Report from the Bolin Centre – Partnership for Anthropocene Solutions Climate Arena 10th Workshop "Backcasting to our current reality"

March 22nd, 2023

The Bolin Centre Climate Arena is a meeting place for researchers, companies, the public sector, and other organisations which aims to facilitate collaboration and an exchange of knowledge, experience, and creative ideas, so that we can together increase our society's resilience to climate change. By gathering organisations with different needs and a wide range of expertise, the arena can lay the foundation for joint efforts and sustainable societal change. The Climate Arena was founded in May 2018 at Stockholm University.

The Bolin Centre for Climate Research is an umbrella organisation with more than 400 people who conduct research in areas related to the Earth's climate. The centre was established by Stockholm University, KTH and SMHI, and is named after Professor Bert Bolin, a pioneer in climate research and founder of the UN's Intergovernmental Panel on Climate Change (IPCC).

The Climate Arena is an initiative for thematic collaboration in arena format. It has been established within the framework of the project Methodology for the Development of Collaboration Arenas (Metodik för Utveckling av Samverkansarenor, MUSA).

For further information:
www.bolin.su.se
https://bolin.su.se/popular-science/climate-arena

On March 22nd, 2023, the Bolin Centre Climate Arena conducted a hybrid workshop on "Backcasting to our current reality". In total, 25 participants from 19 different organisations joined the meeting, which was hosted by Stockholm University (see Annex A for an overview of participating organisations).

An introductory presentation was made by **Nella Canales** from **Stockholm Environmental Institute**. The participants were informed of the new structure of the workshop.

Please see Annex B, workshop program, for an overview.

This was the 10th workshop in the Climate Arena since the initiative was established in March 2018. Previous workshops have treated the transition to a carbon neutral society in a broad perspective, as well as certain specific topics, such as calculations of organisations' carbon footprints and the role of the finance sector in the climate transition. In this workshop, we used participatory backcasting, a normative approach which works backwards from a particular desired endpoint (goal/vision) to the present in order to determine the feasibility of that future and what policy measures and actions would be required to reach the desired endpoint. Defining the desired endpoint was the subject of the previous workshop "Envisioning the Future We Want to Create".

Kevin Noone from Stockholm University recapped the vision created in the previous workshop, which included global citizenship, sustainable production and consumption, affordable renewable energy, human and environmental wellbeing, green and global transportation, a new economic model, and the preservation of cultures without borders.

To turn this vision into a reality, it was noted that several elements were "must haves," including new systems for the economy, education, legislation, politics, and communication. Mutual understanding was also crucial, as well as the realization that all these elements are equally necessary.

To illustrate this point, an EN-ROADS simulation was used to manipulate different leverage points. The findings showed that to reach the goal of limiting global warming to 1.5°C, it was necessary to modify most of the (shallow) leverage points towards the most sustainable option. In summary, all these elements play a crucial role in achieving a sustainable future, and it is necessary to prioritize sustainability across all areas to reach our shared goal.

During the plenary discussion, participants focused on the question of what policy measures and actions are necessary on a global scale to achieve a climate-responsible world by 2045. Many ideas were proposed, ranging from deep systemic changes to more immediate shallow measures. These include:

- Implementing a global ecocide law that would punish the destruction of the ecosystem by big companies and politicians.
- Establishing a global system for payments for ecosystem services to keep track of ecosystem services in a financial sense.
- Developing a global sunshade technology that could block the sun's light to reduce the impact of global warming. This measure raised some ethical concerns as it could have unintended consequences and potentially irreversible effects.
- Implementing a global CO_2 tax to discourage the emission of greenhouse gases.
- Offering incentives for energy transitions enabled through a CO_2 tax to encourage the switch to renewable energy sources.
- Creating an international trade system that accounts for climate effects to ensure that climate considerations are factored into global trade.
- Encouraging social movements and leadership to drive change, as exemplified by the activism of Greta Thunberg and others.
- Establishing a global agreement to stop fossil fuel subsidies to redirect funds towards renewable energy and sustainable practices.
- Implementing a new educational system that emphasizes system thinking and acting to foster a better understanding of climate issues.
- Encouraging Corporate Social Responsibility (CSR) at all levels to ensure that businesses prioritize sustainability in their operations.
- Legalizing the rights of nature to ensure that ecosystems are protected and treated as living entities.
- Promoting a new concept of good food that emphasizes sustainability and eco-friendliness.

- Transforming food production systems to lower resource intensity and reduce their carbon footprint.
- Encouraging a deliberative collaborative democracy that prioritizes the environment and sustainability.
- Transitioning to renewable power sources such as solar and wind energy, which are becoming increasingly cost-effective.
- Creating positive narratives that encourage people to embrace sustainability and take action to address climate change.

In conclusion, the participants identified many policy measures and actions that could help to achieve a climate-responsible world by 2045. Some of these measures are deep and systemic, while others are more immediate and shallower. A combination of both types of measures will be necessary to create a sustainable future for our planet.

Following the plenary discussions, group discussions were carried out around multiple questions:

- What should we do to help these policy measures or actions come to reality? Think about what shall be done by 2045? What shall be done by 2030? What shall be done in the next year? Below is a summary of some of the main points that were highlighted during the discussions.

Summary of group and plenary discussions

- ***What should we do to help these policy measures or actions come to reality? Think about what shall be done by 2045? What shall be done by 2030? What shall be done in the next year?***

To achieve a sustainable future, several policy measures and actions must be taken. By 2025, networks of civil society and the general public should be developed to create GHG emission reduction measures. A national ticket system and national fees for public transport should be implemented to promote sustainable transport. Sweden should become self-sufficient in protein and transform food production systems to lower resource and area use. Political measures should be taken to decrease inequality and promote a deliberative collaborative democracy. Courses in climate inspiration should be created, and sustainability should be prioritized in the educational system. Recycling should be promoted, climate insurance solutions should be actively researched, carefully considered and critically evaluated for their impacts on different communities and future generations. Subsidies for electrification in rural poor areas should be reinstated. Financial solutions for adaptive projects should be created, and a positive narrative should be developed to raise awareness about climate change. Collaboration should occur across fields to share knowledge and make research findings understandable and available to the public.

By 2030, deliberate democracy should be implemented within the governance of institutions. Climate insurance solutions should be put in place if the concerns are solved, and experiences from civil society networks should be spread to other municipalities. Policymakers should be influenced to end ecocide globally and introduce a global ecocide law. Fossil fuels should be eliminated, and a

global CO_2 tax should be introduced. A global fee should be agreed upon when extracting natural resources, and the economic system should be changed to prioritize happiness over GDP. Long-term investments in sustainable food production should be made, and a new notion of a good life should be introduced, redefining what is considered good food.

By 2045, a new economic model that prioritizes ecocentrism should be adopted. Democracy should be strengthened through deliberate democracy, and education should focus on increasing knowledge about biological limits. Energy should be prioritized, with a complete switch to electric or hydrogen power vehicles for terrestrial transport and 100% renewable energy from wind, solar, and hydropower. Global policies should be put in place to protect nature's rights and reduce ecocide. Sustainable production and waste management should be improved, and responsible investment in new technology should be encouraged. Private sector companies should be encouraged to think in the long term, and Swedish politics should prioritize strong leadership for sustainability in the public sector.

In conclusion, a sustainable future requires collective action and a shift towards ecocentrism. It is imperative to prioritize sustainable practices and implement policies that prioritize the well-being of the planet over individual gain. Only through collaboration and deliberate action can we ensure a sustainable future for generations to come.

Annex A – Participating organizations

Bolin Centre for Climate Research
Coachhuset
Coop Sverige AB
Fuglesang Space Center
Husstainability AB
Jernkontoret
Klimataktion
Klimatriksdagen
KTH
KTH SforS
Openhack 2020 Australia
Perpetuum Energi & Miljö
SEI
SU
Sundbybergs stad
Svenska Ekomodernisterna
Swedavia AB
Linköping University
ZeroMission

Annex B – Workshop program

Bolin Centre – Partnership for Anthropocene Solutions Climate Arena Workshop 10th Workshop "Backcasting to our current reality"

Agenda

12:00 – 12:30	**Lunch**
12:30 – 12:45	**Welcome and purpose of the workshop (Nella Canales, Research Fellow, SEI)**
12:45 – 13.45	**Re-cap: Our collective vision and its feasibility (Kevin Noone, Professor, SU)**
13:45 – 14:45	**Break-out group discussions: What needs to happen to achieve the vision?**
14:45 – 15:15	**Coffee/Tea/Refreshments and poster viewing**
15:15 – 15:45	**Discussion in plenary (Nella Canales)**
15:45 – 16:00	**Next workshop & Final remarks (Kevin Noone)**