“European sustainability transformation needs knowledge mobilization”
Summary Report of the session 4 Knowledge-driven decision-making
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Eeva Primmer, 25 March 2024

When we are addressing pressing societal challenges, ranging from security and resilience, via climate change, biodiversity loss and pollution, to long-term survival and good life within planetary boundaries, we need knowledge. We draw on existing knowledge, we reorganize and summarize knowledge, we produce or commission the production of new knowledge, and we mobilize knowledge.

The Network of European Environmental Protection Agencies, the EPA-Network, met in September 2023 in Helsinki, and discussed knowledge-driven decision-making along with other timely topics, including public-private opportunities for addressing biodiversity loss and climate change, and ecological and societal resilience in the current geopolitical situation. EPAs in different European countries have a range of knowledge functions. They are synthesizers, disseminators, translators, communicators, co-generators, and users of knowledge. They interact with the policy community in a range of different science-policy interfaces. They all operate as knowledge-brokers. With the approaching European Parliament elections, it is instructive and motivating to look back at the lessons from the EPA-Network meeting.

EPAs operate in a space that has a very strong science-based mandate, yet a need to fit in with other societal priorities. Environmental policy is science-driven by nature, as most environmental degradation and ecological sustainability challenges have been revealed by science. Globally, international environmental agreements and the science panels that support them have contributed to both the institutionalization of the science-policy interface and the ratcheting up of ambition in environmental protection. At the same time, environment has been politicized with citizen movements and conservative populist movements putting opposite pressures on policy. As the EPAs often need to simply interpret practical implications of science, and stay away from addressing political implications, their approach can seem reactive and technocratic. Indeed, there is high demand for specialized modelling and assessment work as described by **Marko Hekkert**, Director General of the Netherlands Environmental Assessment Agency PBL. He called for a much more profound strategic approach to knowledge mobilization toward transformative change and sustainability transition.

In addition to supporting policy in the different stages of the policy cycle; decision-making, implementation and evaluation, knowledge is needed in negotiating and iterating with society, and entire systems. Indeed, for important socio-technical systems, such as mobility and housing, to become sustainable, environmental knowledge needs to be mobilized in new ways. **Dirk Messner**,

President of the German Environment Agency, highlighted system-level knowledge and dialogue with a range of new partners representing different sectors. These changes challenge and diversify the knowledge functions of EPAs and shift the directionality of knowledge toward mutual exchange and co-learning.

In the new type of transformative work, and reaching out to new partners, EPA's need to learn new ways to operate. Environmental protection has become increasingly integrated in business and industrial decision-making, emphasizing innovation and development. **Nuno Lacasta,** President of Portuguese environment agency said that this essential step requires cross-fertilization and radically stepping up the scale at which Issues are addressed. He emphasized the essential role that narratives and success stories play in showcasing sustainability work and its impacts.

Many long-known specific environmental problems have not been solved, either. Geopolitical tensions and economic instabilities are aggravated by heatwaves and droughts, loss of soil fertility and crops, chemicalization and health risks, or by replacing biomass and natural habitats with fossil-based materials and asphalt.
Recycling, energy production and emission controls continue to need knowledge-based competence and governance. Adding onto these there are increasing knowledge challenges with measuring complex phenomena, such as biodiversity or material cycles; the availability of data, e.g. on hydrology; or the availability of expert staff to design and run monitoring, modelling and assessments.

Policy coherence work is a challenge that seems to be growing with abundant new regulation and increasing data requirements. These coincide with the seemingly accelerating policy cycles. Understanding the behavioral and societal underpinnings of development and environmental degradation is also a knowledge challenge. The opportunities of digitalization, big data and artificial intelligence require knowledge resources to be mobilized toward sustainability transformation.

Knowledge is a foundation for resilience and innovation. Resilience is a part of our everyday vocabulary in Europe, when we learn to face crises and adapt and reorganize in ways that we maintain the essential institutions and safety-nets in Europe. It is high time that we seek to understand resilience with all its different dimensions: societal and economic resilience, as well as ecological resilience. With resilient institutions, we can afford to experiment and innovate, and make Europe a leader in knowledge-based sustainability transformation.

Sustainability transformation needs knowledge mobilization. Environmental agencies can play a key role in addressing the increasingly complex challenges and in leading the search for system-level solutions. With new ambitious EU regulation, EPAs should do this search in collaboration with society. Implementing the regulation, EPAs will need to bridge sectors and actors with knowledge. They are in a key position to support these sectors and actors in transforming their processes and practices toward more sustainable.

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