MODELLING CITIES IN RELATION TO COUNTRIES

Copenhagen as an Example

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RELATION TO CITIES

- Work package 6
- Two levels of energy planning
 - Country level plans for transition to 100 % renewable energy
 - Local energy planning
- Limited connection between these two
 - Lack of coordination for developing future 100 % renewable energy systems
- The target is to develop a tool to relate these with each other
 - Two approaches the tool has to be able to handle.

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Scenario 1: Creating Country Models from Regions



- Model countries as several parts
- Enable more detailed country analyses
- Linking regional energy planning to country planning
- Testing the impact of aggregation

Scenario 2: Modeling a city as part of a country



Measuring the performance of the local energy system, the remaining national energy system and the total energy system. For instance fuel use (biomass), intermittent renewable energy and demands

- Model a city or municipality as part of a country
- Enable cities to relate to countries
- Improve strategic energy planning
- Make it possible to develop plans that fit with national planning

EXAMPLE OF COPENHAGEN



- Technical analysis
 - Reducing fuel use; not costs

Work Package

- Modeling the Copenhagen Climate Plan
 - CO₂ neutrality in 2025
- Using the CEESA plan to represent national development
 - Target: 100 % Renewable Energy in 2050

RESULTS



- More but less efficient wind
- More biomass in 2025.
 - Should be less than 60 according to CEESA

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CONCLUSIONS

- Shows that CPH2025
 - Lead to higher biomass use
 - More but less efficient wind

• There is a need for a tool that can link local to national energy planning

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