

Mr Frans Timmermans
First Executive Vice-President
European Commission
Berlaymont
1049 Brussels

Copy to: Mrs Kadri Simson, Commissioner for Energy

Mrs Adina Vălean, Commissioner for Transport

Members of the European Parliament's Committee on Industry, Research and Energy

Members of the European Parliament's Committee on Environment, Public Health and Food Safety

Members of the European Parliament's Committee on Transport and Tourism

Brussels, 2 December 2019

Open letter on sector coupling and integration by power-to-X: A key to a climate-neutral Europe by 2050

Dear Executive Vice-President Timmermans,

We would like to congratulate you on your appointment. In this open letter we would like to contribute to your reflections on the new Green Deal.

The Paris Agreement sets a clear goal for politics and society. The European Commission assumes leadership by aiming to turn Europe into the first climate neutral continent. This requires a comprehensive plan to achieve climate neutrality in all sectors by using both existing and innovative technological solutions. As major European industries, we want to contribute to this vision by helping develop and provide the necessary technologies and applications.

We all agree – there is no silver bullet. Instead, a wide range of technologies and solutions are necessary to reach climate neutrality. Particularly, we will not be able to reach this goal, if renewable energy is only carried via electrons. Therefore, a stronger emphasis needs to be put on sector coupling and integration. Hence, we very much welcome the crucial role you see for hydrogen as one of the decisive low-carbon technology options. But it is not only hydrogen. Industry will also need hydrogen derived gases and liquid fuels.

Power-to-X, via electrolysis, is set to become the main solution to produce hydrogen, supported by pyrolysis and steam methane reforming and autothermal reformer with carbon capture. Hydrogen can be directly used or further converted into base chemicals or other synthetic gases and liquid fuels. Existing storage as well as distribution and end-user infrastructure can remain in place as valuable assets with minimum adaptation. Power-to-X fuels can be used as a drop-in solution, with the capacity for a rapid deployment and immediate CO₂ reduction.

To reach the goal of a climate-neutral Europe, we advocate a strong role for hydrogen and derived fuels, gases and feedstock in all sectors. For this to happen, the EU regulatory framework needs to fit the purpose.

Power-to-X can play a central role in a climate neutral world:

- Power-to-X allows the **energy-intensive industries** to move beyond energy efficiency and make a significant step to become truly climate neutral. The steel sector is looking into replacing coal with a mix of renewable gases. The chemical sector is working on producing chemical raw materials with renewable hydrogen, and refineries have started to complement steam methane reforming with electrolysis technologies.
- To ensure climate neutrality in the **transport sector** a concerted European effort needs to rely on all available technologies and approaches. In road transport, a further diversification of powertrain solutions will take place, hence the transformation will have to include further improvements in conventional powertrain technologies, the shift to alternative powertrains and the increased use of climate-neutral fuels available to the public and to captive fleets. These fuels, based on renewable energy and strict sustainability criteria, will play an essential role for high-payload and long ranges and are the only solutions, that have an immediate effect on the existing fleet stock. Power-to-X will likely be complemented by biomass-based technologies like for example sustainable advanced biofuels and biogas. In **aviation and maritime** the necessity of renewable hydrocarbons is undisputed. Power-to-X is one of the very few technology options to ensure climate neutrality in these sectors.
- An affordable, reliable and climate-neutral **energy system** will only be possible with sector coupling. In a system with increasing shares of variable renewable sources, Power-to-X solutions help increase its flexibility, utilising the gas network and its long-term storage capabilities. Stored gases may be re-converted by flexible power plants into renewable power and heat/cold. The gas engine and gas turbine industries are further developing their technologies to increasing shares of hydrogen: already today there are several examples of gas engines running with >50% hydrogen and the turbine manufacturers have committed to provide 100% hydrogen solutions by 2030.

Europe has a massive potential for homegrown renewable energy. Nevertheless, climate neutrality can only be achieved in partnership with other regions of the world. Power-to-X

allows to easily store and transport imported renewable energy from places where wind and sun-derived energy is plentiful and cheap, through an existing infrastructure.

Europe is a market leader at electrolyser production and plant engineering with innovative technology developers. Europe can become a globally leading supplier in a growing world market for Power-to-X technologies. From renewable energy systems to process engineering, applications and reconversion technologies, Power-to-X technologies involve a long value chain with all components still present in Europe. The Green Deal should not limit its focus to sustainability in Europe, but instead enable climate neutrality globally and support the export of European low-carbon technologies. Ultimately, this is also an opportunity to bring long-term perspectives of social and economic development for societies around the globe.

Power-to-X is a technology that is now ready for industrial scale-up, which needs an appropriate and supportive regulatory framework. In the context of the new College of Commissioners taking office and the start of a new legislative term, we call on you to:

- ⇒ **establish a European Hydrogen Strategy including Power-to-X and a roadmap on the development of an industrialised and competitive market for hydrogen in Europe, considering the production and applications of synthetic gases and liquid fuels and providing end-users with predictability regarding the blending of climate-friendly gases into Europe's gas pipelines.**
- ⇒ **promote sector coupling and integration by facilitating regulatory bridges without blurring the individual responsibilities of the different sectors**
- ⇒ **support research and development investments and build an innovative industrial system through cross-border cooperation and partnerships in Horizon Europe and other funding mechanisms**
- ⇒ **establish a level-playing field for all technologies, adopting a neutral approach to policy and enabling all technologies to compete based on their cost-effectiveness, by also taking into account sustainability over the life cycle and their contribution to security of supply, system stability and schedulable flexibility**
- ⇒ **globally promote Power-to-X as a crucial technology for reaching the goals of the Paris Agreement and to engage in Power-to-X partnerships with interested countries.**

Hereby, we would kindly start a dialogue with the Commission to identify what is needed to enable a market-driven uptake of Power-to-X.

List of signatories

Technology Providers



Transport



ACEA

European
Automobile
Manufacturers
Association



Verband der
Automobilindustrie

Energy & Infrastructure



Start-ups not represented by the listed associations & associations of multiple sectors



Global Alliance
Powerfuels