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The report is available for preview online at <http://bit.ly/1an7E08>

Discarded Kitchen, Laundry, Bathroom Equipment Comprises Over Half of World E-waste: UNU Report

*End-of-life electronic, electrical equipment
totals 41.8 million metric tonnes in 2014*

*E-waste last year contained \$52 billion in resources,
large volumes of toxic material; most is not collected for recovery or treatment*

New report details e-waste generation by region

In 2014, people worldwide discarded all but a small fraction of an estimated 41.8 million metric tonnes (Mt) of electrical and electronic products — mostly end-of-life kitchen, laundry and bathroom equipment like microwave ovens, washing machines and dishwashers.

And the volume of e-waste is expected to rise by 21% to 50 million Mt in 2018.

The new figures were released today in the Global E-Waste Monitor 2014, compiled by the United Nations University (UNU), the UN's think tank. The report offers in unprecedented detail a wealth of insights into the location and composition of the world's fast-growing e-waste problem.

Just 7% of e-waste last year was made up of mobile phones, calculators, personal computers, printers, and small information technology equipment.

Almost 60% was a mix of large and small equipment used in homes and businesses, consisting of:

- 12.8 Mt of small equipment (vacuum cleaners, microwaves, toasters, electric shavers, video cameras, etc.)
- 11.8 Mt of large equipment (washing machines, clothes dryers, dishwashers, electric stoves, photovoltaic panels, etc.)
- 7.0 Mt of cooling and freezing equipment (temperature exchange equipment).

- 6.3 Mt of screens
- 3.0 Mt of small IT (mobile phones, pocket calculators, personal computers, printers, etc.)
- 1.0 Mt of lamps

The 41.8 million Mt weight of last year's e-waste is comparable to that of 1.15 million 40-ton 18-wheel trucks, enough to form a line of trucks 23,000 kilometres long, or the distance from New York to Tokyo and back.

Less than one-sixth of last year's e-waste is thought to have been diverted to proper recycling and reuse.

The e-waste generated in 2014 contained an estimated 16,500 kilotons of iron, 1,900 kilotons of copper, 300 tonnes of gold (equal to 11% of the world's total 2013 gold production), as well as silver, aluminum, palladium plastic and other resources with a combined estimated value of US \$52 billion (48 billion Euro).

Toxins in that e-waste, meanwhile, include 2.2 Mt of lead glass — more than six times the weight of the Empire State Building — 0.3 Mt of batteries, as well as mercury, cadmium, chromium and 4,400 tonnes of ozone-depleting substances (CFCs). Health problems associated with such toxins include impaired mental development, cancer, and damage to livers and kidneys.

And while the USA and China produce the most e-waste overall (32% of the world's total), the top per capita producers by far are the wealthy nations of northern and western Europe, the top five being Norway, Switzerland, Iceland, Denmark, and the UK.

The escalating global e-waste problem is driven by the rising sales and shortening life cycles of electrical and electronic equipment (EEE — essentially, any device with a battery or an electric cord).

“Worldwide, e-waste constitutes a valuable ‘urban mine’ — a large potential reservoir of recyclable materials. At the same time, the hazardous content of e-waste constitutes a ‘toxic mine’ that must be managed with extreme care,” says UN Under-Secretary-General David Malone, Rector of UNU.

“The monitor provides a baseline for national policymakers, producers and the recycling industry, to plan take-back systems. It can also facilitate cooperation around controlling illegal trade, supporting necessary technology development and transfer, and assisting international organizations, governments and research institutes in their efforts as they develop appropriate countermeasures. This will eventually lead to improved resource efficiency while reducing the environmental and health impacts of e-waste.”

Says co-author Kees Baldé of United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS) SCYCLE in Bonn (Germany): “This report, based on empirical data, provides an unprecedented level of detail and a more accurate overview of the magnitude of the e-waste problem in world different regions than has ever been reported previously.”

Selected highlights:

- In 2014, approximately 4 billion people were covered by national e-waste legislation (though not all laws cover the full range of e-waste and are not all enforced).

- Around 6.5 Mt of e-waste was reported as formally treated by national take-back systems
- Most world e-waste in 2014 was generated in Asia: 16 Mt (3.7 kg per inhabitant)
- The highest per inhabitant e-waste quantity (15.6 kg/inh.) was generated in Europe; the region (including Russia) generated 11.6 Mt
- The lowest quantity of e-waste was generated in Oceania (0.6 Mt), however, per inhabitant the e-waste generated was nearly as high as Europe's (15.2 kg/inh.)
- The lowest amount of e-waste per inhabitant was generated in Africa (1.7 kg/inh). The continent generated 1.9 Mt of e-waste in total.
- The Americas generated 11.7 Mt of e-waste (7.9 Mt in North America, 1.1 Mt in Central America, 2.7 Mt in South America), or an average of 12.2 kg/inh
- Growth of e-waste by volume since 2010, with projections to 2018

GLOBAL QUANTITY OF E-WASTE GENERATED			
Year	E-waste generated (Mt)	Population (billion)	E-waste generated (kg/inh.)
2010	33.8	6.8	5.0
2011	35.8	6.9	5.2
2012	37.8	6.9	5.4
2013	39.8	7.0	5.7
2014	41.8	7.1	5.9
2015	43.8	7.2	6.1
2016	45.7	7.3	6.3
2017	47.8	7.4	6.5
2018	49.8	7.4	6.7

Top 40 e-waste producing nations, per capita (kg per individual), and by volume (kt)

Name	WEEE_kgInh	WEEE_kt	Regulations	population		Name	WEEE_kt
Norway	28.4	146	yes	5150000	*	United States of America	7072.0
Switzerland	26.3	213	yes	8098000	* *	China	6032.6
Iceland	26.1	9	yes	331000	* *	Japan	2200.5
Denmark	24.0	135	yes	5610000		Germany	1768.9
United Kingdom of Great Britain and Northern Ireland	23.5	1511	yes	64271000		India	1640.7
Netherlands	23.4	394	yes	16861000		United Kingdom of Great Britain and Northern Ireland	1510.9
Sweden	22.3	215	yes	9655000		France	1418.7
France	22.2	1419	yes	63996000		Brazil	1411.9
United States of America	22.1	7072	yes	319701000		Russian Federation	1230.7
Austria	22.1	188	yes	8520000		Italy	1076.9
Germany	21.7	1769	yes	81589000		Mexico	957.9
Finland	21.5	118	yes	5476000		Spain	817.4
China, Hong Kong Special Administrative Region	21.5	157	yes	7296000		Republic of Korea	804.2
Belgium	21.5	242	yes	11260000		Indonesia	745.1
Luxembourg	21.0	12	yes	550000		Canada	724.7
Canada	20.4	725		35538000		Iran (Islamic Republic of)	580.7
Australia	20.1	468	yes	23339000		Turkey	503.1
Ireland	19.8	92	yes	4641000		Australia	468.2
Singapore	19.6	110	no	5595000		Taiwan	437.6
New Zealand	19.1	86	no	4510000		Thailand	418.9
Bahamas	19.1	7	no	360000		Poland	396.6
Taiwan	18.6	438		23499000		Netherlands	394.4
Brunei Darussalam	18.1	7	no	411000		Saudi Arabia	378.8
Spain	17.8	817	yes	45995000		Egypt	373.0
Italy	17.6	1077	yes	61156000		South Africa	346.4
Japan	17.3	2200	yes	127061000		Argentina	291.7
United Arab Emirates	17.2	101	no	5873000		Pakistan	265.6
Israel	17.2	138	no	8040000		Ukraine	257.6
Kuwait	17.2	69	no	3999000		Colombia	252.2
Qatar	16.4	33	no	1989000		Belgium	241.7
Portugal	16.2	171	yes	10569000		Venezuela (Bolivarian Republic of)	232.7
Republic of Korea	15.9	804	yes	50475000		Malaysia	231.7
Greece	15.2	171	yes	11242000		Nigeria	219.3
Slovenia	15.0	31	yes	2066000		Sweden	215.2
Czech Republic	14.8	157	yes	10594000		Switzerland	213.4
Malta	14.6	6	yes	418000		Romania	196.7
Oman	14.1	46	no	3288000		Austria	187.9
Estonia	14.1	19	yes	1340000		Algeria	183.5
Barbados	13.2	4	no	279000		Chile	176.2
Bahrain	12.9	16	no	1198000		Portugal	170.9

United Nations University

UNU is an autonomous organ of the UN General Assembly dedicated to generating and transferring knowledge and strengthening capacities relevant to global issues of human security, development, and welfare. The University operates through a worldwide network of research and training centres and programmes, coordinated by UNU Centre in Tokyo.

The UNU's Institute for the Advanced Study of Sustainability (UNU-IAS) is a leading research and teaching institute based in Tokyo. Its mission is to advance efforts towards a more sustainable future, through policy-oriented research and capacity development focused on sustainability and its social, economic and environmental dimensions. UNU-IAS serves the international community, making valuable and innovative contributions to high-level policymaking and debates within the UN system.

Sustainable Cycles (SCYCLE) is an operating unit of UNU-IAS based in Bonn, Germany. Its activities are focused on the development of sustainable production, consumption and disposal

patterns for electrical and electronic equipment, as well as other ubiquitous goods. SCYCLE leads the global e-waste discussion and advances sustainable e-waste management strategies based on life-cycle thinking.

SCYCLE fosters a solutions-oriented dialogue, cooperation and consensus through e.g. hosting the Solving the E-Waste Problem (Step) Initiative, a global network of more than 65 member organizations committed to developing applicable, holistic, science-based recommendations concerning the growing e-waste problem.