

More R&I funding for the renewable heating and cooling sector is needed in Horizon Europe

ETIP RHC position on the official launch of the Horizon Europe Work Programme 2021-2022

ETIP RHC welcomes the official launch of the Horizon Europe Work Programme 2021 – 2022. We recognise the European Commission’s efforts to outline an ambitious programme that will contribute to achieving a 100% sustainable, secure and affordable energy system.

We highlight the progress that has been made towards the integration of renewable energy sources (RES) and technologies in the calls related to the energy system integration, as well as an enlarged approach towards energy efficiency in buildings, that also considers local and nearby renewable sources to decarbonise the building stock.

Importantly, we particularly welcome the Work Programme’s emphasis on the **role of renewable energy technologies in Destination “Sustainable, secure and competitive energy supply”**. It provides the right policy narrative by recognising that renewable energy technologies are the baseline on which to build a sustainable European and global climate-neutral future. Moreover, it also highlights that **“Renewable energy technologies provide major opportunities to replace or substitute carbon from fossil origin in the power sector and in other economic sectors such as heating/cooling, transportation, agriculture and industry. Their large scale and decentralised deployment is expected to create more jobs than the fossil fuel equivalent. Renewable energy technologies are the baseline on which to build a sustainable European and global climate-neutral future”**.¹

While the RES policy narrative correctly outlines the potential use of renewable energy technologies, the calls listed in the Work Programme fail to address the specific R&I needs of the renewable heating and cooling sector that are essential for its full deployment. Particularly:

- **Renewable heating and cooling was not considered as a self-standing topic in the Work Programme**
 - In June 2019, ETIP RHC strongly advocated for the inclusion of a specifically dedicated topic for R&I in the heating and cooling sector in its [position paper on Horizon Europe](#). This is a crucial step to ensure a more efficient allocation of resources within the work programme that would deliver a more coherent view of the sector priorities both in terms of supply (technologies) and demand (i.e. tackling decentralised thermal needs with decentralised thermal supply). We regret that this recommendation was not reflected in the official Work Programme 2021-2022.

¹ Horizon Europe Work Programme 2021-2022, Cluster on Climate, Energy and Mobility, https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2021-2022/wp-8-climate-energy-and-mobility_horizon-2021-2022_en.pdf, pag. 130

- **Market uptake measures dedicated to renewable heating and cooling sector are still missing.** This has been a major barrier to a further deployment of RHC solutions. ETIP RHC concluded in its [Strategic Research and Innovation Agenda \(SRIA\)](#) that there is a critical need to address:
 - **Innovative business models** (that move from the conventional approach of “heat as a commodity” towards the **emerging concept of “heat as a service”**) must be developed to increase the investments in RHC solutions. Business models and tariffs should benefit consumers who want to contribute to demand-side management. Moreover, it is also essential to mobilise private investments (pension, insurance funds etc). To be economically viable in the future, RHC projects must have the capacity to attract further investments. This requires novel financial approaches.
 - **Circularity:** R&I projects are needed to tackle the potential of applicability and use of recycled/secondary materials/waste in RHC installations; to define the best monitoring systems to track the availability of raw materials; to develop new technologies for waste and water management; to investigate standardisation procedures and quality labels for RHC components (such as geothermal pipes, collectors, pumps, etc). Furthermore, the principle of circularity can also be applied to the energy consumption, as RHC technologies reduce primary energy consumption by applying the energy efficiency first principle (e.g., through the recovery of waste heat). R&I actions in this area are essential to improve the confidence of consumers and legal authorities in sustainability of RHC products.
 - **Digitalisation** is also crucial for large scale adoption of RHC applications. Technology advancements in digitalisation will lead to radically lower costs, higher efficiency, better system design and integration, enhanced operations, and increased resilience, as well as security of supply.
- **No dedicated calls for renewable cooling,** despite the rising cooling demands. EUROSTAT indicates that the needs for cooling in buildings increased over the last decades, while the EU Heating and Cooling Strategy foresees a strong increase in residential cooling consumption – up to 137 TW h in 2050². Most cooling services are currently supplied by electricity. Addressing increasing demands with thermal cooling will alleviate pressure on electricity grid and supply cooling demand with renewable energy sources. R&I on renewable cooling and support for cooling related actions would allow the creation of a basis for forward-looking actions that will tackle this increasing cooling demand with renewable energy sources. As a world leader in RHC, Europe has the responsibility to develop renewable cooling solutions to address this challenge.

² An EU Strategy for Heating and Cooling, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52016DC0051&from=EN>

R&I actions are crucial for increase the share of renewable energy sources/technologies in the heating and cooling sector: **75% of heating and cooling is still generated from fossil fuels while only 21% comes from renewable energy** (EUROSTAT, 2019 figures).³

The share of RES in the heating and cooling sector has increased steadily since the beginning of the EU data collection in 2004, when the share was 12%. However, according to the European Environment Agency, the **heating and cooling sector does not perform as well as the electricity sector**: the share of RES in electricity has been growing on average by 6% between 2005 and 2016, **while the RES share in the heating and cooling sector has been growing annually by an average of 4%**.⁴ This shows that the EU must now prioritise further R&I actions to support the increase of RES in the heating and cooling sector.

We call on the European Commission services to further address these R&I gaps that persist in the renewable heating and cooling sector and to reflect these in the next Horizon Europe Work Programmes.

About the ETIP RHC

The European Technology and Innovation Platform on Renewable Heating & Cooling ([ETIP RHC](#)) brings together experts on biomass, geothermal, solar thermal, and heat pumps, as well as the related industries such as district heating and cooling (DHC) and thermal energy storage (TES), to define a common strategy for increasing the use of RE technologies for heating and cooling (H&C) in Europe. The ETIP RHC aims at playing a decisive role in maximising synergies and strengthening efforts towards research, development, and technological innovation, which will consolidate Europe's leading position in the H&C sectors.

³ EUROSTAT, Renewable heating and cooling, <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/DDN-20200211-1>

⁴ ETC/ACM Report 17/2018: Policies and Measures on Renewable Heating and Cooling in Europe, https://www.eionet.europa.eu/etcs/etc-cme/products/etc-cme-reports/eionet_rep_etcacm_2018_17_res_pams_heating_cooling-1