ASCEND

Solution package 3:

Deployment of energy-efficient buildings integrating onsite RES and storage

New approaches: building efficiency and RES from the city scope to the district

Session Summary

The session explored innovative strategies to enhance building efficiency and integrate renewable energy solutions at city and district levels. First, Munich shared findings from their new Research and Innovation Report, while Prague presented their Energy Master Plan. Facilitated by CARTIF, the session featured two roundtable discussions focusing on energy production challenges and energy demand reduction strategies.

Common Challenges

- All cities face difficulties such as problems transferring loads into the cladding, higher costs of BIPV than conventional PV on the roof and lack of existence of facilities for the exchange of energy among other conventional technical difficulties.
- **Difficulties in implementing serial refurbishment.** Munich faces difficulties incorporating this approach into tendering processes, while Lyon struggles to do so due to technical constraints when dealing with historic buildings and cultural heritage.
- **Resistance from investors:** Prague is exploring the use of active shading systems, which dynamically adjust to sunlight and occupancy, as an alternative to passive overhangs, but durability barriers still need to be overcome to convince the investors for adopting such approach.

Main Takeaways

Ways to move from city-level strategies to district-level implementation:

- Munich runs a *utility value analysis* to identify suitable buildings for serial refurbishment with pre-fabricated elements; yet the city struggles to navigate complex tendering processes and motivate residents to participate in these efforts. Supporting this transition, Munich's GeoPortal is a tool that offers interactive maps and datasets to visualise and analyse district-level energy strategies, including building energy profiles.
- Prague's Energy Master Plan aims to meet near-zero energy building standards by defining precise building parameters for six building types through detailed hourly energy performance calculations. These include evaluations of energy needs for heating, cooling, hot water, and electricity, as well as public lighting.

Quote

"For us in Munich, accelerating serial refurbishment is a key focus, and we hope to make significant progress in the coming years. Sharing experiences within the ASCEND network andf via the CoP is important—it helps us all move faster and more effectively toward our goals."
- Alexandra Singleton, city of Munich

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