the market.

Source: NPC

Nascent markets such as glass recycling are attractive for SMEs due to the absence of competition and the existence of large waste stockpiles

Glass Recycling

Glass Waste Generation (Tons, 2013 – 2028F)

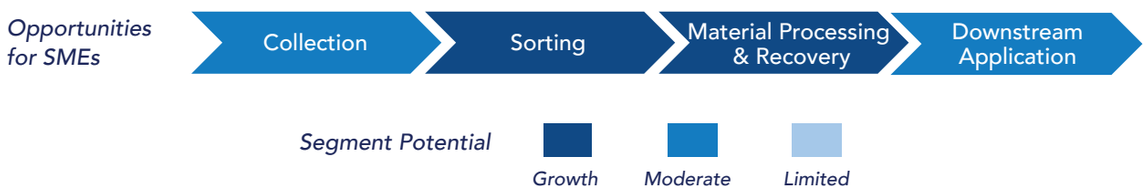


KEY INSIGHTS

Glass waste is expected to grow at a **CAGR of 4.57%,** reaching **75,396 tons** by 2028.

Growth is fueled by the **rising beverage servicing industry** and restaurant activity in Qatar.

The expanding glass waste stream highlights the need for **advanced collection, sorting, and recycling systems** to manage the growing volume efficiently.



KEY TAKEAWAYS

Nascent Market

The glass recycling market is untapped, with no recyclers operating in the sector at present. However, companies across the value chain provide waste collection services, which can be leveraged by new market entrants to source waste.

Large Stockpiles

Qatar's landfills contain large stockpiles of glass waste which can be utilized by recyclers as a readily available raw material source.

Sustainable, High-Quality Material

Glass can be recycled endlessly without losing quality, making it a sustainable material. The glass produced from recycling can be used in applications such as beverage bottles, panes, and medicine.

Recommendation

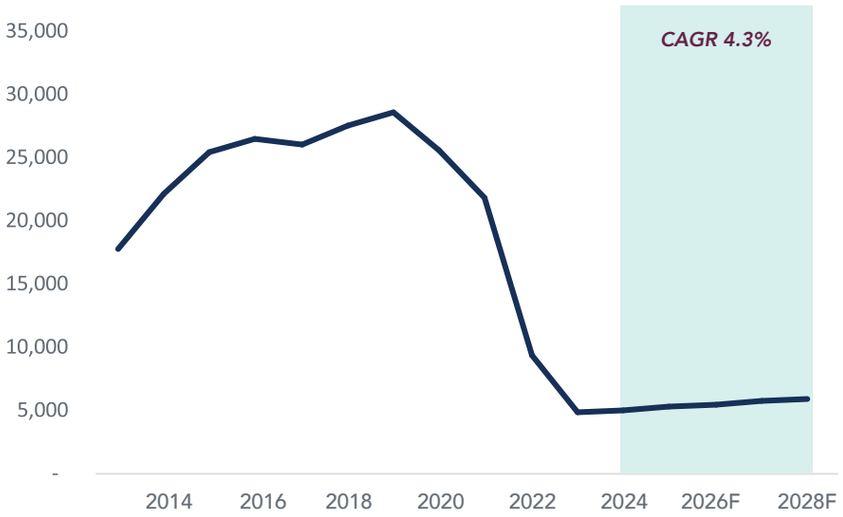
SMEs looking to enter the glass recycling space can establish partnerships with MM and commercial entities that generate glass waste for direct collection, thereby increasing supply chain efficiency and lowering costs due to vertical integration.

Source: NPC

Rubber recycling holds very little potential for SMEs due to the industry's reliance on rapidly depleting waste stock piles

Rubber Recycling

Rubber Waste Generation (Tons, 2013 – 2028F)



KEY INSIGHTS

Rubber waste is expected to grow at a **CAGR of 4.3%** from 2024 to approximately **5,939** tons in 2028.

Rubber waste generated in Qatar has **decreased significantly since 2021.**

Innovative solutions, such as improving **collection efficiency or identifying alternative sources of raw material,** are needed to ensure industry sustainability.

Opportunities for SMEs

Collection → Sorting → Material Processing & Recovery → Downstream Application

Segment Potential

Growth *Moderate* *Limited*

KEY TAKEAWAYS

Locally Sourced Waste

The industry currently relies exclusively on local stockpiles of waste tires at the Umm al Afai, Rawdat Rashid and Mesaieed yards to source its rubber waste.

Depleting Stockpiles

The rubber waste at Umm al Afai has been depleted. The supply of waste from the other two sites is also expected to finish in the upcoming years. Despite the expected growth, Qatar does not generate enough rubber waste to sustain current players.

Export Focus

Rubber recycling companies have identified opportunities in shredding tire scrap and exporting it, rather than supplying it locally. Although this approach involves a relatively low initial investment, the current scarcity of tires poses a challenge for new SMEs.

Recommendation

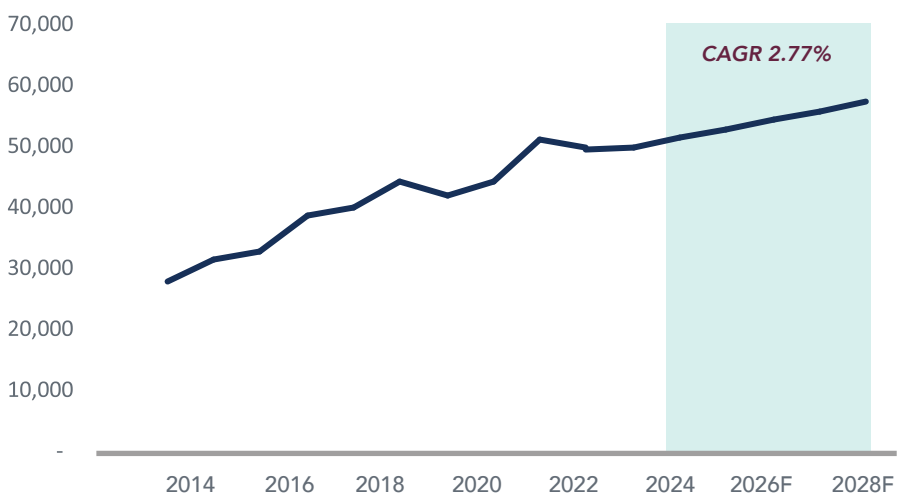
SMEs can set up trading operations and import used tires and rubber scrap to supply waste to Qatari recycling companies, as domestic rubber waste sites are depleting. However, the slowdown in domestic demand reduces the viability of this segment.

Source: NPC

While SMEs can address Qatar's lead manufacturing gaps, exporting WEEE is more viable given limited local volumes for scalable recycling operations

E-waste Recycling

E-Waste Waste Generation (Tons, 2013 – 2028F)



KEY INSIGHTS

WEEE and lead waste is forecasted to grow at a **CAGR of 2.77%,** to **50,430 tons** and **3.16% to ~6,900 tons** by 2028, respectively.

WEEE volumes previously grew from **30,000 tons** in 2013 to nearly **50,000 tons in 2023.**

With the adoption of Industry 4.0 and smart automation, **industrial electronic waste is on the rise.**

The growing e-waste stream is driven by expected increase in the **automotive sector** and **GDP per capita growth.**

Opportunities for SMEs

Collection	Sorting	Material Processing & Recovery	Downstream Application

Segment Potential

Growth *Moderate* *Limited*

KEY TAKEAWAYS

Downstream Lead Demand

Several companies produce lead acid batteries in Qatar. However, these companies are engaged in assembly activities and import individual battery components, including lead plates, from countries such as Saudi Arabia.

Recommendation – Battery Recycling

At present, there are no manufacturers in Qatar who can utilize the recycled lead to produce lead plates that can be used in batteries. SMEs looking to enter the market can take advantage by bridging this gap in the value chain.

WEEE Global Trade Dynamics

Japan, India and South Korea account for ~56% of total global WEEE imports. These countries a high degree of technological sophistication and cost-effectiveness which allows them to scale operations to recycle large volumes of electronic waste.

Recommendation – WEEE Exports

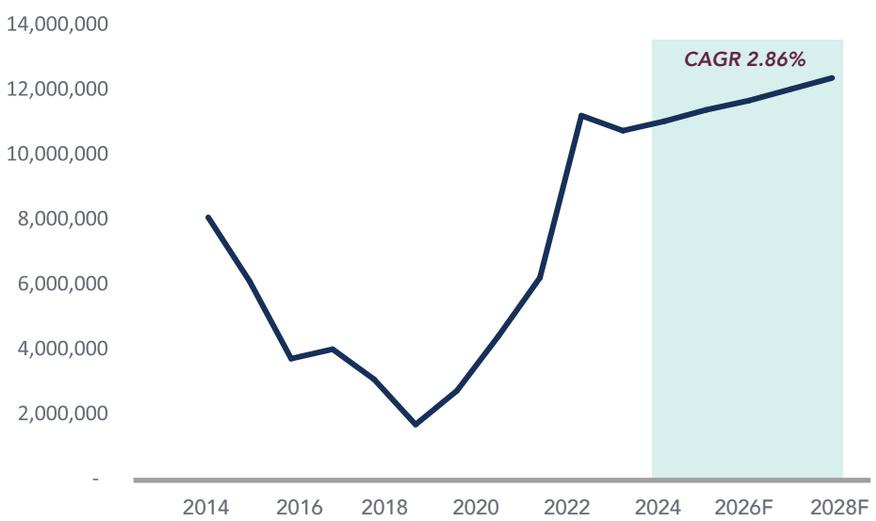
Establishing partnerships between e-waste collection companies and trading companies can help SMEs integrate effectively into the market by setting up operations focused on exporting e-waste to markets such as South Korea and Japan due to their existing infrastructure for recycling this waste.

Source: NPC

The presence of legal barriers makes it difficult for SMEs to explore opportunities in the recycled aggregates recycling segment

Recycled Aggregates

Recycled Aggregate Waste Generation (Tons, 2013 - -2028F)

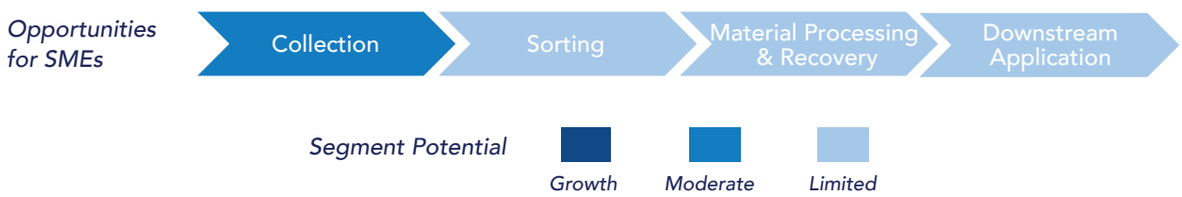


KEY INSIGHTS

Recycled aggregate waste generation is expected to grow at a **CAGR of 2.86%** from 2023 to 2028.

Waste volume growth peaked during **2018-2022,** driven by FIFA World Cup-related construction.

The waste levels are **projected to stabilize**, aligning with a more sustainable pace of construction activity in Qatar.



KEY TAKEAWAYS

Market Monopoly

Despite significant market potential, the recycled aggregates sector offers limited opportunities for SMEs as recyclers, as the market is a monopoly with Qatar Primary Materials Company (QPMC) recycling aggregate waste.

Long Term Contracts

QPMC is designated to oversee the production of recycled aggregates at Ministry and Ashghal waste sites for a duration of 20 years.

Trade Characteristics

Qatar has diverse sources of local and recycled aggregates. However, the volume of available aggregates in the form of quarried limestone is not enough to meet market demand. Therefore, Qatar relies heavily in imports to meet this gap.

Recommendation

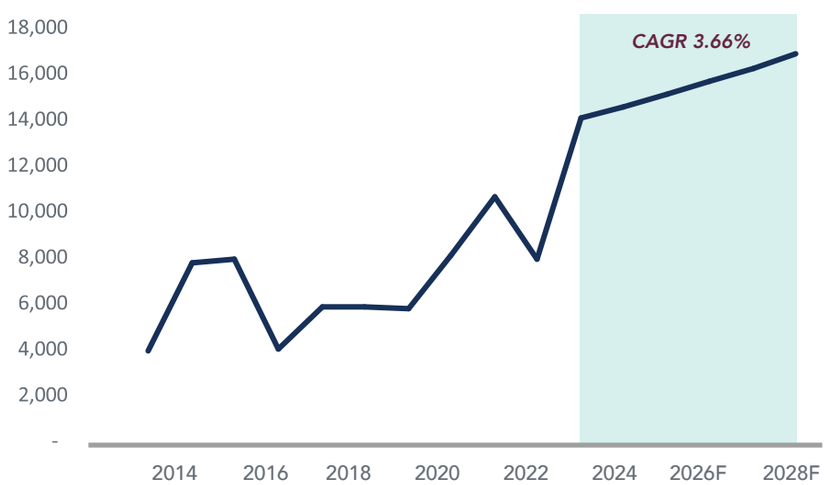
Due to the nature of the market, opportunities for SMEs can only exist if they manage to form partnerships with QPMC where they recycled construction waste on its behalf or if they perform waste collection and segregation, serving as suppliers to QPMC.

Source: NPC

Qatar's waste oil recycling has reached a point of maturity, leaving potential entrants with moderate to low opportunities

Waste Oil Recycling

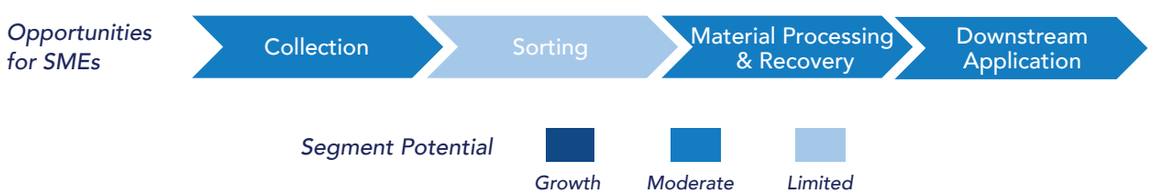
Waste Oil Generation (Tons, 2013 – 2028F)



KEY INSIGHTS

Waste lubricant oil generation is projected to grow at a **CAGR of 3.66%,** reaching **16,847 tons by 2028.**

Growth is driven by the **hydrocarbon-dependent economy** and **high vehicle ownership rates.**



KEY TAKEAWAYS

Industry Scope

The waste oil recycling sector in Qatar focuses on recycling lubricating oils used in various industries. Waste lubricant oil is converted to base oil, which is then used to form recycled lubricant oil.

Falling Imports

Local production of base oils through recycling has led to a steady decline in base oil imports since 2019, with a CAGR of **-20%.**

Local Demand

Local and export demand for recycled waste oil remains steady, with companies like Geo Green Shield exporting a notable portion of their output, and local manufacturers such as QALCO contributing to domestic consumption.

Recommendation

Qatar's waste oil recycling companies are vertically integrated and have established reliable supply chains through industry agreements. Furthermore, these companies sell to QALCO and rely on exports.

Source: NPC

While opportunities for SMEs differ across market segments, the overall outlook for Qatar's recycling industry remains positive

Strategic Recommendations & Way Forward

MATERIAL RECOVERY SEGMENT POTENTIAL FOR SMES

1

Nascent Market with High Growth Potential

Glass recycling is unexplored in Qatar presenting SMEs with an opportunity to take advantage of the lack of competition in the market. Additionally, waste generation is projected to rise 4.57% annually, reaching 75,396 tons by 2028. Additionally, glass waste has stockpiled in landfills since 2018, providing a substantial raw material supply for SMEs.

Glass Segment Recommendation: SMEs should focus on two waste streams: stockpiles at landfills and direct collection from commercial entities. Establishing vertically integrated operations, covering collection, sorting, and recycling, will streamline the supply chain. The local bottling and structural glass industries present strong demand, though separate production facilities are needed for each application. By targeting these opportunities, SMEs can enter this promising market and meet the growing local demand for recycled glass.

2

Established Markets with Untapped Potential

Qatar's **copper** and **aluminum** recycling sectors produce 9,000 tons of primary products, covering 15% of total waste. Qatalum recycles 7,000 tons of aluminum scrap, just 1% of its total production. In 2023, 259,000 tons of copper waste were generated, with only 24,000 tons recycled, reflecting a 9.3% recycling rate and strong growth potential.
Copper and Aluminum Segment Recommendation: SMEs can enter the market by optimizing copper waste collection and targeting the downstream demand for locally recycled copper products. While the aluminum recycling segment has similar market dynamics to copper, the potential present in the value chain are of a smaller scale as Qatalum dominates the segment.

For the **paper** recycling sector, waste is forecasted to grow at 3.8% per year, reaching nearly 308,760 tons by 2028. The industry focuses on producing low-cost products like cardboard and kraft liner but operates at high capacity, constrained by limited access to segregated paper waste.

Paper Segment Recommendation: SMEs can unlock further potential by establishing direct collection mechanisms for segregated paper, particularly from corporate clients. Additionally, partnering with waste management companies to access domestic paper waste can help reduce the need for imported pulp, which amounted to 4,060 tons in 2023.

The **plastic** recycling sector is projected to generate 278,122 tons of waste by 2028, with PE, PET, and PP comprising the majority of the waste. Qatar imports large volumes of plastic granules, creating opportunities for import substitution.
Plastic Segment Recommendation: SMEs should prioritize PE and PET recycling, targeting PE sources like films, sheets, and plastic bags, and PET sources such as plastic bottles. Focusing on these products will enable SMEs to tap into local demand and reduce reliance on imported plastic granules, offering growth opportunities in the recycling market.

3

Markets with Limited Downstream But Untapped Upstream Opportunities

In the **lead acid battery** recycling segment, companies like Suhail Battery recover lead metal from waste batteries, generating around 9,173 tons of lead annually. However, there is a gap in Qatar's capability to convert this lead into lead plates, which are required for battery production. This gap forces local battery assemblers to import lead plates. For **WEEE,** there is no recycling infrastructure in Qatar due to limited downstream demand. Countries like Japan and South Korea dominate the WEEE recycling industry due to their established ecosystems.
E-waste Segment Recommendation: SMEs can capitalize on the lead acid battery recycling segment opportunity by not only engaging in battery recycling but also establishing facilities to manufacture lead plates, filling a crucial market void. For WEEE, SMEs can focus on upstream activities by setting up collection mechanisms targeting commercial sources, where 50,000 tons of WEEE waste was generated in 2023. By organizing the collection and sorting of this waste, SMEs can either export it directly to countries with advanced recycling systems or partner with trading companies to do so.

In the **steel** recycling market, while Qatar Steel monopolizes steel recycling, SMEs have opportunities in upstream activities such as waste collection, and sorting. Steel waste generation is projected to reach 650,000 tons by 2028. Moreover, Qatar Steel aims to increase its scrap inputs from 25% to 35%, creating a gap of 145,000 tons.
Steel Segment Recommendation: SMEs can serve as suppliers to meet this rising demand by improving scrap collection and processing activities.

4

Markets with Limited Opportunities for SMEs

Rubber recycling in Qatar experienced growth between 2020 and 2022, however, this was largely driven by the utilization of existing waste stockpiles at three main waste sites, one of which is depleted. Current annual waste generation volumes are insufficient to sustain existing participants in the market. Furthermore, the downstream demand for recycled rubber is low, with most shredded rubber scrap being exported.
Rubber Segment Recommendation: SMEs can set up trading operations and import used tires and rubber scrap to supply waste to Qatari recycling companies, as domestic rubber waste sites are depleting. However, the slowdown in domestic demand reduces the viability of this segment.

The **recycled aggregates** market in Qatar is controlled by QPMC. The company holds a long-term contract with Ashghal, the Public Works Authority, to source construction and demolition waste, giving it a dominant position in the market. This arrangement creates high barriers to entry for any new players, effectively limiting the opportunities for SMEs to participate in this sector.
Recycled Aggregates Segment Recommendation: Due to the nature of the market, opportunities for SMEs can only exist if they manage to form partnerships with QPMC where they recycled construction waste on its behalf or if they perform waste collection and segregation, serving as suppliers to QPMC.

Although **waste oil** generation is projected to reach approximately 16,847 tons by 2028, the market is saturated, making it challenging for new entrants. Additionally, the downstream applications for recycled waste oil are limited, with QALCO being the primary producer of lubricant oil in the country.

Waste Oil Segment Recommendation: Qatar's waste oil recycling companies are vertically integrated and have established reliable supply chains through industry agreements. Furthermore, these companies sell to QALCO and rely on exports.

In conclusion, Qatar's recycling sector offers considerable opportunities for SMEs across various materials, though the potential varies by industry. With a growing focus on sustainability and waste management, sectors such as glass, copper, paper, plastic and aluminum present high growth prospects.