



Group of Chief Scientific Advisors

A Systemic Approach to the Energy Transition in Europe

Stakeholder Meeting Report

Scientific Advice Mechanism

17 May 2021, Brussels

A Systemic Approach to the Energy Transition in Europe

Stakeholder meeting hosted by the Group of Chief Scientific Advisors (GCSA) of the European Commission's Scientific Advice Mechanism (SAM)

17 May 2021, Videoconference

MEETING REPORT¹

The European Commission's Group of Chief Scientific Advisors is developing a Scientific Opinion with recommendations on the topic of "A systemic approach to the energy transition in Europe". The scientific opinion was developed as an answer to the following scoping question:

How can the European Commission contribute to the preparation for, acceleration, and facilitation of the energy transition in Europe given the present state of knowledge on the possible transition pathways?

As one of the final stages in developing this opinion, the Chief Scientific Advisors conducted a meeting with stakeholder representatives, in which they will present the main draft elements of the advice under consideration and gather stakeholder views.

The main purpose of the meeting was to hear stakeholder views on the feasibility of the recommendation areas being considered by the Group, their impacts on different groups and additional points for consideration. The stakeholders participating in the meeting included mainly professional organisations and NGOs and some scientific and policy organisations/ agencies with an interest in this topic and most of which have staff dedicated to EU policy matters and/ or maintain a presence in Brussels as well as being on the EU transparency registry. The meeting was co-chaired by Chief Scientific Advisors Carina Keskitalo and Nebojsa Nakicenovic with support from staff of the SAM secretariat, and was also attended by Rolf Heuer, former chair of the Group of Chief Scientific Advisors.

The Scientific Advice Mechanism was explained by Carina Keskitalo. As a scene setter, preliminary conclusions of the Evidence Review Report, developed by the Science Advice for Policy by European Academies (SAPEA) consortium at the request of the Group of Chief Scientific Advisors, were presented by the chair of the SAPEA Working Group responsible for the report. The recommendation areas being considered for the scientific opinion were then presented by Chief Scientific Advisor Nabojša Nakicenovic.

The following is an unattributed synthesis of the discussions during the meeting.

Scene setting:

The Scientific Advice Mechanism (SAM) is composed of The Group of Chief Scientific Advisors (GCSA), the Science Advice for Policy by European Academies (SAPEA) consortium, and by the secretariat within the European Commission. The scoping paper and scoping

¹ See meeting agenda and list of participants at the end of this document

question are co-defined by the GCSA and the European Commission. SAPEA conducts a review of the scientific evidence that is pertinent to the scoping question, and the GCSA then develops the scientific opinion on the basis of the SAPEA Evidence Review Report, eventual additional literature reviews and expert elicitation.

Key preliminary conclusions from the Evidence Review Report (ERR):

- A systemic approach to the energy transition in Europe was chosen
- The ERR has chapters on the general context of the energy transition, economic and regulatory aspects of the energy transition, embedding the energy transition into society, specific systems aspects of the transitions pathways, and technology aspects in the energy transition
- There are several possible pathways towards carbon neutrality, but the transition already needs to accelerate to stay on track and reach the necessary intermediate targets;
- A strategic direction is needed that enables long-term infrastructure related investments, avoid technology lock-in risks and facilitate highly challenging deeper decarbonisation;
- Regulatory actions is needed that combines with other European objectives & social principles;
- BUT, any successful policy must involve a carbon pricing mechanism;
- There are huge systemic problems ahead, which involves coordinating an almost countless number of individual voluntary decisions on investment, consumption, and behaviour in the EU;
- The report doesn't recommend an unequivocal policy package for EU, but rather a set of policy options addressing various facets of the challenge
- The six main policy options described in the ERR are:
 - Shaping an effective and efficient regulatory strategy
 - Supporting technical innovation
 - Geopolitical perspective remains important
 - Strong system integration key for expanding electrification
 - Technology diversity should be maintained
 - Policy must stimulate behaviour alongside technology

The recommendations being considered by the GCSA:

The scoping question should be seen in the context of the diversity and heterogeneity of rich differences across European energy systems, which are both a challenge and strength. The energy transition involves a broader social change and requires a systemic approach to encompass new regulatory frameworks, norms, behavioural and legal, economic, technological and financial innovations. It calls for a people-centred approach. The goal is to achieve synergies and avoid lock-ins in the old and pave the way for the new in the post-pandemic world.

Draft Recommendations:

The EU energy policy should lead the global landscape of interventions aiming at achieving sustainable development goals, including carbon neutrality.

This requires a holistic approach to maximize synergies and avoid trade-off and barriers across technological options, economic and market instruments and measures, behavioural changes, and SDGs.

The EU should develop a flexible and resilient EU energy system, favouring the integration of decentralized and centralized energy sources via electrification and the use of hydrogen, and guaranteeing energy security at national and regional level;

Recognize the role of all actors and support an ‘energy environment’ that facilitates low-carbon choices;

Support of a mix of measures, including carbon pricing, as a driving force through globally coordinated action to shape an effective, consistent and fair regulatory systems.

Discussion

The concept of “energy environment” was not easily understandable, and would need to be explained better in the recommendations.

It was appreciated that the draft recommendations were technology neutral, and it was remarked that technological diversity is very important. Still, it would be useful to investigate what the priorities are in technological developments. Examples are carbon sinks and biogenic sinks. The EU should also be more competitive on digitalisation, although it should be kept in mind that digitalisation has problems as well, like privacy issues. Enabling and general purpose technologies are important, e.g. infrastructure, electrification and hydrogen technologies, as well as making technologies work together, in e.g. sector coupling.

One participant emphasised that for the realisation of an energy transition the implementation of regulations is very important, and this requires certification, for example of the carbon (and methane, nuclear waste, ...) footprint. This requires that choices are made, and that data is available. This would be particularly important for carbon border adjustment.

On geopolitical level a participant emphasised the importance of robust carbon pricing and a border adjustment mechanism. The EU should also make use of its existing neighbourhood relations; to the north for blue and green hydrogen from Norway, to the East for interconnections on electricity, to the south, to northern Afrika, for hydrogen. System integration and interconnections require a massive effort on electricity infrastructure, and digitalisation for dealing with variability and ensure system stability.

The Chief Scientific Advisors thank the stakeholders for the valuable contributions.

Agenda

Stakeholder meeting

A systemic Approach to the Energy Transition in Europe

Monday, 17 May 2021 – 10:00 – 13:00 – Webex

Co- Chairs:

Carina Keskitalo, Topic co-lead in the EC Group of Chief Scientific Advisors

Nebojsa Nakicavic, Topic lead in the EC Group of Chief Scientific Advisors

Part I – General background

1. 10:10-10:20 **Presentation on the Group of Chief Scientific Advisors**
Carina Keskitalo
2. 10:20-10:35 **Presentation of the Evidence Review Report of SAPEA**
To be confirmed
3. 10:35-10:55 **Overview of draft key messages under consideration for the Scientific Opinion**
Nebojsa Nakicenovic

Part II – Discussion (Co-Chairs Nebojsa Nakicenovic and Carina Keskitalo)

4. 10:55-11:30 **Stakeholder views, comments and reactions**
5. 11:30-11:45 **Break**
6. 11:45-12:45 **Stakeholder views, comments and reactions, continued**
7. 12:45-13:00 **Wrap-up**

LIST OF PARTICIPANTS AND OTHER ATTENDEES

Stakeholders		
Baer	Christian	Europex
Bel	Jean-Benoit	ACR+
Collombet-Gourdon	Rémi	Ocean Energy Europe
Guerini	Raffaele	European Energy Research Alliance (EERA)
Hennig	Eva	Thüga AG
Hodne	Tor Eigil	Statnett / Roundtable for Europe's Energy Future (REEF)
JACQUES	Philippe	EMIRI
Krozser	Anna	EAPN (European Anti-Poverty Network)
Paterson	Nathan	FORATOM (European Atomic Forum)

Petroula	Dora	Climate Action Network Europe
Polillo	Vanessa	Italian National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA)
Poretti	Fabio	CEWEP (Confederation of European Waste to Energy Plants)
Verwimp	Katrien	AIB - Association of Issuing Bodies
Guerini	Raffaele	European Energy Research Alliance (EERA) aisbl
Invited Experts		
Heuer	Rolf	Former chair of the GCSA, former director of CERN
Lund	Peter	Aalto University
Scientific Advice Mechanism (SAM)		
Keskitalo	Carina	GCSA, Umeå University
Nakicenovic	Nebojsa	GCSA, Director of The World in 2050 (TWI2050). Former Deputy Director General and Acting Director General of the International Institute for Applied Systems Analysis (IIASA)
Blonce	Antoine	SAPEA
Walker	Alan	SAPEA
Magnani	Nicola	European Commission
Verraes	Jacques	European Commission
Ascher	Annabelle	European Commission (GCSA secretariat)
Kwiecinski	Piotr	European Commission
Zegers	Ingrid	European Commission