

ENGINEERING
TOMORROW



Danish District Heating

- Presentation for Folketingets Boligudvalg

Lars Tveen, President, Danfoss District Energy

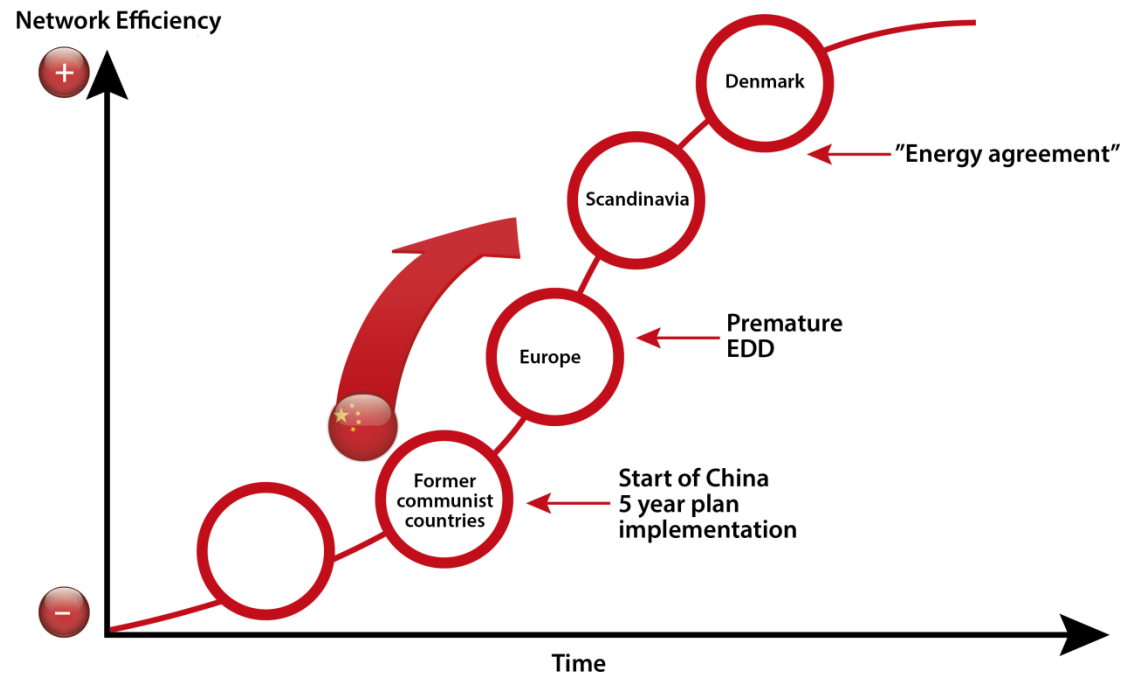
**One
Company**

**Focused on
Climate &
Energy**

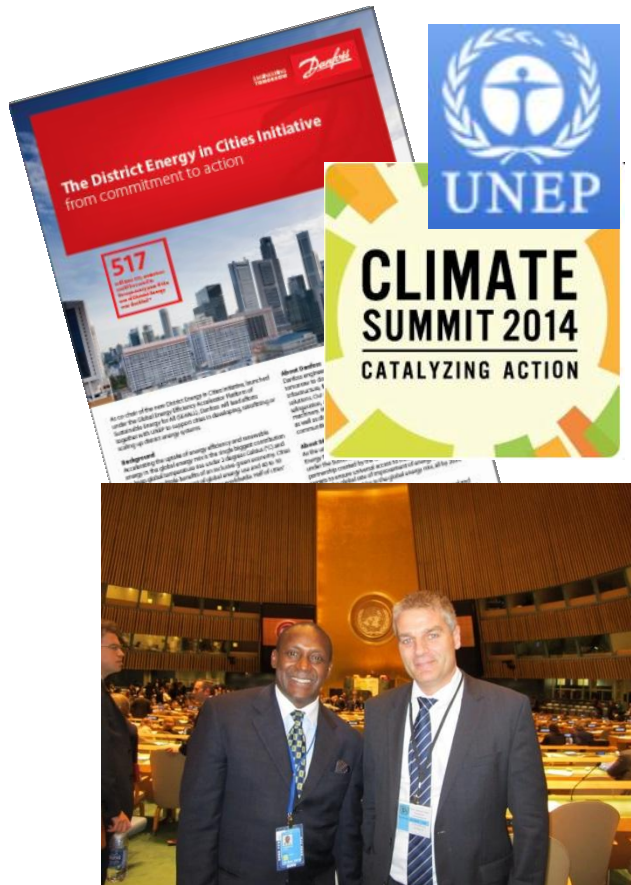
<http://heating.danfoss.com/Home/>

Denmark is leading within District Heating

- Denmark is a leading player
- A pioneer within district heating and cooling since 1978
- World-class demonstration projects
- Strong collaboration with authorities
- Energy optimization equals growth and export opportunities
- Global demand for energy efficiency solutions.



District Energy on the UN Agenda



- Danfoss co-leads new initiative, called SE4ALL (Sustainable Energy for All) to combat climate change under UN leadership
- 19 cities indicated interest in joining the initiative including St. Paul (U.S.), Vancouver (Canada), London (UK), Paris (France), Anshan and Jinan (China), Seoul (South Korea), and Nairobi (Kenya)
- 11 other private sector partners and industry associations including the US Department of Energy (DOE), ICLEI, and the International Energy Agency.



Lars Tveen and Kandeh Yumkella at the launch of the SE4ALL Energy Efficiency Accelerator Platform

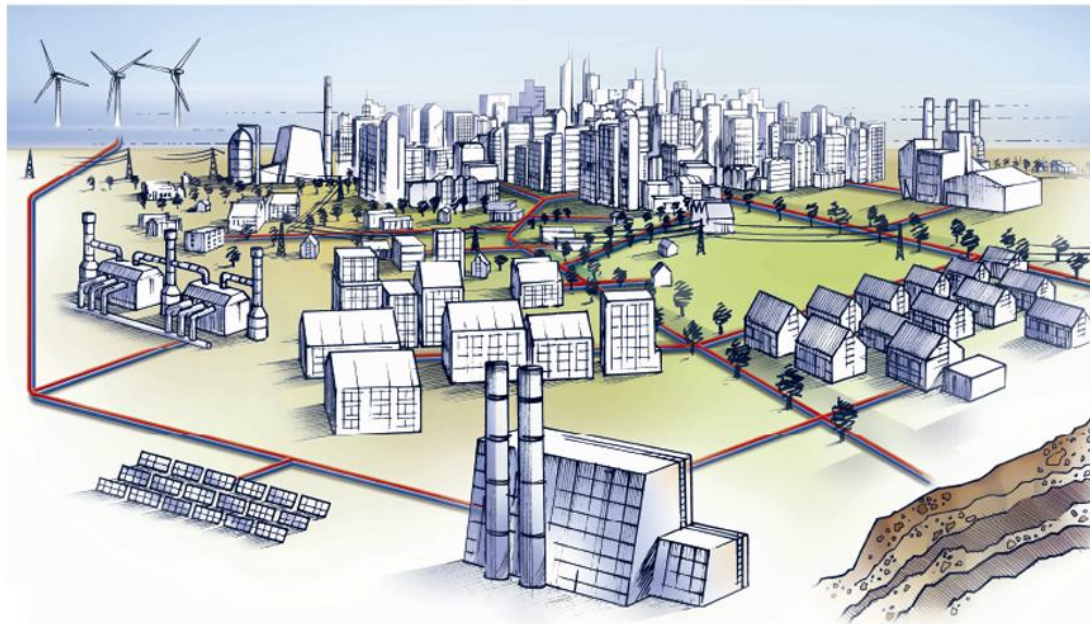
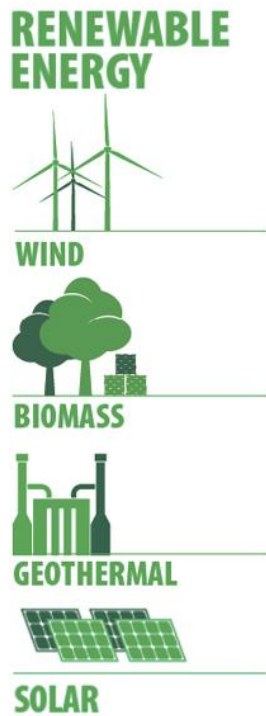
Danfoss District Energy – - end-to-end solution provider

- The Danfoss District Energy division includes four business units
 - Heat Exchangers
 - Controls
 - Heavy duty stations
 - Light duty stations
- Danfoss District Energy offers solutions within the control and transfer of heat in district heating and cooling applications. District energy is energy-efficient, it capitalizes on economies of scale, and can be used with both renewable and fossil energy sources by providing an efficient green infrastructure which contributes to achieving individual comfort, while reducing energy consumption.



District energy is a key component in any urban vision

- Urban leaders are embracing a new energy supply vision for their cities, combining local renewables, co-generation plants and district energy.



Rethinking energy and the economy



- The International Energy Agency (IEA) concludes that energy-efficiency is the only energy source that accommodates both finance, supply, security, the environment and climate
- District energy is gaining momentum with urban leaders and local authorities seeking practical solutions to reform energy systems and find clean, sustainable sources of energy to reduce the dependency of fossil fuels
- District energy can simultaneously reduce emissions as well as boost the uptake of renewables in a controlled, secure and phased process.

Anshan destination 2015



- Massive reduction in annual coal consumption: 1,2m tons (when 2000MW connected)
- CO2 emission annual reductions: 2m tons (when 2000MW connected)
- Improved quality of life for residents
- The city saves energy and money → city leaders can integrate the environment into economic thinking
- First 200MW of surplus is now directed into the network
- Fully scalable concept - many cities with steel production or similar surplus heat sources.



“We will resolutely declare war against pollution as we declared war against poverty” *Premier Li. March 3, 2014*