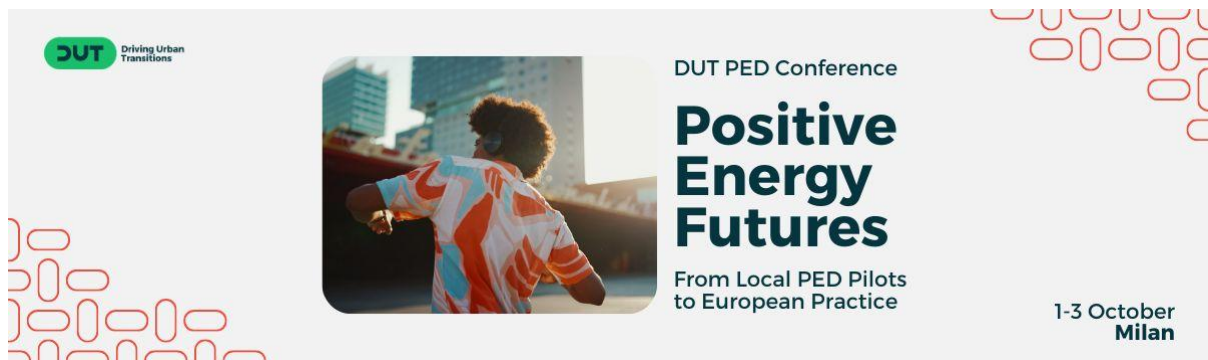




DUT PED Conference Breakout session tracks

Track 1: Integrated energy systems

This track focuses on the functional integration of mature distributed energy and digital technologies to enhance regional energy system resilience and autonomy. While local generation and storage technologies are becoming increasingly competitive and affordable, system integration and grid balancing remain key challenges. It demonstrates how PEDs can optimise localised clean energy generation and matching.

Sub-themes:

- Optimise local energy demand, production and energy flexibility
- Foster system integration (district-level energy management)
- Establish multi-level perspective for PEDs (wider energy grid)
- Increase resilience and robustness (territorial energy security)

Track 2: Energy markets and commercial viability

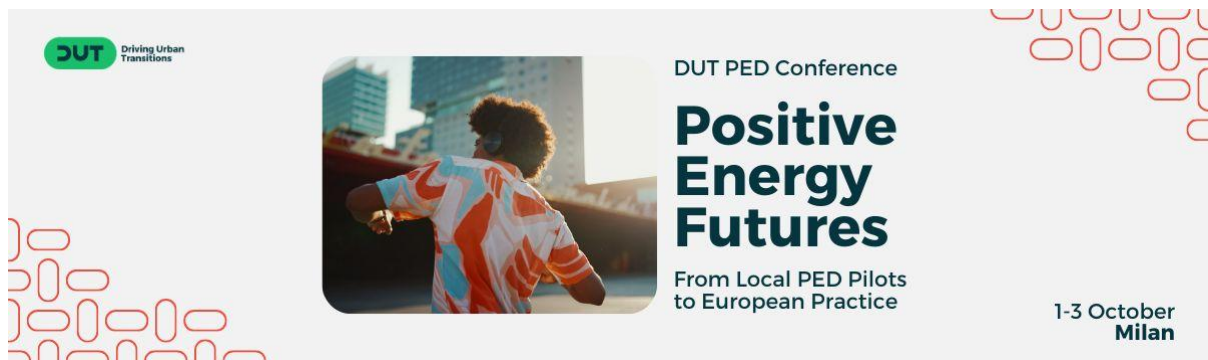
This track explores how innovative business, financing, and ownership models can support new local energy markets. Furthermore, amidst increasing costs of housing and general economic pressures, it is crucial to reframe PEDs from costly investments to cost-effective alternatives to traditional energy and housing. The KA demonstrates how PEDs can realistically deliver a just energy transition within a challenging economic climate, through more affordable energy for end-users while creating compelling value propositions for a wide range of local economic actors.

Sub-themes:

- Integrate energy communities, district, and regional energy markets
- Ensure energy affordability and reduce poverty for homes and businesses
- Foster viable business, financing, and energy ownership models
- Develop PEDs as catalysts for local economies

Track 3: Urban regeneration

This track focuses on using PEDs as a lever for holistic local neighbourhood development, including strategies for local community-building and engagement,



alongside inclusive forms of neighbourhood refurbishment and revitalisation which consider socioeconomic dynamics within neighbourhoods. It builds on the latest research in energy communities and social innovation to explore scalable and effective stakeholder engagement models for PEDs. Recognising that participation remains a major barrier to scaling local and community energy projects, it tests alternative approaches balancing inclusivity and social benefits with true commercial viability and rapid diffusion. Particular focus is given to the organisation of refurbishment process, including energy efficiency and circularity aspects.

Sub-themes:

- Promote engagement mechanisms for neighbourhood development
- Elaborate viable delivery models for community energy solutions
- Increase energy efficiency and promote refurbishment processes
- Promote energy sharing within and between communities
- Embed energy communities within urban strategies
- Promote urban circularity

Track 4: Energy in mission-oriented urban planning

This track explores the integration of PEDs into mainstream urban planning processes, strengthening local authority capacity within the energy system and energy market design. With PEDs yet lacking formal European recognition, this KA identifies mainstreaming strategies through greater public sector adoption, enabling replication and scaling from local initiatives and contributing to broader policy frameworks.

Sub-themes:

- Investigate PED viability and impact across different urban contexts/zones
- Explore integrated PED governance approaches (bottom-up and top-down)
- Embed PEDs in urban climate and energy policy and planning
- Standardise PEDs within national frameworks