

EXECUTIVE SUMMARY

E-waste constitutes one of the fastest-growing streams of physical waste in today's global environment and is a threat to sustainable development. Data on e-waste is required in order to evaluate developments over time, delineate national and international policies, limit e-waste generation, prevent illegal dumping, promote recycling, and create jobs in the recycling sectors. However, few countries collect internationally comparable e-waste statistics, and many countries lack the capacity to collect e-waste data at both the regional and national level.

Within the framework of the project, 'Strengthening of National Initiatives and Enhancement of Regional Cooperation for the Environmentally Sound Management of POPs in Waste of Electronic or Electrical Equipment (WEEE)', known primarily as PREAL (Proyecto Residuos Electrónicos América Latina project) – which is funded by Global Environment Facility (GEF) and coordinated by the United Nations Industrial Development Organization (UNIDO) – this *Regional E-waste Monitor for Latin-America: Results for the 13 countries participating in project⁽¹⁾ UNIDO-GEF 5554* is the first regional monitoring effort on e-waste statistics, legislation, and e-waste management infrastructure to enhance the understanding and interpretation of regional e-waste data, with the goal of facilitating environmentally sound management of e-waste.

The key statistical findings of the region are that the total amount of electrical and electronic equipment (EEE) placed on the market (POM) has fluctuated between 2010 and 2019. The total EEE POM was 1.7 Mt (8.9 kg/inh) in 2010, increased to a height of 1.9 Mt in 2017, and decreased to 1.7 Mt (8.1 kg/inh) in 2019. Only Argentina, Costa Rica, and Chile have internal domestic production of EEE; all 10 other countries rely entirely on imports. Over the same period, e-waste generation in the region increased by 49 percent, from 0.9 Mt (4.7 kg/inh) in 2010 to 1.3 Mt (6.7 kg/inh) in 2019. The amount of e-waste generated per inhabitant was highest in Costa



Rica (13.2 kg/inh) and lowest in Nicaragua (2.5 kg/inh). Small equipment (Cat. V), temperature exchange (Cat. I), and large equipment (Cat. IV) have the highest share of e-waste generation, representing 75 percent of the total share in the region. The annual growth rate decreased for nearly all categories, remaining positive except for screens, which show negative growth rates as the cultures have moved from CRT screens to lighter flat screens. The 13 analysed countries officially collect and managed a total of 36.0 kt (0.21 kg/inh) of e-waste in 2019. At the time of this report's publication, Guatemala was in the process of surveying data on the collection of e-waste, but no official data was provided. Costa Rica has the highest e-waste collection of 8.0 percent (1.0 kg/inh) of its total e-waste generated, followed by Chile with 5.0 percent (0.4 kg/inh). The EEE plastic POM has decreased slightly over the years, from 0.47 Mt (2.49 kg/inh) in 2010 to 0.46 Mt (2.22 kg/inh) in 2019. E-waste plastic generated increased steadily from 0.24 Mt (1.29 kg/inh) in 2010 to 0.38 Mt (1.85 kg/inh) in 2019. Since 2010, e-waste plastic generation has increased 63 percent – to 0.38 Mt in 2019. There is no specific data on the volume of Environmentally Sound Management, or ESM of Persistent Organic Pollutants, or POPs, resulting from e-waste plastic.

All 13 participating countries in the region have some legal and regulatory frameworks for waste management, but only five – Bolivia (Plurinational State of), Chile, Costa Rica, Ecuador, and Peru – have specific legislations for e-waste and Extended Producer Responsibility (EPR) systems in place, focusing on the regulation of e-waste. Argentina, El Salvador, Guatemala, Honduras, Nicaragua, Panama, Uruguay, and Venezuela (Bolivarian Republic of) have neither EPR nor defined collection targets for e-waste in place. E-waste management in these countries is primarily defined in general waste or hazardous legislations and/or regulations. All countries have hazardous waste regulation that includes POPs, but none has legislation specifically for POPs from e-waste.

Since 2010, e-waste generation has increased in the 13 countries analyzed 49 percent – to 1.3 Mt in 2019. The e-waste formally collection rate is 2.7 percent.

The Basel Convention⁽²⁾ on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (commonly referred to as the Basel Convention) controls the transboundary movement (TBM) of e-waste, and all 13 of the participating LATAM countries have ratified it and enacted national bans on e-waste imports, but the enforcement of these measures remains a significant challenge. Many countries in the region do not submit transboundary movement (TBM) reports to the Basel Convention. This makes monitoring and mapping of the TBM of e-waste and POPs within and outside of the region difficult. There is no official data on e-waste importation/exportation from 2016-2019 for Bolivia (Plurinational State of), Chile, Ecuador, and Panama. There is TBM of materials into and out of the region that are not reflected in the reporting to the Basel Convention. All countries studied do not restrict the export of hazardous waste and other wastes for final disposal or recovery. Low quality of data and control of TBM of e-waste through the Basel Convention poses a threat to the environmentally sound management of e-waste and illegal movements. Furthermore, used-EEE imports result in more e-waste in the receiving countries and place burdens on existing e-waste management. Meanwhile, the functionality of imported used-EEE and (if mixed with e-waste) their quantities remain unknown.

Managing e-waste could be an economic opportunity, as the e-waste generated in 2019 contained 7 t of gold, 0.31 t of rare earth metals, 591 kt iron, 54 kt copper, and 91 kt aluminium, representing a total value of approx. \$1.7 billion USD of secondary raw materials. Over 97 percent of e-waste in the region is not formally collected or sent to ESM facilities for proper management. Most e-waste ends up in landfills, with the informal sector cherry picking some valuable parts. The hazardous substances in e-waste – comprising at least 2.2 t of mercury, 0.6 t cadmium, 4.4 kt lead, 4 kt brominated flame retardants, and 5.6 Mt of Greenhouse Gases-equivalents (due to

refrigerants) – are poorly managed within the region and are likely to be untreated, generating various risks to the stability of a healthy environment.

The assessments of e-waste management and of POPs contained in them, statistics, legislation, and the existing challenges evidently show that changes for the improvement of e-waste and POP management systems applied thus far would also vary from country to country. The countries in the region will need to introduce and enforce either: a) a robust legal and policy framework focused on ESM of e-waste, or b) monitor and reinforce existing systems to make them more efficient and effective. Adequate financing and monitoring of the systems and cooperation of all stakeholders are essential for ensuring that the policies setup for e-waste management is sustained. Seven general recommendations can be drawn from the analysis presented herein, and an all-encompassing approach, involving all actors and stakeholders in each country, would be needed in order to implement them. A somewhat strengthened transnational cooperation is necessary in order to reduce the burden of large investments and secure the necessary turn-around. The seven recommendations are: (i) Prevent More, (ii) Be More Aware, (iii) Collect More, (iv) Pollute Less, (v) Pay Adequately, (vi) Work More Safely, and (vii) Train More.

E-waste generation for the 13 countries analyzed represent a total value of \$1.7 billion USD.

