Plastic Waste Trade & Recycling in Crisis

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Globally, opportunities and challenges linked to plastic recycling and scrap plastic trade have been increasing over the last decades, creating complex end-of-lifecycles for plastic products. Ambitious recycling targets in developed countries have often led to export scrap plastic formally registered as 'recycled' to countries of the Global South for further sorting, processing and recycling. This trade nexus often adds to existing domestic plastic waste mismanagement rates in recipient countries (Figure 1) that typically lack appropriate facilities and enforcement of environmental regulations, resulting in plastic leakage to both terrestrial and marine environments (GRID-Arendal, 2019).

In 2017, China barred the import of most recyclables with a clear aim to stop reverse environmental impacts related to foreigner "garbage" imports (Hook & Reed, 2018). The ban had multiple effects leading exports of recyclables to other Asian countries raising concerns about their ability and readiness to handle such large volume of scraps. In the meanwhile, the developed countries are trying to cope with this major crisis by putting domestic recycling programs in a halt (Cheryl, 2019; The Guardian, 2019) or finding new economic markets. These circumstances also push countries to look into long-term solutions such as establishing more sorting facilities domestically or investing in new technological solutions closer to waste generation.

Now, more than ever before, adequate plastic collection and recycling systems are needed in many parts of the world to deal with increasing plastic waste generation and preventing plastic pollution into the environment (e.g. marine litter). Plastic recycling systems minimize pressure from exploitation of natural resources and reduces waste being discarded in landfills or the environment. Even overall awareness and political pressure to recycle and deliver on material circularity is high, it does not match with existing infrastructure (e.g. current capacity and future needs). Present module, however, carries high risks because the leverage of plastic recycling highly depends on transboundary movement which is regulated by the Basel Convention. In addition, the way plastic is currently recycled together with the unexploited potential of "short distance" plastic recycling, brings concerns to economic sustainability of the market.

Considering these challenges, there is a need to improve our understanding around the plastic recycling industry and study more in-depth the economic, social and environmental impacts of the sector. This would require a well-structured effort on gathering more information and available data that would draft the baseline of the current plastic scrap recycling and its governance and that would reveal the specific current and future opportunities and challenges of the sector.

This paper presents the results of a technical report prepared by the authors to support the Norwegian proposal on the amendment of the Basel Convention to control transboundary plastic waste trade. The scope of the report is to recognize and review the plastic waste trade and recycling industry in both the Global South and Global North, mapping out existing dynamics of scrap plastic trade and imposed present risks on human health and environment.

The work has been carried out through reviewing and analyzing existing global data-bases, literature and reports; gather evidence and testimonies from field-work in selected countries (e.g., Nepal, Malaysia, Vietnam); Additional tools such as remote sensing technologies would be applied in selected countries of the Global South to define routes and destinations of plastic waste trades, with provisions to understand the techno-economic and environmental status of re-processing facilities. First results of the field studies are expected by the end of June 2020.

Data and information on the status of the global plastic trade and recycling industry is provided in the format of informative tables and infographics in order to be better comprehend, and derive to accurate conclusions.

Analysis of the data has revealed that there is a need for better control over transboundary movement of scrap plastic streams in the sense of addressing pollution issues including marine litter. In the current global model, waste exporting countries have little knowledge of their shipments' fate once they depart their ports. Thus, enhancing traceability and accountability throughout the global plastic end-of-life value chain is essential.

Improving domestic plastic recycling processes in high waste generating countries would also alleviate environmental burdens on emerging economies and minimize leakages of plastic into the terrestrial and marine environment. Furthermore, it is concluded that enhancing end-markets for secondary materials will motivate increased efforts to better collect and process scrap plastic and minimize contamination cases. Most important is

the need for regulations in terms of controlling trade of plastic waste, protecting the environment and boosting the market of secondary materials.

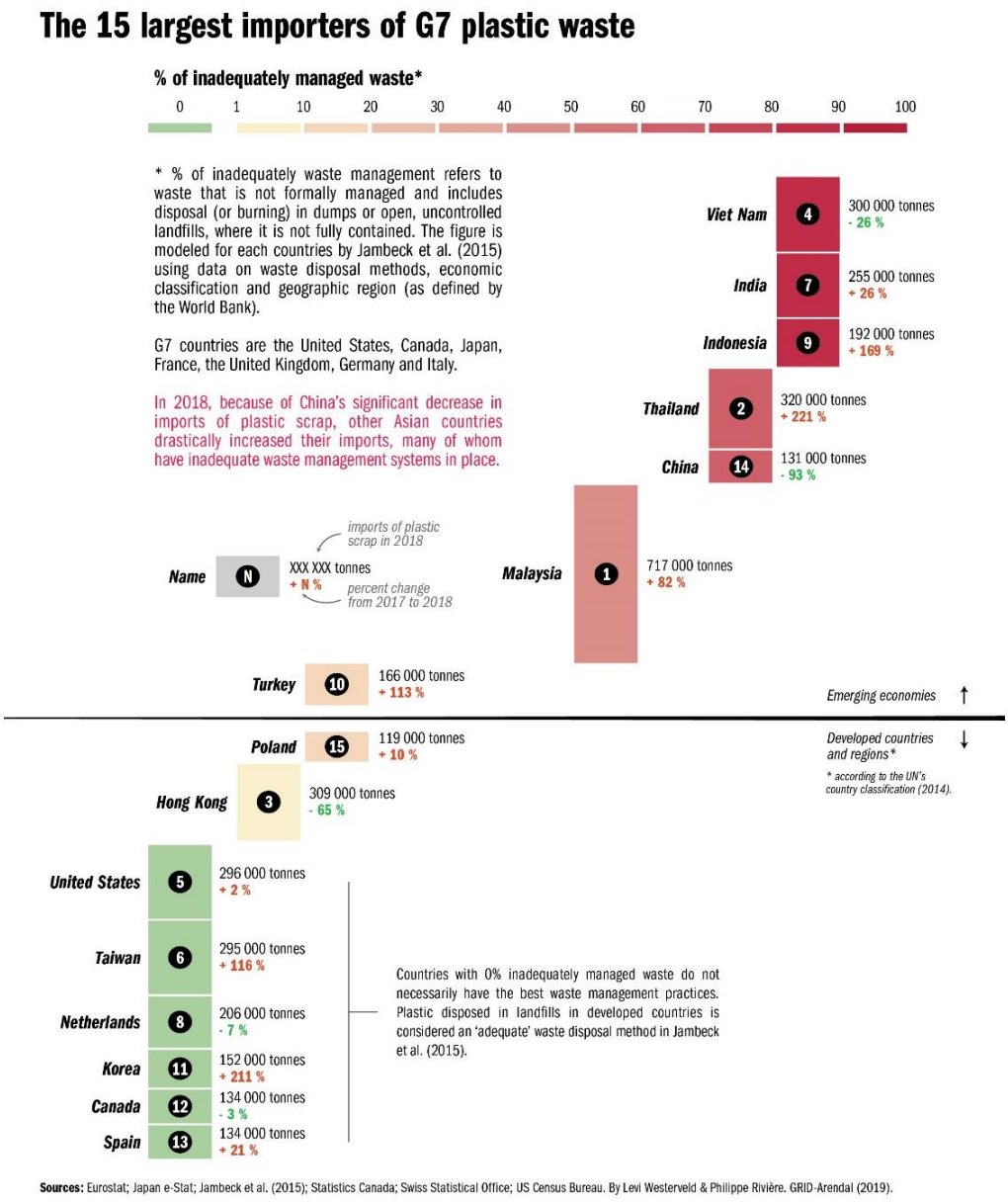

Figure 1. The 15 larger importers of G7 plastic waste – imports and % of inadequately waste management (GRID-Arendal, 2019)

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