

Report on

# Circular Economy and Resource Efficiency:

Potential and opportunities for  
transformative global  
climate action

UNFCCC COP24 EU Side-Event,  
4 December 2018  
Katowice, Poland

Organised by the European Commission



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## Introduction

The objectives of this side-event were to strengthen the bridge between circular economy and climate policy and to champion a transition toward a circular and low carbon future for developed and developing countries through synergistic policy integration.

Resource efficiency and circular economy policies are indispensable instruments to ensure tangible progress and sufficient concrete action on the 2030 Agenda and the Paris Agreement.

This report summarises the event's discussion and highlights some actions and approaches on ways forward toward a greater climate action. More information on the event can be found [here](#).

## Key Points

### Benefits and Opportunities of a Circular Economy as a Climate Mitigation strategy

1. A circular economy **can reduce 56% of CO<sub>2</sub> emissions** from steel, aluminium, cement and plastics (296 million tonnes CO<sub>2</sub> per year) in the EU, by 2050 ([Material Economics, 2018](#)).
2. Circular Economy is a **powerful tool for climate mitigation that can aid NDC revision**.
3. It will make our industries cleaner, and make them **more competitive and resilient**.
4. **Emerging economies have huge potential** in the circular economy, Chatham House found. A new 2019 analysis<sup>1</sup> builds on examples in their [2017 report](#)<sup>2</sup>.
5. Benefits associated with circular economy include **job creation, economic growth, less waste, less pollution and environmental protection**.
6. Greater energy efficiency in material production alone is not enough to reach the **Paris Agreement's objectives**.

### Increasing Recognition of the Circular Economy

7. The **IPCC 1.5°C Special Report** mentions circular economy several times as one of the available mitigation strategies.
8. Circular Economy is **one of 7 strategic building blocks in the EU's new strategy** for carbon neutrality by 2050<sup>3</sup>.
9. Poland and Japan are 2 of **increasing numbers of states developing Circular Economy-related development and innovation strategies**. Japan's strategy for a sound material-cycle society has climate protection as an underlying pillar.
10. Circular Economy is **already part of the policy recommendations of the UNFCCC Technology Executive Mechanism**.
11. The **Global Environment Fund** chair also co-chairs the **World Economic Forum-hosted 'Partnership for Accelerating the Circular Economy'**.

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<sup>1</sup> Preston, F and Lehne, J (2019 forthcoming, January), 'The Circular Economy and Developing Countries', Chatham House Report. London: Chatham House

<sup>2</sup> <https://www.chathamhouse.org/sites/default/files/publications/research/2017-12-05-circular-economy-preston-lehne-final.pdf>

<sup>3</sup> [https://ec.europa.eu/clima/policies/strategies/2050\\_en](https://ec.europa.eu/clima/policies/strategies/2050_en)

## Actions to accelerate uptake of the Circular Economy

12. To help countries (e.g. with NDC revision) the UNFCCC Technology Executive Committee and Climate Technology Centre and Network can use their expertise in **south-south, and triangular co-operation**.
13. The low-carbon, circular economy transition must capitalise on the private sector's role to innovate. More efforts should be made by **multi-lateral funders to minimize the risks for the private sector** when investing in circular economy projects.
14. The circular economy involves global value chains – initiating global circular activities would require **pilot projects in cross-border government co-operation**, involving emerging economies as well as co-operation with the private sector.
15. **Japan's G20 Presidency<sup>4</sup>** is a good moment to put jobs and innovation from the circular economy on the international agenda. For example, Japan's G20 Ministerial Meeting on Energy and Environment will address marine litter and resource efficiency.
16. **Facts and figures** demonstrating the benefits of Circular Economy have become more solid. The **UN International Resource Panel** is now writing an additional report to rigorously quantify the potential climate mitigation impacts of a Circular Economy, for the next UNFCCC COP.
17. The best Circular Economy policies influence **product design**, and allow for shared use and **high-value material recycling** streams, rather than focusing on volumes of waste management.
18. Japan is planning to propose a resolution at the 4<sup>th</sup> UN Environment Assembly (11-15 March 2019, Nairobi, Kenya) to establish a **World Circular Economy Day** to raise the understanding of the importance of the Circular Economy.
19. The next **World Circular Economy Forum**, in 3-5 June 2019, in Finland will bring together 2000 key players in the global Circular Economy.

## Speakers and Panelists



<b>Mr Nowicki</b>	Deputy-Director, Innovation, Polish Ministry of Entrepreneurship and Technology
<b>Mr Petriccione</b>	Director-General, DG Climate Action, European Commission
<b>Mr Ono</b>	Deputy Director-General, Ministry for the Environment, Japan, G20 Presidency 2019
<b>Ms Gershinkova</b>	Vice-Chair, UNFCCC Technology Executive Committee
<b>Mr Berardi</b>	Senior Climate Change Specialist, Global Environment Facility (GEF)
<b>Mr Tynkkynen</b>	Senior Advisor, Carbon neutral- circular economy, Finnish Innovation Fund (Sitra)
<b>Mr Preston</b>	Deputy Research Director, Energy and Resources, Chatham House

Moderator: **Mr Offenber**, Analyst, European Political Strategy Centre (EPSC)

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<sup>4</sup> <https://www.g20.org/en/>

## Key Points made by individual speakers

### Mr Nowicki, Polish Ministry of Entrepreneurship and Technology

- Poland is working on a **Circular Economy roadmap**, in line with UN 2030 Agenda for sustainable development.
- It will focus on **innovative business models, sustainable consumption and production** and will be the first in Eastern and Central Europe.
- There will be no **future innovative industry** without circular economy.
- **Every stakeholder** should join efforts to implement the transition, capitalizing on the work of the Circular Economy **multi-stakeholder platform**.

### Mr Petriccione, European Commission DG Climate Action

- The circular economy is **one of 7 strategic pillars** in the **EU's strategy for carbon neutrality** by 2050.
- Circular Economy action has been estimated to **cut EU emissions from material production and use by 56% by 2050**.
- A circular and low-carbon economy is necessary to not only make our industries cleaner, but also to make them **more competitive and resilient**.
- The EU's strategy will **save 2-3 trillion euros** in energy import costs.
- **Systemic thinking, policy integration and the development of a low-carbon, resource-efficient and circular economy** are paramount to achieve the objectives of the Paris Agreement.

### Mr Ono, Japanese Ministry of Environment

- Circularity is a powerful force for solving global sustainability and **essential for delivering on SDGs**.
- **International cooperation is needed** to promote circularity and resource efficiency, as it involves global issues, for example, marine plastic waste.
- More collaboration between **public and private sectors** is very important – everyone has a role to play
- **Japan's 2019 G20 Ministerial Meeting** on Energy and Environment will address marine litter and resource efficiency, involving developing countries.
- Japan has prepared a revised strategy for a **sound material-cycle society**, whose underlying pillars are the **transition toward a low-carbon economy** and the protection of biodiversity.
- A **new framework for analysis** of the climate and economic benefits of a Circular Economy transition needs to be developed, as the existing ones do not capture the full picture.
- **Bottom-up actions** on circular economies, by **cities, regions and firms** are a key way to expand the circular economy.
- Japan is to propose a **"World Circular Economy Day"** to the UN Environment Assembly. It would increase understanding of the value of a Circular Economy.

### Mr Tynkkynen, Finnish Innovation Fund, Sitra

- A Circular Economy for steel, aluminium, cement and plastics could reduce EU climate emissions from those by 56%, based on a [study by Material Economics](#).

- By 2050, materials production alone would **exceed the available carbon budget** for production on current trends in demand, even with a zero-carbon energy system.
- To scale-up, more efforts should be made to improve the **quality** of secondary raw materials, to better separate and collect **waste** and increase **digital-enabled sharing** of products, for example shared-use of cars (that are otherwise mainly parked).

**Ms Gershinkova, UNFCCC Technology Executive Committee**

- The UNFCCC Technical Examination Process in 2018 focused on resource efficiency and circular economy and organized in-session and regional technical expert meetings in Africa, Latin America and Caribbean, Asia. The meeting outcomes have been captured on a publicly-available [technical paper](#) and a [summary for policymakers](#).
- Innovative business models are already being implemented that give value to materials across the life cycle of products and improve productivity of businesses. These **business models need to be expanded and supported by the right policy framework**.
- There is still the need and scope for **innovation on material efficiency**, particularly on product/process design to avoid losses in the supply chain and enable recycling.
- To **help countries** (e.g. with NDC revision) the UNFCCC Technology Executive Committee and Climate Technology Centre and Network can use their expertise in **south-south, and triangular co-operation**.

**Mr Preston, Chatham House**

- Facts and figures demonstrating the benefits of Circular Economy have become more solid. The **IPCC 1.5°C Special Report** mentions circular economy as a mitigation strategy (though not in the summary for policy makers).
- Circular Economy is a **powerful tool for climate mitigation** and can be included in **revision of NDCs**.
- International cooperation is key and the EU and Japan are well placed to foster circularity in third countries. **Japan's G20 Presidency** is a good moment to put jobs and innovation from the circular economy in the international agenda.
- The circular economy involves **global value chains** – the EU and Japan are in good positions to initiate global circular activities through **pilot projects in cross-border government co-operation**, involving emerging economies and co-operation with the private sector.
- Circular Economy is a positive narrative for climate mitigation, highlighting benefits for employment and health.

**Mr Berardi, Global Environment Fund (GEF)**

- The transition toward a low-carbon and circular economy must capitalise on the role of the **private sector to finance innovation at scale**.
- More efforts should be made to **minimize the risks for the private sector** when investing in circular economy projects.
- The GEF will put **specific investment emphasis on strategically strengthening circular economy business models**, including investing in initiatives that transform the entire life cycle of plastics to reduce marine plastic pollution, so promote

adoption of closed loop production and consumption patterns. Investments will focus on public-private initiatives.

- The keys to circular economy successfully **achieving the Paris Agreement objectives** are: 1. **Innovation**: in materials and business models; 2. **Regulation**: like phasing out unsustainable materials and incentives for best in class businesses practices; 3. **Coalitions**: effective partnerships between public and private sector actors e.g. the [PACE initiative](#).



### Notable future actions by participants

**Mr Ono, Japanese Ministry of Environment** will take messages from the discussion into consideration in Japan's 2019 G20 Presidency – as its Environment Ministerial considers international action on the beneficial linkages between circular economy, resource efficiency and climate mitigation.

**Ms Gershinkova, UN FCCC Technology Executive Committee** will circulate messages from the discussion to the TEC Chair and Members, to encourage the continuation of their work helping emerging economies to uptake circular economy measures as part of climate mitigation strategies, including NDCs.

**Mr Preston, Chatham House** will publish a new report with examples of circular economy projects in emerging and developed economies in early 2019, to support international and national strategy. Chatham House has plans to increase its analytical work supporting uptake of the Circular Economy in G20 and developing countries.

**Mr Tynkkynen, Finnish Innovation Fund (Sitra)** will host the annual World Circular Economy Forum for 2000 key people in the global Circular Economy in Finland in June 2019, to which interested COP24 participants are invited.

The **UN International Scientific Panel on Resources** (the IRP) is now developing a scientific-analysis of the climate mitigation potential of the circular economy to provide answers to policy makers and private sectors questions, to be delivered to UNFCCC COP25.








## Side-Event Agenda




Timing	Activity	Speaker
12:30-12:40	Welcome	<b>Mr Robert Nowicki</b> , Deputy Director, Innovation Department, Ministry of Entrepreneurship and Technology
12:40-12:50	The Long-Term GHG Emissions Reduction Strategy and the role of circular economy	<b>Mr Raffaele Mauro Petriccione</b> , Director-General of Directorate-General Climate Action
12:50-13:00	Japan's Action on Circular Economy	<b>Mr Hiroshi Ono</b> , Deputy Director General, Ministry for the Environment, Japan, G20 Presidency 2019
13:00-13:50	Facilitated Panel Discussion	<p>Moderator: <b>Mr Philipp Offenberg</b> European Political Strategy Centre (EPSC)</p> <p>Panellists:</p> <p><b>Ms Dinara Gershinkova</b>, Vice-Chair UNFCCC Technology Executive Committee</p> <p><b>Mr Hiroshi Ono</b>, Deputy Director General, Ministry for the Environment, Japan</p> <p><b>Mr Oras Tynkkynen</b>, Senior Advisor, Carbon-neutral, circular economy, Finnish Innovation Fund, Sitra</p> <p><b>Mr Filippo Berardi</b>, Senior Climate Change Specialist, Global Environment Facility</p> <p><b>Mr Felix Preston</b>, Deputy Research Director, Energy and Resources, Chatham House</p>
13:50-14:00	Closing remarks	Moderator: <b>Mr Philipp Offenberg</b> , EPSC



## Speaker Biographies

<p><b>Mr Robert Nowicki</b></p> 	<p><b>Deputy-Director, Innovation, Polish Ministry of Entrepreneurship and Technology</b></p> <p>Robert Nowicki is a graduate of Adam Mickiewicz University in Poznań, in law and history.</p> <p>From 2016, he was employed at the Ministry of Economic Development, where he co-founded the Project Management Department, and co-organizer of the Innovation Forum at the Ministry of Entrepreneurship and Technology.</p> <p>Robert is currently responsible for issues of industrial property and the national space policy.</p> <p>In his professional career, he has dealt with administrative law and international cooperation in public and private institutions. He is a specialist in the field of program and project management, change and risk management, with national and international character.</p>
<p><b>Mr Raffaele Mauro Petriccione</b></p> 	<p><b>Director-General, DG Climate Action, European Commission</b></p> <p>Mauro Petriccione graduated in Law from the University of Bari in 1982 and moved to London in 1984, first as a Visiting Research Scholar at the Institute of Advanced Legal Studies and then as a postgraduate student at the London School of Economics, obtaining an LL.M. in 1986.</p> <p>He joined the European Commission in 1987 to work on trade policy, and has covered a wide range of activities and negotiations: trade defence, standards, investment, competition, WTO, dispute settlement, trade relations with Asia, Latin America and countries of Africa, the Caribbean and the Pacific, trade and sustainable development.</p> <p>From 2014 to 2018, he was Deputy Director General of DG Trade and served as Chief Negotiator for the EU-Canada Comprehensive Economic and Trade Agreement (CETA); the EU-Vietnam Free Trade Agreement; the EU-Japan Economic Partnership Agreement.</p> <p>In 2018 he was appointed Director-General for Climate Action.</p>

<p><b>Mr Hiroshi Ono</b></p> 	<p><b>Deputy Director General, Ministry for the Environment, Japan, G20 Presidency 2019</b></p> <p>Mr. Hiroshi Ono started his career in 1987 as an environmental engineer, and has dealt with a wide range of environmental issues including: pollution control, vehicle emission regulations, environmental assessment, waste management, and global environmental issues including circular economy and climate change.</p> <p>He also worked for the World Bank and engaged in environmental assessment for the Bank's lending projects, among others.</p> <p>He holds a Master's degree in Urban and Sanitary Engineering from the University of Tokyo, and a Master's degrees in Engineering Science (Waste Management) and Civil and Environmental Engineering from the University of New South Wales, Australia.</p>
<p><b>Ms Dinara Gershinkova</b></p> 	<p><b>Vice-Chair, UNFCCC Technology Executive Committee</b></p> <p>Ms. Dinara Gershinkova started her career in 1997 as a weather forecaster graduating from Russian State Hydrometeorological University in St.Petersburg. She also holds a Master degree in Law.</p> <p>She worked in the Russian weather service, Executive office of the President of the Russian Federation in the team of the Special Envoy for Climate. Ms. Gershinkova has been a participant in the Russian delegation at UNFCCC negotiations since 2006.</p> <p>Climate adaptation, market and non-market mechanisms, climate technologies, climate responsible production and consumption are amongst topics of her professional interest.</p>
<p><b>Mr Oras Tynkkynen</b></p> 	<p><b>Senior Advisor, Carbon neutral- circular economy, Finnish Innovation Fund (Sitra)</b></p> <p>Oras Tynkkynen helps Sitra to understand how Finland can transform into a carbon-neutral circular economy. He works particularly on climate solutions and policies to promote them.</p> <p>Oras has worked on climate and energy policy at the international, European, national and local level for about 20 years. You can contact him if you wish to learn more about effective and efficient tools to cut emissions and to use resources wisely.</p> <p>Oras has previously worked as a Climate Policy Specialist in the Prime Minister's Office, been a Member of Parliament, a journalist and consultant. He has a Master's degree in Social Sciences from Tampere University.</p>

<p><b>Mr Filippo Berardi</b></p> 	<p><b>Senior Climate Change Specialist, Global Environment Facility</b></p> <p>An environmental management and international development specialist, Filippo has 12+ years of experience managing programs relating to climate change, clean energy, carbon finance and sustainable use of natural capital for private sector and government clients.</p> <p>Filippo joined the GEF from the Inter-American Development Bank (IDB). At the Multilateral Investment Fund (MIF), IDB's private sector innovation lab, Filippo focused on designing programs to support enterprises to reduce their emissions of, and exposure to, climate change. More recently, at the IDB Climate Change Division, he coordinated the IDB's portfolio of projects to be co-financed by the Green Climate Fund (GCF).</p> <p>Prior to joining the IDB Group, Filippo worked with EcoSecurities, and later at J.P. Morgan Investment Bank.</p> <p>Filippo earned his MSc. in Environmental Technology and Policy from Imperial College, London, in 2007 and has a Law Degree (with a concentration in International Environmental Law) from the University of Florence, Italy.</p>
<p><b>Mr Felix Preston</b></p> 	<p><b>Deputy Research Director, Energy and Resources, Chatham House</b></p> <p>Felix has a long-standing research interest in sustainable transition in China, and facilitated the first China-UK Forum on Reform and Innovation in 2015.</p> <p>He is a global expert for the UN Environment Programme's forthcoming Global Environment Outlook report. His publications at Chatham House have covered a range of topics including low carbon transition, green innovation, resource governance and low probability high impact events.</p> <p>Felix joined Chatham House in 2008 from AEA Energy and Environment, where he was a senior consultant, and previously worked at the Environment Agency.</p> <p>He holds degrees from Imperial College London and the University of Sussex.</p>
<p><b>Mr Philipp Offenberg</b></p> 	<p><b>Analyst, European Political Strategy Centre</b></p> <p>Prior to joining the EPSC in January 2016, Philipp worked for the Jacques Delors Institut Berlin on EU energy policy. Since 2014 he has also been a non-resident Research Associate at the European Centre for Energy and Resource Security (EUCERS) King's College London. He has published on the interaction between EU energy policy and Germany's energy transition as well as on energy security aspects of the EU's</p>

	<p>neighbourhood policy and spoke at a number of conferences in Asia, Latin America and Russia on the EU's renewable energies policy, EU-Russia energy relations and the Sino-Russian natural gas cooperation</p> <p>Philipp has gained work experience in the energy industry with Accenture (Utilities – Resources) and BASF subsidiary Wintershall. He holds a Master of Public Policy from the Hertie School of Governance in Berlin, specialising in energy economics and quantitative methods.</p> <p>He also holds a M.A. in Communications, Political Science and History from University of Mainz (DE) with stays abroad in Moscow and Pamplona (ES) and completed a traineeship in journalism at the Journalist Academy of the Konrad Adenauer Foundation.</p>
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