

Brussels, Tuesday 09 February 2016

In February 2016 the European Commission published an Issue Paper on SET-Plan Action No 5 on the topic 'Develop new materials and technologies for energy efficiency solutions in buildings'. The DHC+ Technology Platform welcomes the paper and the efforts taken by the European Commission. The concepts presented cover a broad range of activities aiming at systemic gains.

Nevertheless, DHC+ would like to point out that the paper does not consider the advantages of community schemes such as District Heating and Cooling to the full extent. District Heating and Cooling supply 1/8th of Europe's thermal energy demand. As efficient heating and cooling systems, they play an important role in increasing the efficiency of heating and cooling in the building sector and decreasing the primary energy demand considerably. Contrary to DHC, electrification does not offer efficiency gains per se.

Moreover, while fully acknowledging the importance that building envelope improvements play in increasing efficiency, it is important to take into account all relevant efficient heating & cooling options. Measures on the envelope and on the heating system as such must go hand in hand to ensure optimal outcomes and to avoid counter-productive effects. This becomes especially clear when considering the differences between Member States, and urban and rural areas. As for other solutions, the deployment of DHC differs widely between MS (from just a few systems to covering more than 60% of heat demand in North and North-Eastern Europe) which has a major impact on the set of measures that result in optimal improvements. Furthermore, the share of DHC as well as the potential for new grids differs between urban and rural areas as the EU-funded research project Stratego shows¹. As stated in the issue paper, 'any approach that would seek to exploit the untapped energy efficiency potential would fail unless these differences were adequately considered.'

Do you agree with the targets set in the issue paper?

In general DHC+ agrees to the targets set out by the paper. However, the single targets should be revised with regards to their system integration focus.

Existing buildings

DHC+ agrees that R&I must produce replicable refurbishment solutions for existing buildings but – as outlined above – it is crucial to take the respective situation into account. Replicable solutions must not just consider the building type including whether it is a historical building but also the access to existing or planned DHC systems. This is key to ensure optimal outcomes and to foster energy system integration, including the utilisation of locally available energy sources such as recoverable heat.

Design

Equally, the solutions and tools listed under design are crucial to increasing energy efficiency in buildings. Nevertheless, it is once more important to ensure the compatibility of those measures with energy system solutions.

¹ IEE/13/650 Stratego project funded by the European Union, reports available here: <http://stratego-project.eu/reports/>

Do you think that the level of ambition is correct?

Existing buildings

As various studies including Stratego show, efficiency gains on the demand side, i.e. through envelope refurbishment and similar measures, can cost-effectively add up to a maximum of 50% but depending on the national situation to often lower savings. More realistically are average savings of around 40%. An average target of 60% primary energy savings can only be achieved in a cost-effective manner by combining envelope and operation as well as efficient demand coverage. As the paper outlines, 'another important factor is the diffusion of more efficient heating appliances'. In order to seize the full efficiency potential and to decrease primary energy consumption in a cost-effective manner, it is necessary to increase the use of recovered resources such as in DHC and to increase the efficiency of production and supply measures as for example by CHP. Here, as well as with an increase of renewables it is important to deploy the solution that promises the best overall (systemic) outcome without bias for onsite systems but with a focus on local (onsite and nearby) solutions.

What are your specific recommendations on prioritising R&I activities on these issues (and building where appropriate on relevant existing initiatives)?

DHC+ is convinced that research in advanced building and refurbishment technologies is crucial but as outlined above it is only part of the picture. There have been initiatives researching the cost-effective combination of refurbishment and energy system measure. These should of course be extended but on the technology side additional steps towards integrated solutions need to be supported. One focus could be the development of neighbourhood-based refurbishment and integration solutions that can be applied as package combining DHC development and integrating it with refurbishment and storage. Particularly the actions listed under theme 4 in the IR provide a set of priorities that need to be considered in the course towards more efficient buildings.

The DHC+ Technology Platform is an initiative set up under the umbrella of **Euroheat & Power** and represents the voice of Research & Innovation for District Heating and Cooling in Europe and beyond. <http://www.dhcplus.eu/>