

# SOLID WASTE MANAGEMENT IN PERU

THE OBJECTIVE OF THIS INFOCARD IS TO PRESENT SOME ESSENTIAL ELEMENTS RELATED TO THE GENERATION AND MANAGEMENT OF SOLID WASTE IN PERU.<sup>1</sup>

Credit: Freepik

## INTRODUCTION

Solid waste management refers to the activities of collection, transport, and disposal or recycling of waste materials produced by human activity in order to reduce their effects on health and the environment. Waste is any substance and/or element resulting from any productive process, or from the consumption or use of a good or service, from which the holder discards.

Adequate solid waste management is a central aspect of policies aimed at mitigating environmental degradation, protecting the health of the population, as well as the development of the circular economy, valorising this waste. In Peru, there are serious deficiencies in the management of solid waste and its valorisation is still at an incipient stage. This infocard presents a brief analysis of solid waste management in Peru.

## CLASSIFICATION OF SOLID WASTE IN PERU

The classification of solid waste in terms of its handling and management differentiates between Municipal Management Waste (or Municipal Solid Waste - MSW, also known as household waste) and Non-Municipal Management Waste, or non-household waste. This classification identifies who is responsible for its handling. MSW consists of "household waste and waste from the sweeping and cleaning of public spaces, including beaches, commercial activities and other non-household urban activities whose waste can be

assimilated to public cleaning services, throughout their jurisdiction".<sup>2</sup> Municipalities collect, transport and dispose of waste directly or through agreements with private sector companies, which are the Solid Waste Operating Companies (SW-OC).

Non-municipal or non-household waste is hazardous and non-hazardous waste generated in the development of extractive, productive and service activities. The management

<sup>1</sup> The information contained in this sheet is of a general nature only. For more detailed information, trade promotion events and actions, as well as possible commercial contacts, please contact the Trade Offices of the Member States and the bilateral Chambers of Lima.

<sup>2</sup> Annex "Definitions" to the Law on Integrated Management of Solid Waste, Legislative Decree No. 1278.

of this solid waste is done through SW-OC. Hazardous wastes are those that, due to their characteristics or handling, represent a significant risk to health or the environment by presenting some of the following characteristics: self-combustibility, explosiveness, corrosiveness, reactivity, toxicity, radioactivity or pathogenicity. This is the case, for example, with hospital waste.<sup>3</sup> Non-municipal solid waste, similar to household waste, is generated through productive processes and can be processed by municipalities -free of charge up to 150 litres per day and with a differentiated charge up to 500 litres per day. Volumes greater than 500 litres per day must necessarily be managed through an EO-RS.

A particular category of waste is the disposal, after use, of electrical and electronic equipment (WEEE), which is defined as “equipment that requires electrical current or electromagnetic fields to operate, as well as the devices necessary to generate, transmit and measure such currents and fields”.<sup>4</sup> In Peru, these have a special management and handling regime approved by Supreme Decree No 9-2019-MINAM of 8 November 2019.<sup>5</sup> Producers, which in the legal framework comprises any “natural person or private entity that carries out activities related to EEE for commercial purposes, whether as a manufacturer, assembler or importer, and that places the product on the market for the first time; regardless of the sales technique used, includ-

ing distance and electronic sales,<sup>6</sup> have legal obligations and are subject to extended product liability throughout its life cycle, including the post-consumer phase. It is therefore recommended that companies pay particular attention to their waste management obligations in accordance with current regulations.

Peru currently generates around 10.5 million tonnes of solid waste per year (municipal and non-municipal). Municipal waste represents about 77% of the total, and over the last six years, it has grown at an average annual rate of 2.5%, while non-municipal waste has grown at a rate of 2.3%. The generation of solid waste per inhabitant per day remained constant in the period from 2014 to 2021; around 0.800 kilos for municipal waste and 0.24 kilos for non-municipal waste.<sup>7</sup>

According to the Solid Waste Management Information System (SIGERSOL), in 2021 the per capita generation of household solid waste was 0.58 kg/inhabitant/day, and total municipal solid waste was 0.83 kg/inhabitant/day. For non-municipally managed waste, generation has remained at 0.24 kg/inhabitant/day since 2014.<sup>8</sup>

Table 1 presents data on waste generation in Peru for the period 2014-2021.

**TABLE 1: GENERATION OF SOLID WASTE IN PERU (Tons)**

Year	Municipal Waste	Non-Municipal	Total
2014	6,904,950	2,071,485	8,976,435
2015	6,934,978	2,026,018	8,960,996
2016	7,005,577	2,101,673	9,107,250
2017	7,085,644	2,125,693	9,211,337
2018	7,459,583	2,237,87	7,461,821
2019	7,781,904	2,334,571	10,116,475
2020	7,905,118	2,371,535	10,276,653
2021	8,214,356	n.d	n.d

Source: MINAM - Dirección General de Gestión de los Residuos Sólidos - DGRS. Downloaded from the NATIONAL ENVIRONMENTAL INFORMATION SYSTEM. Prepared by the author.

3 Annex III of Supreme Decree No. 014-2017-MINAM details which wastes are considered hazardous.

4 According to DS-001-2012-MINAM, WEEE includes: 1. Large household appliances 2. Small appliances 3. Computer and telecommunications equipment 4. Consumer Electronics 5. Lighting Equipment 6. Power and Electronic Tools 7. Toys, sports equipment and leisure time 8. Medical Devices 9. Measuring and Control Instruments 10. Vending machines.

5 [www.gob.pe/institucion/minam/normas-legales/354138-009-2019-minam](http://www.gob.pe/institucion/minam/normas-legales/354138-009-2019-minam)

6 Supreme Decree No. 9-2019-MINAM.

7 Data from the Ministry of the Environment (MINAM).

8 [sistemas.minam.gob.pe/SigersolMunicipal/#/panel](http://sistemas.minam.gob.pe/SigersolMunicipal/#/panel)

Table 2 below presents the composition of municipal solid waste specifically for the year 2021.

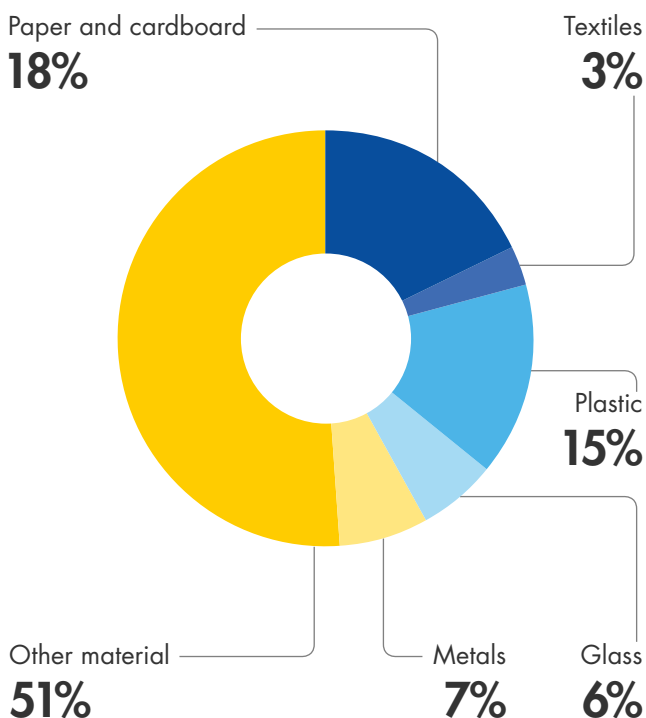
**TABLE 2: COMPOSITION OF MUNICIPAL SOLID WASTE IN PERU, 2021**

Waste	Tons	Percentage of Total
Organic waste	4,657,427	57.2
Inorganic waste	1,720,0276	21.2
Unusable waste	1,039,619	14.1
Hazardous waste	797,283	7.5
<b>Total</b>	<b>8,214,356</b>	<b>100</b>

Source: MINAM Indicadores de Gestión de Residuos Solidos 2021. July 2022. General Directorate of Solid Waste Management. Prepared by the author. Available at: [minam.zohosites.com/reportes-dinamicos](http://minam.zohosites.com/reportes-dinamicos)

In Peru in 2020, 3,501,915 tonnes of inorganic solid waste were generated. Figure 1 presents the generation of inorganic waste by type of product and it can be seen that one third of the total generated is paper, cardboard and plastic waste. There is no such breakdown by type for organic waste.

**FIGURE 1: INORGANIC MUNICIPAL SOLID WASTE COMPOSITION IN PERU, 2020**



Source: INEI Anuario de Estadísticas Ambientales 2022. Page 410. Prepared by the author. Other inorganic material includes rubber, rubber, electronic scrap, inert material, batteries and others not specified.



## SOLID WASTE MANAGEMENT AND DISPOSAL

In Peru, there are clear regulations on the handling and management of solid waste, which establish obligations and sanctions. However, there are still significant problems in the application of the regulations, which generates serious consequences for the health of the population and for the protection of the environment. The main difficulties are found in the different stages of solid waste management, including generation, segregation, collection, transport, treatment, disposal and reuse. Although the segregation of solid waste at the point of generation is already mandatory in households and businesses, few people in Peru do it.

In terms of solid waste collection, 28.8 % of households in the country do not have street sweeping services, so rubbish accumulates in these spaces.<sup>9</sup> On the other hand, only 40.2% of the municipalities that carry out rubbish collection throughout the country provide this service on a daily basis, while 13.3% only collect waste once a week.<sup>10</sup>

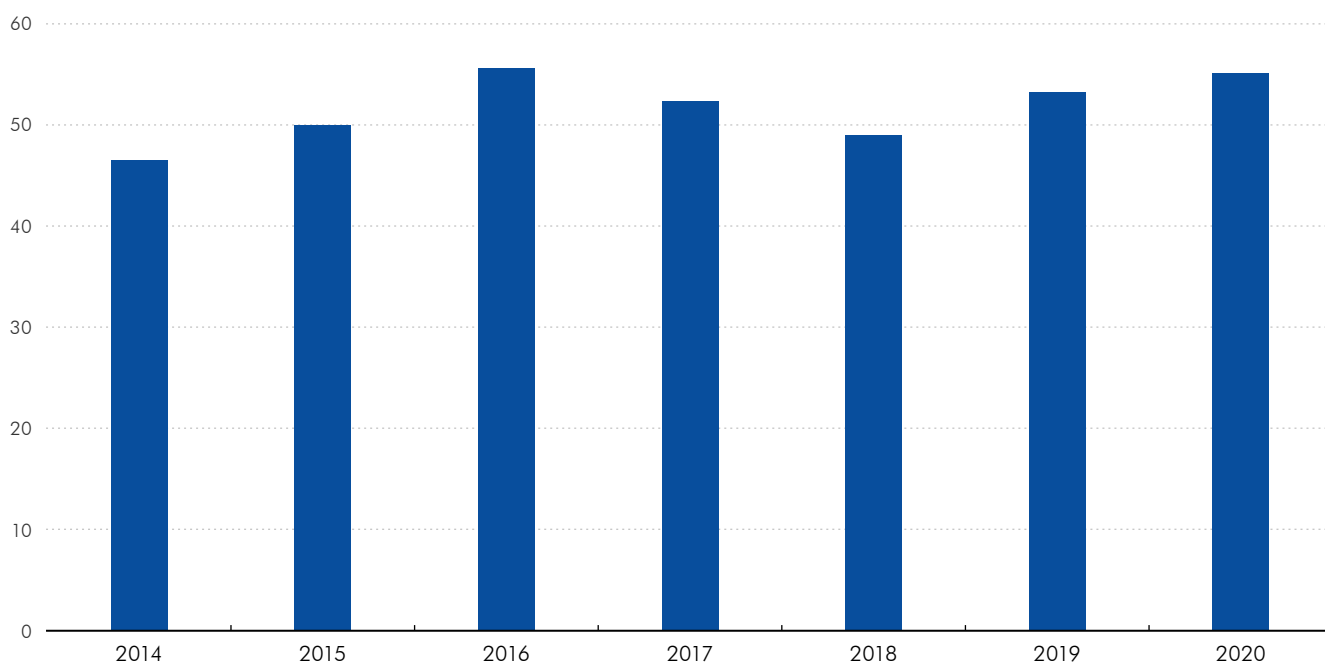
In terms of the final disposal of solid waste, only 17.2% of the country's municipalities take all or part of the solid waste to a sanitary landfill, despite the fact that the law states that

the use of sanitary landfills is mandatory and that the private sector is allowed to participate in the development of such landfills. In addition, 84% of municipalities have landfills (*botaderos*) as a final destination for waste. This is worrying, as landfills are illegal sites that, by law, should be closed down by provincial municipalities.

Nationally, there are only 65 landfills serving 210 of the 1,874 districts, i.e. only 11.2% coverage of the total waste. Some of the country's regions, such as Arequipa, Madre de Dios and Tacna, do not have sanitary landfills. It is also important to mention that 45% of the municipalities do not have a Solid Waste Management Plan, while 68% of the country's municipalities do not have any recycling programme.<sup>11</sup> So far, there are no signs that the authorities are considering alternative waste disposal options other than landfills.

As for the final disposal of solid waste in the country, almost half of the solid waste is not disposed of properly, which contributes to environmental degradation and is detrimental to the health of the population (see Figure 2).

**FIGURE 2:** PROPORTION OF MSW COLLECTED ON A REGULAR BASIS AND WITH ADEQUATE FINAL DISCHARGE, OUT OF THE TOTAL MSW GENERATED (%)



Source: MINAM [sinia.minam.gob.pe/informacion/tematicas?tematica=08](http://sinia.minam.gob.pe/informacion/tematicas?tematica=08) Prepared by the author.

<sup>9</sup> INEI. Access to Basic Services in Peru 2021.

<sup>10</sup> INEI Yearbook of Environmental Statistics 2022.

<sup>11</sup> INEI Yearbook of Environmental Statistics 2022.

Most municipalities in the country, whether at provincial or district level, face serious resource problems to adequately address solid waste management. According to the latest available figures, for the period 2017-2019, the average annual per capita municipal expenditure on solid waste management was only 49 soles.<sup>12</sup>

## REGULATORY FRAMEWORK

The current general regulatory framework for solid waste management was established by the **Law on Integrated Solid Waste Management** published in 2016, which came into force with the approval of its regulation, Supreme Decree No 014-2017-MINAM of 22 December 2017. Law No 1501 of 11 May 2020 amended some articles of Law 1278.

Through these regulations, the aim was to minimise the generation of solid waste at source, its material and energy recovery, its adequate final disposal and the sustainability of public cleaning services. According to these norms, municipalities are primarily responsible for solid waste management, which includes sweeping, cleaning and storage in public spaces, as well as the collection, transport, transfer, recovery and final disposal of solid waste within their jurisdiction. This law also established the elaboration, under its own responsibility, of the Provincial Plan for the Management of Municipal Solid Waste and the Municipal Solid Waste Management Plan, which must be aligned with the National Plan for Integrated Solid Waste Management (PLANRES), both of which must be reviewed every five years.

These norms regulate all aspects of the different stages of solid waste management and establish the obligations of the different participants in the process, as well as the applicable sanctions. In the following, some aspects of interest to companies are emphasised, such as:

### In the case of the waste generator

- The owners of productive, extractive and service activities can voluntarily sign Clean Production Agreements on solid waste with MINAM and/or the competent authority, on the basis of which some incentives can be granted.
- It introduces, among other principles, the extended producer responsibility (EPR), which promotes that manufacturers, importers, distributors and marketers are actively involved in the different stages of the product life cycle.



Credit: MINAM/Flickr

- Holders of production activities that possess waste material and those that use it must have an Environmental Management Instrument (EMI) approved by the competent authority, and any changes must be approved in advance.
- The waste generator is obliged to segregate his solid waste according to its physical, chemical and biological characteristics, in order to facilitate its recovery and/or disposal.
- Non-municipal solid waste generators must contemplate in the Plan for Minimization and Management of Non-Municipal Solid Waste, the description of the operations of minimization, segregation, storage, collection, transport, recovery and final disposal of solid waste generated as a result of the development of their productive, extractive or service activities.
- Non-municipal solid waste generators that do not have IGAs are responsible, among others, for<sup>13</sup>:
  - Maintain an internal record on the generation and management of solid waste in its facilities, in order to have the necessary information on the generation, minimization and management of solid waste;
  - Hire an SW-OC for the management of solid waste outside the industrial or productive facilities, areas of the concession or lot of the project owner;
  - Adopt measures for the restoration and / or rehabilitation and / or repair and / or environmental compensation for the inadequate management of non-municipal solid waste of its activity;

<sup>12</sup> MINAM [sinia.minam.gob.pe/informacion/tematicas?tematica=08](http://sinia.minam.gob.pe/informacion/tematicas?tematica=08)

<sup>13</sup> Rule 48 of the Rules of Procedure.

- Establish and implement strategies and actions leading to the recovery of waste as the first management option;
- Submit the Annual Declaration on Minimization and Management of Non-Municipal Solid Waste –also called Annual Declaration of Solid Waste Management– through SIGERSOL;
- Present the Hazardous Waste Management Manifesto through SIGERSOL;
- In the event that non-municipal solid waste generators are located in areas where there is no authorized solid waste infrastructure and/or SW-OC, they must establish and implement management alternatives that guarantee the adequate recovery and/or final disposal of solid waste.

- iii) Transfer;
- iv) Treatment;
- v) Recovery; and,
- vi) Final disposal.

Registration with DIGESA is also required.

- The management of solid waste, not similar to household waste, must be done through EO-RS.
- The contracts that EO-RSs sign with municipalities or waste generators must comply with the requirements established in the legal norms.
- The law incorporates duly formalized waste pickers' organizations as actors that can participate in the different stages of solid waste management.

The general regulatory framework is complemented by other legal provisions; Table 3 presents the main ones.

With regard to plastic waste, in 2018 the Law regulating single-use plastic and disposable containers or packaging (Law 30884) was created, with the intention of reducing the volume of solid waste and promoting its valorisation, i.e. the recycling of polyethylene terephthalate (PET) by establishing the obligation to use recycled material in PET bottles, in at least 15% of its composition.

### Solid Waste Operating Companies (SW-OC)

- Companies that are set up to carry out operations related to solid waste management must first register in MINAM's Authorised Registry of Solid Waste Operating Companies (EO-RS). The activities covered are:
  - i) Sweeping and cleaning of public spaces;
  - ii) Collection and transport;

**TABLE 3: LEGAL PROVISIONS REGULATING SOLID WASTE MANAGEMENT**

<b>Supreme Decree No 003-2013-VIVIENDA</b>	Supreme Decree of the Regulation for the Management and Management of Waste from Construction and Demolition Activities.
<b>Supreme Decree No 009-2019-MINAM</b>	Regulation for the Management and Handling of Waste Electrical and Electronic Equipment. Special regime for WEEE.
<b>Supreme Decree No 035-2021-MINAM</b>	Approves Complementary Provisions to Supreme Decree No. 009-2019-MINAM.
<b>Ministerial Resolution 554-2012/MINSA</b>	Resolution approving the Technical Standard on the Management and Management of Solid Waste in Health Facilities and Medical Support Services.
<b>INACAL Directorial Resolution No 003-2019</b>	Approves the Peruvian Technical Standard NTP 900.058 Color Code for the storage of solid waste.
<b>Law No 29419 of October 2009</b>	Law regulating the activities of waste pickers, and its Regulations, approved by Supreme Decree No. 005-2010-MINAM.

## RECYCLING IN PERU

Peruvian legislation encourages the recycling of solid waste and a number of initiatives have been launched at the municipal level and also by the private sector to increase the recovery of this type of waste.<sup>14</sup> However, a very small proportion of solid waste that can be recovered is still being used. Figure 3 shows the evolution of the volume of solid waste recycled in Peru.

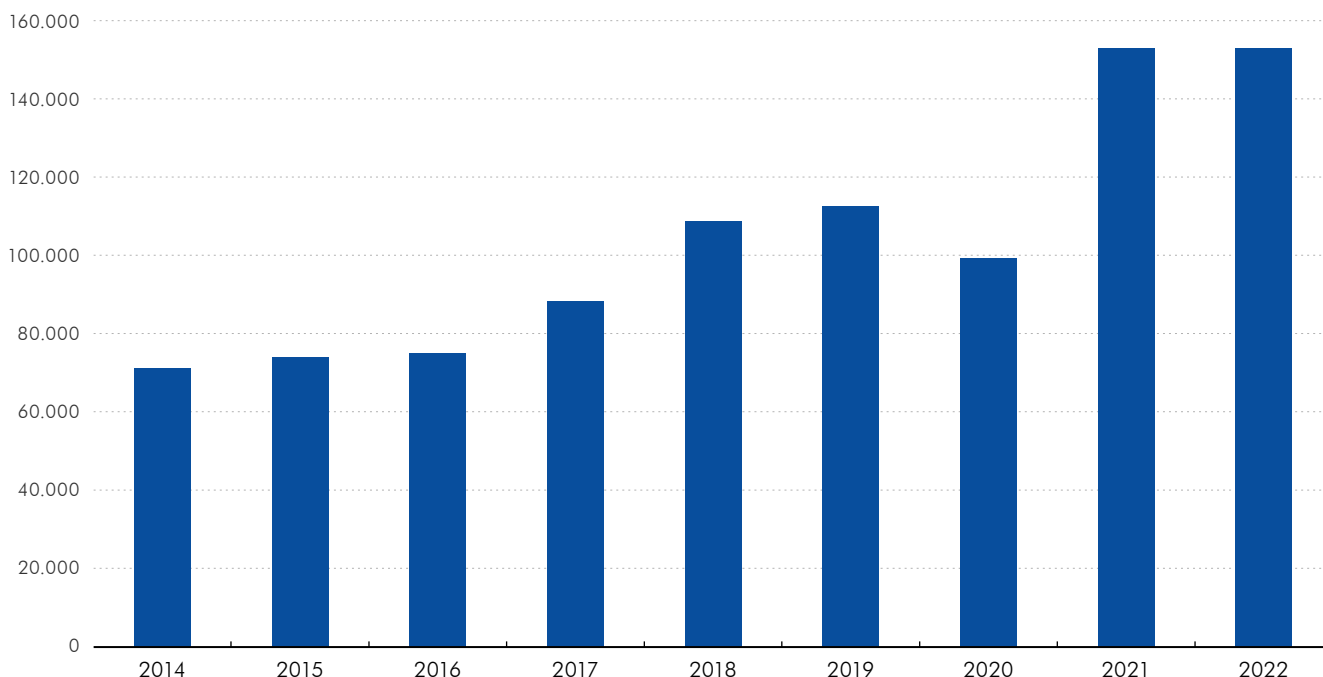
Although there has been a steady increase, the volume still constitutes a tiny fraction of all usable solid waste generated. In the case of organic solid waste, only 1.5% of recoverable waste is used, and in the case of inorganic waste, only 4.7%. In total, only 2.3% of recoverable waste is used.<sup>15</sup>

These figures may be underestimating the volume of recovered solid waste given the high level of informality in waste management. It should be emphasised that there is still much to be done in the country for the circular economy to reach scale and achieve tangible results in terms of scope and impact. This offers interesting business opportunities.



In Peru there is great potential for the valorisation of solid waste, both organic waste for composting and bio-fuel, as well as inorganic waste, such as plastic, paper and cardboard, metals and glass, among others, which are those that urban households tend to separate the most.

**FIGURE 3:** RECLAIMED SOLID WASTE IN PERU, 2014-2022



Source: MINAM Indicadores de Gestión de Residuos Sólidos 2022.

<sup>14</sup> An important milestone has been the implementation of the "Roadmap towards a Circular Economy in the Industry Sector" (2020), an initiative of the Ministry of Production (PRODUCE) and Environment (MINAM), which promotes through multiple instances the circular economy in manufacturing and industrial fish processing industries. Another milestone, at the local level, has been the implementation of the Municipal Waste Valorisation programmes, which seeks to activate integrated waste collection and segregation systems in municipalities.

<sup>15</sup> MINAM. Solid Waste Management Indicators, June 2022. General Directorate of Solid Waste Management.

Peruvian legislation allows for the participation of the private sector in all stages of solid waste management. The value chain in waste recovery starts with the recyclers, who are the ones who separate the waste. It is estimated that there are approximately 180,000 people engaged in this activity in the country and they must register in the Municipal Registry of Waste Pickers' Organisations. However, a small proportion of them are registered and the activity is highly informal. A second category of actors is the collectors, which are small and medium-sized enterprises or organisations of waste pickers. It is estimated that approximately 13,000 collectors purchase waste, separate it, condition it and sell it to traders, of which there are around 2,000 (generally medium and large enterprises that carry out the conditioning, i.e. pressing, cutting and packaging of waste). In the end, industrial companies purchase this material for use as inputs (78 companies), or for sale abroad (62 exporters).<sup>16</sup> The most exported material is metal waste. In 2022, Peruvian exports of solid waste from the iron and steel sector amounted to around US\$ 115 million, after the shipment of 51,786 tonnes.<sup>17</sup>

## REQUIREMENTS FOR EXPORTING OR IMPORTING WASTE

EO-RSs registered and authorised by DIGESA carry out the import and export of waste. Non-municipal waste generators can also carry out foreign trade operations for their production process. In the case of generators, they must declare it in their respective Waste Management Plan. DIGESA must authorise the import of waste by means of a directorial resolution and, in the case of export, notification is issued to the importing country. In November 1993, Peru acceded to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal.

Any import or export of waste must be reported to DIGESA within 15 calendar days of the date on which it is imported or exported, and the following is required:

- Single foreign trade application processed through the Foreign Trade Single Window (VUCE).
- The EO-RS or the generator must present the descriptive report of the process to which the waste will be subjected, volumes of the product and of the waste generated in accordance with the Management Plan, under the characteristics determined by DIGESA.



It is estimated that there are approximately 180,000 recyclers in the country.

Credit: MINAM/Flickr

- The corresponding certificates of analysis (physical, chemical, microbiological, radiological, toxicological, or other) in order to guarantee the absence of risk to human health or the environment.
- The insurance policy in accordance with the provisions of Article 104 of the Regulation.
- In the case of importation, the notification from the exporting country endorsed by the Health Authority or Environmental Authority of that country, stating that the waste will not cause damage to the environment or health.

<sup>16</sup> These figures are from: Opportunity Evaluations Inclusive Waste Management in Peru: Enabling the Recycling Business March 2018. Center for Inclusive Growth, Global Fairness, Healthy City. Available in: [Gestion-Inclusiva-de-Residuos-en-Peru-Habilitando-el-negocio-del-reciclaje%20\(7\).pdf](#)

<sup>17</sup> Institute of Research and Development of Foreign Trade of the Chamber of Commerce of Lima (Idecxam). [lacamara.pe/exportacion-de-desechos-metalsiderurgico-suma-us-1146-millones](#)



## USEFUL LINKS

- **MINISTERIO DEL MEDIO AMBIENTE (MINAM)**  
[www.gob.pe/minam](http://www.gob.pe/minam)
- **DIRECCIÓN GENERAL DE SALUD AMBIENTAL E INOCUIDAD ALIMENTARIA (DIGESA)**  
[www.digesa.minsa.gob.pe](http://www.digesa.minsa.gob.pe)
- **PERU SOSTENIBLE**  
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