Buildings: a pivotal role on the decarbonisation journey

The window of action allowing the world to pursue the 1.5° path is rapidly closing, and the EU must continue showing its leadership as a driving force to curb emissions. Choosing to **achieve a balance between emissions and removals by 2050** represents the only viable answer to climate change and the right choice for the society as a whole.

Strengthening EU actions in this domain is undoubtedly a challenge, and bold actions are required across the whole levels of the economy. However, as recently demonstrated, it is feasible and 75% of technological solutions are already available[1].

As leader in the habitat market, we see energy efficiency as the key for achieving a successful and positive transition. We believe that the *Energy Efficiency First principle* should be at the core of the Long Term Strategy the European Union will agree to pursue.

We also believe that the *building sector* should be looked as a starting point in the road to Paris, for 3 main reasons:

1. ***The vast untapped cost-effective potential – and the possibility to release it now***

The buildings sector has the biggest potential in terms of efficiency gains, equating to half of the decarbonisation measures needed to achieve our Paris Agreement goal[2]. Today responsible for 36% of the EU GHG emissions and 40% of its energy consumption, significant improvement in the energy efficiency of buildings is **technically and economically feasible** right now: **most of the required *passive* and *active* technologies already exist and *digitalization* can support further savings.**

Bearing in mind that a threefold action to decarbonise the building sector is needed (energy efficiency, decarbonisation of supply and embodied GHGs in building materials[3]), the operation emissions still represent the bulk of the EU potential.

To get there, existing policies provide a solid framework to encourage and sustain this shift: a long-term 2050 vision for the building sector is now part of the new Energy Performance of Buildings, which mandates to achieve a highly energy efficiency and decarbonized building stock, targeting its cost-effective transformation into nearly-zero energy buildings. But for that to become a reality, strong commitment and enforcement are needed. Member States can, via the design and implementation of their renovation strategies, use this legislative toolbox. They can for example work to ensure that the hundreds of thousands of renovation measures undertaken each year are accompanied by energy performance improvements.

2. ***The 'enabler' role of resilient buildings***

In the overall low-carbon transition, looking at the whole picture is essential. Should buildings fail to deliver on their efficiency potential, **it will be costlier and more difficult for other sectors to deliver their share in the decarbonisation process**. For instance, continuing with the current renovation rate and depth could lead to an increase in electricity demand about 79[4]%.

Energy efficient buildings significantly reduce overall energy demand and especially instant demand at peak times (for example, in winter, or increasingly for cooling). Todays, peaks in demand are mainly covered by coal-fired power stations. Even assuming a large increase in renewable energy in the power mix, it is not realistic to think that this will be sufficient to cover the whole increasing society powering profiles.

Efficient buildings are a key part of the solution, as they increase the Demand-Side Management (DSM) potential to answer (daily) flexibility requirements. This potential, in fact, relies on the ability of the building to autonomously keep the range of comfort requirements defined by its occupants, and this heavily depends on the characteristic of its envelope – incl. roof, walls, windows and floor[5].

3. ***The positive individual and societal impact***

Energy renovating our buildings brings **direct benefits to European citizens**, such as more comfortable homes, cleaner air, lower energy bills, better productivity at work, better health, improved quality of life[6], **embarking everyone and making the decarbonisation process more acceptable**. Poor citizens especially will not be left behind, as energy efficient buildings provide a concrete solution to energy poverty, still hugely affecting 1 to 10 people in EU.

Besides, **acting strongly and early on building renovation will also contribute to creating local jobs in Europe, strengthening our industrial leadership in that sector**, giving European companies a first mover advantage. Recent research has found that the **largest co-benefit of energy efficiency is related to the economy**, which covers economic growth, job creation and public budget impacts[7].

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[1] J. Pestiaux *et al.* (CLIMACT), 2018. *Net zero by 2050: from whether to how. Zero emissions pathways to the Europe we want.*
[2] IEA World Energy Outlook, 2015. 76% of the EU GHG cuts needed to achieve Paris Agreement objectives must come from energy efficiency improvements. 2/3 of this potential is embedded in buildings.
[3] GABC, 2016. *Global Roadmap - Towards Low-GHG and Resilient Buildings.*
[4] J. Pestiaux *et al.* (CLIMACT), *2018. Net zero by 2050: from whether to how. Zero emissions pathways to the Europe we want.*
[5] Eurima and ClimAct, *The key role of building energy renovation in the net-zero emission challenge*. Forthcoming.
[6] World Green Building Council, *Better Places for People*. Available here: http://www.worldgbc.org/better-places-people.
[7] Eurima and ClimAct, *The key role of building energy renovation in the net-zero emission challenge*. Forthcoming.