

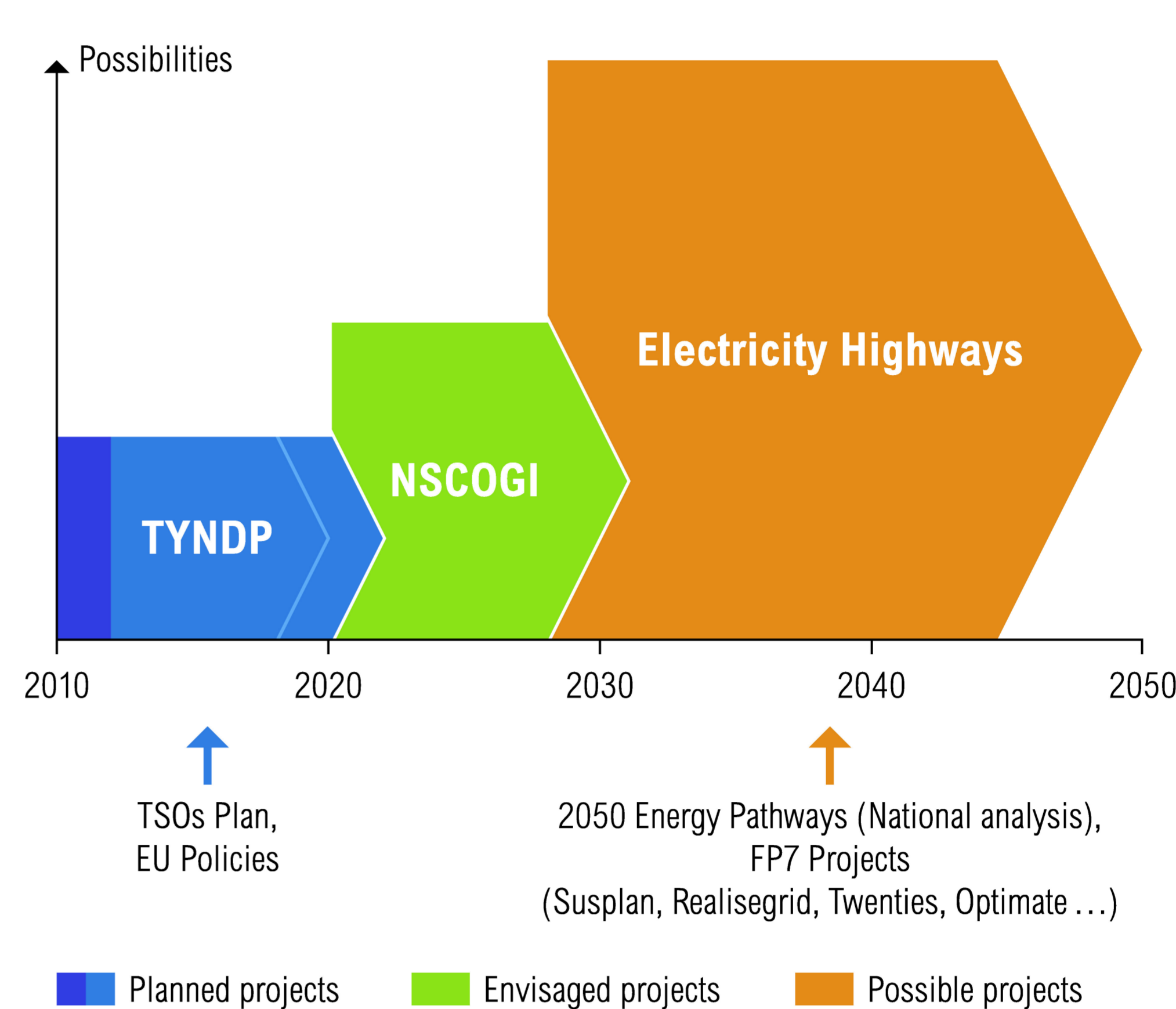
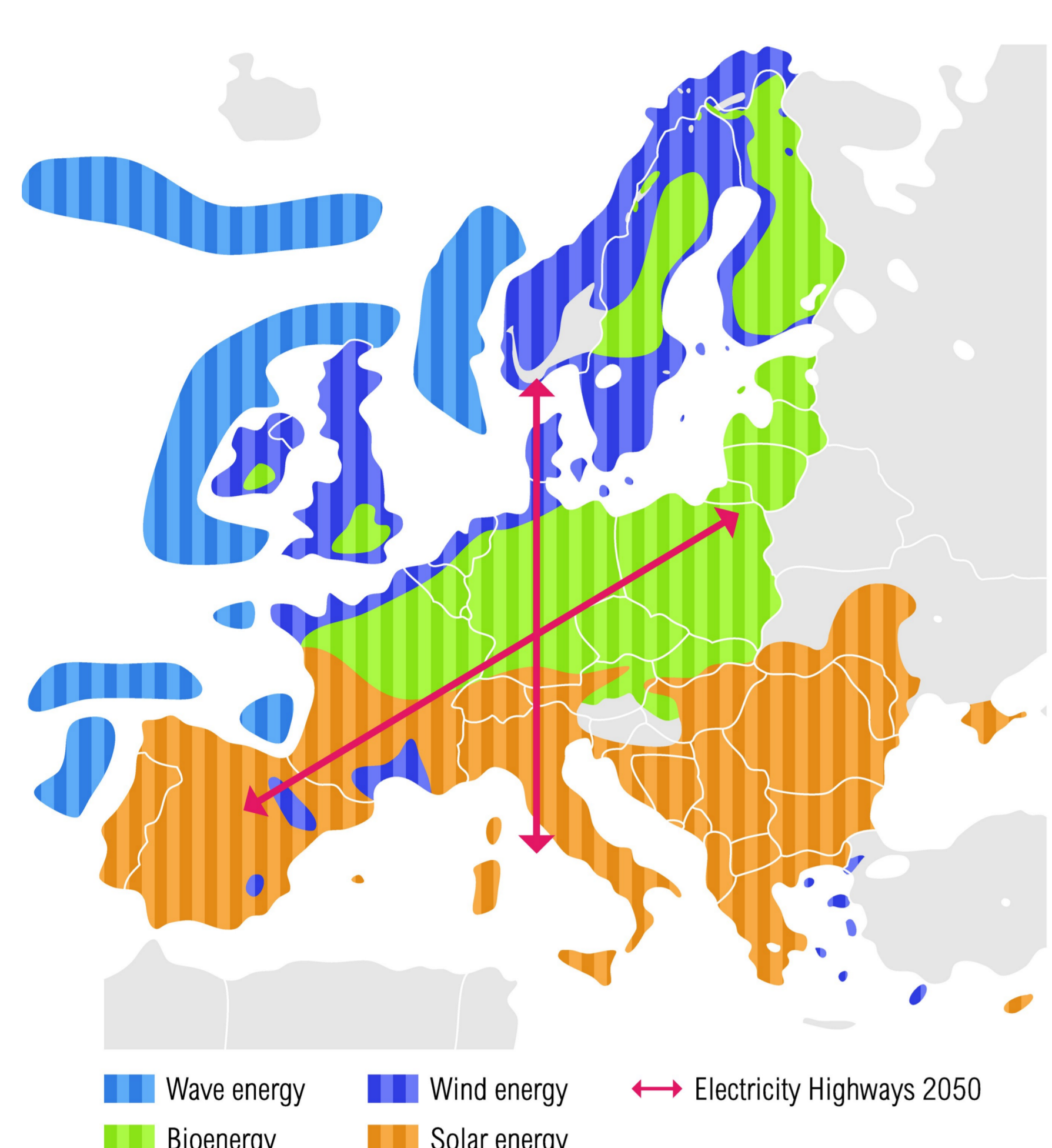
e-Highway2050

Modular Development Plan of the Pan-European Transmission System 2050

Objectives

Supported by the EC-DG Research, e-Highway2050 is a research and development project: it aims at developing a new planning methodology able to deliver, within three years, a first version of coherent Modular Development Plans of the pan-European power transmission system, going from 2020 to 2050.

The resulting pan-European grid is supposed to enable electricity market integration and the 2050 decarbonization goals of the electricity system, therefore integrating large quantities of renewables to be transported over long distances from production sites to load centers.

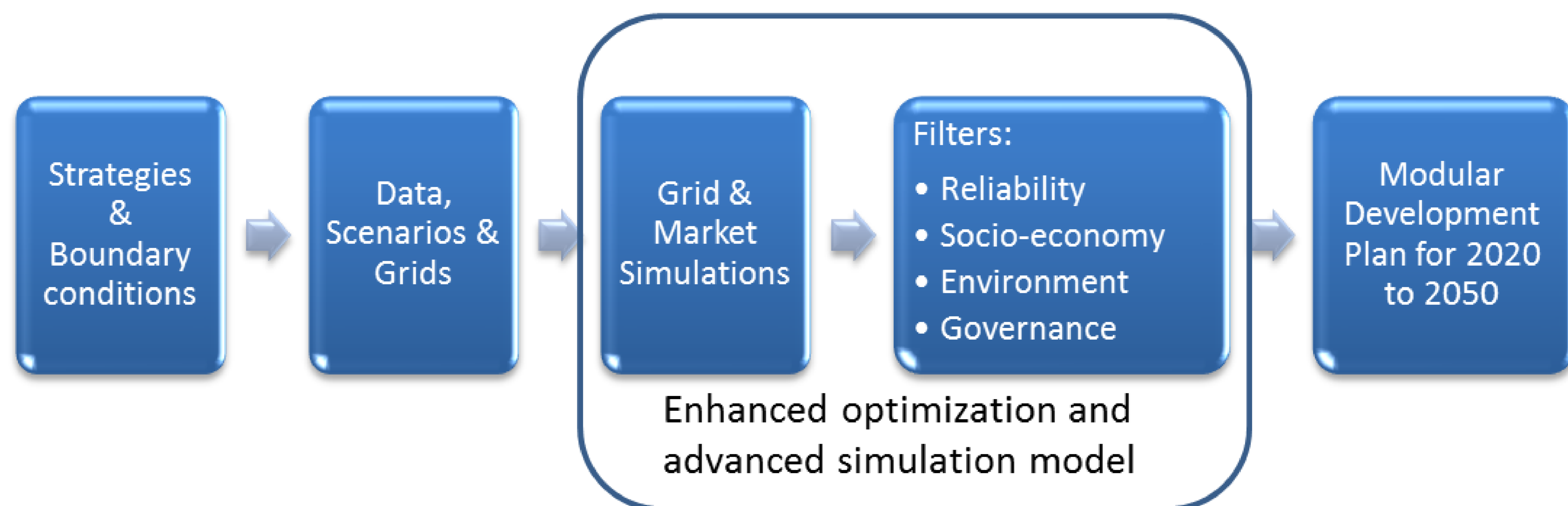


Workflow

The newly developed top-down methodology is built around four main steps, within which stakeholders from all over Europe are invited to discuss assumptions, intermediate and final results during external workshops and consultations:

1. the description of possible assumptions from 2020 to 2050 involving technology, socio-environmental and political boundary conditions,
2. the building of energy scenarios involving the foreseen generation and demand profiles, while taking into account storage, demand-side management and transmission technologies available by 2050,
3. the grid and market simulations to find optimized grid architectures, which help matching electricity production with demand profiles at European level,
4. the proposal of modular development plans of the pan-European transmission system, covering each of the studied scenarii, and optimized by taking into account social welfare, environmental constraints, as well as grid operations and governance issues.

In parallel, the possibility to mathematically formalize such long-term planning methods is investigated using enhanced optimization and advanced simulation tools.



Consortium

Coordinator: RTE

