RHC-ETIP supports "at least 5% innovative renewables" in Renewable Energy Directive revision

The European Parliament has made the good proposal that…

"In order to promote the production and use of renewable energy from innovative renewable energy technologies and to safeguard the Union's industrial competitiveness, each Member State shall set an indicative target of at least 5 % of new installed renewable energy capacity between … [entry into force of the directive] and 2030 as innovative renewable energy technology." (*amendment to Article 3 of RED*)

…defining an innovative renewable energy technology as one that:

"improves in at least one way comparable state-of-the-art renewable energy technologies or makes exploitable a largely untapped renewable energy resource and involves a clear degree of risk, in technological, market or financial terms, which is higher than the risk generally associated with comparable non-innovative technologies or activities;" (*European Parliament's definition of innovative RE technology as in amendment to Article 2 of RED*)

Boost to EU RHC industry

The European Parliament's amendment would bring significant benefits to the European Renewable Heating and Cooling (RHC) industry. By setting an indicative target for innovative renewables, the amendment would bolster RHC technologies which are in the early stages of their availability, but which lack sufficient support to increase widespread deployment. RHC technologies would be given the opportunity to be produced in higher quantities and at more competitive prices, particularly when compared with dominant RHC technologies. Furthermore, the amendment would support local industry and reinforce Europe's technological leadership.

> "*We estimate that innovative applications combining solar heat with use of heat pumps and heat storage could result in the replacement of several hundred TWh/year of heat today generated by fossil fuels, meaning that the share for i-RES technologies used for heating would correspond to more than 5% of the estimated new total generation capacity needed*"[1]

Such an approach would also create suitable conditions for RHC technologies to improve qualitatively (i.e. wider range of mature technologies to better suit different needs wherever they occur in Europe); and quantitatively (i.e. higher efficiencies, lower investment costs).

The RHC sources and value chain is mainly based in the EU. This ensures that changes within the energy sector will affect the European economy positively. The 5% innovative renewables amendment would also be a potentially strong link to the Green Deal Industrial Plan, which was proposed by European Commission President Ursula von der Leyen at the World Economic Forum in January 2023. Her speech noted that Europe

1 See the report Deployment of innovative renewable energy technologies to 2030 **(Oct 2022,** 1-Tech under contract to EUREC)

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should be the "home of clean tech and industrial innovation". Europe's future energy system will be based on innovation; innovative technologies – once adopted and deployed – will drastically reduce material-use and space requirements, emissions, and improve life-cycle costs (LCC).

How?

The European Parliament's target is an indicative target, meaning that if adopted, Member States would have a non-binding goal of 5% of all new installed renewable energy capacity to be innovative. Member States would be required to implement measures to reach the 5% target, which equates to tens of GW across the EU.[2] These measures would be at a lower intensity than of typical R&D programmes; aid equivalent to 30% of CAPEX is neither required for sufficient implementation nor cost-effective for this target. Instead, the aid would be at an appropriate level for technologies that are just beginning to claim market share from established technologies. Apart from focused aid, Member States could also enact regulatory measures to support innovation, which would be equivalent to relevant financial measures. For example, Member States could provide an exemption from potential changes in the EU's electricity market design that would reduce the profits generated by installations using those technologies. Alternatively, Member States could create technology-specific tenders which specifically target new capacity generated by innovative renewable energy.

The amendment would put a requirement on all countries to reach the non-binding 5% target individually. RHC technologies cover all applications and temperature ranges required by heating & cooling: space heating and cooling, domestic hot water for buildings and cities, for the agriculture and the tertiary sectors, as well as industrial process heat and refrigeration. These can be further developed for increasing their performance and competitiveness if the required support is given to foster research, development and innovation.

A role for RHC-ETIP

Innovation is time-specific; what is qualified as innovative now may not be so in three years. Therefore, it is imperative to track technologies to determine innovation or to see whether formerly innovative technologies have been deployed on a larger level. RHC-ETIP is willing to work closely with Member States to propose a list of RHC technologies or to comment on a pre-written list of technologies that meet the European Parliament's definition as stipulated in the Article 2 amendment. This role for RHC-ETIP could be completed as part of the NECP 2024-2029 preparation process, and three years later as a new exercise of the Set Plan.[3] The SET Plan, as a forum for clean energy technology research managers from across the EU to communicate with European countries including Member States and the European Commission regarding R&I priorities, seems well suited to this task.

[2] *Idem*

[3] As recommended in this report, three years is neither too frequent to be administratively burdensome nor too infrequent to allow the state-of-the-art to overtake initially 'innovative' technologies

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