

SUMMARY OF THE WORLD CIRCULAR ECONOMY FORUM 2017: 5-7 JUNE 2017

The World Circular Economy Forum 2017 (WCEF2017) took place from 5-7 June 2017, in Helsinki, Finland. The meeting brought together the world’s leading experts and decision makers circular economy field—a total of around 1,500 participants from over 100 countries.

WCEF2017 was convened to show how the circular economy presents new and unprecedented opportunities to create wealth and support well-being, as well as to demonstrate that it is an essential engine for achieving the UN 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs). Host country Finland presented its experiences with turning the vision of a circular economy into reality and delivering clear benefits across all sectors of business and society.

WCEF2017 featured 17 plenary and parallel sessions showcasing circular economy solutions for business, cities and finance. A wide variety of topics were addressed, including: integrating the circular economy into the 2030 Agenda; innovation challenges for the circular economy; circular cities; economic research on the circular economy; and financing the circular economy. All 17 sessions were live streamed, and the video recordings are available on the [WCEF2017 website](#). A short video summarizing the meeting is also available.

Nine key messages emerged from WCEF2017. These called on public and private actors to, *inter alia*, mainstream the circular economy into the global economic model and its deployment in the front line of the world’s drive to achieve the SDGs and combat climate change.

Meetings were held using innovative formats, including a game show, talk shows and “table talks.” Workshops and side events were also on the agenda, as well as organized networking opportunities such as a Marketplace with 24 selected exhibitors, an Opportunities Stage for short pitches, and “lakeside chats.” On the third day of the meeting, participants took part in various side events and business excursions.

The main organizer of WCEF2017 was Sitra, the Finnish Innovation Fund, with the support of the Nordic Council of Ministers, the Ellen MacArthur Foundation, and the Finnish Ministries of Environment, Foreign Affairs, and Economic Affairs and Employment. Co-organizers included the European Commission (EC), the European Environment Agency (EEA),

the International Institute for Sustainable Development (IISD), the Koli Forum, the UN Environment Programme (UN Environment), the World Business Council for Sustainable Development (WBCSD) and the World Resources Forum (WRF).

The Forum coincided with UN World Environment Day (5 June) and with the 100th anniversary of Finland’s independence. WCEF2017 was presented as “a gift from Finland to the world,” with Finland offering its services as a circular economy pioneer, network builder and broker of knowledge and expertise.

IN THIS ISSUE

A Brief History of Circular Economy.	2
WCEF2017 Report	2
Grand Opening	2
Circular Blueprints Gameshow – Driving the Economic Transition in the Nordics & Beyond	4
17 Circular SMEs Meet the 17 SDGs	5
Innovation Challenges for the Circular Economy	5
Collective Impact for Sustainable Consumption and a Circular Economy	6
Circular Cities	6
Circular Business Leaders	7
Economic Research on the Circular Economy	8
Transformation to Circular Business Models	10
Forest-based Bioeconomy and Climate Change Mitigation	10
Circular by Design - Products in a Circular Economy	10
Financing the Circular Economy	11
Branding Circularity for Consumer Value	11
Future Technologies for the Circular Economy	12
Supporting Growth of Circular Smes	12
Grand Finale	12
Upcoming Meetings	14
Glossary	14

A BRIEF HISTORY OF CIRCULAR ECONOMY

The world economy currently totals an estimated US\$80 trillion—a figure that has doubled since the turn of the 21st century. The world population increased nearly four-fold in the 20th century and is expected to grow by another 50% to around 11 billion people by the year 2100. Against this background, the current economic model of ever-increasing production and consumption and acute patterns of unequal distribution are already presenting substantial challenges. These include scarcity of and unequal access to natural resources and energy, as well as environmental, social and geopolitical concerns.

In response, the concept of “circular economy” has been coined to provide an alternative model based on entirely different principles. Rather than using up natural resources and disposing of products when they are damaged or no longer needed, a circular economy maximizes the use of materials and retains their value for as long as possible. A circular economy is based on the use of services and intelligent digital solutions, and the design and production of more durable, repairable, reusable and recyclable products. Waste is regarded as a valuable resource. Products are shared, leased or rented, rather than owned by an end user.

Experts agree that a circular economy offers significant advantages, including economic, environmental and social benefits, such as larger profits, reduced carbon emissions, cleaner production methods, and the creation of new jobs. However, the transition to a circular economy requires an entirely new way of thinking, as well as a new approach to process and product design.

In recent years, the Finnish Government has expressed the ambition for Finland to be a pioneer in the bioeconomy and circular economy by 2025, aiming to create sustainable well-being and a successful carbon-neutral circular economy over the next five to ten years. In this process, Finland has stimulated dialogue and co-operation between different sectors and parties in society – businesspeople, policy makers, scientists and civil society.

Over the course of 2016, Finland developed the world’s first national roadmap toward a circular economy, “Leading the Cycle – Finnish Road Map to a Circular Economy 2010-2025.” It was drafted under the direction of the Finnish Innovation Fund Sitra, in co-operation with the Ministry of the Environment, the Ministry of Agriculture and Forestry, the Ministry of Economic Affairs and Employment, the business sector and other key stakeholders. The Road Map aims to create a shared mindset for promoting the circular economy among all stakeholders and determine the most effective means to bring about a systemic change in the economy.

The Road Map’s design allows it to be expanded at both the national and international levels. It has five focus areas: a sustainable food system, forest-based loops, technical loops, transport and logistics, and joint actions. It includes six key projects:

- regional co-operation in order to provide sustainable locally produced food with the help of kitchens in public institutions;

- a demo plant for new techniques in the processing of electric and electronic devices to test thorough re-use of valuable and rare materials;
- the Helsinki Metropolitan Smart&Clean project, which creates export concepts based on smart low-carbon transport that exploits open data;
- the development of forest-derived bioproducts to replace fossil materials through extensive industrial-scale projects;
- an extensive co-operation model for the ecosystem of Arctic industry to enhance industrial symbioses; and
- the organization of the first World Circular Economy Forum in June 2017, introducing the best circular economy solutions and providing a platform for exchange of ideas and experiences.

In parallel with Finland’s actions, the EC has been working on policy and guidance in the area of circular economy. In 2015, it adopted a Circular Economy Package, which includes revised legislative proposals on waste to stimulate Europe’s transition towards a circular economy, stating that this “will boost global competitiveness, foster sustainable economic growth and generate new jobs.” The Circular Economy Package consists of an EU Action Plan for the Circular Economy, which establishes “a concrete and ambitious programme of action,” with measures covering the entire cycle from production and consumption to waste management and the market for secondary raw materials. The annex to the Action Plan sets out the timeline when the actions will be completed.

In 2016, the EC published a review of the implementation of the Action Plan, and: established a Circular Economy Finance Support Platform together with the European Investment Bank, bringing together investors and innovators; issued guidance to member states on converting waste to energy; and proposed a targeted improvement of legislation on certain hazardous substances in electrical and electronic equipment.

EC Circular Economy Stakeholder Conference: To showcase the key deliverables achieved so far and to debate future deliverables with stakeholders, the EC and the European Economic and Social Committee held a Circular Economy Stakeholder Conference on 9-10 March 2017 in Brussels, Belgium. On this occasion, the European Circular Economy Stakeholder Platform was announced. Conference topics included: a monitoring framework; promotion of water reuse; options for the interface between chemicals, products and waste legislations; and innovation for circular economy.

WCEF2017 REPORT

GRAND OPENING

After an opening performance of music and movement, the WCEF2017 plenary was opened by moderators Veera Heinonen, Sitra, and Peter Woodward, Quest Associates. Woodward noted that this is an era in need of change-makers given that multilateral agreements are being made and unmade.

Integrating Circular Economy into the Global Agenda 2030: During an opening panel session, Mikko Kosonen, Sitra President, declared that the circular economy was no longer a fringe movement.



(L-R) **Matti Vanhanen**, Member of Finnish Parliament and Sitra Board Director; **Kimmo Tiilikainen**, Minister for Housing, Energy and the Environment, Finland; and **Mikko Kosonen**, Finnish Innovation Fund Sitra, during the opening panel

Kimmo Tiilikainen, Minister for Housing, Energy and the Environment, Finland, underlined his government's commitment to pioneering the circular economy, citing Finland's Road Map to a circular economy, and calling on participants to collaborate in converting the world to a circular economy lifestyle within planetary boundaries.

Jan Vapaavuori, European Investment Bank and Mayor-elect of Helsinki, underlined the urgent need for the circular economy given the rapid rise of urban living. Noting the US President's recent decision to withdraw from the Paris Agreement under the UN Framework Convention on Climate Change, he called on cities to act with or without the support of national governments. He noted Helsinki's record of business innovation, open data, and education, and the city's plan to contribute to a sustainable urban future, advancing the SDGs.

Matti Vanhanen, Member of the Finnish Parliament and Chair of Sitra's Board of Directors, recalled Sitra's founding as a gift to future generations on the 50th anniversary of Finland's independence, 50 years ago. He described WCEF2017 and Finland's commitment to the circular economy as a return gift to the world in its efforts to combat climate change and advancing Agenda 2030. Observing a crisis in the multilateral system and the US decision to "press the delete button" on the Paris Agreement, he urged the private sector not to wait for state action.

Keynote addresses: Janez Potočnik, UN Environment International Resources Panel, gave an overview of global use of natural resources. Noting the projected growth in world population as well as per capita consumption, he said the latter is a stronger driver of increasing natural resources use than the former. Underlining that the richest countries consume ten times more materials than the poorest, he said developing countries cannot follow the same development trajectories as developed countries because of a lack of available natural resources. He noted significant potential for increasing resource efficiency, but felt that since markets will not achieve efficiency by themselves,



Janez Potočnik, UN Environment International Resources Panel

public policy and political will are needed, as well as leadership and improved governance at a global scale.

Noting that "financial capital is overvalued, human capital is undervalued, and natural capital often is not valued at all," Potočnik called for a transition to a new economic model that decouples economic growth from resource use and uses resources more responsibly.

He stated that "humans are supposed to be intelligent and it is high time to prove it."

Achim Steiner, Oxford Martin School, and incoming director of the UN Development Programme, described the circular economy as a means to achieve the SDGs and reduce poverty. He underlined the linkages between global challenges such as climate change, terrorism, political upheaval, migrant crises, nuclear proliferation, financial instability and environmental

disasters, and stressed the need to use less land, water, energy and materials to maintain economic growth, as well as use resources wisely to reduce environmental impact. Noting the need to "reinvent, rethink and retool our economies," he highlighted potential solutions that might come from future technological developments.

Steiner elaborated on the Agenda 2030 and the 17 SDGs, noting that they: are a powerful shared vision for development; recognize the complexity of the challenge; and are universal and integrated. He concluded that "while we live in an era of great uncertainty, it is also an era of great opportunity."

Panel discussion on forum core themes: Sergei Ivanov, Russian Federation, observed the growing momentum behind the Fourth Industrial Revolution and advances in reducing pollution during Russia's 2017 Year of Ecology. Tadahiko Ito, State Minister of Environment of Japan, described plans to use urban mining of materials from discarded mobile phones and electronic goods to manufacture 5,000 gold, silver and bronze medals for the 2020 Olympics, to be held in Tokyo, Japan.

Ibrahim Thiaw, UN Environment and UN Assistant Secretary-General, underlined the role of developing countries, noting that repair is part of the DNA in those countries. He also underlined the role of 3D printing, big data, and regulation, and noted that



Achim Steiner, Oxford Martin School, and incoming director of the UN Development Programme

pollution—the cause of 36,000 premature deaths every day—will be a key theme at the UN Environment Assembly on 4-5 December 2017, in Nairobi, Kenya. Alice Kaudia, Environment Secretary, Kenya, underlined the roles of leadership and governance, noting Kenya’s plan to outlaw plastic bags and transition to zero waste.

In closing remarks, which he described as “stretch messages” or challenges, Potočnik urged participants not to wait for leadership from the top because they would not be happy with the waiting time. He urged participants to play leadership roles in their own working contexts. Steiner questioned the necessity of following a single logic to bring about change, including action on climate change. Noting that one or two countries had taken time out from the Paris Agreement, he said actors do not have to spell out climate change in order to bring about desirable actions in areas such as access to energy or electricity. Kosonen noted that the total transformation of economic systems and society will require collective action across the public and private sectors, and with citizens. He called on governments to be strategic and agile in times of rapid change and complexity.

CIRCULAR BLUEPRINTS GAMESHOW – DRIVING THE ECONOMIC TRANSITION IN THE NORDICS & BEYOND

This parallel session, held on Monday, was moderated by Camille Duran, Green Exchange.

Keynote address: Jocelyn Blériot, MacArthur Foundation, addressing the global challenge of growing swathes of middle class consumers, noted the opportunities to re-design growth, using digital transformation and decentralized co-creation. He described the key objectives of designing waste out of the economic system, keeping products and materials in the system, rebuilding natural capital, and both revealing and phasing out negative externalities. He noted the contribution of the circular economy to the reduction of carbon emissions and reducing primary material consumption.

A creative talk show: A Nordic Council-sponsored session on building societies where economies are circular and bio-based took the form of a “game show” with hosts Camille



WCEF2017 participants networking around the venue

Duran, Green Exchange, and Carlotta Cataldi, independent consultant. Two teams of participants took part in a back-casting exercise. One team imagined what the circular economy will look like in 2050 and reported back to the second team working on the steps that will have to be taken to enable that scenario.

Exploring current circular economy initiatives in their countries, Nancy Strand, Avfall Norge, Norway, described a society-wide conversation to lead a culture shift in the energy sector, and Alice Kaudia, Ministry of Environment and Mineral Resources, Kenya, described work at the nexus of landscape restoration and air pollution. Kimmo Tiilikainen, Minister for Housing, Energy and the Environment, Finland, called for a paradigm shift in economies so that people can live on the earth’s annual yield. On the bioeconomy, he recalled Finland’s history of sustainable forestry and plans to double the value of the bioeconomy. Kari Herlevi, Sitra, noted the importance of personal leadership in Finnish ministries together with cross-parliamentary support. Elin Larsson, Filippa K, described her company’s commitment to design for long life, supporting customers’ ability to care for products, and re-use.

Per Bolund, Minister for Financial Markets and Consumer Affairs and Deputy Minister of Finance, Sweden, described the impact of VAT reductions to stimulate labor-intensive industries, including repair and reuse activity. He noted how his country is using the tax system to support Agenda 2030. Wytse van der Mei, Ministry of Infrastructure and the Environment, the Netherlands, underlined the social dimension of the circular economy, and noted the support of trade unions for a new bioeconomy agreement in the Netherlands.

Mariel Vilella, Zero Waste Europe, outlined the performance of leading zero waste municipalities, noting that recycling rates spiral up when authorities give up on incineration. Bolund described how Sweden is a leader in recycling and has become locked into incineration and imports waste to use up capacity, while the message from science is that energy savings come from reuse and recycling. He underlined the employment potential of the circular economy.

On opposition to the sustainability from vested interests, speakers addressed the role of regulation, and the significant demand from capital markets for investment in fossil free and circular economy activity as exemplified by the growth in green bond markets.

In the final stage of the “game show,” the two teams shared practices that will form part of a circular economy in 2050, such as: bio-based materials, including those recycled from waste food; localized production and repair activities; a growth in the maker movement; more lending and less owning; and supportive use of tax and regulation. Other proposals included: fundamental support for the bioeconomy, including more precise interventions in the nutrient cycle; a reduction in meat consumption; sustainable forest management; energy+ homes and shared living spaces; walkable cities; the abolition of poverty; circular economy hubs for new forms of prosumerism, including clothing repairs, redesign, sharing and hire.

17 CIRCULAR SMES MEET THE 17 SDGS

This parallel session, held on Monday, was moderated by Peter Woodward, Quest Associates.

Ashok Khosla, Development Alternatives India, addressed circular economy in the developing world and the role of small and medium-sized enterprises (SMEs). Stressing the need to involve the “people who got left behind,” he described a vicious cycle of inequality, poverty and resource destruction.

As a case study, Khosla outlined the successful development of a circular economy hub in India becoming the center of village development. He said a textile recycling company was central to this hub, and noted that it provides jobs and encourages families to use their earnings to purchase goods that sustainably improve their living standard, such as low-cost water filters and clean cook stoves. Khosla concluded that vicious cycles can be transformed into virtuous cycles of increased wellbeing, smaller families, local jobs and livelihoods, and increased income.

SME pitches: Woodward then invited 17 circular economy SMEs to present their business case in a 30-second pitch.

Speakers included:

- May Al-Karooni of Globechain (UK), a reuse platform and marketplace for businesses;
- Heike Bach of VISTA (Germany), which develops services for the food-agriculture nexus;
- Anna Balez of Tale Me (Belgium), which recycles, produces and leases clothing;
- Michael Bayer Thomsen of Letbæk Plast (Denmark), a pioneer in innovative plastic solutions;
- Jelloul Bouguila of DEMCO Group (Tunisia), which sustainably manufactures jeans;
- Luca Cervellati, CPR System (Italy), which produces reusable and recyclable packaging;
- Abdelhamid El Acham of Afrique Cables (Morocco), which produces recyclable car batteries;
- Ignasi Fontanals of OptiCits (Spain), which develops software empowering cities to manage human capacity and infrastructure;
- Hans Axel Kristensen of Plastix (Denmark), which transforms discarded fishing nets and ropes into new materials;



May Al-Karooni, Globechain (UK)

- Eric Logtens of Noble Environmental Technologies (the Netherlands), which converts cellulose waste streams into durable construction materials;
- Allan Ochieng Marega of Global Supply Solutions Limited (Kenya), which turns agricultural waste into energy;
- Enikő Hajósi of WEEE / Votechnik (Ireland), which removes the hazardous waste materials from LCD flat screen panels and monitors;
- Paavo Räisänen of Enevo (Finland), a provider of waste and recycling services and analytics solutions;
- Urjinkhand Budee and Bat-Erdene Gomboragchaa of Eco Wool (Mongolia), a manufacturer and supplier of eco-friendly wool and cotton;
- Brent Vickers of Sintronics Innovation Center (Brazil), which reduces the impact of post-consumer plastics;
- Harm Voortman of Anatrans SARL (Burkina Faso), which develops a sustainable cashew supply chain; and
- Dimitris Xevgenos of SEALEAU (Netherlands), which specializes in industrial wastewater treatment and resource recovery.

Table talks: Participants engaged in three 20-minute rounds of “table talks,” in which the SME representatives each presented their company’s work in more detail at a table with around ten participants. SME representatives described the nature of their businesses, as well as guiding principles, successes, challenges and future ambitions. They also addressed the wider socio-economic and environmental impacts of their products or services, and ways in which their work ties into the SDG framework. These short presentations were followed by an interactive discussion. Participants then moved to another table and SME. Following three such rounds of “table talks,” there was an opportunity for additional information exchange and networking.

INNOVATION CHALLENGES FOR THE CIRCULAR ECONOMY

This parallel session, held on Monday, was moderated by Sofus Midtgaard and Toke Sabroe, LAUNCH Nordic. This session highlighted how partnerships, collaboration and innovation challenges can drive circular innovation and systems transformation. It addressed incentives for innovation varying from non-financial ones, such as visibility and capacity building, to mobilizing capital through prize money.

Participants witnessed a panel discussion on how innovation challenges and collaboration can drive the circular economy. Speakers included: Erik Bang, H&M Foundation; Håkan Nordkvist, IKEA Group; and Marco Zappalorto, NESTA.

The session culminated with the announcement of the LAUNCH Innovation Challenge 2017, which seeks circular economy innovations and solutions for design and manufacturing from around the world. Speakers included: Håkan Nordkvist, IKEA Group; Claus Stig Pedersen, Novozymes; and Vigga Svensson, VIGGA.us. In an interactive session, participants helped identify best circular innovators and communities.

COLLECTIVE IMPACT FOR SUSTAINABLE CONSUMPTION AND A CIRCULAR ECONOMY

This parallel session, held on Monday, was moderated by Tuuli Kaskinen, Demos Helsinki. It addressed ways in which businesses, governments and citizens can interact to generate “collective impact” for sustainable consumption globally. Participants debated how businesses and governments can combine their efforts in providing infrastructure, goods and services in order to offer sustainable options for consumers. They also discussed the demand side, including the types of information, pricing and other incentives that are needed to make sustainable choices attractive for consumers.

The session also addressed the UN’s Ten Year Framework of Programmes on Sustainable Consumption and Production (10YFP), and its relation to the SDGs, and provided examples of new solutions for sustainable public procurement, better consumer information, sustainable lifestyles, sustainable tourism, sustainable buildings and construction and sustainable food systems.

Kitty van der Heijden, World Resources Institute, gave a keynote address. Participants then witnessed a moderated panel discussion that included the following speakers: Gunilla Blomquist, Swedish Ministry of the Environment and Energy; Harri Hakaste, Finnish Ministry of the Environment; Mark Hidson, ICLEI’s Sustainable Procurement Centre; Ulf Jaeckel, German Ministry for the Environment, Nature Conservation and Nuclear Safety; Gabriele Kull, journalist, media producer and social entrepreneur; and Martine Rohn-Brossard, Swiss Federal Office for the Environment.

Table discussions were held on six lifestyle topics: policy and pilots on public procurement as a circular economy enabler; benchmark cases in tourism; lifetime extension and reuse of products, with textiles as an example; sustainable lifestyles and education; changing consumption patterns; and circular economy in the building materials supply chain.

CIRCULAR CITIES

This plenary session, held on Monday, was moderated by Tiina Kähö, Helsinki Metropolitan Smart&Clean Foundation, and Marja-Leena Rinkineva, City of Helsinki. Kähö said the circular economy is driven mainly by cities; requires collaboration between different stakeholders; and creates substantial business opportunities. Rinkineva outlined circular economy initiatives involving citizens of Helsinki.

Future visions for dynamically circular cities: Dimitri Zenghelis, London School of Economics, underlined the role of cities in promoting circular economy. Addressing the “chicken and egg” questions of whether to build cycle lanes when hardly anyone cycles, and whether to build electric car charging points when electric cars are rare, Zenghelis said once the physical infrastructure is in place, people will change their behavior. He noted that it requires “getting started and steering expectations.” He showed how the design of cities can make a tremendous impact on mobility, health and carbon emissions, stating that “we need to design the future.”

Systemic transition into circular cities: Hans Bruyninckx, EEA, said policies and financing mechanisms should be adapted to the needs and realities of urban environments, rather than to the national level. He noted that while national-level data is often available, knowledge on cities is generally lacking. He drew parallels between city design and climate resilience, and called for a paradigm shift, moving from increasing efficiency of the systems that we know to designing entirely new, smarter systems. He advocated a systemic approach that takes new views on spatial planning and infrastructure design, naming the city of Copenhagen as a positive example. Stressing the importance of active involvement of citizens, he identified cities as “living laboratories of innovation.”

During the ensuing discussion, Bruyninckx stressed the need for case studies, noting that many of these are anchored in European cities. He called for long-term vision and investments. Zenghelis added that all factors—citizen involvement, cooperation between all stakeholders, enabling circular business, procuring circular solutions and services, and regulation—are interrelated and are needed in conjunction in order to effect change. Bruyninckx concluded that “it is about shaping, not predicting the future.”

Circular city strategies: Esther Agricola, City of Amsterdam (the Netherlands), presented on the circular economy strategies of Amsterdam. She noted that the city only has around 850,000 inhabitants, but that this number is rapidly increasing, and the growing number of tourists, currently 17 million per year, is putting a strain on waste management. She outlined a project mapping the metabolism of the city, which showed the high potential for added value, new jobs, materials savings and reduced carbon emissions, and identified two important value chains: building construction, and organic streams and food. Noting that the private sector is leading the transition, she said local government still plays an important role in accelerating the transition, and highlighted cooperation between the private sector and research institutes. Underlining the need to convince various stakeholders of the value of a circular economy, she called for emphasis on transparency and information-sharing.



Esther Agricola, City of Amsterdam (the Netherlands), and **Katie Thomas**, Share Peterborough (UK), during the session on circular cities

Katie Thomas, Share Peterborough (UK), explained how Peterborough, one of the fastest growing cities in the UK, is creating smarter businesses. She said that since many SMEs struggle to access the resources they need, her organization launched the concept of resource sharing between businesses. Identifying challenges, she described cities as complex socio-ecological systems, and noted the challenge of measuring progress and capturing the socio-economic and environmental benefits. She called for new ways for cities to benchmark their progress against each other, which would encourage friendly competition as well as sharing of knowledge and expertise.

Business disruptions in cities: Pekka Möttö, Tuup (Finland), described how his company gathers and analyzes customer mobility data to improve the planning and design of transport systems. He showed how this kind of information can help shape mobility services for customers, including provision of information on location and availability of city bikes, on-demand ride services, and autonomous ride services.

Bryan Buggy, Vancouver Economic Commission (Canada), noted that Vancouver is only 130 years old, which he said is “both a blessing and a curse.” Describing the development of a “greener city action plan,” which engages a large number of citizens and organizations, he illustrated: how leadership matters and how it can inspire; and how a municipal governments can work together with business. Buggy stated that Vancouver now hosts 30% of Canada’s clean-tech sector, and experienced a 26% increase in gross domestic product (GDP) since 2007, while reducing greenhouse gas emissions by 15% and solid waste sent to a landfill or incinerator by 25%. He identified this as an example of how “green” and “economy” can go hand in hand.

Closing material loops: Funto Boroffice, Chanja Datti Recycling (Nigeria), described waste management in Abuja, Nigeria. Noting that circular economy is a notion that has been widely practiced in her country for a long time, she said waste can empower people and help to eradicate poverty. Noting how recycling can help build a value chain, and create jobs and livelihoods, she said “the core business is survival” in her country, and increased access to financing mechanisms would greatly improve the process.

Elizabeth Balkan, City of New York (US), said that while New York produces around 6 million tonnes of waste per year, most of this waste is transported out of state and thus lost to New York as a resource. She explained how in 2015, New York committed to sending zero waste to landfill by 2030, and is now developing programmes for various aspects of a circular economy, such as changing consumer behavior, increasing recycling, and creating local opportunities to generate economic benefits from waste. Identifying challenges, she said the ready availability of cheap resources can be an obstacle to greening the city, because people find it difficult to sacrifice convenience.

In summarizing the session, Kähö said the shift to a circular economy happens in cities and requires the cooperation of all the relevant parties including the city, citizens, businesses, the state and research organizations. She also said the circular economy can be great business and cities can enable it.



María Mendiluce, WBCSD

CIRCULAR BUSINESS LEADERS

This plenary session, held on Tuesday, was moderated by Peter Woodward, Quest Associates.

María Mendiluce, WBCSD, opened the session by launching the WBCSD “CEO Guide to the Circular Economy.” She described the Guide, developed with Accenture Strategy, as a call to action, endorsed by CEOs, with the promise of unlocking global GDP growth of US\$4.5 trillion of business by 2030 and avoiding the risks associated with resource price volatility and supply insecurity. She said the Guide outlines five business models and three disruptive technologies that companies can explore and use to seize opportunities in the circular economy. She also highlighted the Guide’s call on CEOs to: set a circular vision; leverage a full suite of solutions; pilot projects, scale-up and collaborate; and use financial, environmental and social metrics to track progress.

Quentin Drewell, Accenture Strategy, outlined evidence that the circular economy is contributing to companies’ competitive advantage through growth, profitability, sustainability and enhanced trust. He described new business models drawing on intersections between the circular economy and disruptive digital, physical and biological technologies, including the “internet of things”, bio-based materials, product life extension, and innovative energy storage.



Quentin Drewell, Accenture Strategy



Participants during the Business Leaders session

Isabel Fernandez, ING, described how her bank increasingly uses sustainability when deciding on whether to do business with a company. She described her bank's initiative to establish companies and entities to take responsibility for those assets that will be the subject of new forms of ownership in the circular or sharing economy, and called for suitable legal frameworks.

Presenting the first of three case studies, Matti Lievonon, Neste, described his company's transition from oil refining to global leader in the production of renewable diesel and other fuels from waste and residues. He noted the company's strategy of "cannibalizing," or phasing out, its fossil fuel-based activities and underlined the role of research and development in generating new feedstock.

Åsa Bergman, SWECO, described her company's work on circular urban districts and industrial parks around the world. She called for improved information and data sharing to help connect knowledge and solutions.

Karl-Henrik Sundström, Stora Enso, described how his company—responding to megatrends such as climate change and population growth—has explored the molecular structure of trees to develop innovative materials including carbon fiber for airplanes, cars and wind turbines; and fiber-based replacements for plastic bottles and food packaging. He described how everything that is currently manufactured using fossil fuels can be made from trees.

In a poll inviting participants to characterize the state of business leadership on the transformation to a circular economy, most agreed that it was either "patchy" or "encouraging." In a second question, on the most important ingredient to ensure businesses fully embrace the circular economy, participants agreed the importance of either an "active value chain" or "a CEO who gets it."

During the ensuing discussion, all panelists shared optimism that a transition to a circular economy is realistic. They stressed that an increasing number of citizens, businesses and governments are embracing the concept. Bergman said time is running out, but "we have the solutions and the examples, and we know the drivers." On convincing shareholders to exercise patience during a transition, Sundström observed that at the

end of the day, their return on investment will be higher in a circular economy, and that shareholders do care about what people want. Drewell recommended replacing "scary" words like 'transformation' and 'sustainability' with more optimistic terms, such as 'innovation' and 'value.' Mendiluce drew attention to the WBCSD research project "Good Life 2.0," which shows that younger generations are ready for a major transformation. Fernandez elaborated on green bonds, noting that "there is a huge number of investors out there" who want to invest in sustainable companies.

Responding to Woodward's question "Can we switch to a circular economy without de-growth?" the panelists on the stage answered with a unanimous "yes." Detecting a lack of consensus among the audience in the hall, however, Woodward disagreed with the panel. In conclusion, panelists recommended: focus on research and development; "have the guts to disrupt yourself"; "collaborate with your competitors"; and "let's get started."

ECONOMIC RESEARCH ON THE CIRCULAR ECONOMY

On Tuesday, Brendan Gillespie, Green Solutions Network, moderated a parallel session on circular economy finance and research. He invited participants to consider three questions on the evidence base for the circular economy, on the economic benefits, the net employment gains, and on the potential distribution of benefits within and between countries. In a poll, a majority of participants agreed that more evidence is needed to demonstrate the economic benefits of a circular economy.

Paul Ekins, University College London and UN Environment's International Resource Panel, explained that evidence for the economic benefits of a circular economy depends on the research question. He said the easiest way to establish the case for a circular economy is to examine current business-as-usual projections up to 2050. He noted European research findings that the future in a business-as-usual scenario will be a "nightmare" of price volatilities, especially in food, water shortages, and lead to enormous interruptions in supply chains and investment, with lower output and fewer jobs than can be expected from a circular economy. Ekins said it was much more difficult to compare the benefits of a circular economy with near-term economic and resource trends and governments' short-time horizons. He added that any cost savings and solutions at scale will require policy support and for governments to work closely with business to achieve benefits at the macroeconomic level. He challenged the conflation of "resource efficiency" and "economic efficiency" solutions due to the low costs applied to materials and the high costs applied to labor, and called for a re-balancing using fiscal measures to reverse this position.

Venkatachalam Anbumozhi, Economic Research Institute for ASEAN and East Asia (ERIA), described ERIA's work on the circular economy in the Asia Pacific region, focusing on resource efficiency, job creation and avoiding pollution in cities, manufacturing, agriculture and forestry. He cited the example of job creation from forest waste and energy streams following a ban on incineration.

Anni Huhtala, VATT Institute for Economic Research Finland, agreed that it was too early to see the benefits of a circular economy, and underlined the importance of an agreed definition. She noted that consumers would play a role in market economies in deciding whether they are prepared to pay for avoided ecological damage, while employment gains would have to be assessed alongside the question of whether the new work is meaningful. She called for consideration of groups, such as children scavenging for electronic waste on burning landfills in some developing countries, when evaluating the circular economy, as opposed to preoccupations with green consumerism and status goods in developed economies.

Bing Zhu, Tsinghua University, China, looked forward to the creation of a new sector connecting production and use, with new activities such as reuse and remanufacturing, creating millions of new labor-intensive roles. He described the Chinese government's funding and other measures, including pension and re-training arrangements, to support the short-term losers in the transition to a circular economy as some traditional enterprises are phased out.

Responding to questions on the kind of research required to motivate policy makers, panelists cited: macro-economic modelling that might help frame new questions while taking account of the disruptive nature or discontinuities associated with the circular economy; the failure of market pricing to capture environmental degradation (externalities); the conditions that best support the emergence of the circular economy; competing discourses of the "green economy," the "low-carbon economy" and the circular economy; and the distinctive needs of developing and emerging economies. On distributional impacts within and across countries, panelists discussed: the advantages enjoyed by incumbent businesses in the linear economy as opposed to those seeking to introduce disruptive practices in pursuit of the circular economy; using more thorough cost-benefit analyses to identify winners and losers; and addressing the short-term electoral decision-making horizons of law makers.

Peter Börkey, Organisation for Economic Co-operation and Development (OECD), introducing a second panel, on "Taking science to practice," agreed that the hard evidence showing the positive benefits of the circular economy is still missing. He explained that the OECD will contribute to that evidence

base, focusing on the macroeconomic effects as well as what happens at the micro-level. He noted the relatively crude state of macroeconomic modelling of the circular economy compared to climate models.

In a poll question on preferred instruments to support the transition to a circular economy, participants ranked environmental taxes highest, followed by regulations and innovation.

Antonia Gawel, World Economic Forum (WEF), called for a systems perspective that takes account of the entire value chain so that issues and sectors are no longer treated in isolation. She explained that the question for bodies like the WEF, at the interface of the policymaking community and the private sector, is to determine the point at which policy can help achieve scale and transformative effects in the system.

Jeremy Wates, Secretary-General, European Environmental Bureau, described huge inertia within the linear economy and called for a more robust approach when it comes to addressing those activities for which there is no place in a circular economy. He underlined the role of regulation, including the use of tax measures.

Anders Wijkman, Club of Rome, highlighted the role of resource use in climate change. He called for major transformations in the economy, notably in cost structures, including the tax take on labor that far exceeds levels of taxation on energy and the use of natural resources. He explained that the secondary materials market cannot function due to the low cost of virgin materials, and described barriers to change. Citing research by the MacArthur Foundation showing that 95% of the value of materials is lost between first and second use, he called for a prohibition on placing products on the market that have not been designed for recycling.

Scott Vaughan, IISD, addressed the linkage between knowledge gaps in circular economy research, including data on labor markets and savings, and IISD's work on moving beyond GDP as a key national economic measure. He commended the 2017 report "Comprehensive Wealth in Canada – Measuring What Matters in the Long Run," which draws on the work of Sir Partha Dasgupta, Robert Repetto, the UN Statistical Commission, and UN Environment, examining national well-being from a comprehensive wealth perspective based on four pillars: human capital, natural capital, produced capital and social capital. On fiscal policies, he called for more ambition and coherence by tackling fossil fuel subsidies.

During a panel discussion, participants addressed: the need for an appreciation of complexity and systems approaches among policy makers; leveraging the new digital revolution; an emphasis on the product design stage when intention is paramount; the consumer's right to know; a more outspoken approach on the need for regulation to encourage responsible behavior; the importance of public procurement and building capacity among procurement officers; circular economy opportunities in major infrastructure proposals, including China's proposed US\$900 billion investment in corridors connecting Asia and Europe ("One Road, One Belt").



Participants networking at the Marketplace



Participants during the session

The moderator summarized the main points: the benefits of a circular economy will not be generated automatically by markets; further work is required to refine economic models; more research is needed on distributional impacts within and between countries; some firms and activities will inevitably lose out and their exit will have to be facilitated; political will is paramount; the importance of a systems approach and indicators to track the transition, drawing on work on moving beyond GDP.

TRANSFORMATION TO CIRCULAR BUSINESS MODELS

This parallel session, held on Tuesday, was moderated by Bas de Leeuw, WRF. He drew attention to the upcoming World Resources Forum to be held in October 2017 in Geneva, Switzerland.

Matti Rantaniemi, Martela, described how Martela, a Nordic circular business producing high-quality office furniture, transformed into a “circular business partner,” assisting customers in developing complete, sustainable work environments. He said Martela works together with customers to respond to megatrends, including digitalization and increased focus on worker wellbeing. He underlined how innovative workplace design is an opportunity to enhance engagement, innovation and productivity, save costs, improve company branding, and show environmental responsibility.

Myriam Tryjefaczka, Tarkett, said her company produces various flooring solutions. She elaborated on: selection of safe, recycled, recyclable and renewable materials; responsible use of resources; wellbeing and health during product installation and use; recycling; and producing new products with recovered materials. She highlighted the Re-Start initiative, a take-back system operating in partnership with customers, installers, logistics and waste management specialists. Among lessons learned, she stressed the importance of awareness raising, circular economy criteria, innovation, adaptation to local realities, partnerships, value for each partner, and ease of operations.

In the ensuing discussion, participants addressed ways to improve communication on the benefits of circular strategies.

Jad Oseyran, IBM, presented a global circular business model story. He said his company developed from computer manufacturing to generating value for other businesses based on data. Describing his company’s Global Asset Recovery Service project, he said “it wouldn’t have lasted for 25 years if it wasn’t making money.”

In an interactive panel discussion, participants discussed key next steps for transforming linear business models into circular business models. Panelists included: Lorraine Francourt, Dow; Kevin Moss, World Resources Institute; Ester van der Voet, Leiden University; and session speakers Rantaniemi, Tryjefaczka and Oseyran. Participants debated whether current efforts are sufficient; how to reach out to business leaders; how to demonstrate the business case for the circular economy; how to involve the entire value chain, including customers; and whether change should start at a local, national or global scale. On the role of consumers, they concluded that product price remains the main motivation for consumer behavior, underlining the role of education and regulation. They noted that all stakeholders need to be educated. Oseyran called for a changed mindset, noting that “consumers” should be called “users” in order to enhance circular thinking.

FOREST-BASED BIOECONOMY AND CLIMATE CHANGE MITIGATION

This parallel session, held on Tuesday, was moderated by Jyrki Kangas, Koli Forum. It focused on the importance of forests and the forest-based sector in offering solutions to climate change-related global challenges.

Kimmo Tiilikainen, Finnish Minister for Housing, Energy and the Environment, gave a keynote presentation. He flagged the role of sustainable forest management in supporting a flourishing bioeconomy and biodiversity, noting how Finnish bioeconomy fosters innovations and resource-efficient industrial symbiosis, as well as the maintenance of ecosystem services.

Ma Rong, China’s National Development and Reform Commission, addressed China’s circular low-carbon development and international cooperation. Marc Palahí, European Forest Institute, discussed the role of forests in climate change mitigation. Kati ter Horst, Stora Enso, gave an overview of innovative bio-based solutions.

The session also included a panel discussion, with the following panelists: Henrik Ehrnrooth, Pöyry; Kai Merivuori, The Finnish Sawmills Association; Erika Mink, Tetra Pak; Marc Palahí, European Forest Institute; and Kati ter Horst, Stora Enso. The panel discussion was moderated by Pentti Hyttinen, Metsähallitus – Finnish State Forest Enterprise.

CIRCULAR BY DESIGN - PRODUCTS IN A CIRCULAR ECONOMY

This parallel workshop session, moderated by Peter Woodward, Quest Associates, was held to discuss and explore solutions towards circularity in product design and production following EEA’s model of circular economy.

Hans Bruyninckx, EEA, launched the EEA report “Circular by Design – Products in the Circular Economy.”

Participants then engaged in an interactive workshop session addressing product trends. Speakers included: John Sommer, MT Højgaard; Louise Koch, Dell Europe, Middle East and Africa; Per Stoltz, IKEA; Anton Brummelhuis, Philips Lighting; Sirpa Pietikäinen, Member of the European Parliament; and Thomas Graedel, Yale University.

FINANCING THE CIRCULAR ECONOMY

This parallel session was held on Tuesday. Timo Mäkelä, Sitra, moderated a panel on the circular economy in development financing. Stephen Lintner, independent advisor on environmental and social sustainability, described the role of development banking and the megatrends driving their activity, including the SDGs, the Paris Agreement and major infrastructure investment plans. He cautioned that the economic development territory was being “intellectually overpopulated” by competing discourses on the green economy, the circular economy and the blue economy. He reviewed the work of development banks featuring the circular economy, including the World Bank and Asian Development Bank’s regional work with China. He noted that multilateral development banks are driven by client demands so there is a challenge to generate clear communications on the reasons for and the benefits of the circular economy.

Amra Balic, BlackRock, described the work of the world’s largest investment management fund and the increasing importance of environmental, social and governance considerations for some client groups. She underlined the key importance of education.

Petri Alava, Infinited Fibre Company, opened the second panel, on public and private finance, with an account of his company’s work on producing a form of cotton fiber from waste. He outlined the problems of finding early-stage investment finance in the face of traditional manufacturers using relatively cheap raw materials that have developed a high-scale industry over the past 100 years. He called for new structures to support scaling up from small- to medium-sized enterprises. Lisa Beauvilain, Impax Asset Management, described her fund’s focus on resource efficiency and environmental markets, and environmental reporting on well-established higher growth companies engaged in the circular economy.

Frido Kraanen, PGGM, addressed the question of how the transition to a circular economy will unfold: unmanaged, with bankruptcies and instability, or in a managed and coordinated way involving all stakeholders.

Pavel Misiga, EC, described the challenge of the circular economy in terms of developing bankable projects that facilitate collaboration or actors upstream and downstream of value chains who normally do not interact in the market. He urged the financial sector to become more active on the specifics of the circular economy, and underlined the need for more capacity to develop and help make projects bankable by supporting collaboration between the private and public sectors.

Werner Schmidt, European Investment Bank, described the role of the “EU’s house bank” in financing sustainable and viable projects, and in supporting the circular economy. He added that the European Investment Bank can bridge finance gaps and act as a catalyst for lending, risk sharing, and blending.

Andrew Shannon, Circularity Capital, described his fund’s plans to invest in and support private non-listed SMEs working in the circular economy in Europe. He noted three key value drivers: maintaining asset values; optimizing asset utilization; and cascading assets or multiple life cycles.

During a panel discussion, the following issues were explored: EU strategic investment funding plans up to 2020; perceptions of risk around investments in circular economy activities and difficulties in bringing innovations to market; blending private and public finance to address risk; green bonds; crowdfunding; and the need for a daring approach to financing circular economy activity.

BRANDING CIRCULARITY FOR CONSUMER VALUE

This parallel session, held on Tuesday, was moderated by Matti Aistrich, Sitra.

In a keynote address, Anirban Ghosh, Mahindra Group, elaborated on how the circular economy can add to customer value and build the brand, using case studies from India. He described the relative importance of the various components of consumer value, including functional and rational benefits, such as budget. He explained that no matter how cool or sustainable a product is, if the “lower levels of the pyramid”—functionality and rationality—are neglected, a product will not sell.

Oskar Korkman, Alice Labs, described research on people’s changing relationships to goods and on finding alternatives to the “abundance model,” which assumes that “new” is the most compelling marketing message. He said there is clearly a domain where circularity can meet familiarity, popularity, flexibility and perfection for purpose. He stressed that: the abundance model is now questioned worldwide; new behaviors drive new requirements; and sustainability is a part of the new formula for success.



Anirban Ghosh, Mahindra Group



Annachiara Torciano, Samsung Nordics

In the ensuing discussion, participants stressed the enabling role of governments.

Annachiara Torciano, Samsung Nordics, described her company's business case for a circular economy, noting innovation as a core value for companies. She highlighted ecolabeling, extended warranties, remote support and quick repair services as contributors to customer satisfaction and, ultimately, sustainability, noting that a better use experience equals a longer product lifetime. She noted that in the end, even though product lifetime is increased, customer retention will ensure an overall higher profit for the business.

Lea Kauppi, Finnish Environmental Institute, discussed ecolabels and benchmarking circularity. She noted that ecolabels are information instruments, as well as economic and legal instruments. She outlined recent developments to align ecolabeling criteria with the circular economy, including raw material choices, product life, and ease of dismantling. She stressed that: many important decisions are already taken in the design phase; ecolabel criteria constitute a push factor for the design and manufacturing phases; and ecolabeled products act as benchmarks for designers, manufacturers, buyers and consumers.

Karen Dahl Jensen, Nordic Ecolabelling, presented on the Nordic Swan Ecolabel, noting that the ecolabel has existed for 27 years and has labelled over 200 product types and more than 25,000 products in total. Jensen emphasized that the Nordic Swan Ecolabel takes into account the full lifecycle of a product, and is gradually tightening its requirements, pushing the limits toward circularity.

In the ensuing discussion, Dahl Jensen identified barriers to full ecolabeling, including waste management infrastructure and contamination of recycled material. Kauppi added that new criteria need to be evidence-based. Participants discussed potential new mechanisms for teaching customers about ecolabels.

FUTURE TECHNOLOGIES FOR THE CIRCULAR ECONOMY

This parallel session, held on Tuesday, was moderated by Amanda Björnberg.

This workshop session featured demonstrations of technological innovations that are revolutionizing markets and paving the way for resource efficient products and services.

Martin Stuchtey, SystemIQ, and Per-Anders Enkvist, Material Economics, addressed “using or losing new technology for building the circular systems we want.”

Four speakers presented their experiences with introducing and integrating new circular technologies into businesses: Nabil Nasr, Rochester Institute of Technology; Kirsi Sormunen, Sitra; Stuchtey; and Enkvist.

During a series of case discussions, Eric Logtens, Noble Environmental Technologies, and Carol Lemmens, Arup, addressed the circular built environment. Sampo Hietanen, Mobility as a Service (MaaS) Global, and Jean-Philippe Hermine, Renault Group, discussed future mobility. Rudolf Auer, Apple, elaborated on artificial intelligence for the future circular economy.

SUPPORTING GROWTH OF CIRCULAR SMES

This parallel session, held on Tuesday, was moderated by Stephan Sicars, UN Industrial Development Organization (UNIDO).

This workshop session presented tools for supporting SMEs in their contributions toward the circular economy, such as investment support, innovative and green public procurement and matchmaking services.

Carmen Ene, 3 Step IT, gave a presentation on keys to growth for circular SMEs.

A panel discussion was held on overcoming scale-up challenges for circular SMEs. Panelists included Funto Boroffice, Chanja Datti (Nigeria); Didier Gambier, European Commission–Executive Agency for SMEs; Jennifer Gerholdt, US Chamber of Commerce Foundation Corporate Citizenship Center; and Iain Gulland, Zero Waste Scotland.

GRAND FINALE

This plenary session on Tuesday was moderated by Veera Heinonen, Sitra and Peter Woodward, Quest Associates. Participants viewed a [short video](#) capturing highlights of the Forum.

Daniel Calleja Crespo, EC, observed that the circular economy is today's biggest challenge, and that it will provide great economic and environmental benefits. On implementation of the 2015 EU Action Plan for the Circular Economy, he noted that the EU is “on track,” including through reviewing legislation, increasing recycling, and the launch of an Ecodesign Working Plan and a Circular Economy Finance Support Platform. He announced a new Plastics Strategy to be published at the end of 2017, a non-toxic strategy and a monitoring framework to measure progress in circularity. He also highlighted innovation in circular economy through the Horizon 2020 programme and the EU Life Project. Underlining the global dimension, he stressed the need to: increase partnerships with other countries; take a critical look at green financing; and seek joint efforts from all stakeholders.

Ligia Noronha, UN Environment, identified a strong momentum for change. She recalled national and local benefits of the circular economy, and noted its potential to contribute to overarching international agendas on decarbonizing, decoupling and detoxifying, as well as several SDGs. She highlighted UN Environment's programmes on finance, capacity building and resource efficiency, underlining the major role of cities in driving the transition to circularity. Pointing out that circular economy offers opportunities to create a more egalitarian society and bring together the various communities of practice, she urged attention to human health in the practice of recycling and waste management.

Moderators Heinonen and Woodward announced the key messages of WCEF2017. These called on public and private actors to, *inter alia*, mainstream the circular economy into the global economic model and its deployment in the front line of the world's drive to achieve the SDGs and combat climate change.

Using the conference mobile app, participants formulated a list of additional recommendations, including to: move away from the mantra of infinite growth; develop measures of progress beyond GDP; improve cooperation between research and development and governments; think big and collaborate; develop technological, social and knowledge platforms; "name and shame" the least circular businesses; embed circular economy thinking in education at all levels; and include dialogue on the "attention economy."

Woodward then invited four speakers to reflect on the meeting's discussions. Annika Rosing, Nordic Council of Ministers, highlighted the need for a structure change, combined with strong political leadership and global partnership. Speaking in her personal capacity, she advocated the drafting of a Helsinki agreement on circular economy. Andrés Pesce, Fundación Chile, outlined challenges, including the fact that many developing country economies are based on unsustainable natural resource use. Noting tremendous space for innovation and value creation, he called for financial support from developed countries, and said although solutions are market-driven, the market alone cannot solve the problem.

László Borbély, Romanian Government, said keywords include partnership, regulation, education and communication, and "without devoted and fanatical people, we cannot succeed." Jennifer Gerholdt, the US Chamber of Commerce Foundation Corporate Citizenship Center, suggested: increased focus on product design; adopting a circular mindset, including through focus on new management models and behaviors; a systems-level approach; and inviting business-led organizations such as the WBCSD to help governments and businesses in their circular thinking. She noted a growing interest in her country in continuing work in line with the Paris Agreement and helping achieve a circular economy.

In a closing statement, Mari Pantsar, Sitra, said a circular economy will help us to maintain standards of living while protecting all elements of life on earth. She said the circular economy is not only a necessity but a tremendous opportunity

for long-term prosperity and growth. Noting challenges, she said "every single step forward matters," and called for active participation of stakeholders across all sectors of society. She compared the circular economy ambition to the transformative and narrative power of alchemy.

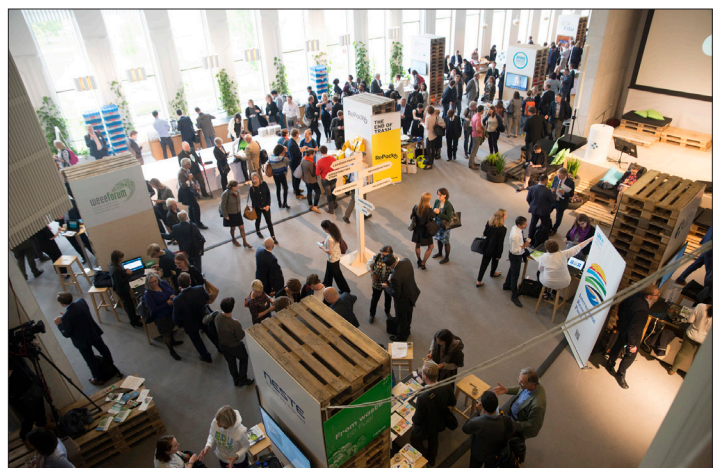
Pantsar announced that Finland will host another World Circular Economy Forum in 2019, when it assumes the EU Presidency, as well as Sitra's offer to work with a partner outside Finland to organize a second WCEF in 2018.

Heinonen and Woodward closed the formal part of WCEF2017 at 5:00 pm. Informal networking and consultations continued during an evening reception at the City Hall, hosted by the City of Helsinki, and during various side events and field trips on Wednesday.

WCEF2017 Outcomes: The nine key messages emerging from the Forum identified opportunities to:

- factor in the circular economy to our global economic model and mainstream thinking;
- achieve the SDGs with the help of the circular economy;
- drive the transition towards circular economy, particularly in businesses and cities;
- use regulation and economic instruments such as national road maps and public procurement for advancing the circular economy;
- generate economic growth and jobs while saving natural resources and reducing pollution with the circular economy;
- invest in new technologies, new business models, digitization and innovation for a circular economy;
- combat climate change with the circular economy to achieve carbon-neutral and resilient societies;
- stop thinking about waste, and instead make it a valuable resource; and
- consume services and produce more durable, repairable, reusable and recyclable products.

Another key output from WCEF2017 will be a video documentary account of the event and the principles of circular economy. Participants saw a preview of the film, entitled "World Circular Economy Forum: Future is made today." The preview is available at the [WCEF2017 website](http://wcef2017.org); the full documentary will be in due time.



A view of the Marketplace

UPCOMING MEETINGS

G20 SUMMIT: The G20 Summit under the German Presidency will be held on 7-8 July in Hamburg, Germany. The 20 Heads of State and Government and top-level representatives of international organizations will gather under the motto of Germany's G20 Presidency: 'Shaping an interconnected world'. A main concern of the Presidency is to make progress on realizing the goals of the UN 2030 Agenda for Sustainable Development and the Paris Agreement on climate change. The G20 members include Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, South Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, United Kingdom, United States and the European Union (EU). **dates:** 7-8 July 2017 **location:** Hamburg, Germany **www:** g20.org/Webs/G20/EN/Home/home_node.html

UN HIGH-LEVEL POLITICAL FORUM ON SUSTAINABLE DEVELOPMENT (HLPF) 2017: The fifth HLPF, convening under the auspices of the UN Economic and Social Council (ECOSOC), will take place from 10-19 July 2017. The theme of the session will be "Eradicating poverty and promoting prosperity in a changing world," as decided in UN General Assembly resolution A/70/299. The meeting will review progress towards several SDGs. Inputs into HLPF will include a report of the UN Ten-Year Framework of Programmes (10YFP) on sustainable consumption and production. **dates:** 10-19 July 2017 **location:** New York City, US **www:** <https://sustainabledevelopment.un.org/hlpf>

4TH INTERNATIONAL CONFERENCE ON RESEARCH FOR DEVELOPMENT: This Conference will address the theme, "Evidence.Engagement.Policies," focusing on four questions: How can we ensure that health, food systems, and sustainable agricultural systems mutually reinforce one another to better support people's livelihoods and well-being; How can we deal with environmental sustainability while achieving economic development; How can we promote inclusive, equitable, and peaceful societies; and How can we ensure that partnerships are transformative. **dates:** 5-8 September 2017 **location:** Bern, Switzerland **e-mail:** icrd@cde.unibe.ch **www:** <https://www.icrd.ch/>

FIFTH ANNUAL INTERNATIONAL CONFERENCE ON SUSTAINABLE DEVELOPMENT:

This Conference will take place on the theme, "The World in 2050: Looking Ahead for Sustainable Development." The 27 conference topics will cover all 17 SDGs and a number of cross-cutting issues, including data, the role of universities in achieving the SDGs, and the arts as a tool to raise awareness of the SDGs. **dates:** 18-19 September 2017 **location:** New York City, US **www:** <http://ic-sd.org>

NINTH WORLD URBAN FORUM: This Forum, convened by the UN Human Settlements Programme (UN-Habitat), will bring together thousands of stakeholders to share practices and knowledge on how cities are built, planned

and managed. The Forum is the biggest major international event to address human settlements, including rapid urbanization and its impact on cities, communities, economies, climate change and policies. It meets every two years, and participation has increased to around 22,000 attendees from all over the world. WUF9 will be the first Forum to meet after the post-2015 development agenda process and the UN Conference on Housing and Sustainable Urban Development – Habitat III in 2016. **date:** 7-13 February 2018 **location:** Kuala Lumpur, Malaysia **contact:** UN-Habitat **phone:** +254 20 7621234 **e-mail:** infohabitat@unhabitat.org **www:** wuf9.org

WORLD RESOURCES FORUM: World Resources Forum (WRF) 2017 will take place on the theme of "Accelerating the Resource Revolution." The Forum is open to key stakeholders, and offers first-hand information about emerging issues. **dates:** 24-25 October 2017 **location:** Geneva, Switzerland **www:** <https://www.wrforum.org/world-resources-forum-2017/>

SECOND WORLD CIRCULAR ECONOMY FORUM: A second WCEF will be held in 2018, organized by the Finnish Innovation Fund Sitra and partners, with dates and location to be determined. **dates:** to be determined **location:** to be determined **e-mail:** sitra@sitra.fi **phone:** +358 294 618 991 **www:** www.sitra.fi

THIRD WORLD CIRCULAR ECONOMY FORUM: A third WCEF will be held in 2019, in Helsinki, Finland, to coincide with Finland's EU Presidency. The meeting will be organized by the Finnish Innovation Fund Sitra and partners, with dates to be determined. **dates:** to be determined **location:** Helsinki, Finland **e-mail:** sitra@sitra.fi **phone:** +358 294 618 991 **www:** www.sitra.fi

GLOSSARY

EC	European Commission
EEA	European Environment Agency
ERIA	Economic Research Institute for ASEAN and East Asia
GDP	Gross domestic product
IISD	International Institute for Sustainable Development
SDGs	Sustainable Development Goals
SMEs	Small- and medium-sized enterprises
UNIDO	UN Industrial Development Organization
WBCSD	World Business Council for Sustainable Development
WCEF	World Circular Economy Forum
WEF	World Economic Forum
10YFP	UN 10-Year Framework of Programmes on Sustainable Consumption and Production