# 6. Promoting the uptake of new technologies

## *Overview*

Even though climate policies are set at the international and national level, the real effect of the policies will be enacted by local actions. In response, cities are increasingly taking a strategic approach to the green and energy transition by setting up tailored plans for redesigning and improving the housing infrastructure. This is the case of the Sustainable Energy and Climate Action Plans (SECAPs) being developed across Europe. These are strategic documents developed by local or regional authorities to outline their commitment to addressing climate change and promoting sustainable energy practices. These plans typically integrate both mitigation measures to reduce greenhouse gas emissions and adaptation strategies to cope with the impacts of climate change. The ambition and the challenges being felt at the local level is considerable. Arguably, they transcend the current (financial and technical) capacity of the government actors, which is reflected in a rising interest for a new generation of innovative technologies, but especially integrated systems, such as those associated with smart city and smart grids. Their potential to deliver on both affordability and sustainability challenges have been pushing the local government across Europe to reconsider new forms of aiding, collaborating or boosting their makers and suppliers.

The following question will be addressed in this chapter:

- How can municipalities and housing providers facilitate the uptake of new technologies?

## *Recommendations and Good Practices*

**I. How can municipalities and housing providers facilitate the uptake of new technologies?**

**i)** A strategic long-term vision. A long-term approach to housing affordability and sustainability is a key aspect in promoting innovation in the private construction sector. This should be reflected in coherent policy and decision making in the long run by public officials, also in the relationship with the stakeholders.

For instance, municipalities can promote Local Green Deals as a strategic framework for setting up partnerships with the housing sector actors. Local Green Deals (LGDs) are tailor-made action plans for cities to accelerate their green and digital transition. These plans build upon existing city strategies, like sustainable energy plans or circular economy plans, and integrate them with relevant regulations and financial incentives.

The core concept is to bring together various stakeholders, including local businesses and civil society organizations, to achieve ambitious sustainability goals.

**Public Policies from Local Authorities that stimulate innovation for social and affordable housing renovations**

The Municipality of Barcelona in Spain provides an example to follow when ensuring coherence and strategic vision in the policy-making process to promote innovation in social and affordable housing renovations and new buildings. The steps followed by the local administration to design such a policy framework consist of:

- Collect data and research local needs and challenges together with Metropolitan Housing Observatory and the Barcelona Observatory for Architectural Rehabilitation
- Develop a diagnosis of the barriers identified
- Design mechanisms of innovation to overcome such barriers
- Develop key performance indicators and performance tools
- Strategize actions within local urban development objectives
- Build public policy packages with field coordination

**ii)** Lead and facilitate local innovation ecosystems, channelling innovative potential toward their goals such as digitalization, inclusiveness, and sustainable local economic development. For example, local authorities can support innovation systems by ensuring that Research and Development (R&D) actors have support to develop their activities. Mindful of their capacity, a number of municipalities across the world have been building incubators or co-working spaces, supporting training programmes, or distributing subsidies or waiving property rights for the installation of innovative research infrastructure. These measures target knowledge and innovation actors that would bring the necessary skills and capacity to bridge innovation gaps in the construction sector in the municipality.

**COLLABORATION AMONG NATIONAL AND LOCAL GOVERNMENTS TO BOOST ENERGY EFFICIENCY RENOVATIONS**

To maximize the efficient use of the NGEU funds toward the Renovation Wave objectives, some governments have developed close collaboration schemes and agreements with municipalities to boost innovative solutions for renovation projects.

- Germany is working on municipal laboratories on energy transition to investigate and demonstrate new solutions for the efficient and sustainable energy supply of urban districts;
- Poland is going to establish a Green Urban Transformation Fund;
- Greece is planning to help its municipalities with the preparation of Local Urban Plans to implement its urban policy reform.

**iii)** Conduct an open technological needs assessment to identify the specific challenges and opportunities in the local affordable and social housing market. Identify strategic innovation areas in your region, such as district level energy supply, heat pumps, digitalisation of services, where technology would make a significant impact. Engage with technology providers in the construction cluster to understand their perspectives and what they can bring to the table. You can then use innovative public procurement methodologies to contract their services. Favour or ensure adopted technologies adhere to open access principles to make them interoperable with other / legacy technologies.

**iv)** Undertake pilot programme and demonstrators to experiment with new technologies in real-world affordable and social housing settings. Housing providers linked to, or in partnership with, the municipality can reserve some buildings to the experiment. The results should not only inform scaling up of successful technologies but also to signal trustworthy companies.


Metabuilding Labs is an EU wide network of testing facilities & innovation services for new building envelope technologies & product

**v)** Go the extra mile: invest in energy-efficient public building renovation, including district heating, smart meters, and sensor networks, etc. to demonstrate the integration of new technologies.

**vi)** Offer training programmes to city officials or housing managers to introduce or enhance their understanding of new technologies.

**vii)** Use Socially Responsible Public Procurement (SRPP). The SRPP involves a strategic approach to public procurement that aims to achieve social and environmental objectives alongside economic ones. In the context of fostering innovation and collaboration with SMEs social and environmental factors are encouraged to develop new, more efficient, and sustainable solutions for housing renovation.

**viii)** Support incubation services to provide entrepreneurs the necessary infrastructure to nurture and develop their ventures. Another forward-thinking initiative involves the integration of Fab Labs, providing residents with access to state-of-the-art digital fabrication tools and technologies, such as 3D printers, laser cutters, and electronic

components. These spaces empower residents to experiment with and create a diverse range of physical objects, effectively nurturing creativity and innovation within the community.

At a smaller scale, the municipality can support co-working spaces, usually hosted in public buildings. They can even be strategically incorporated as a social housing venue, providing residents with shared workspaces for pursuing professional activities.

### INNOVATION CITY RUHR

**Western Europe**

Bottrop - Germany

This project aggregated separate district-level projects scattered across the Bottrop municipality in Germany. An overarching masterplan was the mechanism of aggregation, which aimed to reduce CO2 emissions by 50% in 2030. A wide range of stakeholders took part in delivering the masterplan, including policymakers, citizens, and counted with the interest of innovative small and medium-sized enterprises (SMEs), such as Technoboxx GmbH from the metal processing industry and Emschergenossenschaft, which established the world's first hybrid power plant from sewage treatment.

## *Further Reading and Online Resources*


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