12 QUESTIONS TO ECKHARD STÖRMER

1. From your point of view, what are today's most pressing environmental problems?[1]

We experienced another hottest summer, dramatic wildfires, and other extreme events. 1 in a 100 or 1000 year events turn to become the regular normal. We witness a culmination of climate change, biodiversity loss, increasing consumption of land, and man-made emissions like nitrate pollution of water bodies and microplastics in the seas, etc. They work in a reinforcing vicious cycle. It seems like earth reached already some tipping points that can lead to a systemic collapse, if humanity does not take U-turn now.

2. When looking at potential improvements in our environment, what gives you hope?

I see three positive signs: societal awareness is high, pro-climate youth protests are influential, and the pandemic has shown that adaptation of people's behaviour at least under specific conditions is possible.

Technological innovation makes green and clean technologies competitive. Digitalisation can enable shift in production and consumption patterns, like circular and sharing economy, servitisation and virtualisation of value propositions.

Dramatic crises make us rethink one-sided supply dependencies that are based on cheap fossil fuel for production and logistics. Reinforcing domestic renewable energy production, repair, sharing and recycling increase Europe's autonomy while contributing to the sustainability transition.

3. Is there a particular environmental policy reform you admire the most?

The *European Green Deal* sets ambitious climate policy targets and is quite encompassing; it includes a broad spectrum of policy areas to contribute from agriculture to transport, financial affairs and international trade, just to name few. Achieving policy coherence across various policies with diverging objectives is a huge challenge, as well as materialising the programme in real life in all areas as soon as possible.

4. Which trend in environmental policy and politics do you consider an aberration?

Trust in the green growth narrative can lead us in a dead-end. The belief that greenhouse gas emissions and resource use can be decoupled from economic growth to the extent needed is not justified. To achieve net-zero carbon targets requires radical transformation of our production and consumption system as well as the social system to achieve a just transition. As Antonio Guterres said recently: "2023 is a year of reckoning. [...] We need disruption to end the destruction."

5. Why strategic foresight for sustainability?

Foresight provides a systemic understanding of drivers and change trajectories that push or hinder sustainability. It combines insights from several research domains, connects the dots through coherent logic and takes assumptions about long-term futures. It enables us to think ahead, speculate and immerse into possible and plausive futures through strong narratives. This allows to be prepared and provide strategic plans to actively shape the world and to direct it to the one we want to live in.

6. What has your experience been when it comes to transferring scientific insights into practice?

It is important to take a transdisciplinary approach to solve real-world problems. You need a proper understanding of the problems now and in the future, your objectives, and co-create different solutions that fit the specific context. It requires involvement of the stakeholders in co-creation, learning and assessment of solutions. Legitimate decision makers need to accept the proposal as outcome of process. This requires lobbying for priorities and finding the right window of opportunity in which an adequate solution survives the political negotiation process.

7. What field of research in the environmental sciences do you find most exciting?

The sustainability transition research attracts me, as it shows ways and approaches to change dominating systems to get to more sustainable ones. It combines environmental, social, economic and technological sciences. By highlighting power relationships of actors and path dependencies, it provides an understanding of levers for a transformation.

8. Can you name any person or event that has had a particular influence on your commitment to environmental issues?

When I was a kid, the impressive pictures and news about the "Waldsterben" (forest dieback) strongly influenced my thinking: we cannot take functioning ecosystem for granted, we are destroying our planet through our way of production, and environmental policy is limited, as it has to balance its ambitions and instruments with other policy areas.

1 The views expressed are purely those of the author and may not in any circumstances be regarded as stating an official position of the European Commission or other previous employers.

9. What knowledge about the environment would you like to pass on to young people?

Understand the big picture of our action and the environmental (and social) impacts of our activities as compass for responsible decisions. Just think of the thousands of litres of water footprint when buying a shirt. Your individual action counts, you have a voice. Get active to convince others locally and make your voice heard by engaging in movements like *Fridays for Future*.

10. As a person concerned with environmental issues and foresight, what contradictions do you face in everyday life?

I try to live my life responsibly. But in daily routines, compromises are sometimes necessary, sometimes allowed. And, obviously, I am not a superhero. Experiment and try again every day, but not chasten yourself.

11. What are you reading at the moment?

Walkaway, a speculative fiction novel from Cory Doctorow. It illustrates the living of a subculture that lives in a community based on sharing, everything as commons, open innovation, digitally enabled creation of the necessities. It is a thought provoking story about the dynamics and impacts in and of a different societal model.

12. Apart from the ones we've raised here, what is the most important question of our day?

How can we achieve peace?

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Areas of expertise: strategic foresight for private and public sector and governments, technology foresight, innovation management, speculative design, and policy evaluation.

Born 1970 in Munich, DE. Studies in social and economic geography. 2001 doctorate in innovation management at Ludwig-Maximilians-Universität München, DE. He worked 2001 to 2004 on climate change impacts and preparedness to flood events at the Bavarian Water Management Agency, Munich, DE; 2005 on evaluation of sustainability at Vienna University of Economics and Business, Vienna, AT; 2006 to 2011 in water infrastructure and governance related transdisciplinary research projects at Eawag, Swiss Federal Institute of Aquatic Science and Technology, Dübendorf, CH; 2011 to 2017 at Z_punkt The Foresight Consultancy, Cologne, DE, with megatrends and scenario based approaches for strategy development and innovation in various sectors in Europe and beyond; 2017 to 2023 on approaches to futureproof policymaking and on future studies ranging from future of government, green jobs, open strategic autonomy to green and digital transitons at the EU Policy Lab and the Competence Centre on Foresight of the European Commission's Joint Research Centre, Brussels, BE; since 2023 at Future Impacts Consulting, Cologne, DE.

Selected publications: Local strategic planning processes and sustainability transitions in infrastructure sectors (*Environmental Policy and Governance* 2010; with B. Truffer et al.) | From foresight to impact? The *2030 Future of Work* scenarios (*Technological Forecasting and Social Change* 2017; with M. Rhisiart, C. Daheim) | Chapter 12: Foresight – Using science and evidence to anticipate and shape the future (*Science for policy handbook* 2020; with others) | *The future of jobs is green* (Luxembourg 2021; with T. Asikainen et al.) | *Towards a green and digital future* (Luxembourg 2022; with S. Muench et al.)

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Good politics needs scientific support. Politicians require support to anticipate emerging issues that need to be addressed; to develop policies based on evidence about implications and unanticipated side-effects; to face new challenges requiring the innovation of policy tools; and in the particular case of the European Union, to share knowledge and know-how amongst country governments and European bodies (in Brussels and beyond), but also with the diverse scientific, civil society and business communities throughout its multicultural territory. This is the quest of the Joint Research Centre (JRC), which serves as a think tank to the European Commission and the EU Member States.

Eckhard Störmer has devoted much of his career as a researcher to the JRC and hence, to advance forward looking scientific evidence in EU policymaking. Trained as a social and economic geographer, and with specific professional skills as strategic futurist, Eckhard has developed and applied strategic foresight approaches for policymaking, better regulation and policy priority setting in greatly varying topic areas. Among others, he has worked and published on issues such as the future of work, the energy transition, new forms of government, and the digital transformation. Most notably, he co-authored a number of JCR studies on which *Strategic Foresight Reports* of the European Commission build upon; they help to embed collective intelligence on anticipated future developments into EU policymaking.

His skepticism poses the question: whom and what goals should should technological advancements be serving?

In 2021 and 2022, Eckhard was part of a team of scientists who commissioned a dialogue about the intersection between the green and the digital transitions. Eckhard brought together scientists, policymakers, representatives from civil society and industry, to identify and categorize technology pathways that can enable the green transition into 2050. He investigated current and future digital technologies, and assessed areas of interaction between green and digital transitions to determine where they reinforce or hamper each other. Together with colleagues from the JRC, and a group of external experts, Eckhard eventually synthesized the outcome of a series of science-policy workshops on various sectors (e. g., agriculture, energy), specific issue-related briefing papers and interviews with JRC's own research into the publication of the 2022 *Foresight Report Towards a Green and Digital Future*. Given the limited number of comprehensive publications available on this issue, the report provides yet another milestone for a successful "twinning" of the Union's current two overarching policy goals – the *Green Deal* agenda and the *Fit for the Digital Age* agenda.

As one of the few experts on the topic-nexus of digitalization and sustainability with day-to-day insights into EU policymaking, we have asked Eckhard to share his views on the *12 questions*. And, as you will read, his skepticism regarding the scientific evidence of a green growth strategy poses the important question: whom and what goals should technological advancements eventually be serving?

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