EUA`S RESPONSE TO THE PUBLIC CONSULTATION ON THE STRATEGY FOR LONG-TERM EU GREENHOUSE GAS EMISSIONS REDUCTION

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The European University Association (EUA) and its EUA Energy and Environment Platform (EUA-EPUE) welcome the European Union's intention to launch a long-term strategy to reduce greenhouse gas emissions. EUA-EPUE emphasises the need for an ambitious new strategy and for the EU to have a leading role at the next Conference of the Parties (COP) in Katowice. Furthermore, the Association sees such a strategy as means in making a significant contribution to the Paris Agreement objectives to keep global warming below 2˚C. This urgent need to act was also powerfully stressed in the recent Intergovernmental Panel on Climate Change (IPCC) special report on the impacts of global warming.[1] It calls for immediate policy responses informed by expert views. Universities, as brokers of knowledge, have a critical role to play in ensuring effective dialogue between experts, policy makers and citizens.

EUA's response therefore centres on the "Education, research and innovation" part of the questionnaire. For the EU to have a significant impact on climate change policies and contribute to decarbonising the economy and society, an integrated strategy is crucial. In line with the United Nations' Sustainable Development Goals (SDGs), universities contribute to bettering the future through their work in a wide range of disciplines.[2] Higher education institutions have a critical role to play in meeting these challenges[3] by building capacity through the development of new knowledge, new understanding and new insight, as well as by enabling a regular supply of highly-educated and skilled people who develop and implement energy and climate solutions.

EUA-EPUE recommends the following points for a comprehensive long-term EU greenhouse gas emissions reduction:

Research & Innovation

To take and sustain the "lead on the next generation of renewable technologies,"[4] Europe should commit to the following:

- Providing long-term support for fundamental research, including research based on societal needs, also known as "use-inspired basic research".[5] This is needed for next-generation and breakthrough technologies and non-technological solutions that are necessary to achieve the EU's greenhouse gas emission reduction targets.
- Fostering international research collaboration, e.g. "Mission Innovation", which provides an opportunity to globalise the impact of Europe's clean-tech research.

[1] IPCC (2018) – "Decision IPCC/XLIV-4. Sixth Assessment Report (AR6) Products, Outline of the Special Report on 1.5°C"
[2] EUA – "Sustainable Development Goals", available at: https://www.eua.eu/issues/24:sustainable-development-goals.html
[3] EUA (2017) – "Energy Transition and the Future of Energy Research, Innovation and Education: An Action Agenda for European Universities".
[4] COM(2015)80 – "A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy".
[5] Donald Stokes (1997) "Pasteur's Quadrant: Basic Science and Technological Innovation", Brookings Institution Press.

- Promoting cross-sectoral cooperation between universities, research institutes, industry, policy, NGOs, local communities and other energy-related organisations. This should be an integral part of this new approach. A "new environment" should facilitate the take-up of new technologies and new business models for the benefit of society at large through developing regulatory frameworks, financial environments and market incentives conducive to a faster deployment of clean energy technology.

Linking education, research and innovation

"Energy" is a multi-faceted and multi-disciplinary domain, encompassing many different actors on a multitude of levels and presenting many technological and societal challenges to be overcome. This inter-connected nature of the energy system and the energy system transformation needs comprehensive approaches, including:

- New cross-disciplinary methods integrating different energy technologies and energy systems for the economy and energy markets using the newest generated knowledge.
- New pedagogical tools in energy, environment and climate education to expose students to state-of-the-art research and professional knowledge and methods, e.g. more widespread use of problem-based learning and teaching.
- New programme design in line with Europe's different local energy needs. Developments need to consider local knowledge, while a certain degree of baseline knowledge is essential.
- Sustained support for the training of researchers and professionals who understand the systemic challenges of energy generation, transmission, distribution, conversion and consumption. This "holistic" understanding is a transversal skill and will be vital to drive energy system integration efforts.

European citizenry and ways forward

A comprehensive European strategy to reduce greenhouse gas emissions should include the following points:

- Design new regulatory frameworks as an immediate action to foster change in all citizens behaviour. Political can encourage the take-up of currently available knowledge and technology to reduce energy consumption.
- Develop programmes for a well-informed European citizenry on energy matters. Universities have an important role in providing solutions to energy and climate challenges, such as advising policy and industry or engaging with local communities and other stakeholders.
- Support Open Science and Open Education to provide free access to knowledge for European citizens.
- Foster open and constructive communication between all involved stakeholders. Improved communication should also support resource-sharing, frameworks for cooperation and interdisciplinary education and research.