



PESTLEG

Governance

Transformation towards the smart energy city leads to new forms of cooperative organization of the civil society and network activities of various stakeholders, involving social and economic resources. The transformation process initiates political action, supports change agents, empowers and creates an atmosphere of trust – on values and players -, capacity to act and responsibility in relation to external challenges and internal conditions. This type of governance, perfect combination of bottom-up or top-down approach, serves as guarantee for a broad social acceptance of urban change towards the goals of the smart energy city.

Spatial

Transformation towards the smart energy city leads to an urban citizen-centered planning aiming at a compact city, where you find improved services for citizens (eg. Green areas, distances between bus/metro stops are shorter) decreased need for movements and less pollution. The different functions are well balanced (urban context, suburbs, ports, etc.), so are the built, brown, green and blue areas enhancing urban amenities, smart infrastructures and resilience in view of climate change.

Technical

Transformation towards the smart city leads to continued technological dynamics, research and innovation within the field of resource efficiency and in particular of energy production, distribution and consumption (e.g. urban infrastructures, smart grids, energy storage, renewables etc.). It needs a strong societal commitment for public and private use of renewable energy sources, as well as energy saving attitudes and new, bankable, varied business models. Technological solutions have to be adapted to local needs, e.g. different natural conditions and cultural heritage. They must be conceived with consideration of KPIs (such as beauty, urban organization, sustainability, quality of life).

Legal

Transformation towards the smart energy city leads to challenges of the existing institutional frameworks because new organizational forms of contracting, planning and business models and self organized initiatives are challenging existing local, national and European regulations (eg. "Open data" management). Therefore legal barriers have to be precisely identified and with the involvement of relevant stakeholders proposals for solutions have to be pushed through at the different levels.



Environmental

Transformation towards the smart sustainable city demands a growing resource efficiency, a strong societal commitment towards a systemic approach and public and private sustainable behaviour in the use of energy. These processes of change include a conception of time -reflecting ecological and socio-economic dynamics- which helps distinguish short, middle and long term measures. Different natural conditions and cultural heritage have to be respected.

Economic

The transformation towards the smart energy city leads to smart growth due to the promotion of innovative economic activities, new business models and forms of funding as well as resource and cost efficiency. Smart cities are places where networking generates agglomeration and cooperation economies as part of a sustainable green economy.

Political

Transformation towards the smart city leads to a new and growing field of urban energy politics, including socio-economic components as well as the technological aspects. The success of the transformation process requires leadership capacities, long term vision, urban planning skills, involving all relevant actors, internal and external. The key to success is the capacity of active involvement of the citizens. Smart City is always embedded in multilevel political structures with direct link to regional, national and European policy frameworks.

Social

Transformation towards the smart energy city leads to an inclusive city because the framework strategy is socially balanced and creates new forms of social interaction on the level of households, neighbourhoods and urban quarters. Social business models (e.g. contracting) are promoted.

Centralized urban energy systems such as district heating and cooling, as well as open energy systems improve various forms of social and economic participation. More communication, specially public, and education are offered, raising awareness which brings self-commitment from industry, citizens, institutions to behave in a climate friendly, energy-saving manner.