

4. TRANSBOUNDARY MOVEMENT OF E-WASTE

Several regulations at national, regional and international levels have been developed to monitor and control the transboundary movement of e-waste. The Basel Convention is the only global treaty on hazardous waste and other wastes, which encompasses e-waste. It was adopted on 22 March 1989 and entered into force on 5 May 1992. The Parties to the Convention adopted the Nairobi Declaration on the Environmentally Sound Management of Electrical and Electronic Waste in 2006 and the Cartagena Declaration on the Prevention, Minimization and Recovery of Hazardous Wastes and Other Wastes in 2011 in order to promote ESM of hazardous waste, including e-waste.

The Basel Convention defines the "hazardousness" of waste on the basis of the substances present in the waste materials, and it classifies the waste as either hazardous or non-hazardous depending on its chemical properties. The Basel Convention sets out a detailed prior informed consent procedure with strict requirements for the transboundary movement of hazardous wastes. The transboundary movement of hazardous waste and e-waste is subject to that procedure when an importing party and/or an exporting party deems the e-waste concerned to be hazardous, as determined under the provisions of its national law. The following waste subject to transboundary movement are deemed "hazardous wastes" for the purpose of the Basel Convention:

- Wastes that belong to any category contained in Annex I of the Convention, unless they do not possess any of the characteristics contained in Annex III of the Convention.
- Wastes that are not covered under the previous group but are considered to be hazardous waste by the domestic legislation of the party of export, import or transit.

It is important to note that national guidelines concerning the definition of waste may differ, and a material that is regarded as waste in one country may be considered non-waste in another country. In addition to the provisions of the Basel Convention, some parties set national threshold values to distinguish between hazardous and non-hazardous waste, including e-waste.

A. Overview of e-waste import and export legislation and policies

All Arab States are parties to the Basel Convention, which controls the transboundary movement of e-waste, among other kinds of waste.

So far, the regulation of the import and export of e-waste in the Arab States region mostly relies on the provisions of the Basel Convention, to which all Arab States reviewed are signatories⁽⁹⁾. Nonetheless, some Arab States, including Algeria, Egypt, Kuwait, Lebanon, the State of Palestine, Qatar and the United Arab Emirates have also issued national laws on the import and export of hazardous waste, including e-waste. In particular, Egypt has legislation that restricts the import of EEE equipment older than five years from the year of production, with the exception of some EEE in good condition, and completely prohibits the importation of e-waste. In addition, article 46 of Egypt's Telecommunication Regulation Act (No. 10/2003) prohibits the import of used telecommunication equipment for the purpose of trading (GIZ 2014a).

Usually, exportation of e-waste in the Arab States region is conducted according to the rules of the Basel Convention. In Algeria, however, the export and transit of hazardous special waste (including e-waste) are, in all cases, subject to prior authorization by the Minister of the Environment and are permitted only under certain conditions, including:

- compliance with internationally agreed packaging and labelling rules and standards;
- the presentation of a written contract between the exporting economic operator and the processing centre;
- the presentation of an insurance contract with all the necessary financial guarantees;
- the presentation of a movement document signed by the person in charge of the cross-border transport operation;
- the presentation of a signed notification document confirming the prior consent of the competent authority of the importing country.

The import of hazardous special waste (including e-waste) is strictly prohibited in Algeria, in accordance with the provisions of Act No. 01-19 of 12 December 2001, on the management, control and disposal of waste.

Several countries, such as Jordan, Kuwait, Lebanon, Qatar, Saudi Arabia and the United Arab Emirates, prohibit the import of hazardous waste and materials but permit their export under the Basel Convention. More specifically, Jordan and Lebanon allow the export of hazardous wastes (including e-waste) under specific licensing conditions and with the authorization of the supervisory ministry. Kuwait and Qatar allow the export of such wastes under Basel Convention conditions only where no plant for recycling or treating such wastes exists within the exporting country.

B. Overview of e-waste import and export quantities

The findings from the analysis of the transboundary movement of e-waste in the Arab States region are presented in Table 3. The analysis is limited to the official reports submitted under the Basel Convention for the period 2016-2019 and therefore does not provide a comprehensive overview of all the import and export flows of e-waste in the region, especially the highly active informal sector. It must also be stressed that the analysis does not reflect the import and export of equipment declared for reuse, although many studies around the world have shown that a substantial proportion of e-waste is declared for reuse.

Despite being a formal obligation under the Basel Convention, only 13 of the 21 participating States plus the State of Palestine reported statistics on e-waste under the Basel Convention procedures. The picture of transboundary movement of e-waste in the region is therefore incomplete.

Of the 21 participating States plus the State of Palestine, 15 submitted reports under the Basel Convention between 2016 and 2019. Only 13 of the participating States submitted reports in 2018 or 2019. For Morocco and Yemen, the latest report available dates from 2017.

Despite providing annual reports under the Basel Convention, not all participating countries have data on import and export flows of hazardous waste. Statistical data were available for only 13 Arab States for 2018-2019, namely Algeria, Bahrain, Egypt, Jordan, Lebanon, Morocco, Oman, the State of Palestine, Qatar, Saudi Arabia, Tunisia, the United Arab Emirates and Yemen. Iraq and Libya reported very limited statistical data in 2016 and 2018, none of which related to e-waste.

Between 2016 and 2019, Algeria, Egypt, Qatar and the United Arab Emirates exported 1 645 t of e-waste for resource recovery and recycling.

Through the analysis described in the methodology chapter, it has been possible to evaluate the transboundary movement of certain types of e-waste in the region using the official classification system set out in the Basel Convention. The countries that reported transboundary movement of e-waste in the region are Algeria, Egypt, Qatar and the United Arab Emirates. Algeria exported 40 t of waste contaminated with mercury (A1030) to Switzerland in 2017. In 2019, Egypt exported 5 t of "waste electrical and electronic assemblies or scrap containing components such as accumulators and other batteries" (A1180) (further described as "lithium metal batteries in equipment") to Canada for ESM recycling/reclamation of metals and metal compounds (R4 in the official R-codes of the Basel Convention). Between 2016 and 2017, Qatar exported a total of 600 t of e-waste (classified as A1180 and B1110) to Singapore for ESM recycling/reclamation of metals and metal compounds (R4 in the official R-codes of the Basel Convention). In 2018, the United Arab Emirates exported 1 000 t of e-waste (A1180) (further described as "electronic scrap containing precious metals and copper compounds") to the Republic of Korea for ESM recycling/reclamation of metals and metal compounds. In total, between 2016 and 2019, 1 645 t of e-waste were exported abroad from the Arab States region.

A large portion of e-waste generated in Saudi Arabia and Qatar is exported, mainly to China and India. Even though legislation is in place to restrict the movement of hazardous wastes in the region, the near absence of recycling facilities in many countries means that waste must be managed locally within the informal sector or exported. Consequently, many countries in the region (such as Saudi Arabia and Sudan) resort to exporting e-waste for treatment abroad. Additional information provided by the Ministry of Municipality and Environment of Qatar indicates that Qatar exported 45.91 t of e-waste in 2014, 90.4 t in 2015, 248 t in 2017 and 142.9 t in 2019.

None of the Arab States that participated in the study reported cases of e-waste imports under the Basel Convention.

No documented, official imports of e-waste or any other hazardous materials from other countries were reported by any of the participating Arab States. It is worth underlining that reports submitted under the Basel Convention cover regulated and documented transboundary e-waste flows only and do not include flows of illegal e-waste or used EEE.

Table 3. Overview of officially reported transboundary movement of e-waste in the region

State/territory	National report available for 2016-2019	Statistics available	Estimate of e-waste reported under the Basel Convention ⁽¹⁰⁾		Year
			Import (t)	Export (t)	
Algeria	Yes	Yes	-	40	2017
Bahrain	Yes	Yes	-	-	
Comoros	No	No	-	-	
Djibouti	No	No	-	-	
Egypt	Yes	Yes	-	5	2019
Iraq	Yes	No ⁽¹¹⁾	-	-	
Jordan	Yes	Yes	-	-	
Kuwait	No	No	-	-	
Lebanon	Yes	Yes	-	-	
Libya	Yes	No ⁽¹²⁾	-	-	
Mauritania	No	No	-	-	
Morocco	Yes ⁽¹³⁾	Yes	-	-	
Oman	Yes	Yes	-	-	
State of Palestine	Yes	Yes	-	-	
Qatar	Yes	Yes	-	600	Total for 2016 and 2017
Saudi Arabia	Yes	Yes	-	-	
Somalia	No	No	-	-	
Sudan	No	No	-	-	
Syrian Arab Republic	No	No	-	-	
Tunisia	Yes	Yes	-	-	
United Arab Emirates	Yes	Yes	-	1 000	2018
Yemen	Yes ⁽¹⁴⁾	Yes	-	-	
Total	15 of 22	13 of 22	0	1 645	

Despite the formal steps taken to ratify the Basel Convention and the national legal frameworks and import bans in place in some countries, the enforcement of these measures continues to pose a significant challenge and reporting remains limited. Consequently, transboundary movement of e-waste in the region is challenging to map and monitor.

C. Issues and impact related to the import and export of e-waste

There is poor reporting of transboundary movement of e-waste under the Basel Convention in the region, which poses a threat to ESM of e-waste.

Data on the transboundary movement of e-waste is available only for four Arab States (Algeria, Egypt, Qatar and the United Arab Emirates). This shows that, despite the formal steps taken to ratify the Basel Convention by all countries in the region and despite the enactment of national legal frameworks and import bans, the enforcement of these measures continues to pose a significant challenge in all Arab States, and the reporting remains limited. The lack of data on the transboundary movement of e-waste in the region makes the monitoring and mapping of e-waste a huge challenge. There are no official data on e-waste imports and exports for Bahrain, Comoros, Djibouti, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, the State of Palestine, Saudi Arabia, Somalia, Sudan, the Syrian Arab Republic, Tunisia or Yemen. The non-reporting of transboundary movement of e-waste under the Basel Convention differs from the findings of this study, especially in the light of interviews with stakeholders. There is evidence that specific fractions of e-waste, such as printed circuit boards, are subject to transboundary movement within the region, but this is not reflected in reporting under the Basel Convention. In the State of Palestine, e-waste is managed primarily by the informal sector, including through illegal burning and disposal in landfills (Thöni and Matar 2019). In the State of Palestine, it is estimated that 70-80 per cent of the e-waste managed comes from neighbouring countries. In Lebanon, a certain quantity of e-waste is exported as scrap, mainly by the informal sector, while a small percentage is dismantled by one company and one NGO before being sent abroad to recycling facilities.

The implication of this non-reporting under the Basel Convention is that e-waste can be moved from points where ESM cannot be assured (but is covered by better regulation) to States where value recovery using the best available technology is not guaranteed, thus giving rise to illegal shipments of e-waste within the region and beyond.

Imports of used EEE place burdens on existing e-waste management systems in recipient States, as the used EEE is often mixed with non-functional devices.

Within the region, information on the flows of used EEE imports is scarce. Only Egypt has legislation that specifically restricts the import of EEE equipment older than five years from the year of production, except for some EEE in good condition (GIZ 2014a). The Jordan Standards and Metrology Organization tests and monitors new and used EEE entering the country to ensure that it complies with health and safety standards and falls within the relevant national specifications. The Jordanian Ministry of Industry, Trade and Supply has instructions for importing electronic and electrical devices, provided that the device is no more than three years old.

In general, imports of functioning used EEE do not pose a direct problem, as such EEE will be reused by the local population. However, after some time such items will be discarded; as no fees for collection and recycling usually are paid upon import, this places an additional burden on municipalities and other relevant government agencies, which must deal with the e-waste generated without the resources to do so. The informal sector is subsequently left to handle the collection and treatment of such e-waste. Shipments of used EEE have been shown to contain a mixture of functional devices and e-waste (Odeyingbo, Nnorom and Deubzer 2017). Without EPR, recyclers would require incentives to operate profitably. To achieve this, Saudi Arabia, for example, provides exemption from taxes and incentives for formal recycling facilities.

The uncertainty over the functionality of all used EEE in a consignment before departure and upon arrival at the destination country opens up opportunities for the illegal transboundary movement of e-waste. A recent study found that consignments of used EEE shipped to a country in West Africa contained about 20 per cent non-functional used EEE (Odeyingbo, Nnorom and Deubzer 2017). In this case, used EEE are interlinked with illegal e-waste imports. Anecdotal evidence from national focal points indicates that also occurs in low and middle income countries; this is yet to be confirmed by academic research, however. To overcome this issue, port customs authorities in Kuwait implement a strict policy wherein used EEE for sale or reuse are considered e-waste and therefore cannot be imported.