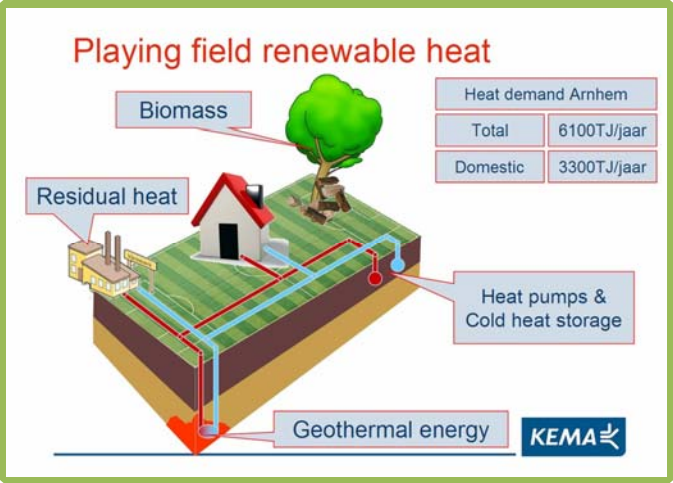
Energy map and –strategy

Status	Study was completed in December 2009
Location	The Netherlands, Gelderland, Arnhem
Spatial info	Town;
Measure type(s)	Renewable energy; Urban setting
Contact	Marion Visser, marion.visser@arnhem.nl



Description and Aim

Inventory study resulting in digital maps on which the energy demands (electricity and gas) per city quarter are shown and a set of maps with the potential supplies of renewable energy (wind, solar, biomass, hydropower) within the city boundaries. The maps are stored in a design table (MapTable). Calculation modules in the table allow an indication of CO_2 reduction, investment costs and payback time of intended measures giving the possibility to weigh different energy scenarios in, e.g. site planning processes.

The energy strategy for a CO_2 and energy neutral city contains recommendations for measures on short/ longer term, sets priorities, based on economic, climate costs and benefits.

Adaptation to climate change

Renewable energy is used instead of fossil energy to warm and cool buildings and provide electricity. This contributes to the reduction of CO_2 emissions.

Problems addressed:

Weather parameters: indirect
Through mitigation: heat/heat wave, heavy precipitation / flooding, drought, storm

Receptor(s):

Built environment, economy, natural resources, population

The aim is to gain understanding of the supply and demand of (renewable) energy in the whole city and using this knowledge to take measures and tempt others to take measures, which reduce CO_2 emissions.

Experiences

Functionality:

Having an overview of renewable energy potentials allows to facilitate and persuade area developers and other parties to switch from fossil energy to renewables. The more renewables used, the higher the reduction of CO_2 emission.

The energy maps and energy study are used in all kinds of projects: renovation and new building projects of housing companies, site planning and area development, restructuring of business areas.

Further synergies/benefits:

The gained knowledge in this study can be used at site planning, renovation of city quarters or restructuring business areas, to reduce CO_2 emissions and select the best sustainable energy systems.

Costs:

60.000€

Funding:

International and local. ERDF and municipality budget.

Stakeholder involvement:

City energy experts, city planners, city economic experts, province, city region, government department, science institutes, housing companies, electricity companies, engineering consultants, property developers, disposal companies.

Acceptance:

In several meetings stakeholders were mobilised to work together on the target 'CO_2/energy neutral city' using the MapTable.

Obstacles/restrictions:

It concerns a lot of stakeholders and cooperation between them to achieve the target of an CO_2 / energy neutral city.

The information is based on the experience of the Future Cities-partnership.
It is not necessarily comprehensive, complete, accurate or up to date.