

Future energy policies must be based on a range of different possibilities. The challenge will be to find the perfect balance between the pros and cons of the Danish energy supply. The external costs of illness and loss of natural values associated with air pollution add up to a substantial amount, and must be considered.

CEEH's aim is to set up a number of realistic scenarios and predictions for Danish energy production, where the net costs are minimised. Our optimisation will endeavour to reach the highest level of accuracy, including both direct and external costs in energy production and usage.

Direct costs are the expected costs of fuel and the expenses for the renovation and maintenance of buildings used for energy production and consumption.

External costs – the so called externalities – are costs associated with the particular type of energy used. CEEH focuses on the externalities of environment and health. It is well-known that air pollution has a damaging impact on both the environment and on human health. The complex assessment of the economics of these externalities is also an intricate part of CEEH's expertise. CEEH also presides over an internationally determined "climate change cost" per kilogram carbon dioxide emitted to the atmosphere resulting from burning of fossil fuel.

All essential energy sources are included in the CEEH-optimisation (coal, oil, gas, wind power, hydroelectric power, solar energy, nuclear power etc). Also included are the effects from energy usage in essential sectors like transport (cars, buses, trucks, air traffic, trains, Danish shipping traffic, bicycling), industrial production, heating and air conditioning.

In the first phase of the project, we will set up a demo system, combining existing modelling tools and data from different areas. In the second phase, we will design the ultimate system based on the outcome of the first phase.



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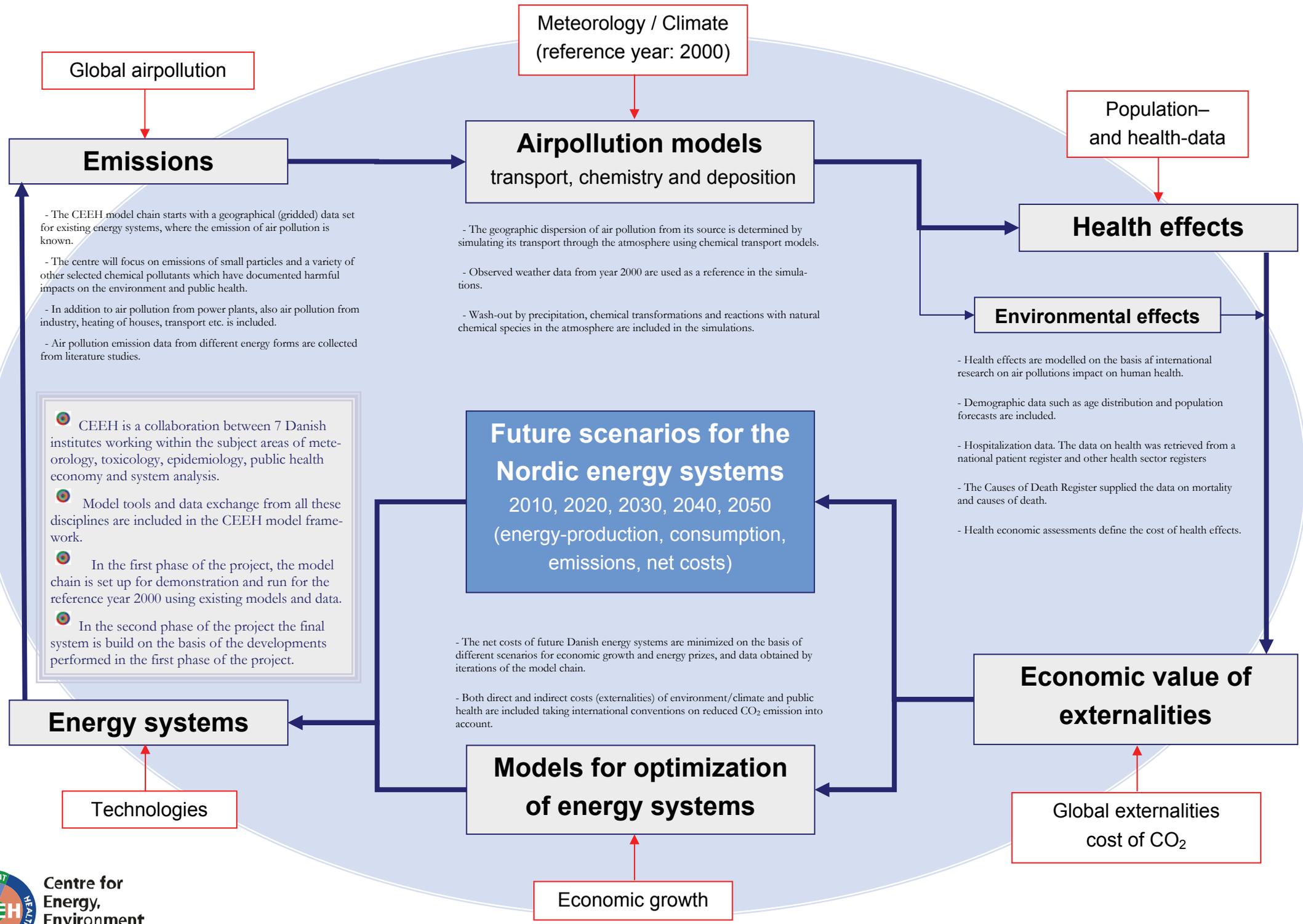


CEEH is an interdisciplinary team of experts with the mission to support the planning of future Danish energy systems, while balancing the direct costs and external costs to the environment, climate and health. The centre will operate with realistic scenarios for future energy production and associated emissions to the atmosphere. The project is financed by the Danish Council for Strategic Research and will run for 5 years beginning in January 2007.



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CEEH is a collaboration between 7 Danish institutes working within the subject areas of meteorology, toxicology, epidemiology, public health economy and system analysis.

Model tools and data exchange from all these disciplines are included in the CEEH model framework.

In the first phase of the project, the model chain is set up for demonstration and run for the reference year 2000 using existing models and data.

In the second phase of the project the final system is build on the basis of the developments performed in the first phase of the project.