What is the Circular Economy… …and Why does it matter to the WTO?

Peter Wooders,
Senior Director, IISD
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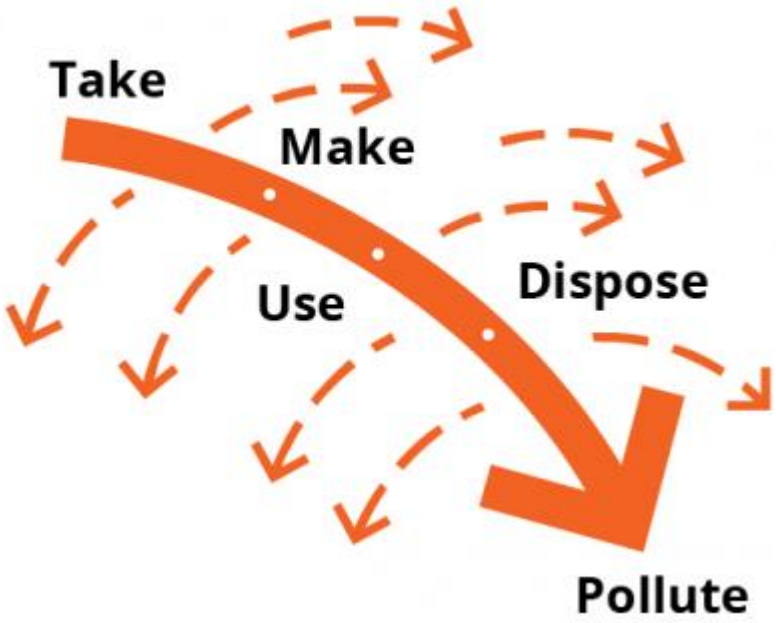
IISD
International Institute for Sustainable Development

Part 1: What is the CE?

(Diagram from Ellen MacArthur Foundation)

Circular Economy Definition(s)

Linear Economy

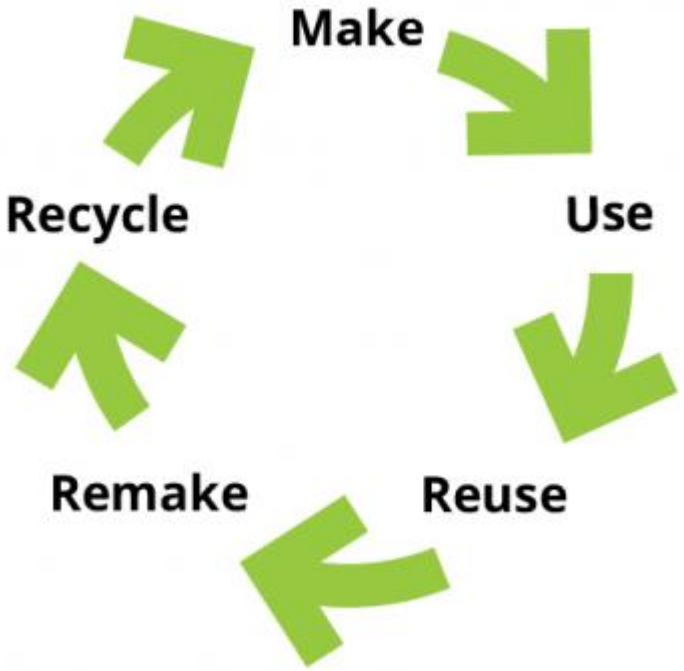


Circular Economy: **closed-loop** economic model that includes **zero-waste** and **cleaner growth** targets *(Jensen-Cormier, Smith, & Vaughan, 2018)*

Common definition elements:

- material and resource **efficiency**
- broader material efficiency to turn material into **long-lasting products as well as useful goods and services**

N.B. "Reverse supply chains" see goods go from customers to vendors



OECD’s 5 CE Business Models

Product-life extension

Products are used according to their original purpose for as long as possible or repaired and refurbished for multiple re-uses, thus reducing the need for purchasing and manufacturing new products.

Product service system (PSS)

The customer pays for certain functions or performance and avoids the risks of ownership. The total costs of ownership remain with the service provider, with revenue being earned by means of, for example, a leasing or rental agreement.

Sharing platforms

Digital-based platforms are used to promote the increased use of goods and resources and the extension of their life cycle, such as by renting, selling, sharing and re-use.

Circular supply models

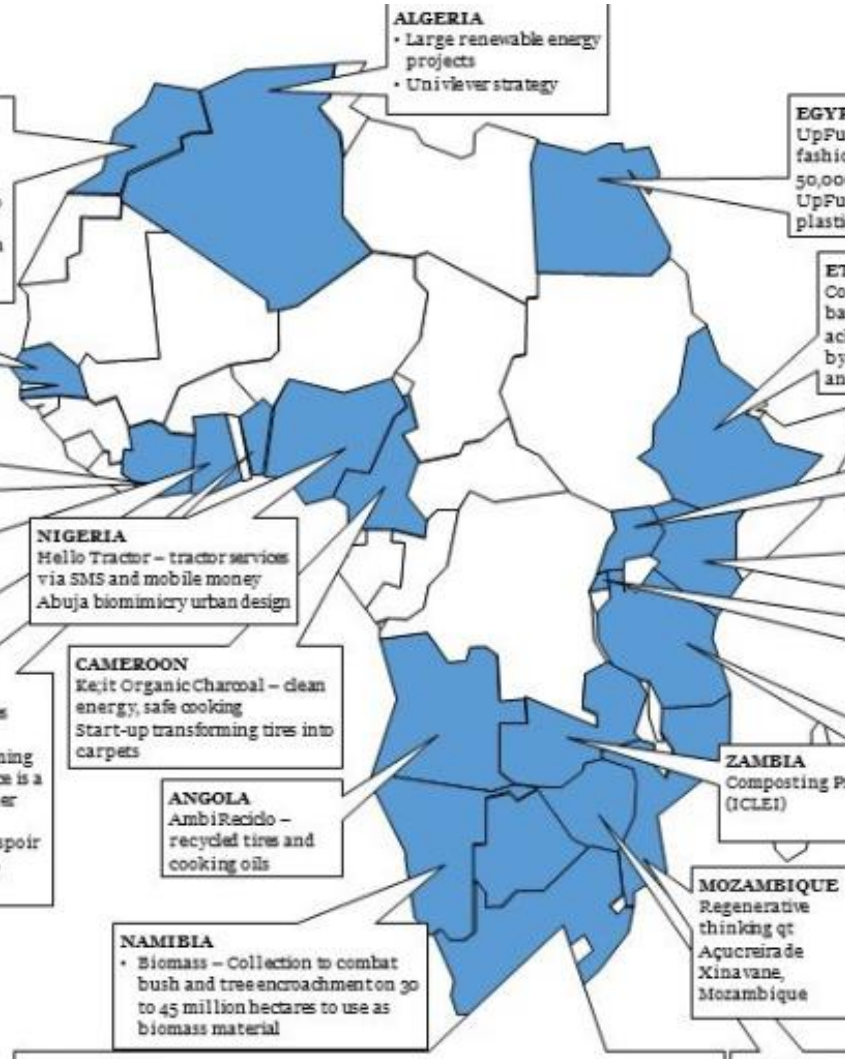
Renewable, recyclable and biodegradable materials, as well as the principles of eco-design, are preferred for products and their design. Fossil fuels are replaced by renewable energy.

Resource recovery models

Recycle waste into secondary raw materials, thereby diverting waste from final disposal while also displacing the extraction and processing of virgin natural resource.

Most CE opportunities are in the Product Use phase - bringing CE Suppliers closer to customers

A Circular Continent



ALGERIA
- Large renewable energy projects
- Unilever strategy

SENEGAL
- Odissi - refill 10L water bottle at mini-filtration stations in through existing retail networks in Dakar at 50% of the original price
- SeTIC, Proplast (Recuplast), Jokko Sante, E-Cover
- Thecogar - bio industrial waste

MOROCCO
- Tawafouk waste valorization
- SDDN – sustainable development road map
- L'Orange Bleue – first residential food garden shared between 100 families

EGYPT
UpFuse - upcycles plastic bags into fashionable accessories. It has recycled 50,000 plastic bags since 2013. Each UpFuse tote bag is made using 30 plastic bags.

ETHIOPIA
Co-ordinated approach to greengrowth based on economic development to achieve middle-income country status by 2025. Focus on agriculture, energy and water,

UGANDA
- Mazzi Can – see Tanzania
- Sugar industry waste to energy
- Solar based products
- Biogas
- Waste water car wash recycling

IVORY COAST
- Lono – permaculture where nutrients return to local farmers avoiding the use of expensive imported fertilisers
- AfDB is assisting to setup a plastic waste collection & recycling scheme that will employ 2,000 people
- Coliba – mobile app to manage and monetise waste
- Abidjan FabLab
- Domaine Bini – eco-tourism

KENYA
- Eco Post – biomass and recycled plastic to make plastic and lumber
- Well known for its 2nd hand clothing market

GHANA
- Suame / Kumasi vehicle repair cluster of 12,000 firms and 200,000 workers
- Coliba – mobile app to manage and monetise waste
- AMP (Agbogbloshie Makerspace Platform) – creating value from e-waste
- Organic food on Katemfe leave
- Koko King 6 food redistributed to farmers for animal feed
- Environment 360 – cooperative waste valorization model

NIGERIA
Hello Tractor – tractor services via SMS and mobile money
Abuja biomimicry urban design

RWANDA
E-waste recycling facility which takes 15 types of electronic and electrical equipment dismantled and recycled. In first six months the facility had collected 120 tonnes of e-Waste and recycled 400 computers

BENIN
- Songhai Farm uses traditional permaculture farming where one resource is a nutrient for another plant cycle
- Les Jardins de l'Espoir – Agro-Bootcamp (Djouman)

CAMEROON
Ke;it Organic Charcoal – clean energy, safe cooking
Start-up transforming tires into carpets

ZAMBIA
Composting Project (ICLEI)

ANGOLA
AmbiReciclo – recycled tires and cooking oils

TANZANIA
- Mazzi Can – durable plastic container for milk to reduce cost and spoilage
- Government & World Bank water efficiency project for small-holder farms
- Dutch government provided assistance to municipal governments to improve waste management

MAURITIUS
Belle Verte - A closed-loop waste management system providing waste management solutions. Works with local artisans to create, market and sell upcycled waste materials;

MOZAMBIQUE
Regenerative thinking qt Açucreira de Xinavane, Mozambique

NAMIBIA
- Biomass – Collection to combat bush and tree encroachment on 30 to 45 million hectares to use as biomass material

ZIMBABWE
Biomimicry at East Gate Shopping Mall that mimics a termite mount air cooling system

SOUTH AFRICA
- Sustainable heating – biomass burned for energy & fertiliser
- Barloworld Equipment – repairing and refurbishing Caterpillar machinery parts with manufacturer's guarantee
- Genius of Place Project – using biomimicry principles to clean grey water, storm water and solid waste in informal settlements
- Three facilitated industrial symbiosis programmes operating in Gauteng, KwaZulu Natal and the Western Cape provinces
- Agriprotein – nutrient recycling of organic waste via fly larvae to produce protein for animal feed
- ACA Threads – collects used thread cones from customers for re-use
- The Clothing & Appliance Bank – creating micro-enterprises to sell clothes that can no longer be sold by the retailer and repairing electrical appliances for re-sale to a second hand market
- African Reclaimers Association (WIEGO) – waste valorisation

SEVERAL COUNTRIES:
- Sustainability and/or environmental road maps
- Single use plastic ban
- E-waste decrees
- Green economy plans

AFRICAN CIRCULAR ECONOMY NETWORK

A few Finnish examples of circular economy service trade

Sulapak

Sell a licence to replace traditional plastic moulds with their biodegradable and microplastic-free recipe

Service trade mode 1

www.sulapac.com/portfolio/#universal

MaaS Global

Digital application to sell 'Mobility As A Service': one app and price for public transport, city bikes, taxis, and affordable rental cars

Service trade mode 1

https://whimapp.com/

Relex Solutions

Artificial Intelligence based 'Software as a Service' that improves energy- and material efficiency and minimizes e.g. food waste in supply-chains

Service trade modes 1 and 3

https://www.relexsolutions.com/company/

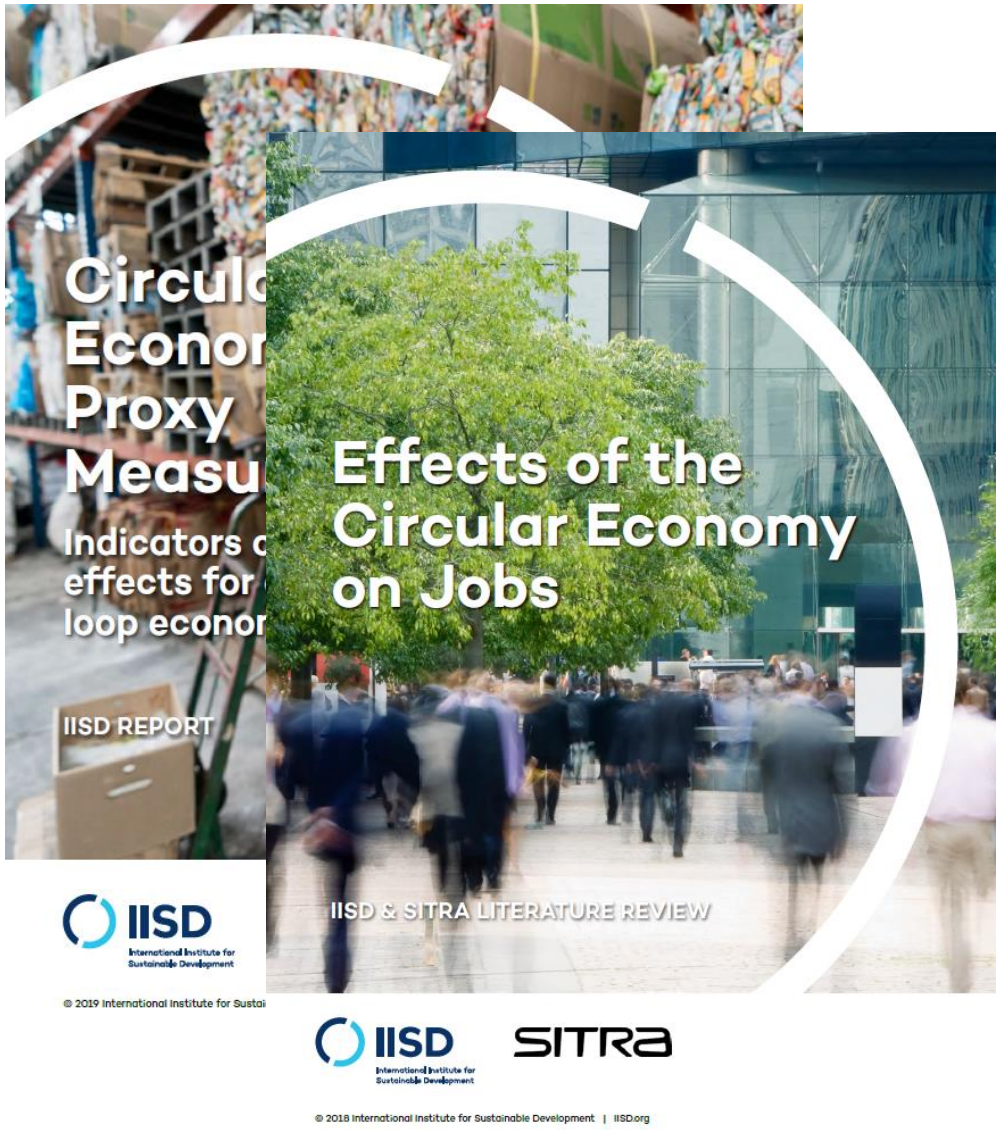
CE solutions often linked to Services, Digitalisation

SITRA

Circular Economy Focus on Jobs - Finland

Sitra & IISD Study

- Looking at:
  - the different definitions of circular economy
  - how the shift towards a circular economy will affect jobs in Finland (1/6th of jobs export-related)
- Where are the gains and losses & how do jobs evolve?
  - Testing through modelling, impacts of policies, proxy measures, sectors/products



Circular Economy Focus on Jobs – Finland (2)

- Study examined **two sectors (forestry & mining)** and individual measures in **four CE-focused areas (electronics & textile recycling, food waste reduction, building efficiency)**
  - Job growth in four of six areas immediately under a CE model
    - Identifies opportunistic sectors to target in CE approaches
  - Job loss in two others (food production & textile recycling)
    - These sectors require policy intervention to address employment shifts (e.g. support in shifting to value-added products with higher return for producers to mitigate impact of reduced demand resulting from reduced food waste)
  - Just Transition an important aspect of CE
    - Many seek to link CE with positive social outcomes (decent work, inclusive labour markets, etc.)

Move to CE generally shows small positive change in jobs – but significant changes in what (and where) these jobs are

Climate change

How the circular economy tackles climate change

Our work > Activities > Climate change

Renewable energy is not enough. There needs to be a fundamental shift in the global approach to tackling climate change and the circular economy can play an essential role.

Completing the Picture: How the Circular Economy Tackles Climate Change, a paper published by the Ellen MacArthur Foundation, tells us:

- Greenhouse gas emissions are not falling quickly enough to achieve climate targets and switching to renewable energy can only cut them by 55%
- The remaining 45% of emissions come from how we make and use products, and how we produce food

https://www.ellenmacarthurfoundation.org/our-work/activities/climate-change

Part 2: Why does CE matter to the WTO?

Countries and regions can’t do CE alone

IEEP Study Launch, Brussels, 22 November 2019

The nexus between trade, EU circular economy and sustainable development

https://ieep.eu/news/the-nexus-between-trade-eu-circular-economy-and-sustainable-development

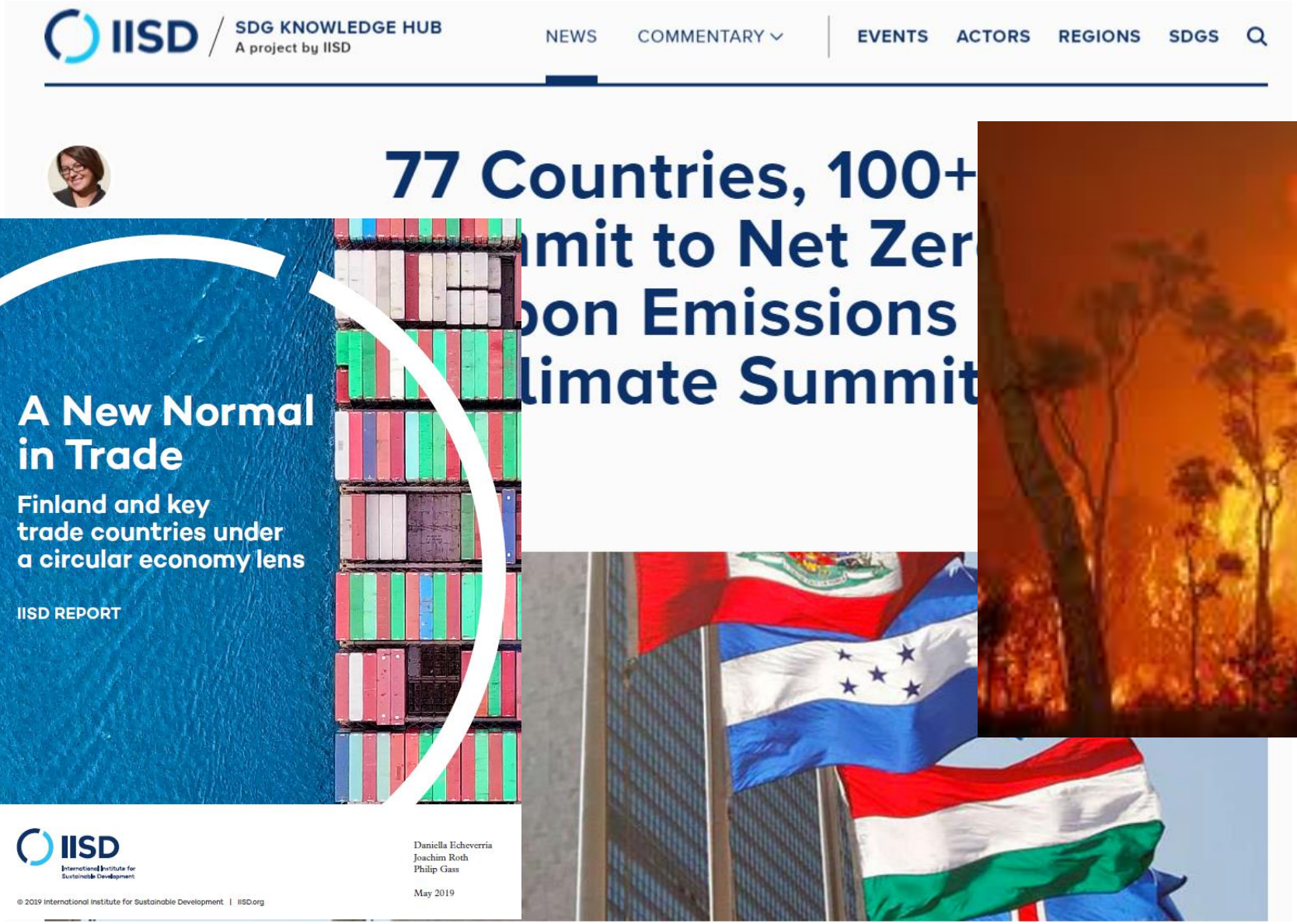
IEEP’s newest report examines the foreseen impacts of implementing circular economy measures in the EU on international trade and - through trade - on third countries.

Pasi-Heikki Vaaranmaa, Director of Trade Policy Unit, Ministry for Foreign Affairs Finland

Finland is too small to be able to move to a CE alone … needs to trade and is dependent on global supply chains

EU cannot move to a CE alone … is dependent on global supply chains

2050 Trading will be hugely different



“What role for the WTO in addressing Plastics Pollution?”

- Multilateral solutions needed **including over trade**
  - Information and barriers important
  - Need more coherence
- WTO Secretariat should conduct a study on plastics and the multilateral rules
- Interested members to continue brainstorming, including at CTE

HE Ambassador ZHANG Xiangchen, China. From summing up at session in WTO, 25 Nov. 2019

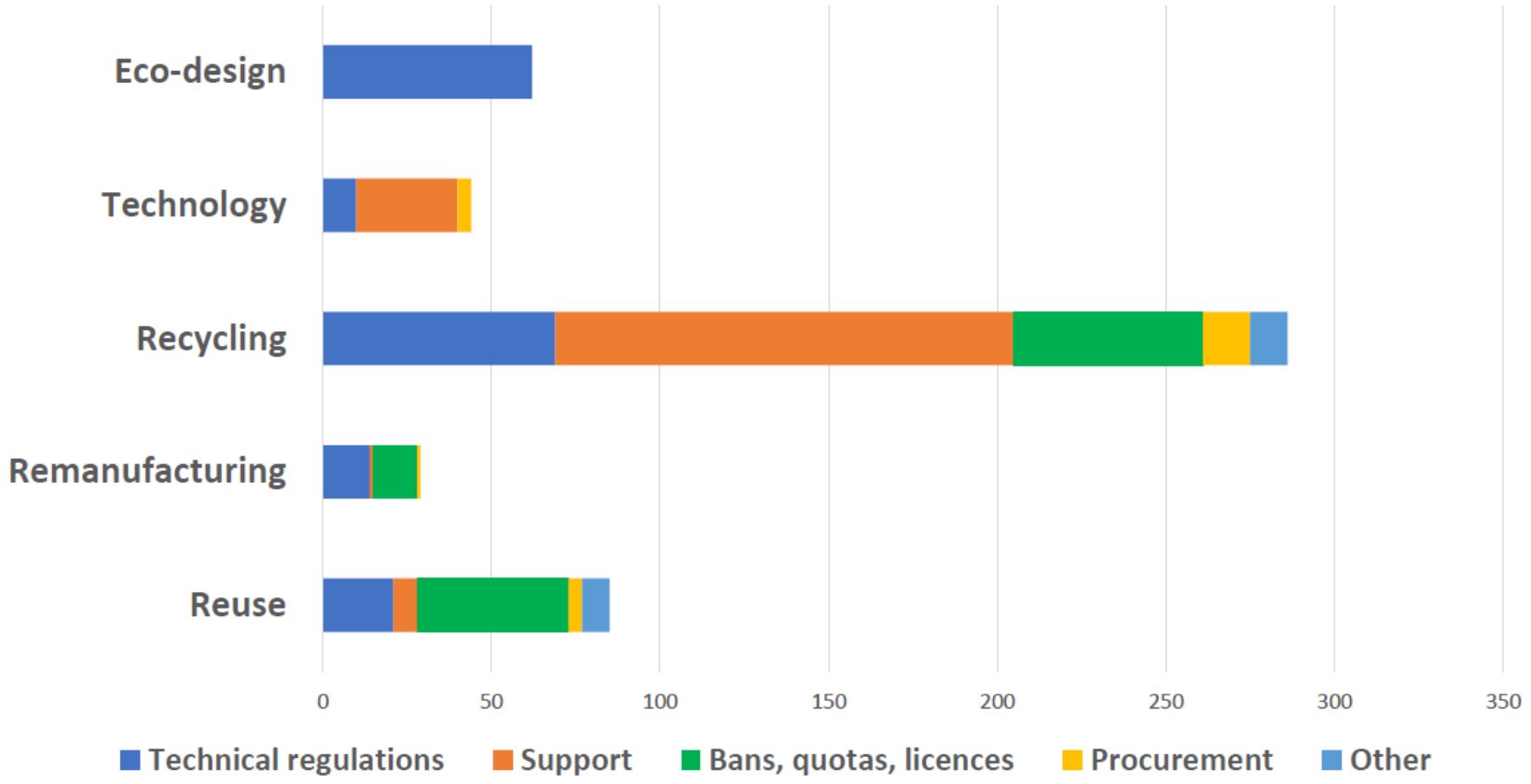
WTO support to the CE

- In the balance are:
  - living up to the mandates of the Marrakech Agreement (SD)
  - what can trade contribute to the 2030 Agenda?
  - trade must deliver very broad benefits
- Not starting from scratch – there has been a long history
  - Start in Nur-sultan. Need a Work Programme – *"only the Members can do that, I hope that they do!"*

"Members are in the driving seat, WTO Secretariat will be enthusiastic supporters of all Trade & Environment issues" (DG Azevêdo, 25 Nov. 2019, WTO)

WTO Transparency through Notifications

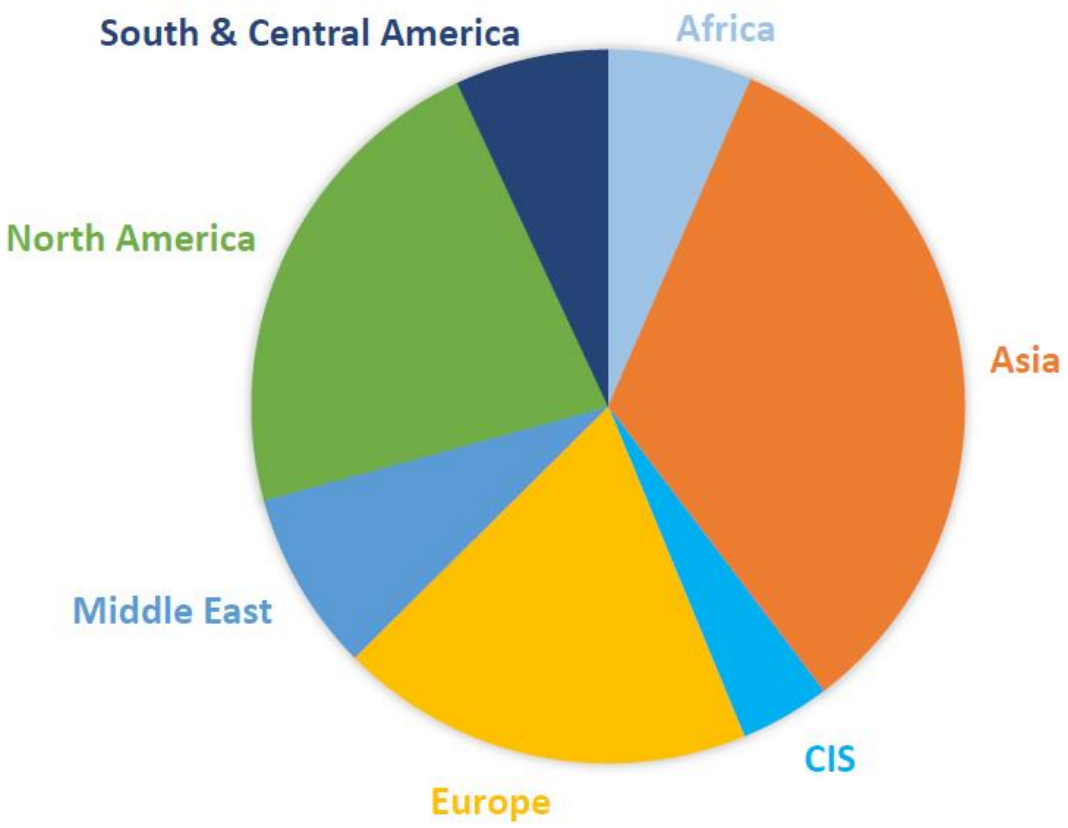
Trade measures related to sample circular economy activities
(2009-2017)



Source: WTO Environmental Database

WTO Transparency through Notifications (2)

WTO members notifying trade measures related to the circular economy (2009-2017)



Source: WTO Environmental Database

EU-NZ FREE TRADE AGREEMENT

NEW ZEALAND
FOREIGN AFFAIRS & TRADE

"New Zealand will also aim to secure ambitious outcomes in other areas including the elimination of subsidies that contribute to overfishing and to illegal, unreported, and unregulated fishing and the ***transition to a circular economy****.*

New Zealand also seeks opportunities for cooperation with the EU on these issues, and on emerging green technologies and climate-friendly innovations, and initiatives which ***promote sustainable, low-emissions development throughout the economy****.*

In the area of trade and labour, New Zealand and the EU recognise that trade is the product of people's work and therefore, that ***trade agreements should seek to protect and enhance working conditions and promote decent work****, with a view to improving living standards."*

https://www.mfat.govt.nz/assets/FTAs-in-negotiations/EU-FTA/Information-package/New-Zealand-and-EU-approaches-to-trade-and-sustainable-development.pdf

Five action areas to support circular trade

1. **Definitions and bans**
   - How to distinguish between waste and reusable materials? What action can help to replace bans with less trade-restrictive alternatives?
2. **Standards**
   - How can standards strengthen global markets for the circular economy?
3. **Technological solutions**
   - What technologies, as embodied in goods, are needed to support the circular economy, and can trade barriers be reduced to allow for greater diffusion?
4. **Services**
   - What services are needed to scale up the circular economy, and what services trade restrictions should be eliminated?
5. **Trade-related capacity building**
   - What are the priority areas to facilitate the transition to a circular economy?

Conclusions

1. CE closes the loop, increasing material efficiency, lengthening product life
2. Initiatives and actions across the world
3. Many CE solutions linked to Services, Digitalization
4. Job impact typically small and positive – job changes more important
5. CE needed to meet Paris Agreement targets
6. Countries can’t do CE alone – need trade, global supply chains
7. Trade will change enormously to 2050
8. Delivering on CE can contribute to WTO meeting Marrakech Agreement preamble on Sustainable Development