

An Equitable, Inclusive, and Environmentally Sound Circular Economy

Open Forum Summary Report

On 13 May, 2020 a group of scholars from organizations including the Greening of Industry Network (GIN), the Sustainable Consumption Research and Action Initiative (SCORAI), the Systems of Sustainable Consumption and Production Knowledge Action Network of Future Earth (SSCP KAN), the International Forum on Sustainable Value Chains (ISVC), and Worcester Polytechnic Institute (WPI) held a virtual open forum.

The Open Forum was titled “An Equitable, Inclusive, and Environmentally Sound Circular Economy.” The theme for this Forum was framed within the emergent COVID-19 context as part of the backdrop. Broadly, the forum discussed gaps and topics in the Circular Economy, especially as they relate to social and environmental issues such as equity, inclusivity, and environmental concerns—especially climate change. The forum was meant as a way of engaging the dual challenges of climate change and social justice within the Circular Economy (CE).

Organizers included collaborators from the U.S., Europe, Brazil, and China. Over 630 people pre-registered online from over fifty different countries, and about 350 participants from North and South America, Europe, Asia, Africa and Oceania attended the Forum. Participants joined via two virtual media channels - Zoom and YouTube platforms - each with options for commentary. Through these platforms as well as OnlineQuestions.com, we were able to record and manage the substantive engagement of our Forum attendees for later analysis. This open forum wasn't a webinar and wasn't about asking so-called experts to say how CE should be done in a way that is responsive

to social justice concerns and the demands for a lower carbon society, among many other considerations. Instead, it recognized the value of collaborative and emergent problem-solving, and embraced the uncertainty of this moment and the importance of humility as we share ideas and work out together how to move forward. Our goal was to stimulate ideas that could be developed during and after the Forum, pulling together themes that we identify here. We expect the ideas generated and accumulated will also inform the development of a number of potential outcomes, including further forums and publications. These outcome items appear in summary at the end of this report.

The “Circular Economy” is not an everyday term known to the average person. But the notion of a more sustainable and socially equitable approach for using this planet’s resources, and the need to decrease greenhouse gas production and other pollutants, are two concepts that resonate with most people. The Circular Economy begins with the desire to develop a model that integrates at a minimum the 3 R’s--REDUCE, REUSE, RECYCLE--but preferably extending to the 9 R’s (Potting et al 2017) to create an economic system that prioritizes the UN sustainable development goals. The additional R-strategies begin with REFUSE and RETHINK, and at later stages in the product cycle continue to REPAIR, REFURBISH, REMANUFACTURE, and REPURPOSE, before coming back full cycle to RECOVER.

We can engage with the Doughnut Economy, as cities like Amsterdam have done, to integrate social justice with planetary boundaries; to more fully recognize the social aspects, we might add two more R’s: Redistribution and Relationships. Such actions will help us to become more resilient in the face of disruption from the current COVID-19 pandemic, and to respond effectively to current and future climate-related emergencies.

But what solutions exist? We need concrete, actionable solutions that change our 'business as usual' scenarios to new norms that work collaboratively to address the global pandemic and changing climate. CE as conceived in this forum resembles the Doughnut Economy, holding promise for re-directing efforts toward these ambitious but necessary goals. COVID-19 has presented a number of challenges to the already ongoing work in this area, as leaders in Europe and elsewhere find their CE goals threatened by conservative forces that push for return rather than reform.

The COVID-19 pandemic has generated actions and impacts similar to those presented by climate change, but on a different temporal scale: days to months rather than years to decades. Both bring into stark relief the social, economic, and health disparities of our current systems, especially in the US and the developing world, and invite us to transform our economic and social-ecological systems to be environmentally sustainable and socially just, while remaining economically sound.

The forum had five speakers to catalyze our thoughts on what an ecologically sensitive and socially just CE looks like --three served as a "Conversation Starters," and two others helped us move things along as "Conversation Catalysts" at the half-way point of the Forum.

The first speaker was Cindy Isenhour, an Associate Professor in the Climate Change Institute and the Department of Anthropology at the University of Maine. Dr. Isenhour started us off by considering the cultural assumptions that undergird efforts to move toward a more CE. Drawing on several of the critiques recently leveled against CE, she invited us to think about what types and scales of change are needed to create

effective, just, equitable, inclusive, and environmentally sound circular economic systems.

Patrick Schröder, a Senior Research Fellow at the Energy, Environment and Resources Programme of Chatham House was our next speaker. He introduced some of the key messages of a recent Chatham House report on 'Promoting a Just Transition to an Inclusive Circular Economy'-- asking how the context of global development affects this goal and highlighting the need for international cooperation to advance an inclusive circular economy. Yong Geng, the third conversation starter, is Dean and distinguished professor in the School of Environmental Science and Engineering at Shanghai Jiao Tong University. He is also a lead author for multiple Intergovernmental Panel Climate Change (IPCC) reports, and specifically engages the problem of how CE might help us meet greenhouse gas reduction goals. Dean Geng shifted our attention to the ways that the turn to a circular economy can help to combat climate change, in China and the rest of the world.

After a lively question and comment period, with participants – starting with two of the pioneers in sustainability research: Hunter Lovins and Paul Shrivastava - sharing their thoughts on the speakers as well as highlighting their own solutions -- we return to major points by participants later in this report -- two catalyst speakers added a fresh infusion of ideas. The fourth speaker was Aldo Ometto, Professor and the lead of the Research Center for Circular Economy at the University of Sao Paulo in Brazil and a member of the Ellen MacArthur Foundation academic network. Aldo's research focus is circular business ecosystem innovation, Life Cycle Engineering, and Management. Finally, Weslyne Ashton, an Associate Professor at the Illinois Institute of Technology, Stuart School of

Business, spoke on the topic of inclusivity with a look at entrepreneurship, small business, and localized circular economies.

Throughout the Forum, attendees were also encouraged to contribute questions and comments; these were monitored and selected for the moderator to bring forward to ensure that ideas from the audience were highlighted. Despite the large numbers, we were able to achieve a good conversation. The interplay was captured and analyzed to help us determine how best to move forward after the event.

This word cloud below provides a sense of the themes that emerged through these conversations. Our contributors brought up a number of concerns that collectively amount to asking and answering the question of “What does it mean to build ethics and responsibility into an economic system—that is, what does the CE look like in practice?” And beyond that, how can we use our experience with COVID-19’s short term behavioral and ethical responses to help us develop longer-term planetary thinking with social justice in local to global contexts?



In the following paragraphs we summarize some emergent themes from the Open Forum. It is not intended to be exhaustive, but to draw attention to the topics foregrounded by contributors, and to help forge a research agenda and inform our scholarly outputs.

Throughout the Open Forum, there was a strong underlying call to understand better the **social dimension** of the circular economy. Broader thinking included equity, gender, solidarity, and inclusion. Attention was raised to the plea of vulnerable groups in the informal economy -such as waste pickers and indigenous communities. The conversation started with how the needs of communities can be better served by circular economy business models that combine material conservation, ecological regeneration and human upliftment. Amongst others, research questions were posed around who will be included in CE, how they will be included, over what time scale will they be included, especially given changes to working and domestic routines caused by the pandemic.

A second, related theme concerned the **wider sustainability consequences of responses to COVID19**. There were calls for a more holistic assessment of changes that will follow in response to the pandemic – in other words, how does circularity fit into the well-being economy? Are there tensions with the 2030 Agenda for Sustainable Development? What synergies are there between a post-COVID19 circular economy and achieving a 2050 Vision for biodiversity “living in harmony with nature”? The need for an equitable, inclusive and environmentally sound CE to pay close attention to *strong sustainability* was raised by a number of contributors. Sufficiency and degrowth considerations were considered central. Other contributors drew attention to actions already taken to address the coronavirus that may hinder CE, at least in the short term: for example, the greater use of ‘safe’ single use plastics, less availability of recycling

services, less reuse of items. What actions can we take to overcome or work around these challenges?

Thirdly, there was discussion around post-COVID interventions to support **transformations in consumption and production systems**. Speakers envisaged industrial structure change, supporting innovation in green and circular industries and accelerating the decline of industries that do not contribute to the circular economy. The idea championed is to 'build back better' rather than 'going back to normal'--but how best to do it? Leverage points could include policies to support the development and diffusion of sustainable innovations, greening the financial market to invest in circular businesses, and other institutional measures.

Research questions were raised about gaps in our understanding of consumer behavior and social values, and how we can design interventions to support behavioral change and social transformation and transition. As one participant put it: how can we encourage embracing the change we need when many of us are emotionally and otherwise traumatized by the change that has been thrust upon us? How do we care for people while seizing this moment for radical change?

A number of contributors argued for CE education to support awareness raising and understanding. This education need not only be at the higher education level, but a social learning requirement. The existence of a behavioral gap means that this be a necessary response.

Fourth, there was much interest in developing new **indicators** to measure progress and the development of **tools and techniques** to support circular economy practices. One participant emphasized the parallel between the necessity to measure the

outcomes and impacts of CE and the clear positive effects that sustained testing and open data sharing protocols had in stopping the propagation of a novel coronavirus.

Questions were also raised about how COVID19 will impact design for the circular economy. Going forward, localization forces are likely to arrive. The question is how to achieve more repairability, reusability and remanufacturing potential – making supply chains more resilient by relying less on imports and raw materials. How can we encourage the implementation of COVID-motivated cradle-to-cradle ideas in established businesses and start-ups? How can we use visions and scenarios for the circular economy to help us reduce some of the uncertainty we feel about the future?

Fifth, participants acknowledged that CE transition plans are likely to be contingent on different aspects. The need to develop specific interventions according to the level of development was frequently mentioned, including—for instance—that Covid-19 pandemics might be an opportunity for African countries to leapfrog and move straight towards circular economies. However, although broad approaches can be made according to level of development, policies will need to be revised and fine-tuned country by country to account for cultural, behavioral and institutional differences. Research on how *specific sectors would emerge from the COVID crisis to be part of the circular economy* is needed. For example, immediate concerns over the disruptions to food supply chains caused by COVID19 were noted, with calls for more local agricultural consumption and production. Attention was drawn to regenerative agriculture and the circularity of soil. The importance of the construction sector in circularity was also highlighted. Looking across sectors, the issue of new business models was raised: what are our new needs

that business will help provide post COVID? And how can we, in the scholarly community, contribute to these developments?

Attention was also raised to the materiality of CE and the likelihood that different materials may need different CE transition plans. CE in plastics was highlighted. Participants commented that COVID-19 has not only caused a sharp fall of oil prices and disruptions in waste collection that are threatening the recycled plastic industry, but also - because plastics are being presented as so needed for managing hygiene- has triggered a rebound in single-use plastic for sanitary reason and a reversal in public perceptions of plastic as a damaging material that should be designed-out of production and consumption. Lastly, calls were made to develop just and equitable transitions plans for more vulnerable sectors of society- such as waste-pickers and indigenous communities- that are important for the development of a circular economy and also disproportionately affected by COVID-19.

Sixth, the critical role of the state in CE transitions was commented upon and parallels were drawn with state action during the pandemics. This included discussion on the Big State that resurfaced in COVID-19 responses, State aid and Green packages to stimulate post-pandemics recovery, the need to understand cultural and political inertias affecting transitions and how political leadership can negatively or positively influence the effects and credibility of actions taken to combat this pandemic.

Finally, as we emerge from COVID19, the central role of frontier **technologies** in the next wave of change was discussed. Digitalization was in the foreground, with the potential for automation and other information and computer technologies (ICTs) to help avoid the disruption caused by the outbreak and improve the resilience of supply chains.

The question of whether replacing the human workforce by robots would facilitate or hinder the circular economy takes us back to the recurring theme of the social dimension of the circular economy.

As well as providing their reflections, participants at the Open Forum also suggested research collaborations on each of the above themes. We encourage those involved and others to participate in the outcomes.

Outcomes and next steps

We also identified a number of *scholarly* projects as some follow up to support CE understanding, transition, and knowledge as part of a “Near Future” agenda. Although primarily scholarly – we expect a transdisciplinary contribution – including various non-academic stakeholders such as government, NGO, and industry participants.

The Virtual Open Forum provided us with categories and fodder for a number of scholarly projects, as seen in the themes that were summarized. It is expected that a more detailed listing of topics and issues will be used to inform calls-for-papers and outlines for topics in the scholarly outputs.

First, we will provide a summary report on our findings. This report is the summary report. We hope to include a link to this report on the Slack Channel.

Second, we will use this summary to form a blog posting that relates to the forum and some initial insights. We hope to link the blog on the Slack Channel.

Third is one of our ambitious set of projects. A series of edited books related to general themes of the Circular Economy environment. Each of these is tentative and in early planning stages. We may structure future forums, slack groups, and other communications around some of these themes. We hope to integrate and tie each of the

projects referencing and linking topics and coverage to maintain some interdisciplinary and relatively cohesive vision.

We are considering an overview edited book on Circular Economy and the various themes of social inclusion, equity, and environmental concerns in CE. The publisher is yet to be determined we have identified some possible leaders for this book and would encourage participation. Three more specific books – maybe more – will be identified for the Greening of Industry Networks Studies book series published by Springer-Nature. One book--building one pillar related to the overview edited book—will be on Social Equity and Inclusion in a Circular Economy context. Another book will cover Technology, Business, and Economic Issues in the CE context. There will be another book and book proposal on Environmental Sustainability and CE. Each edited book will require putting together a team, recruiting chapters and contributors, and composing a book proposal, managing the process, etc.

The organizing team realizes that much will depend on leadership, topic, and the ability to recruit high quality contributions. Organizing an integrative effort will be a potential challenge. We may need – additional editors, chapter authors, and reviewers. If you are so inclined please join our Slack Site, or respond to a follow-up survey.

Fourth, the next scholarly output we are planning for is a series of Peer Reviewed Journal Special Issues. There is the possibility of three special issues in planning. First is a special issue proposed for the journal *Local Environment* – The international journal of justice and sustainability. Second is a special issue proposed for the journal *Resources, Conservation, and Recycling* – the topic will be Climate Change and the Circular Economy. Third is the possibility of working with a newly approved journal titled *Circular*

Economy and Sustainability published by Springer. Some initial contacts have been made. Once again, we will potentially need supporting editorial volunteers, authors, and reviewers as well as marketing the special issues and edited books.

Future virtual forums can be formed but volunteers and teams are required. We welcome all to send collaboration offers to the Greening of Industry Network (<https://www.linkedin.com/groups/1474787/>) and participate in the Future Earth SSCP KAN on the Slack Channels. The URL site to join the CE slack channel is:

https://join.slack.com/t/sscpkan/shared_invite/zt-dsceluhe-R9O62Uw~I7wmgTUh4Jxy0Q

Please join the following channels after joining the SSCP KAN slack channel homepage:

#postcov19_12_circular-economy
#wg_circular_economy

We look forward to your future participation.

--The Organizing Team