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OECD WORKSHOP ON INTERNATIONAL TRADE AND CIRCULAR ECONOMY

Summary Report

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Note by the Secretariat

This report provides a summary of the Workshop on International Trade and Circular Economy organised by the OECD Environment Directorate on 26-27 February 2020 in Paris. It was authored by Shunta Yamaguchi and Clara Garcia Bouyssou of the OECD Secretariat. The report benefitted from valuable comments and suggestions from OECD colleagues including Elisa Lanzi and Rob Dellink, as well as speakers and panellists who participated to the event. Katjusha Boffa provided editorial assistance. The work was conducted under the overall supervision of Shardul Agrawala.

This work is mandated under the 2019-20 Programme of Work and Budget of the Environment Policy Committee under output area: 2.3.4.5.2. "Trade and Material Resources". The report was circulated to the Joint Working Party on Trade and Environment through written procedure and subsequently declassified by the Environment Policy Committee (EPOC) on 27 November 2020.

Key Takeaways

The circular economy concept provides significant economic, environmental and social opportunities, and is becoming high priority for governments and businesses. As global material consumption is expected to double by 2060, the concept is envisaged as a way to reduce material use and associated environmental impacts across the value chain.

Circular economy policies and initiatives have broad interlinkages with international trade, through global supply-chains, end-of-life value chains, and services trade. **Trade can contribute to a circular economy by achieving economies of scale** and creating opportunities for materials to be better used. Impediments to the private sector in pursuing circular business models across borders need to be addressed. At the same time, **trade that leads to negative environmental consequences needs to be avoided**. More efforts are needed to make trade and circular economy objectives mutually supportive.

Regarding **supply chains**, industries typically in the extractive sector risk being negatively affected in the transition towards a circular economy. At the same time, the demand for certain primary materials is bound to continue. Hence, ensuring an environmentally sustainable and just transition for the extractive sector is vital.

Concerning **end-of-life value chains, trade in waste and scrap** can help achieve economies of scale and use best available technologies for material recovery. However, it also requires proper conditions to ensure the environmentally sound management of waste and scrap at their destination. Examining the role of definitions, classifications, and standards is essential in this context. In particular, establishing standards for secondary raw materials is an area with high stakes. Illegal waste trade undermines legitimate efforts to benefit from trade and to safeguard the environment, and thus needs to be tackled with better enforcement and international co-operation at the border. Prior informed consent procedures may provide important safeguards for the environmentally sound management of waste at destination. Nevertheless, some industries have raised concerns over the lengthy processes and hence the swift implementation of these procedures needs to be secured.

Trade in second-hand goods can provide benefits by enabling products to have a second life abroad. However, they could create negative environmental impacts from the potential low quality or performance of the secondary product, or related challenges in its end-of-life management. For trade in second-hand goods to be aligned to circular economy objectives, products need to be designed with quality materials and considered for reuse, repair, and recycling, and proper waste management capacity is necessary at destination.

Trade in goods for refurbishment and remanufacturing is essential to achieve economies of scale for value retention processes that provide positive economic and environmental benefits by reducing material inputs. Regulatory barriers emerging from unclear definitions, as well as restrictions on the movement of core components and refurbished and remanufactured products should be avoided to the extent possible.

Trade in services and their role to facilitate the uptake of circular economy business models is critical. Global industries pursuing product service systems particularly require the movement of people, information and data.

Securing resilient value chains with increased transparency and traceability is critical for a mutually supportive trade and circular economy agenda. The following areas merit further consideration.

- **Definitions and classification** of waste, scrap, secondary materials, second-hand goods, and goods for refurbishment and remanufacturing, is ambiguous across countries and with trade codes (HS codes), and could be further clarified.
- **Standards** provide another opportunity to increase transparency and traceability of a product in support of a more resource efficient circular economy. Product-based standards and principle-based standards related to circular economy approaches are emerging at various levels. Harmonisation of these standards at the international level would be ideal to facilitate trade for businesses with circular modes of operations. Reference to standards in regulation requires stakeholder consultation and should offer economic actors the flexibility to comply (e.g. open references, presumption of conformity).
- **Regulations** play a critical role to make trade and circular economy objectives mutually supportive. Circular economy policies should be non-discriminatory and least trade restrictive to the extent possible. Trade restrictions that impede trade in materials can result in providing disincentives for collection in end-of-life products by lowering prices for scrap, and should be removed as appropriate. Co-operation between governments is necessary to avoid regulatory fragmentation as much as possible. Capital intensive goods appear to be more suitable candidates for circular value chains and trade than fast-moving consumer goods that have a shorter lifecycle, thus policies could consider fostering eco-design and discouraging planned obsolesce.
- **Digitalisation and innovation** may provide additional opportunities to advance a mutually supportive trade and circular economy agenda. In particular, digital product passports and blockchain technology may provide new opportunities to secure better data, transparency and traceability of products to enable circular value chains at the global scale.
- **Trade and customs frameworks including trade facilitation mechanisms**, **trusted trader programs, and authorised economic operators** may provide additional opportunities to enable trade to contribute to a circular economy.

International co-operation is necessary to achieve a mutually supportive trade and circular economy agenda. These initiatives may involve:

- continued dialogue and co-ordination at the World Trade Organization (e.g. committees on Trade and Environment, Technical Barriers to Trade, and Trade and Development encompassing Aid for Trade initiatives);
- potential initiatives at the World Customs Organization on green supply chains;
- the Basel Convention and continued dialogue through established partnerships;
- the UN Environment Assembly and resolution on mineral resource governance;
- OECD's work on trade and circular economy (e.g. Joint Working Party on Trade and Environment, Trade Committee and the Environment Policy Committee);
- co-operation frameworks established under regional trade agreements.

Background and objective of the workshop

The nexus of trade and circular economy is drawing attention across the globe. In particular, two major developments aiming to address environmental concerns of waste trade are changing the landscape of trade in "end-of-life" goods. At the unilateral level, China imposed import restrictions on a range of certain waste and scrap in 2018, and this was followed by similar restrictions in other countries in the region. At the international level, the Parties to the Basel Convention agreed on amendments to increase controls for transboundary movements of certain plastic waste in 2019.[1] On the other hand, private sector actors seeking to advance their circular businesses globally are keen to harness the potential of trade that contributes to a circular economy.

While government efforts to scale up circular economy approaches largely take place domestically within national boundaries, there are various interlinkages with international trade.[2] This takes place through global supply chains of goods and materials as well as end-of-life value chains including trade in waste and scrap for recycling and recovery, trade in secondary materials, trade in second-hand goods, and trade in goods for refurbishment and remanufacturing. There are also implications to services trade, as a transition to a resource efficient circular economy entails a greater role for the services sector.

Preliminary discussions on the interlinkages between trade and circular economy took place as a part of the WTO Public Forum in October 2018,[3] as well as the World Circular Economy Forum in October 2018 and June 2019.[4] These events made important contributions in raising awareness on this emerging issue. However, these dialogues were carried out as a part of a broader agenda on either trade or circular economy and have been limited to one or two hours of discussion. More recently, the WTO Committee on Trade and Environment in November 2019 discussed these issues at length.

Building on these initiatives and developments, this workshop on international trade and circular economy dedicated two full days to discuss wide-ranging issues in this emerging policy domain. The objectives of the workshop were:

- to examine the interlinkages of international trade and circular economy;
- to explore how trade and circular economy objectives can be mutually supportive; and
- to establish a multi-stakeholder dialogue on the trade and circular economy nexus.

The workshop consisted of two parts with seven substantive sessions. Part 1 examined the interlinkages between trade and circular economy through four dedicated sessions:

[1] See: Report of the BRS COP-14 - www.basel.int/TheConvention/ConferenceoftheParties/ReportsandDecisions/tabid/3303/ctl/Download/mid/11506/Default.aspx?id=67&ObjID=22103.

[2] See: Yamaguchi, S. (2018), "International Trade and the Transition to a More Resource Efficient and Circular Economy: A Concept Paper", OECD Trade and Environment Working Papers, No. 2018/03, OECD Publishing, Paris, https://doi.org/10.1787/847feb24-en.

[3] See: https://www.wto.org/english/forums_e/public_forum18_e/public_forum18_e.htm.

[4] See: https://www.sitra.fi/en/projects/world-circular-economy-forum-2018/.

See: https://www.sitra.fi/en/projects/world-circular-economy-forum-2019/.

Session 1) introductory session to set the scene; Session 2) how a circular economy transition can have an impact on supply-chains and trade; Session 3) trade in waste and scrap; and Session 4) trade in goods for refurbishment and remanufacturing and second-hand goods. Part 2 explored a forward-looking "mutually supportive agenda" covering: Session 5) the role of standards; Session 6) the role of innovation; and Session 7) the role of international co-operation. See Annex A for the full agenda of the workshop.

The workshop was organised by the OECD Joint Working Party on Trade and Environment (JWPTE), with financial support from the European Union, Norway and Switzerland. The workshop gathered 126 participants, including trade negotiators and environmental policy makers from OECD and non-OECD countries, and relevant experts from inter-governmental organisations (IGOs), the private sector, and the civil society.

This report compiles the outcomes of this workshop. Information is also available on the OECD website.[5]

Opening remarks and introduction

Anthony Cox, the Deputy Director of the OECD Environment Directorate, opened the workshop highlighting the significant economic, environmental and social opportunities that a circular economy transition can offer. Circular economy initiatives have broad interlinkages with international trade. While cross-border environmental impacts need to be managed, there are also benefits of trade to achieve economies of scale. He highlighted that the question is how to strike the right balance in taking advantage of trade for a circular economy and securing environmental protection at the same time.

Ken Ash, the Director of the OECD Trade and Agriculture Directorate highlighted two key aspects of the trade and environment nexus. First, trade and environment is becoming much more evident on the international agenda, with substantially increased appetite for more coherent action by governments. Second, regarding circular economy, while trade in illegal products or trade leading to environmental dumping needs to be avoided, trade is beneficial to achieve economies of scale and to create opportunities for waste and recyclables to be better used. These two aspects need to be facilitated by international cooperation, which is still very limited.

Kuno Zurkinden, Advisor, State Secretariat for Economic Affairs (SECO) Switzerland and JWPTE Co-Chair, highlighted the timeliness of the workshop in the context of current international initiatives on circular economy and trade. The World Trade Organization (WTO) Committee on Trade and Environment started discussions on this issue at its meeting in November 2019. At the regional level, different economies are considering including circular economy provisions in free trade agreements (FTAs). In order to implement these provisions, it is necessary to better understand the interrelations between trade and circular economy. He stressed that this workshop serves to provide that foundation and inform future work of the JWPTE.

[5] See: www.oecd.org/env/OECDWorkshoponInternationalTradeandCircularEconomy.htm.

Part 1 - Interlinkages of international trade and circular economy

Session 1: What is circular economy and why does trade matter?

Shardul Agrawala, Head of the Environment and Economy Integration Division at the OECD Environment Directorate, set the scene on circular economy and trade. The global consumption of material resources is expected to double by 2060. 6 Transitioning towards a more resource efficient and circular economy provides a way to decrease material use and reduce associated environmental impacts across the value chain. A resource efficient circular economy has broad interlinkages with international trade through global supply chains, end-of-life value chains, and services trade. On supply chains, a global implementation of resource efficiency and circular economy policies could result in decreased demand for primary material production and trade.7 On end-of-life value chains, the landscape of waste and scrap trade is rapidly evolving in response to emerging environmental concerns.8 Regarding the opportunities and challenges in trade and circular economy, trade can help achieve economies of scale that create opportunities for circular

6 The consumption of material resources is expected to double from 89 gigatonnes in 2017 to 167 gigatonnes in 2060 in the absence of further policy responses. This increase in material use raises concerns on the supply risk of key materials and the capacity of sinks to absorb the associated environmental impacts on climate, water, soil, and air quality. The impact of primary materials are on average significantly higher along these environmental dimensions compared to secondary materials. This calls for the need to reduce environmental impacts across the value chain by moving towards a circular economy. See: OECD (2019), *Global Material Resources Outlook to 2060: Economic Drivers and Environmental Consequences*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264307452-en.

7 The OECD modelling work projects that a global circular economy policy package could decrease demand for primary materials, such as primary non-ferrous metals by 35-50%, primary iron and steel by 15% and primary non-metallic minerals by around 10% by 2040. The trade effect allows for specialisation based on comparative advantage and accounts for roughly one-third of the total reduction in materials use. Nevertheless, many countries will continue to rely on material imports from abroad and need to consider the environmental sustainability of global supply chains.

See: OECD (2020, forthcoming), "Policy scenarios for a transition to a more resource efficient and circular economy", *OECD Environment Working Papers*, OECD Publishing, Paris, https://doi.org/10.1787/19970900.

See also: Dellink, R. (2020), "The Consequences of a more resource efficient and circular economy for international trade patterns: A modelling assessment", *OECD Environment Working Papers*, No. 165, OECD Publishing, Paris, https://doi.org/10.1787/fa01b672-en.

See also: OECD (2020, forthcoming), "International trade and circular econmy – policy alignement", *OECD Trade and Environment Working Papers*, OECD Publishing, Paris, https://doi.org/10.1787/18166881.

8 In 2018, China imposed import restrictions on certain fractions of waste, and other countries followed with similar policy responses. This has two main implications: (i) the exports that used to go to China are diverted to other destinations, and (ii) the fate of the fractions that used to be traded are largely unknown, if not treated domestically, stockpiled, incinerated, landfilled, or dumped. Furthermore, in 2019, the Basel Convention made amendments to increase controls over the transboundary movement of plastic waste coming into effect from January 2021.

material use. At the same time, it is critical to ensure that these benefits are not at the expense of environmental consequences. Trade in environmental goods and services can play an important role in material recovery and efficient waste management. Some challenges remain around the definitions and classifications of waste and scrap, secondary materials, goods for refurbishment and remanufacturing and second-hand goods. Other challenges are on illegal waste trade, potential downcycling, and lack of data. Standards, digitalization and innovation can play a key role to facilitate trade. These issues need to be further explored to advance on the trade and circular economy agenda.

Javier Arribas-Quintana, Senior Expert, DG Environment, European Commission, as the first discussant, shared the outline of the new Circular Economy Action Plan,[9] which is one of the priorities of the European Green Deal.[10] This new Circular Economy Action Plan contains leading efforts at the global level, including trade related aspects of circularity as an effective way to achieve a system-wide change. To mainstream this transition globally, the European Commission is considering the establishment of a Global Circular Economy Alliance that would help identify knowledge and international governance gaps related to circular economy and sustainable resource management. The European Commission also carries out circular economy missions outside the EU to enhance coordination and joint efforts at the global level.

Hans-Jörn Weddige, Chair of the Environment and Energy Committee, Business at the OECD (BIAC), as the second discussant, conveyed that this workshop triggered broad interest from the business community and led to the development of a position paper.[11] The circular economy poses huge economic and environmental opportunities for businesses, both locally and globally. Business interests on the circular economy extend across borders and global value chains. Therefore, sustainable trade is essential for the circular economy and more work needs to be done in this area.

The following discussions indicated that, from a trade policy perspective, trade discussions usually start with a focus on the problems. Identifying impediments to the private sector in doing circular businesses across borders could be a logical point to start. Discussions can also focus on the opportunities for trade to contribute to a circular economy. There is significant value for businesses to talk about the opportunities and challenges that they face in the trade and circular economy nexus, such as the possibility of mainstreaming solutions, the availability of technology, and identifying further challenges and knowledge gaps.

Industry representatives shared their perspectives in the discussion. First, innovation in recycling processes requires significant volumes of material inputs. Since volume is not always available from one jurisdiction where a project takes place, it is necessary to allow the movement of materials in order to preserve economies of scale. As trade can help with scalability in this process, trade restrictions should be removed as much as possible. Second, a circular economy also is about stimulating demand for secondary materials, for instance by making the price of primary materials more expensive, stabilising market prices

[9] See, EU Circular Economy Action Plan: https://ec.europa.eu/environment/circular-economy/.

[10] See, European Green Deal: https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en.

[11] See: Business at OECD (2020), "Key messages on trade and circular economy", A private sector contribution to the OECD Workshop on Trade and Circular Economy Paris, 26-27 February 2020, Business at OECD (BIAC), http://biac.org/wp-content/uploads/2020/02/KM-ENVTAD-2020-02-FIN-Business-at-OECD-Workshop-on-Trade-and-Circular-Economy.pdf.

for secondary materials, and establishing recycled content obligations. Therefore, continued inspection and controls over transboundary movement of waste and scrap is essential to limit any abuses in trade. Moreover, trade facilitation between countries such as harmonisation of registration processes is necessary to remove unfair administrative burden that can disturb competition. Third, intelligence can also help industry operations reduce waste, curb downtime, and smooth material flows. Offering products as a service is only possible when digital solutions are available. Online data can help predict issues with a machine in operation, and is important from a circular economy perspective. In this regard, services trade has an important role to play. It is vital that services function globally without restricting the movement of machines, spare parts, data, and people with expertise to maintain these services. Fourth, digital product passports and electronic data interchange may provide new opportunities to secure better transparency and traceability in products and materials, and appear to be interesting concepts to explore.

Public sector participants reiterated that the industry had played a central role in triggering national discussion on trade and circular economy. In particular, the start-up scene around new business models for the circular economy, such as product service systems, often become international immediately and require trade. In order to promote the circular economy concept, additional interaction is likely required between legislation and businesses. Administrative requirements or voluntary systems would be necessary to guarantee consumer safety, environmental safety, and product safety. While certification and testing are usual requirements to ensure that a product reaches a certain quality threshold, this can be costly to many businesses and needs to be taken into consideration.

Session 2: What are the impacts of a circular economy transition on global supply chains and trade?

Elisa Lanzi, Senior Economist at the OECD Environment Directorate, presented two tracks of quantitative analysis undertaken by OECD colleagues, first focusing on empirical analysis, and then turning to economic modelling. Empirical analysis suggests that an increase in domestic secondary metal production has led to a decrease in secondary metals imports, however, without a significant effect on primary metal imports.[12] This implies that the substitution of primary metals by secondary metals is not happening so far. Turning to a forward-looking analysis, a recent OECD modelling study examined how trade patterns may change in 2040 when additional circular economy policies are in place,[13] compared to baseline results.[14] The study finds that, under a scenario with circular economy policies (modelled as a set of fiscal instruments), the substitution from primary to secondary materials use will occur and subsequently change trade patterns. This affects countries differently because of different resource endowments and regional differences in the ways countries adapt to new policies. These results are particularly relevant for resource

[12] See: Dussaux, D. and M. Glachant (2019), "How much does recycling reduce imports? Evidence from metallic raw materials", *Journal of Environmental Economics and Policy*, Vol. 8/2, pp. 128-146, http://dx.doi.org/10.1080/21606544.2018.1520650.

[13] See: Dellink, R. (2020), "The Consequences of a more resource efficient and circular economy for international trade patterns: A modelling assessment", *OECD Environment Working Papers*, No. 165, OECD Publishing, Paris, https://doi.org/10.1787/fa01b672-en.

[14] See: OECD (2019), *Global Material Resources Outlook to 2060: Economic Drivers and Environmental Consequences*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264307452-en.

intensive countries, as they might need to rethink how to diversify their economic structures as well as their labour force in the future.

Marianne Kettunen, Principal Policy Analyst and Head of Programme, Global Challenges and SDGs, Institute for European Environmental Policy (IEEP), shared insights from their report on trade and circular economy released in 2019.[15] The circular economy is not sustainable by default and further policy action is required. Open questions remain on how to speed up the circular economy transition in a sustainable manner, how to facilitate shifts in the development pathways in primary resource producing countries, and how can circular economy policy, trade policy, development cooperation policy contribute. Several solutions are identified in the nexus of circular economy, trade, and development cooperation policies to address these issues. First, remove trade barriers for secondary raw material trade, including unintentional barriers emerging from non-standardised and non-transparent value chains. Second, use trade agreements to promote the circular economy at a global level, to mainstream the circular economy across trade sectors, and to consider them as a part of trade sustainability impact assessments. Third, use domestic policies to create more demand for secondary raw materials, to promote investment in recycling capacities and facilities, and green public procurement. Fourth, these initiatives require a strong emphasis on developing common standards globally (e.g. product sustainability, material quality). Fifth, greater coherence is needed between domestic circular economy, trade and development cooperation policies, for example to ensure that developing economies are able to match new standards for exports. Finally, the circular economy transition needs to take place in the broader context of curbing consumption and demand.

Laura Platchkov, Senior Policy Advisor, Federal Office for the Environment (FOEN), Switzerland, shared an importer's perspectives on circular supply chains. Since Switzerland has low resource endowments, a very large proportion of goods produced and consumed in Switzerland rely on imported raw materials from other countries. Consequently, about 75% of environmental impacts that are caused by final demand occur abroad as a result of imported goods and services. There are two main challenges in minimising material inputs and reducing the dependency on imports of primary resources.[16] First, the recycling of certain metals and minerals can be technically very difficult and also economically impossible. Second, the transition to a low carbon economy is likely to increase material intensity. For a single country, it is very difficult to address these challenges. The resolution on mineral resource governance adopted at UNEA4 in March 2019 is instrumental in this regard. It recognises the contribution of mining to the SDGs. It requests UN Environment to *inter-alia* collect information on best practices and identify policy options for the sustainable management of metals and mineral resources. The next UNEA in February 2021 will follow up on this discussion.

Jenitha Badul, Senior Policy Advisor, Department of Environment, Forestry and Fisheries, South Africa, shared perspectives from a resource intensive country where primary material exports represent a significant share of GDP. The extractive sector has

[15] See: Kettunen, M., S. Gionfra and M. Monteville (2019), "EU Circular Economy and Trade Report: Improving policy coherence for sustainable development", IEEP Brussels / London, https://ieep.eu/publications/eu-circular-economy-and-trade-report.

[16] See: UNEP (2020), Mineral Resource Governance in the 21st Century, Gearing Extractive Industries Towards Sustainable Development, Report of the International Resource Panel, United Nations Environment Programme, https://www.resourcepanel.org/reports/mineral-resource-governance-21st-century.

negative environmental impacts, which are bound to increase with a world population projected to increase by another 2 billion by 2050. A transition to the 4th industrial revolution relies on electrical and electronic equipment that requires raw material inputs, such as cobalt and platinum. Indeed, the demand for cobalt has increased by 300% in the last 2-3 years. Therefore, it is necessary to find a balance between primary commodities and secondary materials. In the transition towards a circular economy and the possible shift in trade patterns, resource rich countries may face job losses even more heavily on a daily basis. The transition to a circular economy needs to be inclusive, especially considering a green transition in the extractive sector, to ensure that nobody is left behind.

Jorge Cantallopts, Director of Studies, Chilean Commission for Copper (Cochilco), shared perspectives from the extractive sector. Certain metals such as copper, lithium, cobalt, and nickel, play a key role in the transition to a low carbon economy. Additional infrastructure is necessary to improve the quality of life and this requires more metals such as aluminium and copper. Improvements on material efficiency through reuse and recycling will be important but not enough. Furthermore, primary materials may not always be more polluting than secondary materials depending on the specific commodity and the related processes in place. Therefore, it is very important to define the role of the mining industry in the circular economy. Since the 1990s, Chile's legal framework for the environment has improved significantly. Mining companies have enhanced their environmental and social performances. However, further efforts are necessary to undertake a circular economy transition in terms of improving material, water and carbon footprint and enhancing product and material traceability.

The discussion that followed touched upon the different environmental impacts of primary and secondary materials and the need to look at specific processes of each commodity. For example, lithium is critical for batteries in electric vehicles and thus potentially beneficial for a low carbon economy depending on the energy mix. However, their extraction is generally water intensive and such kinds of trade-offs need to be taken into consideration.

Subsidies for primary and secondary material production were also raised as a part of the discussion. WTO notifications have identified several measures related to circular economy approaches, including a number of subsidies for secondary materials and recycling activities. In 2018, the OECD undertook a preliminary study on government support for primary and secondary metals to have a better understanding of the sector.[17] The study concluded that from an environmental perspective a higher level of scrutiny should be applied to the support for the primary sector, as obtaining data is generally very difficult for measures on primary materials compared to fossil fuels.

In terms of moving forward to ensure an environmentally sustainable and just transition for the extractive sector, the resolution on mineral resource governance adopted at UNEA4 were identified by workshop participants as providing a useful framework to address this issue at the international level. As a complementary approach, the OECD Guidelines for Multinational Enterprises,[18] and the OECD Due Diligence Guidance for Responsible

[17] See: McCarthy, A. and P. Börkey (2018), "Mapping support for primary and secondary metal production", *OECD Environment Working Papers*, No. 135, OECD Publishing, Paris, https://doi.org/10.1787/4eaa61d4-en.

[18] See, OECD Guidelines for Multinational Enterprises: https://mneguidelines.oecd.org/mneguidelines/.

Business Conduct,[19] can serve as way to secure environmentally sustainable supply chains. Furthermore, transparency and traceability of the extractive sector also needs to be improved. Global standards could help guide this process. However, caution also is needed, as multiple sets of standards already exist in the extraction industry. The proliferation of standards can pose challenges to the industry in prioritising which environmental and sustainability aspects to focus on.

Session 3: How should trade in waste, scrap and secondary materials be facilitated and controlled?

Daniel Montalvo, Head of Sustainable Resource Use and Industry, European Environment Agency (EEA) gave an overview on the trends and issues on waste trade in three main areas: (i) data challenges, (ii) conditions for waste trade, and (iii) plastics. First, the lack of reliable data on waste and material flows is a major problem in examining the circular economy.[20] Second, trade should be used when there is an environmental case and when it effectively contributes to achieving circular economy objectives. When the destination has the correct conditions for treating waste, trade in waste can help achieve economies of scale and use the best available technology in processing them. Certain principles apply to restricting the use of trade when the final destination of waste cannot provide an environmental solution. There is also legitimate interest to unlock certain dependencies on resource supply by developing domestic infrastructure. Third, the plastics system does not appear to be a good candidate for waste trade at this point as it lacks circularity in different aspects. The use of plastics is escalating worldwide. Plastics heavily depend on fossil fuels as raw material inputs. Plastics are often designed to have a very short lifecycle. Recycling rates remain very low. Secondary materials markets are not reaching desired levels. Recycled content is very low in manufactured products using plastics. Concerning waste management and leakage into the environment, a great share of these plastics ends up in the wrong places.[21] In response, the EU's Plastic Strategy and new Circular Economy Action Plan aim to increase the quantity and quality of end-of-life materials by fostering better design, collection, recycling and transparency of products.[22]

[19] See, OECD Due Diligence Guidance for Responsible Business Conduct: https://www.oecd.org/investment/due-diligence-guidance-for-responsible-business-conduct.htm.

[20] Existing data comes with reduced granularity and certain lags. To have a better understanding of the nature of these flows, complementary mechanisms to official data flows could be explored such as voluntary reporting schemes, digitalisation and big data.

[21] As China stopped trading plastic waste and others countries followed, European exports have massively declined, and the fate of plastic waste is largely unknown. Anecdotal evidence indicates that there is an increase in disposal operations, incinerations and landfilling, and waste to energy solutions for plastic waste.

[22] Anticipated efforts to secure transparency in products include removing hazardous content, and reducing complexity of polymers used.

Jane Korinek, Trade Policy Analyst, Trade and Agriculture Directorate of the OECD, presented work on trade and circular economy[23] with a focus on metallic waste and scrap.[24] Trade can contribute to a circular economy by creating economies of scale in recycling industries and increasing demand for secondary raw materials. The majority of trade in waste and scrap occurs in metals with high value and is concentrated in a few commodities: iron, steel, aluminium, copper and gold. Some policies impede trade in these materials, in particular export restrictions (e.g. export bans, export quotas, export taxes, non-automatic export licensing procedures). Export restrictions present significant barriers to trade in waste and scrap and affect 40% of copper, 30% of aluminium, and 20% of iron and steel waste and scrap. Countries apply export restrictions to safeguard domestic supply of secondary raw materials. However, these measures can provide disincentives for collection of end-of-life products by lowering prices for scrap in those countries. International co-operation is necessary to ensure that trade supports the circular economy.[25] At present, there is no trade classification that differentiates between waste, scrap and recyclable material. Moreover, there is no globally recognised standard on what constitutes a recyclable material. There is a need to better identify what is being traded and to ensure that recycling facilities have capacity to recycle them appropriately. There is a need for clear, internationally recognised standards and information on recycling facilities and the materials they can process. As recycling technologies advance towards recovering lower-volume critical metals (e.g. lithium), trade will be important to ensure economies of scale.

Daoming Zhang, Assistant Director, INTERPOL, presented insights on illegal waste trade. Illicit trade related to environmental crime is the third largest category after illicit trade of drugs and counterfeit goods, and estimated at USD 51-152 billion per year in 2018.[26] Illicit trade in waste was estimated at USD 10-12 billion per year in 2018.[27] INTERPOL's study on plastic waste trade and criminal activities confirmed two key findings.[28] The first finding, as a consequence of the Chinese import ban on waste from

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23 See: OECD (2020, forthcoming), "The circular economy and trade in metals and minerals", 19 September 2019, [TAD/TC/WP(2018)28/REV2], Paris, France.

24 Metallic waste and scrap represents the vast majority of trade in waste and scrap, over 80% in value and 50% in volume. Enabling trade for greater recycling of metallic waste and scrap is key to furthering the circular economy, because producing common metals from secondary raw materials uses 60-97% less energy than primary raw materials. The global aim is to create incentives for proper collection and sorting to channel these materials to proper recycling facilities and to ensure the highest possible purity in terms of recycling.

25 Trade in waste and scrap has only existed for the last 15 years at a significant level. Therefore, trade frameworks are not necessarily updated in order to handle this kind of trade.

26 See, Nellemann, C.; Henriksen, R., Pravettoni, R., Stewart, D., Kotsovou, M., Schlingemann, M.A.J, Shaw, M. and Reitano, T. (eds). (2018), "World atlas of illicit flows. A RHIPTO-INTERPOL-GI Assessment", RHIPTO -Norwegian Center for Global Analyses, INTERPOL and the Global Initiative Against Transnational Organized crime, https://globalinitiative.net/world-atlas-of-illicit-flows/.

27 Criminal groups can be behind illicit trade in waste. For example, they can buy a very old cheap ship, fill it with waste, and sink it into the open sea. They are paid by companies, which benefit from cheaper costs than sending waste to formal recycling processes. In addition to the waste itself, there are different types of criminality involved, such as document fraudulence, forced labour, money laundering, or drug trafficking using waste trade.

28 See: INTERPOL (2020), Strategic Analysis Report, Emerging criminal trends in the global plastic waste market since January 2018, August, 2020,

2018, is the continued rerouting of illegal waste shipment towards new destinations around China, typically to South and Southeast Asia, and also to Central and Eastern Europe. The second finding is the surge of irregular waste management at the domestic level, including: (i) illegal landfills and irregular incineration, (ii) unauthorised recycling facilities and illicit practices within licensed facilities, and (iii) waste fires, either intentional or unintentional. The profile of the offenders are various from individuals to criminal groups. Frequently used *modus operandi* is the miss declaration of waste and fraudulent documents, including: (i) plastic waste falsely declared for recycling or recovery; (ii) plastic waste miss declared as raw materials; (iii) concealed contaminated plastic waste exceeding standards, (iv) miss declaration of plastic waste supporting tax evasion, and (v) miss declaration of final destination using a transit country or free trade zone. INTERPOL is working towards raising awareness on environmental crime among enforcement agencies, collecting and analysing information through a dedicated database, and providing operational support to its member countries in close cooperation with different stakeholders.

Stephane Arditi, Circular Economy, Product and Waste Policy Manager, European Environmental Bureau, presented perspectives from civil society. The circular economy concept seeks to design waste out of the system, hence, easing waste trade across the board should not be the main goal. A few principles should be applied to waste trade.[29] Equivalent standards need to be in place and mutually recognised between importing and exporting countries. Permitting and inspection of waste management facilities should be properly implemented. These principles are important to ensure fair competition and to uphold legitimate efforts of best in class recycling facilities. The OECD has a fast track approach for pre-consented facilities that could alleviate potential burden linked to the prior informed consent procedure. Prior-informed consent is important for surveillance authorities to better target shipments for inspection. The circular economy also seeks reusing and repairing opportunities. The repairing industry in developing countries needs to be supported and have access to product information. Setting up a system on product information, for example in the form of product passports, is important to exploit the reparability potential and extend product life. Another issue in relation to exports is about producer responsibility fees that are often collected in advance when products are placed on the market in a specific country and do not follow products for reuse when they are shipped abroad. These fees cannot be mobilised in receiving countries to help their end-of-life management. If trade opportunities for reuse and repair are explored, it is important to ensure that proper waste management is enhanced with appropriate financing mechanisms.

Keli Yu, Secretary General, China National Resources Recycling Association,[30] gave an importer's perspectives of waste and scrap. The import ban on waste in China announced in 2017 and in force since 2018 shocked the global recycling industry. The rationale for introducing the ban is to protect the environment and to reduce associated impacts from the informal recycling sector.[31] The import ban does not mean that China does not need raw

https://www.interpol.int/content/download/15587/file/INTERPOL%20Report%20_criminal%20trends-plastic%20waste.pdf.

29 For example, such principles are included in the OECD decision on the control of transboundary movements of waste destined for recovery operations, and the OECD recommendation on environmentally sound management of waste.

30 The National Resources Recycling Association is the largest recycling association in China.

31 The detailed rationale for introducing the Chinese import ban on waste and scrap was explained with its history. From the 1990s, China gradually became a global recycling hub. As the

materials. China is actually promoting the circular economy. In 2017, China published the Extended Producer Responsibility (EPR) Promotion Scheme, which aims to promote recycling for electronics, vehicles, lead-acid batteries and packaging. Additional measures are planned to scale up efforts for recycling including the development of national standards for secondary raw materials and to develop domestic collection systems. Four suggestions were identified as a way forward for trade in waste and scrap and a resource efficient circular economy. First, it is very important to promote a resource efficient circular economy by encouraging legitimate trade in qualified scrap or materials originating from scrap. Second, the challenge is to set up effective international import and export controls and monitoring systems for waste and scrap for both importing and exporting countries. Third, localised recycling centres should be encouraged and new modes of international trade and business co-operation deserves discussion. Fourth, in-depth research in co-operation with industrial organisations from both importing and exporting countries is required.

Adina Renee Adler, Assistant Vice President, Institute of Scrap Recycling Industries (ISRI), shared a waste exporter's perspective.[32] There are potential concerns over certain circular economy initiatives that appear to prioritise domestic use and restrict international involvement. There are several trade implications for the circular economy. First, manufacturers are undertaking sustainability commitments to use more secondary materials and to ensure recyclability of their products. They need to secure materials from abroad to supplement domestic supply, because innovation is happening very quickly and product requirements are constantly changing. Second, recycling is based on the free market economy driven by demand and the value of waste, scrap and secondary raw materials. Trade controls such as import and export restrictions on end-of-life materials leads to an excess supply, reduces the price of these materials, and decreases returns for recyclers.[33] Third, illegal waste trade threatens legitimate trade in clean materials. Governments need to strengthen law and enforcement to deter illegal traders and recyclers. Fourth, financial

manufacturing industry developed, many products were sent from China to developed countries. However, it was suboptimal for empty ships to return. Waste and scrap were ideal candidates to ship back because dealers would have double benefits by receiving treatment costs from exporting countries and recovering valuable materials from waste and scrap recycling. International trade in waste and scrap became more and more popular as the Chinese manufacturing industry developed and faced an urgent need of materials. Nearly 70% of waste and scrap in China was estimated to be recycled and provided important input for economic development. At the same time, the import of waste and scrap increased environmental costs for the recycling sector. This was especially the case for the informal recycling sector where businesses emerged without proper techniques and caused severe environmental pollution and social problems. The Chinese government is recently placing high priority on the environment. The industry, including the recycling sector, needs to upgrade their practice and facilities to minimise environmental impacts. Before the introduction of the waste ban, the Chinese government initiated a number of restrictive measures, including the introduction of multiple standards and the well-known "Demeter", "Green fence" and "National Sword" operations by the Chinese Customs and Ministry of Environment. These measures aimed to combat illegal trade in waste and scale up the recycling industry.

[32] ISRI represents 80% of business in North America and processes and trades non-hazardous recyclable material.

[33] This means that recyclers earn a lower return in their investment and have less capital to reinvest in recycling and recovery. This cost impediment also implies that recyclable commodities are not on a level playing field with primary materials that have lower production costs.

resources for the circular economy are often channelled through subsidies, but not every country has the ability to pay for recycling. Fifth, ISRI supports the possibility of developing international standards related to the circular economy.[34] ISRI specifications set forth standards to identify quality materials and the acceptable level of contamination, and they can inform international standardisation processes. New trade codes that separate waste from scrap would be beneficial, despite the extensive process.[35] The environmental goods negotiations could also restart and consider the inclusion of scrap materials.

Lisa Pearlman, Director of Policy at Apple, shared their efforts to close material loops. Among their efforts to reduce material and carbon footprint, Apple aims to recover materials from their end-of-life products and use them again in new products by taking advantage of new technology. Their demanufacturing robots enable them to recover and process materials that meet the same requirements as primary materials. The process recovers materials more efficiently than conventional shredding technologies and avoids downcycling. The challenge is to collect end-of-life products and to move components to specialty facilities for resource recovery. To do this at scale, this requires the establishment of cross-border reverse logistics. In particular, new technologies need to be tested first in order to scale-up operations and this requires aggregating materials. While international trade is essential in the process, it has taken up to 20 months to get a permit for one shipment of these materials. These trade impediments work against commercial scalability. The key is to design an accountability-based regime that will ensure environmentally sound management of waste and also enable facilities to trust certain shipments for recycling and materials recovery. In other areas of trade under the World Customs Organization, there are authorised economic operator programs and trusted trader programs that could serve as a model. Such a mechanism would create incentives for actors that want to speed up shipments of components for material recovery and ensure the accountability of the process. This would create new pathways for many companies to pursue circular businesses at the global level, and free up enforcement capacity to focus on untrusted shipments.

The following discussions highlighted a number of issues. First, several comments turned to the relevance of securing better transparency and traceability in traded materials. Some participants raised the benefits to track waste and scrap separately to be able to collect data on recyclable fractions and residuals. Other participants emphasised the importance of focusing on upstream value-chains and product design in order to minimise waste, to phase out hazardous substances and to use end-of-life products as material feedstock. Information and data are critical to ensure product content and material quality. Product passports can be considered as a value generation mechanism that creates new opportunities. Incentives can be considered to increase the feasibility of product passports and to overcome the administrative burden or additional costs.

Second, discussions focused on the role of standardisation, such as eco-design initiatives to phase out hazardous substances or reduce complexity of polymers used in plastics, and whether these initiatives remain to be industry driven or proactive policy action, are taking place. One private sector participant responded that the industry uses innovation and different formulations of their plastics to have a competitive edge to improve costs. Therefore, policy intervention is a difficult matter. Research is directed towards

[34] Setting international definitions and standards is a lengthy process. Nevertheless, it is essential for standard setting processes to engage with all stakeholders.

[35] For example, the new Harmonised System codes for e-waste coming into effect from 2022, took around two decades to develop.

understanding the nature and impacts of different substances and polymers used. These standards can nevertheless emerge organically from the industry.

Third, the classification of waste, scrap and secondary materials, and related trade controls was raised as a part of the discussion. Several participants reiterated that waste prevention is first order priority, however, in the cases where waste is generated and traded, its transboundary movement should adhere to technical guidance and standards. One participant suggested focusing first on the best way to classify these materials for their better use, and then turn to standards, norms, trade codes and Harmonised System classifications. Discussions also focused on the role of trade in waste and scrap where some jurisdictions appear to have a focus on domestic or regional treatment of waste and scrap materials. Some participants responded that trade in certain materials, such as metals and paper could work well in certain markets, as they are relatively easy to process and have high value. However, for complex products, other strategies may work better in the short term.

Fourth, specific comments were raised on prior-informed consent procedures for trade in waste and scrap. A private sector participant indicated the importance of prior-informed consent procedures for a number of trade flows including hazardous chemicals, pesticides, and waste, however also raised concerns over the excessive administrative burden and unintended consequences under this process. Some participants responded that a broad view is necessary to weigh the pros and cons of prior informed consent procedures, as this is not only for businesses, but it is also beneficial for the inspection authorities, and more broadly for the environment and society as a whole. [36]

Fifth, the prevalence of environmental crime and illegal waste trade discussed by INTERPOL was echoed by other participants. [37] In particular, illegal waste trade was recognised by a majority of stakeholders as an unwelcomed activity that undermines legitimate trade and efforts to support a resource efficient circular economy.[38]

Finally, one participant indicated the significant role of the informal sector in repairing, recycling and managing end-of-life products in developing countries, along with the need to organise the profession with proper training and security.

Session 4: How does trade relate to goods for refurbishment and remanufacturing, and second-hand products?

Nabil Nasr, Director, Rochester Institute of Technology and expert member of UNEP International Resource Panel presented an overview of trade in goods for refurbishment

[36] The World Customs Organization flagged their involvement with the prior informed consent procedure under the Basel Convention amendments on plastics. They are establishing reinforced co-operation with the Basel Convention Secretariat in assessing ways to work better together in terms of trade facilitation, procedural aspects, and sharing information regarding e-notification.

[37] The World Customs Organization as a part of their environmental program is organising a specific operation called DEMETER in joint operations with INTERPOL to increase enforcement and strengthen international co-operation at the border to prevent illegal shipments of waste.

[38] Additional examples on illegal waste trade were reported on foreign waste dumping in Liberia and Thailand, and setting fire to stock piles of plastic waste in Australia.

and remanufacturing.[39] Refurbishment and remanufacturing activities are commonly deployed in capital intensive sectors.[40] Refurbishment is a modification of a product to restore its performance. Remanufacturing is a standard industrial process to return the core of a product to "like new" conditions so that it complies with specific technical specifications and quality standards. From an environmental perspective, there are far less impacts when a product is refurbished or remanufactured compared to new products because overall material use is reduced. From a production perspective, open market access and free movement of goods is essential to achieve economies of scale. Thus, facilitating trade is important to support refurbishment and remanufacturing activities. Barriers in bringing back a product or a core component to intermediate repair facilities or industrial factories, or to re-selling a remanufactured product to another market, can impede circular activities and hinder market development. Therefore, removing regulatory and market access barriers for goods for refurbishment and remanufacturing are key factors to enable these circular activities. Significant challenges concern the regulatory definitions and restrictions on refurbishment, remanufacturing and reuse that are often associated with the definition of waste. For this reason, products for refurbishment and remanufacturing require a standardised classification.[41] In the United States, the Remanufacturing Industries Council developed a standard to certify remanufactured products.[42]

John Disharoon, Director, Market Access, Caterpillar, shared perspectives on remanufacturing and trade.[43] Remanufacturing is an exchange business where a customer brings a component at the end of its service life and exchanges it for a remanufactured equivalent. Consumers can buy a new product for the entire price or exchange an old component for a remanufactured product for about half of the price with the same guarantee.[44] Around 95% of cores are returned for remanufacturing. The balance (5%)

[39] Interventions were based on the UNEP-IRP report. See: IRP (2018), *Re-defining Value – The Manufacturing Revolution. Remanufacturing, Refurbishment, Repair and Direct Reuse in the Circular Economy*, A Report of the International Resource Panel, United Nations Environment Programme, Nairobi, Kenya.

[40] Refurbishment and remanufacturing practices are common in capital intensive sectors including defence, aerospace, heavy duty and automotive industry, and growing in consumer electronics, and consumer products. The automobile sector is one of the largest remanufacturing industry. In this case, reuse and remanufacturing is not for the entire vehicle but rather for core parts and components such as engines, starters, illuminators, batteries, water pumps, that have the tendency to ware out faster than the structure of the vehicle reaches its end-of-life.

[41] Governments can support these initiatives by recognising refurbishment and remanufacturing processes as a part of the circular economy activities to inform the market. Governments could also consider public procurement as a way to assist in the early stage of development in these areas.

[42] This standard on remanufactured products was developed by the Remanufacturing Industries Council and approved by the American National Standards Institute (ANSI) in 2017. The aim of the ANSI standard on remanufacturing is to establish a common understanding on the quality of these products and to provide clear guidance of how companies can be certified.

[43] Caterpillar has been in the remanufacturing business for nearly five decades and considered as the largest independent remanufacturer in the heavy industry. The company has global operations with five major remanufacturing facilities around the world.

[44] When cores are taken back to factories, they are disassembled, cleaned, checked against engineering guidelines (examined what is salvageable and what needs to be replaced by new

remains with consumers for their own fleet exchange, used for repair or sent for recycling. Remanufacturing makes sense from a business model standpoint because a remanufactured product uses recycled materials, offsets the need for virgin materials and lowers the cost.[45] It brings economic, social and environmental benefits by creating jobs,[46] and reducing material use. Global remanufacturing operations face a number of challenges in certain countries. For example, China limits the number of cores that can be imported into the country, and some countries consider remanufactured products "used goods", even though they are not. These restrictive measures emerged in the past 20 years based on growing environmental concerns of importing "used goods" from developed nations. Brazil also increased its restrictions on the movement of remanufactured goods where sales have significantly dropped to around 10% in the past 15 years. Moreover, current custom codes (HS codes) only refer to new products or used products, and there are no codes for remanufactured goods, with the exception of Mexico, which recently developed a dedicated commodity code for remanufactured products.

Minna Aila, Executive Vice President, Konecranes, provided industry perspectives on trade in goods and services for circular operations. Konecranes manufactures cranes used in ports to lift containers and has global operations in 60 countries worldwide. The company adopts circular economy principles from product design, to sourcing of materials and components, manufacturing products, providing maintenance and refurbishment services, and assisting customers at the end of a product's lifecycle. To sustain these global operations, international trade is necessary to achieve economies of scale and to optimise material flows. While regulation is necessary, they need to be aligned as widely as possible to create a level playing field. When a global company plans to organise end-of-life management or take-back services for their customers worldwide, it is very difficult to provide them in a commercially viable manner if different rules apply in different countries. Easing trade for technologies that facilitate the circular economy and making them tariff free will also contribute to resource efficiency at a global level. The role of trade in services is equally important for the circular economy. Cranes are capital intensive and operate 24/7. Therefore, it is important to sustain operations and extend the product lifecycle through services such as digital monitoring, automation, maintenance, repair, refurbishment and remanufacturing.[47] These services require the movement of people, information and data. In addition, more transparency on environmental footprint is needed for refurbished, remanufactured and second-hand products, to support circular initiatives by committed companies and avoid green washing.

Ross Bartley, Environmental & Technical Director, Bureau of International Recycling (BIR) shared industry perspectives for trade in second-hand products with a focus on textiles. Governments need to increase separate collection of textiles because large volumes of end-of-life products are generated from fast fashion particularly in developed countries.

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parts), and tested to ensure proper operation. This can be done for infinite number of times until there is a catastrophic failure or does not meet original engineering guidelines.

45 Remanufacturing economically makes sense for capital intensive goods compared to fast moving consumer goods. It is economically viable to disassemble products, to separate materials, to reuse and recycle components. Consumer products can be more complicated because consumers may have preferences for new models after some years.

46 Remanufacturing is labour intensive as it involves disassembling, testing, reassembling and certification.

47 Software updates are also important to increase productivity, efficiency and safety of operations.

Currently, there is limited capacity to mechanically or chemically recycle large volumes of textile waste that would come from mandated separate collection. As a result, textile waste for recycling will need to cross borders to reach recycling facilities that have capacity and to achieve economies of scale. However, the regulatory framework is not very clear for promoting the reuse of textiles and exploiting the full potential of trade. In particular, current rules remain unclear whether clothes, footwear and accessories collected together are considered as waste.[48] In some countries they are classified as waste, and in other countries, they are not.[49] The controls for moving clothing, accessories and footwear for reuse across borders are also unclear and very poorly implemented. In addition, markets for reuse may be restricted nationally, such as ban on sale of used children's clothes and used footwear in some countries. More countries are prohibiting imports of second-hand goods. In the future, if EPR is chosen to pay for separate collection and waste management of textiles, this will force a rethink on the definitions of textiles, including clothing, accessories, footwear, and preparation for reuse.[50]

Patrick Schroeder, Senior Research Fellow, Environment and Energy resource program, shared insights from their work on the opportunities of circular economy in developing countries.[51] Trade in second-hand goods can bring both positive and negative effects to developing countries. Benefits come from increased access to second-hand goods, such as used textiles, electronics, and renewable energy technology that is generally more affordable. Negative effects mainly concern the potential low quality or poor performance of the second-hand good as well as related challenges in their end-of-life management.[52]

48 The separate collection of used clothing, accessories and footwear by charities and recycling companies for reuse has been a common practice before the elaboration of the Harmonized System codes and waste lists. The HS code "630900 Worn clothing and other worn articles" was used by traders for goods for reuse. The Basel Convention subsequently adopted the same description in its Annex IX, B3030 Textile wastes "Worn clothing and other worn textile articles". The custom code's "goods" were conflated with "wastes", with some subject to waste trade restrictions. The waste lists added the caveat "The following materials, provided they are not mixed with other wastes and are prepared to a specification". By this stepwise approach, one legislative listing led to another, and the link between the regulatory framework and the separate collection of "clothes, footwear and accessories" for reuse was lost. Some countries classify "clothes, footwear and accessories" separately from other wastes, while other countries classify items collected together in recycling containers as waste. Moreover, there are no waste listings for "footwear" or "accessories". Shipments of collected items of "clothing, accessories and footwear" for sorting and subsequent reuse have been stopped as illegal shipments of waste. This is an example where HS codes and waste listings may pose challenges to the circular economy.

49 Regarding the collection for reuse, not all textiles are captured under a single definition. See: www.theguardian.com/environment/2020/feb/12/mattress-landfill-crisis-recycling-nightmare.

50 Waste legislations at the national level do not appear to be suited to foster reuse, because the waste lists are of materials, while goods for reuse are commonly a mix of different materials, for example, canvas, metal, rubber, leather, plastic used in footwear.

51 See: Preston, F. and J. Lehne (2017), "A Wider Circle? The Circular Economy in Developing Countries", Chatham House, https://www.chathamhouse.org/publication/wider-circle-circular-economy-developing-countries.

52 Positive and negative aspects of trade in second-hand goods can be further illustrated through some examples. First, trade in used textiles largely destined to African countries can benefit consumers with the opportunity to buy affordable clothing. The negative effects is that imported second-hand textiles compete with local textile industries. Another issue is that an increasing amount of textiles imported to African countries are of very poor quality. This links to the fast

Three elements appear to be critical for trade in second-hand goods to be successful for a circular economy. First, products need to be designed to be reused with good quality materials. Planned obsolescence cannot work for second-hand goods and trade. Second, products have to be designed to be repairable and easily disassembled at the end of life. A number of actions need to be taken to limit trade-offs of trade in second-hand goods by improving positive aspects and reducing negative effects. First, developing countries require additional infrastructure for proper recycling and waste management. A wide range of stakeholders such as development banks need to be involved to provide assistance in this area. Second, capacity building is required for institutions working on environmental policy and waste management in developing countries and international co-operation programs have a strong role to play. Third, OECD countries need to do a better job in sorting second-hand goods before sending them to a third country to limit their associated negative impacts at their destination.

In the following discussion, one participant indicated that restrictions on trade in waste and scrap are often to avoid environmental and health problems and thus definitions may not be easily modified. The presenter responded that regulatory systems are often very restrictive to prevent a small percentage of bad actors and are not designed for taking back products because the remanufacturing market is specific and still relatively small.

Discussions also focussed on the differences between capital intensive goods and fast-moving consumer goods. Capital intensive goods by their nature are generally made to be durable and last longer, and are suitable for reuse, refurbishment, remanufacturing, and recycling because of their intrinsic value. They appear to be desirable candidates for trade. In contrast, fast-moving consumer goods are rather different because of quickly changing consumer preferences and the business logic behind that. These goods may not last as long as capital intensive goods, and in some cases, they may even be designed with planned obsolescence. In a similar vein, some participants raised the issue of imported low quality textiles that hinders overall trade in second-hand textiles. Since recycling possibilities are practically impossible for low quality second-hand textiles and they end up as waste, improving the quality of these materials is essential.

While consumer goods are still far behind the circular logic than those for capital goods, there are emerging initiatives around new business models and product service systems. For example, there are clothing rental systems to pick up different outfits for a monthly fee. Green public procurement extending its scope to second-hand goods could also create new demand for reuse. Finally, internet platforms that enable consumer trade of used goods can provide additional opportunities for the uptake of second-hand goods. They enable a win-win situation where individuals can create additional income from pre-owned items and

fashion trend where clothing is not made to be worn for a very long time, sometimes referred to as “single-use clothing”. These product won’t sell in African countries and need to be landfilled. For these reasons, some countries have imposed import bans on second-hand textiles. Second, regarding electronics, second-hand electronics are very important to bridge the digital divide in many developing countries. For many consumers, second-hand mobile devices or laptops are the first electronic device that they use. However, the fate of these products after their second life needs particular attention as end-of-life management issues prevail in e-waste. Third, concerning the renewable energy technologies and batteries, refurbished wind turbines and battery packs for energy storage systems are used in developing countries at a reduced cost to enable the energy transition. Being mindful of end-of-life management, there needs to be systems in place which would not only facilitate the sale of second-hand equipment but also include take-back systems to ensure that products are recycled.

also contribute to environmental protection and tackle climate change. One report estimated that the life spans of products in the electronics, furniture, and clothing categories were extended by 1.4 to 1.6 times the standard product life through an internet platform in the Netherlands.[53] These initiatives could serve to promote reuse, repair, refurbishment and remanufacturing. Trade can help achieve economies of scale and reach a critical mass of supply and demand for these products. However, these initiatives need to be accompanied by upstream efforts to make products last longer and retrievable when these products and components reach the end of their service life.

Part 2 - Scaling up circular economy through trade - towards a mutually supportive agenda

Session 5: What is the role of standards?

Shunta Yamaguchi, Policy Analyst, Trade and Environment, Environment and Economy Integration Division, Environment Directorate, OECD, presented an overview of recent developments on circular economy related standards.[54] Policies to promote a circular economy are *inter-alia* focussing upstream to provide incentives for eco-design.[55] For this reason, product standards on material content, recycled content, hazardous content, recyclability and reparability are being increasingly considered in various jurisdictions. Downstream efforts are also emerging to set forth product quality standards for second-hand goods and material quality standards for secondary raw materials. Circular economy related standards can be classified into two broad categories of principle based standards and product based standards. Principle based standards for the circular economy are available at the national level in the UK (BS-8001 issued in 2017) and France (Pr XP X30-901 issued in 2018) and internationally underway at the International Organization for Standardization (ISO TC-323). Product based standards are emerging at various levels, such as American National Standards Institute (ANSI) standard for remanufacturing, and a number of CEN-CENELEC[56] standards including recycled content, recyclability, and reparability. From a trade perspective, it is essential to ensure that these emerging

[53] See: Snijder, L. M. Broeren and G. Bergsma (2019), "The environmental benefit of Marktplaats trading", Delft, CE Delft, July 2019, https://marktplaatsperskamer.nl/wp-content/uploads/2019/10/191009-CE-Delft-Impact-study-enviromental-benefit-Marktplaats-trading.pdf.

[54] See: OECD (2020, forthcoming), "Trade and Circular Economy Policy Alignment", OECD Trade and Environment Working Papers, https://www.oecd-ilibrary.org/trade/oecd-trade-and-environment-working-papers_18166881.

[55] For example, extended producer responsibility (EPR) schemes in many jurisdictions are considering the possibility of introducing modulated fees for recycling, depending on the material content of a product and their ease of repair and recycling.

[56] CEN-CENELEC is a joint committee established between the European Committee for Standardization (CEN) and the European Committee for Electrotechnical Standardization (CENELEC).

regulations and standards are non-discriminatory and do not create unnecessary obstacles to trade. For this reason, the WTO Technical Barriers to Trade (TBT) Agreement encourages members to refer to international standards in developing domestic measures and requires members to fulfil transparency requirements as a means to facilitate trade.

Roswitha Franz, Programme Manager, Capacity Building, International Organization for Standardization (ISO) presented the ISO,[57] and how ISO standards can provide concrete solutions to help achieve sustainable development and thereby contribute to achieve the UN SDGs and support trade. ISO develops international standards in accordance with the WTO TBT Agreement and with other principles such as stakeholder engagement, due process and national implementation. ISO standards can therefore be claimed as international standards as part of the TBT Agreement. They can be used to support public policy and referenced in technical regulations at the national level.[58] ISO has developed international standards in areas such as social responsibility, sustainable procurement, cross-border trade in second hand goods, and blockchain technology. ISO's standardisation work on circular economy started in 2019.[59] One important principle of the ISO's international standards setting is to be inclusive and to fulfil the development dimension.[60] Given that new standards proposals on the circular economy are currently being developed, the ISO's capacity building is focusing to involve more experts and stakeholders from developing countries in the process. Stakeholders can be involved in the process by reaching out to the ISO member in their respective country.[61]

Catherine Chevauche, SUEZ and Chair of ISO TC-323 provided further updates on their work in developing circular economy standards. The technical committee on the circular economy (TC-323) is aiming to develop consensual text on frameworks, guidance and supporting tools for a circular economy. The standard is envisaged to be a principle based standard rather than a management based or a product based standard. It is expected to provide guidance on how to implement the circular economy within organisations and how to measure circularity. The main objective of this work is to contribute to the SDGs. Four

[57] ISO is a member-based organization represented in 164 different countries. The ISO Central Secretariat provides a neutral platform for the development of international standards with participation of experts from the public sector, private sector, academia, and civil society. ISO Standards are developed when market needs are identified and drafted by experts sourced from ISO members following the principles of the WTO/TBT Agreement.

For details, see: https://www.iso.org.

[58] The ISO also develops conformity assessment standards. Conformity assessment for product certification, testing and quality management is important to facilitate market access and trade.

[59] The circular economy can benefit from a principle based approach to help businesses promote sustainable development. Ten years ago, the ISO developed a standard on social responsibility, which gives enterprises a guideline on how to be socially responsible by integrating socially responsible action in the principles of an organisation. The standard on the circular economy is being developed in this direction.

[60] One third of ISO members are from developing countries. Therefore, the ISO Central Secretariat organises capacity building programmes for developing countries with the aim to involve them from the beginning of a process.

[61] For a detailed list of ISO members, see: https://www.iso.org/members.html.

different topics and working groups,[62] are identified in the work programme.[63] The first group defines the framework and principles of the circular economy. The second group focuses on developing guidelines to promote new business models and circular value chains. The third group develops tools and frameworks to measure the circular economy. The fourth group focuses on sharing of experience and best practices. The standard is aimed to be published in the beginning of 2023. The TC-323 also takes into account existing circular economy standards by liaising with other committees. For example, existing ISO standards related to the circular economy include a standard on the cross-border trade in second-hand goods. A separate committee on environmental management is developing standards on eco-design and circularity of materials. The current focus of the TC-323 is to have effective participation from different countries worldwide.[64] Governments have a role to play in providing input to standard development,[65] and utilising these standards for instance by referencing them in regulations and in trade agreements.

David Fatscher, Head of Sector (Environment, Social and Governance), British Standards Institution (BSI), shared the development of the world's first circular economy standard published in 2017 (BS 8001:2017).[66] The standard sets forth high-level principles to help organisations transition to a more circular mode of operation. It is a principles-based standard rather than a process-based or a product specification standard.[67] The document aims to establish common terminology to facilitate communication between organisations, suppliers and consumers with a degree of consistency. It also outlines the benefits and risks of a transition, to inform organisations of factors that need to be considered throughout the value chain.[68] The rationale to develop a circular economy standard were drivers emerging from economic, environmental, and social demands. The standard was developed in consultation with businesses, NGOs as well as policy makers to reach consensus. It is critical for standardisation organisations to engage with stakeholders to understand where market failures take place and to identify gaps which standards can fill.[69] Managing

62 Two countries take the lead in developing standards and guidelines in each group: group one by Brazil and France; group two by Japan and Rwanda; group three by Netherlands and potentially Indonesia; and group four potentially by Brazil and France.

63 The work programme on the circular economy was identified at their first meeting in 2019.

64 More than 70 countries are now involved (as of February 2020). Observer organisations are also involved such as the Ellen MacArthur Foundation. The focus of the work is to facilitate dialogue between stakeholders to implement the circular economy.

65 Each country participates through their national standardisation body. National standardisation bodies involves different stakeholders, from governments, industry, academia, and NGOs to provide comments and feedback.

66 As the UK is developing external trade relationships, the government is increasingly recognising the importance of voluntary standards and the role of BSI as the national standard body as a means to ensure that trade take place on a level-playing field with common definitions.

67 A principles-based standard for the circular economy was chosen in recognition that the circular economy is an emerging field and organisations have different preferences and starting points in applying circular economy approaches.

68 Examples of principles highlighted in the BS 8001 standard include systems thinking, stewardship, collaboration, and transparency.

69 Standards are voluntary documents but will often be referenced by governments and regional organisations, as a means by which organisations can demonstrate their compliance to regulation. Standards organisations are not experts on the technical subject, and their role is to

consensus through a robust process also results in increasing the credibility of the standard. British Standards are not exclusive for the UK and they can be used by any organisation in any territory.[70] The BS 8001 circular economy standard is now informing the ISO work programme on the circular economy as a complementary initiative. Finally, the proliferation of standards can pose challenges to the end-user in finding the applicable standards to refer to.[71] Standard bodies could place more effort in order to better inform and communicate with relevant stakeholders that have interest in certain areas.

Mercedes Mira Costa, Project Manager, Energy & Living Unit - Standardization & Digital Solutions, CEN-CENELEC, shared their work on circular economy related standards at the European level.[72] Standards are essential tools to support trade relations and fair competition by setting forth agreed common specifications.[73] The European Committee for Standardization (CEN), and the European Committee for Electrotechnical Standardization (CENELEC) is working together with the European Commission and other stakeholders to develop and adopt European standards that support the implementation of EU legislation and policy targets.[74] In the past few years, CEN and CENELEC focused on

convene communities of experts, and manage consensus among those experts throughout the standard development process. This open process aims to distil the wisdom of experts into a single document. This management of consensus is one reason why standards may take time to develop.

70 In the UK, the British Standard on the circular economy was used as a reference document for a workshop to inform public authorities about the circular economy. It was also used to develop an online tool for the transport sector to undertake circular operations.

71 The consequences of the proliferation of standards also need to be taken into account. When standard bodies recognise that there is a piece of work that superseded a national standard, then relevant standards are withdrawn to avoid any confusion. For example, the British Standard PAS 141:2011 to build confidence in the reused mobile device market has been since withdrawn.

72 CEN (European Committee for Standardization) and CENELEC (European Committee for Electrotechnical Standardization) are recognized by the European Union (EU) and the European Free Trade Association (EFTA) as European Standardization Organizations responsible for developing standards at European level, as per the EU Regulation 1025/2012. The members of CEN and CENELEC are the National Standardization Bodies and National Electrotechnical Committees of 34 European countries. European Standards (ENs) and other standardization deliverables adopted by CEN and CENELEC, are accepted and recognised in all these countries. European Standards (ENs) contribute to enhancing safety, improving quality, facilitating cross-border trade and strengthening the European Single Market. They are developed through a process of collaboration among experts nominated by business and industry, research institutes, consumer and environmental organizations, trade unions and other stakeholders. CEN and CENELEC work to promote the international alignment of standards in the framework of technical cooperation agreements with ISO (International Organization for Standardization) and the IEC (International Electrotechnical Commission).

73 The way the global landscape evolves increases the role of standards. In the context of Circular Economy, standardization plays an important role in supporting EU legislation and climate targets by promoting best practices, improving energy efficiency, safety and providing tools to optimize installations and systems.

74 The particularity of the European standardisation system is that one European standard is identically adopted in 34 members. Once a standard is developed at the European level, all standards that are conflicting at national level are removed. The preference at the European level is to reach a global solution. For this reason, links with the international standardisation organisations are important including agreements between CEN and the International

developing European standards in support of eco-design and energy labelling regulations at the European level to measure energy performance of various energy-related products. A new approach is to focus on material efficiency aspects of energy-related products from their design to end-of-life. In the context of the mandate from the European Commission,[75] work is being carried out on generic principles to consider in addressing material efficiency aspects to make products last longer, to use less materials, and to make better use of materials. The Joint Technical Committee, CEN-CENELEC/JTC 10 "Energy-related products – Material Efficiency Aspects for Ecodesign", is developing standards to set forth methods to assess among others repair, reuse, and upgrade of energy-related products or the proportion of reused components in energy-related products. Some standards are already published, while others will be published soon.[76] CEN and CENELEC are committed to continue developing standards that support the circular economy transition.

Ruben Dekker, Policy Officer, DG Environment, EU, shared perspectives from policy and regulation. The new European Commission, which arrived in November 2019, places top priority on tackling climate change and promoting environmental protection through the European Green Deal. A key element of the European Green Deal is the new Circular Economy Action Plan. This action plan will work in synergy with the Industrial Strategy, as the two initiatives need to be mutually supportive. A major part of the Circular Economy Action Plan focuses on product policy. The aim is to ensure that ultimately, all products on the EU market are sustainable. This requires the development of better standards, definitions and terminology. Standards play an important role to help define product sustainability and to support their policy implementation. Possible measures to ensure that products on the EU market are sustainable may include setting eco-design requirements on products placed on the market, eco-labels and certification schemes to inform consumers about sustainable products, or other ways to reward sustainable products such as reduced EPR fees and green public procurement. Definitions and standards are needed to determine product compliance. CEN-CENELEC has recently developed a set of 'circular economy' standards, touching on *inter alia* durability (making products last longer), reparability (making products easier to repair), and recyclability (making products more recyclable). The Commission is considering using these standards in policy making to enhance product sustainability. Another element is to improve the traceability and transparency of products and their value chains.

Jenny Svärd, Director, Environmental Policies, Confederation of Swedish Enterprise, provided perspectives from the industry.[77] Members of the Confederation have climate change and circular economy high on their agenda. Profitable business models are key for a circular economy transition. Industry members recognise the importance of trade and international standards to realise circular business models to be effective and profitable. Standards, for example, can contribute to facilitating trade in secondary materials, and also support circular business models by making them more predictable, less complicated, and reduce business risks for companies. However, several principles need to be applied in the

Organization for Standardization (ISO), as well as CENELEC and the International Electrotechnical Commission (IEC). Communication between standardisation organisations is critical in order to assist industry and business, and to avoid duplication.

75 See: M/543 'Ecodesign requirements on material efficiency aspects for energy-related products',

76 Seven standards are ready and one of them is still pending last vote (as of February 2020).

77 The Confederation of Swedish Enterprise consists of about 56 sector federations and 60,000 member companies, and is Sweden's largest business federation.

standard setting processes. First, the industry needs to be part of the process in identifying the need of standards. Second, standards need to be market based and produced together with businesses to offer flexibility to foster technical development and innovation.[78] Third, standards need to be produced at the international level to achieve the largest benefit and to enable trade. Several standards appear to be important for circular value chains and trade, including (i) harmonised standards for secondary raw materials, (ii) international standards on recycling techniques, (iii) standards to facilitate information sharing among stakeholders across the value chain and digital labelling systems for consumer information, and (v) a variety of product standards. Finally, while there is a great need for new standards, it is also important to use existing standards, such as the global harmonised system of classification and labelling of chemicals managed by the United Nations.

The following discussions focussed on four main issues. First, discussions turned to the inclusiveness of the industry in developing standards and the implications of voluntary standards becoming mandatory regulations. Representatives from the industry reiterated that standard setting should not be top-down and should incorporate the industry to a full extent in the development process. At the same time, the industry also faces resource and time constraints to fully engage in standard development processes. Some standards appear to be less relevant from a recycler's perspective (such as those on secondary raw materials that discount size below 10 mm of scrap and lead to less profits). As long as these standards are voluntary, they are fine as they will not be used by the industry. The caution comes when certain standards are considered to be linked with legislation. There can be serious economic effects when voluntary standards become mandatory regulations. This is especially the case where certain actors from the industry are not represented in the development process of a particular standard and there is no consensus.

Government representatives shared how standards are used from a legislator's perspective. Standards can be built into policies in different ways. To regulate a particular area, a reference library of standards is usually available, however, mandatory references are not considered to be best practice anymore. There are examples in the past where policy makers have taken a standard and made it mandatory, such as requirements on air quality. However, this should not be the normal course of action. Open references are often used to be flexible in the way organisations can comply. Policies set standards in a way that provides clarity for economic operators with the presumption of conformity. In this case, standards would be one way to comply with regulation, but it leaves economic operators with the possibility to find another way of complying if necessary. In addition, standards serve as a facilitation mechanism between businesses. Standards provide an opportunity to work inclusively with economic operators and should be developed with their participation. Finally, regional trade agreements provide opportunities to agree on certain standards to refer to between contracting parties (complementing Annex III of the TBT agreement).

Standardisation organisations also shared their views. With regards to ISO work, the importance of industry involvement and stakeholder engagement was reiterated. ISO members are encouraged to have a strategic approach to filter stakeholder interests at the national level and identify priority areas to participate at the international level. ISO standards are developed when market needs are identified. If stakeholder groups in a country indicate a need for international standards, they are encouraged to reach their

[78] An example of a combination of regulations and standards is the EU eco-design directive, where technical specifications define standards rather than in the regulation itself. The eco-design directive could serve as a model for further policy development.

representative and find alliances with other countries to initiate a process to develop international standards. Any technical specification used in the industry can be submitted as a "seed document" to inform a standard development process at the ISO. Seed documents are welcome as they speed up the process. Transparency provisions of the WTO TBT Agreement are essential to ensure that standards are developed with consensus and stakeholder involvement, and hence to avoid any obstacles and adverse impacts on trade. Another representative from a standardisation organisation conveyed that standard bodies at various levels, either international, national, or regional, need to invest more in online meetings for those who cannot participate in person due to time and resource constraints. Standard bodies have a role to inform stakeholders that any standard is available in draft form for comments as part of its governance structure. Standard bodies also have a role to make the catalogue of standards more understandable.

Second, issues around the proliferation of standards and increased costs were also discussed. One expert followed up particularly on the harmonization of product standards at the international level. While the ISO is developing principle based circular economy standards, it does not seem to address the potential problem of different product standards in different jurisdictions, which may imply a cost for the exporter. There may be a need to have some kind of harmonisation or mutual recognition process. Questions turned to the evidence base on potentially increased cost due to the proliferation of standards, and the existence of any emerging initiatives around harmonisation, mutual recognition and equivalence of circular economy related standards. An industry representative responded that standards generally make it easier for buyers and sellers to communicate and understand each other. A representative from a standard organisation conveyed the role of standards to support the free movement of goods and services, drawing on examples of product standards related to eco-design and energy labelling. While thresholds and compulsory values are indicated in mandatory regulations, standards provide manufacturers the methods and tools to give presumption of conformity and to demonstrate that their products comply. Although harmonisation of standards can be a difficult process, these efforts are starting to be made at the international level. Several representatives from standard organisations added that liaison with the ISO and IEC is an ideal way to ensure that standards reflect broad interests of stakeholders from the government, international organisations, the industry, academia, and NGOs.

Third, standards that potentially impede circular economy efforts may need to be reviewed. A civil society representative indicated that some existing standards may be perceived to impede circular economy approaches and hence asked about the review process for standards. For example, standards on e-waste collection allow for goods to be left outside for some weeks and exposed to rain or heat that could result in irreversible damage to these goods and prevent their possible reuse. Another example is where standards on the sustainability criteria for bio-energy do not mention the cascading use principle, which is key to a circular economy. Therefore, efforts may be necessary to review existing product standards that may impede a circular economy transition. Standard organisation representatives from the ISO shared their intention to co-ordinate work among their committees for better coherence. A representative from CEN-CENELEC shared that a standard revision process can start at any point in time when there is a need.

Fourth, discussions also turned to individual experiences, communication plans, and potential legislative uses. A public sector representative asked about the uptake and impact of the BS8001 standard in effect now for several years. As a response, the BSI is collecting feedback on BS8001 in the form of case studies to understand how this standard has an impact. There are examples of the standard being utilised to inform public policy (e.g. a

Welsh government workshop), and support business operations (e.g. a steel company using the standard to identify circular business models and develop new products out of waste and by-products). An IGO representative drew attention to the Basel Convention and the development of technical guidance for the management of different waste streams. This technical guidance is produced through a wide consultative process including the industry and NGOs, and agreed by consensus by 189 countries in the world. Some elements can be useful to inform the development of related standards. Another IGO representative reminded participants about the principles of the WTO TBT Agreement. Principles of the TBT Agreement serve to design better standards for better regulation, to secure transparency, to encourage the use of international standards, and to secure policy coherence in making regulations and standards as least trade restrictive as possible. The WTO TBT Committee follows developments among regulators to ensure that regulations and standards conforms to these principles. Alternative approaches can also be considered that could be less time-consuming than trying to harmonise regulation and standards.

Session 6: What are the new and emerging opportunities for trade and circular economy?

Jocelyn Blériot, Executive Lead, Institutions, Governments & Cities, Ellen MacArthur Foundation, presented the opportunities between circular economy, innovation and trade.[79] The circular economy has emerged as a massive force that could shift economic systems and potentially redefine globalisation. Typically, the circular economy transition has a trade dimension. Circular economy strategies and roadmaps are mostly national or regional, and focus on how to optimise material loops. However, products and services are embedded in the global economy and global value chains. Therefore, the uptake of the circular economy has an impact on globalisation. The digital aspect of this transformation is key to enable the global traceability of products.[80] This is also related to achieving economies of scale in the management of materials and thus has an impact on trade. International dialogues and multilateral mechanisms for the circular economy have become very prominent.[81] Free trade agreements could also be a powerful vector for the circular economy.[82] For instance, they can provide frameworks to promote product standards to create global markets for a circular economy. Relatedly, there is an MOU on the circular economy between the European Union and China signed in July 2018. However, this is very embryonic. There can be big gaps between high-level ambitions and economic realities. For example, car

[79] The Ellen MacArthur Foundation describes the circular economy based on three fundamental principles, (i) designing pollution and waste out, (ii) keeping products and materials in use, and (iii) restoring the ecosystems and building natural capital. The circular economy is about generating value rather than the depleting linear economy. The circular economy is relevant for material savings and CO_2 emissions reduction. It is extremely relevant to climate change mitigation because 45% of global GHG emissions come from products and food.

[80] New business models and leasing platforms heavily rely on data monitoring and the radical transformation of the digital economy.

[81] For example, the international dimension of the circular economy was highlighted at UNEA 4 in the resolution on sustainable consumption and production. This is also reflected in the new circular economy action plan of the European Commission.

[82] See: Kettunen, M., S. Gionfra and M. Monteville (2019), "EU Circular Economy and Trade Report: Improving policy coherence for sustainable development", IEEP Brussels / London, https://ieep.eu/publications/eu-circular-economy-and-trade-report.

batteries and materials for the electrification of road transport is going to be a massive part of the global economic landscape over the next years. Whether countries aim to establish a circular economy on a global scale, or aim to retain products and materials through their internal value chains at a national level remains to be clarified.

Eva Bartekova, Lead Consultant, Environment and Economy Integration Division, Environment Directorate, OECD, shared insights from the forthcoming OECD report on digitalisation and circular economy, [83] and related implications for trade. Digital technologies include a wide variety of technologies applied in data collection points with sensors and the internet of things (IoT), data storage and processing points with cloud computing, machine learning, and artificial intelligence (AI), and online platforms secured by blockchain technologies. The knowledge conducive to the circular economy relates to the properties of products and materials to understand how they can be maintained and recycled. From a trade perspective, it is particularly important to secure the traceability of a product from supply chains to end-of-life value chains. Four types of applications are found in the private sector. The first application is to secure the traceability of product certification enabled by blockchain technology.[84] The second application is the blockchain-enabled digital product passport, which is a virtual passport that travels along a product's lifecycle from design to end-of-life.[85] The third application is to match consumer and producer needs through digital sourcing platforms.[86] The fourth application is asset sharing platforms.[87] Other applications are found in the public policy domain. For example, in the United States, the Environmental Protection Agency introduced an electronic tracking system for hazardous waste. Similarly, in the UK, the Department for Environment, Food & Rural Affairs (DEFRA) is funding new technologies to enable smart waste tracking to mitigate illegal waste dumping and tax avoidance from false declaration.

Leanne Kemp, founder and CEO of Everledger, presented their blockchain-based provenance tool and possible applications to trade and the circular economy. Fourth Industrial Revolution technologies such as blockchain, artificial intelligence, internet of things and nanotechnology have helped to facilitate the tracking of critical metals and minerals from mine to consumer. This transparency has heralded a 'new normal' in which the raw materials used for manufacturing and construction can be traced from the moment of extraction through to first use, remanufacturing, and eventual deconstruction and reuse.

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[83] See: OECD (2020, forthcoming), "Digitalisation and the circular economy", *OECD Environment Working Papers*, OECD Publishing, Paris, https://doi.org/10.1787/19970900.

[84] One example to enhance the traceability of product certification by blockchain technology, is the pilot project run by IBM, Ford and Provenance, where cobalt is being tracked from mining in China, battery production in South Korea, to assembly in motor vehicles in the United States.

[85] An example on digital product passports, is found in the shipping company Maersk that builds digital passports into their vessels. When they send off vessels to the scrap yard, they are able to dismantle and select out the different grades of the iron, distinguish those for reuse in producing new ships and any residuals for resell.

[86] An example on digital sourcing platforms is found in the Netherlands that organises an excess material platform to scale up industrial symbiosis by exploiting blockchain technology, online platforms, artificial intelligence and machine learning.

[87] Asset sharing platforms usually involves renewable energy and renewable commodity trade, and takes advantage of smart contracts based on IoT, blockchain, and artificial intelligence.

Therefore, information about product provenance can lead to stakeholder value. [88] The first step in enabling a circular economy is to secure the traceability of products throughout a products lifecycle. This transition is seen as a shift from natural mining to urban mining and the ability to transform waste into value. The circular economy has the ability to bring together a sense of a trusted community, to share information and data and to create value chains instead of supply chains. For example, stored energy, such as batteries using lithium and cobalt, could potentially become one of the most conflicted supply chains in the world in the coming years. These supply chains are currently concentrated in African Nations. As our economies heavily rely on electronics devices that drive demand for stored energy in batteries, there is a need to rethink manufacturing to design for disassembly and recover rare earth elements.[89] Provenance platforms and exchange systems are promising ways to bring technology and data together to create an economy that is restorative and regenerative and builds prosperity by capturing more value from existing infrastructure and products.

Peter Wooders, Senior Director, International Institute for Sustainable Development (IISD) presented their forthcoming study on new business models for the circular economy and the role of services trade,[90] which is an under explored area. Services trade represents around 20% of global gross exports and is growing strongly at about 3% per year in the last decade, whereas goods have only grown 1% per year.[91] The study aims to outline services trade that is relevant to the circular economy,[92] and explore existing trade barriers based on surveys and interviews. In a trade context, services liberalisation has been limited to a few specific sectors. The services sectoral classification list (W/120) covered under the General Agreement on Trade in Services (GATS) only identifies four environmental sectors namely, sewage, refuse disposal, sanitation, and other environmental services, and therefore any detailed investigation requires a wider scope. Another aspect is on the modes of services trade specified in GATS. The dominant source of services trade is "mode 3" foreign commercial presence, which represented 59% of global services trade in 2017 according to the world trade report in 2019. The next most important source is "mode 1" cross-border supply, followed by "mode 2" consumption in other countries and "mode 4" physical movement of people to provide these services. Preliminary insights have identified a number of service barriers, such as intellectual property rights, restrictions on foreign entry, restrictions on movement of people, and regulatory transparency. Companies are generally keen to take advantage of circular economy opportunities. In this regard, regulations, standards, and trading possibilities across borders are of key interest areas.

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88 Consumers are mindful about where products come from and how sustainable they are. In this regard, governments and corporations are beginning to realise that supply chains may no longer solely rely on the current mechanisms of trade and need to be supported by other mechanisms such as digital technologies.

89 For example, the electronics manufacturer Dell Computing recovers rare earths and minerals from their components and has become one of the major suppliers for the jewellery industry. These indirect relationships merit further attention.

90 See: IISD (2020, forthcoming), "Circular economy and trade in services", International Institute for Sustainable Development.

91 See: WTO (2019), "World Trade Report, The future of services trade", WTO Publications, Geneva, https://www.wto.org/english/res_e/publications_e/wtr19_e.htm.

92 This in reference to the five business models identified by the OECD. See: OECD (2019), *Business Models for the Circular Economy: Opportunities and Challenges for Policy*, OECD Publishing, Paris, https://doi.org/10.1787/g2g9dd62-en.

Charlotte Cheynard, Government Relations Manager, eBay, shared insights on online trade and the circular economy. Several challenges are encountered by foreign businesses around emerging circular economy regulations, in particular, extended producer responsibility (EPR) schemes that apply differentiated recycling fees for producers and traders to comply.[93] First, complex value chains may pose significant challenges for sellers to have visibility on its product origin. Second, online marketplaces have no visibility on the physical product and are not able to verify proof provided by sellers. Third, e-commerce sellers are small businesses trading across borders that face a huge burden in complying with the proliferation of different regulations in various jurisdictions. [94] Two recommendations are identified to overcome these challenges. The first recommendation is to have EPR schemes to adapt to the characteristics of small internet-enabled businesses through simplified measures, including: (i) digital registration, (ii) one stop shops, (iii) *de minimis* for smaller sellers, (iv) cross-border co-operation between governments to avoid regulatory fragmentation, and (v) compelling manufacturers to include a fee estimation.[95] The second recommendation is to enable public-private co-operation, such as launching pilot programs with online marketplaces for better awareness and enforcement. In terms of opportunities, online marketplaces can contribute to the circular economy in three ways. First, online platforms can facilitate the use of second-hand goods,[96] refurbished products and spare parts. [97] Second, these platforms can foster the use of electronic product passports.[98] Third, it can also help deploy incentives to return or sell back old devices.[99]

The following discussions focused on four main issues. First, concerns were raised over the role of trade and circular economy in the context of competing global versus domestic approaches. In the digital sphere, technology and data governance is rapidly emerging. A

[93] EPR with differentiated recycling fees are being considered by different jurisdictions and producer responsibility organisations (PROs) as a way to promote eco-design. This is often based on complex rules and may not be correctly applied to foreign suppliers due to a lack of awareness. This appears to be a critical issue for e-commerce that has strong momentum in cross-border trade. Some countries, including France, have turned to online marketplaces and their sellers for accountability. These emerging obligations raise concern as they can be claimed to depart from key principles such as intermediary liability and the polluter pays principal.

[94] 98% of eBay sellers export on average to 21 different countries per year.

[95] The suggested recommendation for manufacturers is to consider the inclusion of a fee estimation or other fee determining factors as part of the information that they pass down the value chain to the final seller.

[96] Since 2016, the eBay platform is estimated to help save 1.2 million metric tons of carbon emissions through the sale of pre-owned items. See: eBay (2019), "eBay impact 2019 report", https://static.ebayinc.com/assets/Uploads/Documents/eBay-Impact-2019-Report.pdf.

[97] Online marketplaces can support the right to repair by enabling trade in spare parts (e.g. for technology devices and cars). It can facilitate repair by bringing better access to a large inventory of spare parts and enabling compatibility search and item unique identification.

[98] Digital product passports would enable sellers to comply with mandatory obligations and help online marketplaces to have better visibility on a product sold on their platform. To exploit the full potential of product passports, it is ideal to have the widest global coverage as possible to avoid creating information asymmetries and trade barriers between importers and exporters.

[99] Over one million refurbished phones listings are published on eBay in France every year. This has grown by 500% over the last 5 years. Similar trends are found in all main OECD e-commerce markets. Online platforms can provide guarantees to encourage these transactions.

number of non-OECD countries appear to apply restrictions on trans-boundary movement of data and mandate the localisation of data centres within their own countries. Questions were raised on how digital trade would actually pick up and transition into a global context. Some participants shared these views and conveyed that the global context for circular economy approaches is just starting to emerge and requires more work. Another participant shared that the second EU Circular Economy Action Plan will have more emphasis on the international dimension including references to the Basel Convention and other multilateral environmental agreements, and linkages with free trade agreements.

Second, discussions turned to transparency and traceability of circular economy-related products and the feasibility of emerging technologies. If a circular economy is enabled at a global level, data availability and transparency would become critical. Data and transparency would be required across a product's life cycle, in order to indicate its provenance and location, material properties and characteristics, and applicable treatment and recovery when reaching its end-of-life. If traceability is applied to rare earth elements, their origins involve developing countries with weak governance structures, which could pose challenges in tracking information. In this context, digital technology such as digital product passports and blockchain technology, may help secure transparency and traceability. The feasibility of these technologies and applications needs further investigation. One participant indicated potential synergies to link digital product passports with sustainability characteristics of product codes, such as the United Nations Standard Products and Services Code (UNSPSC) and Common Procurement Vocabulary (CPV). Another participant cautioned that transparency and traceability should not only focus on a narrow set of indicators for example on CO_2 emissions or valuable materials, but should also include product provenance, with social and environmental impacts at the source.

Third, one participant raised that current investment flows are not enough to unleash the full potential of the fourth industrial revolution (4IR). While there are massive opportunities to apply these technologies for the circular economy, there are challenges around incentives and scale. It is important to identify the extent to which policies can actually incentivise investment specifically in the use of 4IR technologies to accelerate the circular economy. Another participant reiterated that the potential of the 4IR for the circular economy is yet to be explored in depth, and more work is needed in this area.

Fourth, discussions turned to the potential of trade agreements as a powerful vehicle to drive a circular economy transition at the global level. Questions turned to the location of circular economy provisions, whether they be located in an environment chapter or a trade and sustainable development chapter, or possibly other areas such as investment chapters or market access chapters. Participants echoed that this is an extremely valuable point that needs more investigation. Some participants shared their views that circular economy provisions could be placed in an environment chapter or trade and sustainable development chapter as a starting point, and further synergies with other chapters and articles could be explored including market access, services, digital trade, trade facilitation, and environment and sustainable impact assessments.

Session 7: What is the role for international co-operation?

Valentina Ferraro, Technical Attaché, World Customs Organization (WCO), shared insights from a customs perspective. Waste trade is a particular area of concern, especially with reference to the detection of illegal cross-border movements of certain types of waste. Customs controls might be circumvented through misclassification that can be intentional or non-intentional. In addition, from a customs perspective, the distinction of waste, scrap,

and recyclable materials is not always very clear. Customs need to co-operate at the border with other agencies to compliment this expertise. Discussion on standards is useful to prospectively help customs check consignments and detect what is legal and illegal. Another problem may arise from the possible mismatch between business requirements and the policy and revision cycle of the Harmonized System. Lack of data and analysis on global value chains that contribute to the circular economy also poses a challenge. In this respect, technology might assist to track a product along its lifecycle.[100] Two potential opportunities are identified for customs to promote the circular economy. First, the authorised economic operator (AEO) programme and the trusted trader programme in use at the WCO provide additional opportunities for trade to scale up the circular economy based on relevant standards.[101] Second, under the Digital Customs program,[102] the WCO promotes the establishment of a Single Window Environment,[103] to co-ordinate and harmonise procedures with other agencies at the border.[104] By promoting paperless trade, this kind of regulatory co-operation can contribute to reduce the material footprint of a country and help facilitate trade that contributes to the circular economy.

Carlos Martin-Novella, Deputy Executive Secretary, Secretariat of the Basel, Rotterdam and Stockholm Conventions, UNEP, shared their efforts to support a circular economy.[105] The Basel Convention is a framework to tackle environmental issues that emerge through waste trade. For example, there are cases where free trade in textiles waste can create a problem. Some countries are not Parties to the Stockholm Convention, which is a global agreement to phase out persistent organic pollutants (POPs) from the market. POPs are sometimes used as pesticides to produce fibres, or are part of the textile itself as in the case of perfluorooctanoic acid (PFOA). If countries generate waste with this textile, and if there

[100] One example is "e-seals", which helps custom procedures to be more efficient in ensuring physical security as well as digital security. Further opportunities may be available around blockchain technology and data exchanges between business, customs and other agencies.

[101] The authorised economic operator programme and the trusted trader programme would enable trade between a trusted legal exporter and importer of products that contribute to the circular economy. The WCO has so far not explored a specific program in trusted trade for green supply chains. However, it may be worthwhile to explore such a scheme together with the development of new standards for the circular economy, should there be enough demand and political will.

[102] The WCO is placing efforts to modernise customs operations through digitalisation.

[103] To support capacity building efforts, the WCO has developed a Compendium on "Building a Single Window Environment". The Compendium consists of two Volumes and 18 modules focusing on specific areas and providing comprehensive guidance on building blocks of the Single Window implementation.

[104] The Single Window environment is a cross border 'intelligent' facility that allows parties involved in trade and transport to lodge standardized information, mainly electronic, with a single entry point to fulfil all import, export and transit related regulatory requirements. It aims to reduce administrative burden to trade also by enabling multiple cross-border regulatory agencies to provide coordinated services and exchange necessary information such as documentary requirements, permits, and certificates through a single window.

[105] The Basel Convention is to promote reuse and recycling of hazardous waste and other waste, and use the final disposal only as the last possible solution with the objective to protect human health and the environment. There are two work streams. The first is the management of waste including transboundary movement of waste. The second aspect of the Basel Convention is minimisation and prevention of waste (however there is limited activity in this area so far).

is no regulation addressing its transboundary movement, textiles with POPs can cause health and environmental concerns. Regulation is therefore necessary for textile waste. In 2019, the Parties to the Basel Convention agreed on an amendment to controls related to plastic waste. The amendment aimed to relocate provisions on plastic waste from Annex IX to Annex VIII that require the provisions of the convention to be observed and also to Annex II that requires prior informed consent (PIC) for their transboundary movement. In terms of international co-operation, the Basel Convention has an ongoing collaboration with the WTO, the WCO, and Interpol. There are other opportunities for the Basel Convention to exchange information and data with external fora. One of them is partnerships, such as the Plastic Waste Partnership that was established by the Basel Conference of the Parties.

Karsten Steinfatt, Counsellor, Trade and Environment, World Trade Organisation, shared perspectives on circular economy from the WTO. First, the WTO has a prominent role in promoting policy dialogue that sets the basis for international co-operation. Positive developments are emerging at the Committee on Trade and Environment, where members are expressing increased interest on the topic of trade and circular economy. Second, the Technical Barriers to Trade (TBT) Committee has been discussing many issues to help align circular economy policies and trade policies. Specific issues have been raised in terms of whether trade-related circular economy policies are fit for purpose.[106] Other issues turned to the scientific justification of certain circular economy measures such as biodegradability requirements for plastics. Measures on recyclability standards, reparability standards, and material content requirements were also addressed. There is need for information, transparency and trust among regulators. If trusted trader programs are explored to facilitate the circular economy, regulators need to build trust in each other's activity. The TBT Committee is a forum to foster this kind of confidence in a co-operative fashion. Third, WTO members have identified win-win outcomes for trade and circular economy. Discussions have emerged to facilitate trade in remanufactured goods, where some members expressed interest to agree on a common definition of these goods to overcome trade barriers. Another area is to facilitate trade in environmental goods and services. Finally, the next WTO Aid for Trade (AfT) programme will focus on the circular economy to explore the role of development corporation in this area.

Shardul Agrawala, Head of Environment and Economy Integration Division, Environment Directorate, OECD, shared six ways how the OECD could further contribute to facilitate international co-operation for trade and circular economy. First, the Joint Working Party on Trade and Environment (JWPTE) could extend its work on regional trade agreements and explore how they can incorporate environmental objectives to advance a circular economy agenda. Second, OECD environmental performance reviews could take international dimensions into account when evaluating in-country circular economy policies. Third, the OECD work addressing policy distortions, such as import and export restrictions, and government support measures on primary and secondary materials could be further developed. Fourth, OECD work on domestic policy issues such as establishing markets for secondary materials through public procurement and recycled content requirements, can undertake an examination on the implications for international trade. Fifth, managing an environmentally sustainable and just transition for a circular economy

[106] One example was on extended producer responsibility schemes and how they account for leakage from the system through informal waste management and second-hand sales. Other examples were on recycling labelling requirements in a setting where the recycling infrastructure was underdeveloped.

is critical, and this can be integrated into the work on social and distributional consequences of environmental policies. Finally, the OECD has a legal instrument on the transboundary movement of waste that can inform further discussions on trade and circular economy.

Julia Nielson, Deputy Director, Trade and Agriculture Directorate, OECD, shared insights from the trade perspective. Trade is about trying to organise across differences. It needs regulators to exchange and build trust in the system. Digitalisation and traceability can be key elements of a circular economy at a global scale. While this can be new to the circular economy sphere, there are preceding examples in the agriculture and food sector. In terms of trade facilitation, the OECD has done a lot of work in this area. Findings highlight that there are many benefits from streamlining basic formalities and documentation. However, this requires transparency, trust among regulators, and implementation capacity especially in developing countries. Technology and Aid for Trade (AfT) programmes may help support this process. Regarding trade facilitation, there are potential measures, such as authorised economic operator programmes and trusted trader programmes to make incremental progress. The main challenge is to establish co-operation at the border across different agencies within a country. Another challenge is the single window that requires trust and sharing of information among regulators across the border in another country. In addition to digitalisation and trade facilitation, further synergies are identified with OECD work including, cross-border data flows, services trade, and policy coherence in terms of government support measures for fossil fuels, industrial subsidies (e.g. aluminium sector), and trade restrictions.

An IGO representative, added to the international co-operation dimension by sharing outcomes of the United Nations Environmental Assembly (UNEA). The resolution adopted at UNEA4 in March 2019 includes nine references to the circular economy and can serve as a useful tool to promote circular economy policies. The next UNEA is planned to further highlight the role of the circular economy to promote the SDGs.

Summing up and next steps

Brett Longley, Senior Policy Advisor, Ministry of Foreign Affairs and Trade, New Zealand, and Co-Chair of the Joint Working Party on Trade and Environment, provided concluding remarks on behalf of the JWPTE. Overall, this workshop was an excellent opportunity to learn more about circular economy and trade, including: (i) the evolution of the circular economy concept and policies, (ii) opportunities and challenges in relation to trade flows, (iii) pioneering industry initiatives in implementing a circular economy model, (iv) barriers to the transition including regulatory incoherence, lack of investment, and difficulties in achieving economies of scale, (v) national, regional, and global initiatives, and (vi) digital technologies to support, promote and speed up the transition to a circular economy. Appreciation was expressed to the participants, the organisers, and member countries who provided financial support for this event, including the European Union, Norway and Switzerland.

Annex A. Workshop Agenda

OECD Workshop on International Trade and Circular Economy

26 – 27, February 2020

OECD Headquarters & Conference Centre, 2, rue André Pascal, 75016 Paris, France

DAY 1: Wednesday, 26 February 2020	
08:30	*REGISTRATION*
Part 1 - Interlinkages of international trade and circular economy	
09:00	**Opening remarks and introduction** • Anthony Cox, Deputy Director, Environment Directorate, OECD • Ken Ash, Director, Trade and Agriculture Directorate, OECD • Kuno Zurkinden, Advisor, State Secretariat for Economic Affairs (SECO) Switzerland and JWPTE Co-Chair
09:15	Session 1: **What is circular economy and why does trade matter?** Key questions: • In what ways can international trade contribute to circular economy? • Are domestic approaches enough to close, extend and narrow material loops? • How broad should a circular economy be and how relevant is trade? Moderator: • Kuno Zurkinden, Advisor, State Secretariat for Economic Affairs (SECO) Switzerland and JWPTE Co-Chair Speaker: • Shardul Agrawala, Head of Environment and Economy Integration Division, Environment Directorate, OECD Discussant: • Javier Arribas-Quintana, Senior Expert, DG Environment, European Commission • Hans-Jörn Weddige, Chair, Environment and Energy Committee, Business at the OECD
10:30	*BREAK*
11:00	Session 2: **What are the impacts of a circular economy transition on global supply chains and trade?** Key questions: • What are the consequences of a more resource efficient and circular economy for international trade patterns? • What are the implications for primary materials and extractive sector?

	• What are the trade opportunities of a circular economy transition? Moderator: • Birthe Ivars, Deputy Director General, Ministry of Climate and Environment, Norway Speakers: • Elisa Lanzi, Senior Economist, Environment and Economy Integration Division, Environment Directorate, OECD Panellists: • Marianne Kettunen, Principal Policy Analyst and Head of Programme, Global Challenges and SDGs, Institute for European Environmental Policy (IEEP) • Laura Platchkov, Senior Policy Advisor, Federal Office for the Environment (FOEN), Switzerland • Jenitha Badul, Senior Policy Advisor, Department of Environment, Forestry and Fisheries, South Africa • Jorge Cantallopts, Director of Studies, Chilean Commission for Copper (Cochilco)
12:30	*LUNCH*
14:00	Session 3: **How should trade in waste, scrap and secondary materials be facilitated and controlled?** Key questions: • What are the drivers for import and export restrictions? • Are there any challenges and consequences faced domestically? • Where do we stand on classification and data availability? Moderator: • Henrique Pacini, Fellow, Weatherhead Center for International Affairs, Harvard University / UNCTAD Speaker: • Daniel Montalvo, Head of Sustainable Resource Use and Industry, European Environment Agency (EEA) Panelists: • Jane Korinek, Trade Policy Analyst, Trade and Agriculture Directorate, OECD • Daoming Zhang, Assistant Director, Interpol • Stephane Arditi, Circular Economy, Product & Waste Policy Manager, European Environmental Bureau (EEB) • Keli Yu, Secretary General, China National Resources Recycling Association, China • Adina Renee Adler, Assistant Vice President, Institute of Scrap Recycling Industries (ISRI) • Lisa Pearlman, Director of Policy, Apple
16:15	*BREAK*

16:30	Session 4: **How does trade relate to goods for refurbishment and remanufacturing, and second-hand products?** Key questions: • In what conditions can trade in goods for refurbishment and remanufacturing contribute to a circular economy transition? • What are the challenges in determining trade in second-hand goods and waste? • How can we manage potential trade-offs - lock-in of importing economies to inefficient secondary and end-of-life products? Moderator: • Julius Langendorff Deputy Head, Trade and Sustainable Development, Generalised System of Preferences, DG Trade, European Commission Speakers: • Nabil Nasr, Director, Rochester Institute of Technology and expert member of UNEP-IRP (International Resource Panel) Panellists: • John Disharoon, Director, Market Access, Caterpillar / American National Standard for remanufacturing • Minna Aila, Executive Vice President, Konecranes • Ross Bartley, Environmental & Technical Director, Bureau of International Recycling (BIR) • Patrick Schroeder, Senior Research Fellow, Chatham House
18:00	*END OF DAY 1*

DAY 2: Thursday 27 February, 2020	
Part 2 - Scaling up circular economy through trade - towards a mutually supportive agenda	
09:00	Session 5: **What is the role of standards?** Key questions: • How are circular economy standards emerging? - material content, material quality, eco-design, eco-labelling, certification, recyclability, reparability • What are the recent initiatives by international standard setting bodies? • What are the challenges faced by industry? Moderator: • Susan Stone, Head of Emerging Policy Issues Division, Trade and Agriculture Directorate, OECD Speakers: • Shunta Yamaguchi, Policy Analyst, Trade and Environment, Environment and Economy Integration Division, Environment Directorate, OECD

	• Roswitha Franz, Programme Manager, Capacity Building, International Organization for Standardization (ISO) and Catherine Chevauche, Chair of ISO TC 323 / SUEZ Panellists: • David Fatscher, Head of Environment, Social and Governance, British Standards Institution (BSI) • Mercedes Mira Costa, Project Manager, Energy & Living Unit - Standardization & Digital Solutions, CEN-CENELEC • Ruben Dekker, Policy Officer, DG Environment, EU • Jenny Svärd, Director, Environmental Policies, Confederation of Swedish Enterprise
11:00	*BREAK*
11:30	Session 6: **What are the new and emerging opportunities for trade and circular economy?** Key questions • What is the role for digital trade and innovation? • How can trade in services support a circular economy transition? • Can trade be a vehicle to support new business models for a circular economy? Moderator: • Malena Sell, Senior Specialist, Circular Economy, Finnish Innovation Fund, SITRA Speakers: • Jocelyn Blériot, Executive Lead, Institutions, Governments & Cities, Ellen MacArthur Foundation Panellists: • Eva Bartekova, Lead Consultant, Environment and Economy Integration Division, Environment Directorate, OECD • Leanne Kemp, Founder and CEO, Everledger • Peter Wooders, Senior Director, International Institute for Sustainable Development (IISD) • Charlotte Cheynard, Government Relations Manager, eBay
13:15	*LUNCH*
14:45	Session 7: **What is the role for international co-operation?** Key questions • What are the opportunities for trade to scale up a circular economy in emerging economies and facilitate a transition towards a global circular economy? • How might trade towards a global circular economy interact with other aid initiatives, such as Aid for Trade? • In what ways international co-operation can help cross-border flows of circular goods and services? • Are there any synergies with other initiatives, climate, gender, social and labour issues?

	Moderator: • Antonia Gawel, Head, Innovation & Circular Economy, World Economic Forum Panellists: • Valentina Ferraro, Technical Attaché, World Customs Organization (WCO) • Carlos Martin-Novella, Deputy Executive Secretary, Secretariat of the Basel, Rotterdam and Stockholm Conventions (BRS Secretariat), UNEP • Karsten Steinfatt, Counsellor, Trade and Environment, WTO • Shardul Agrawala, Head of Environment and Economy Integration Division, Environment Directorate, OECD • Julia Nielson, Deputy Director, Trade and Agriculture Directorate, OECD
16:45	**Summing up and next steps** • Brett Longley, Senior Policy Advisor, Ministry of Foreign Affairs and Trade, New Zealand, JWPTE Co-Chair
17:00	*END OF WORKSHOP*