



LARGE-SCALE HEAT PUMPS IN DISTRICT HEATING NETWORKS

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Introduction

The following sections can be addressed separately and considered standalone documents. They are developed within the IEA DHC TS3 “Hybrid Energy Networks”, subtask A “Technologies and synergy potential”, WP2 “Experiences with hybrid energy networks based on large-scale heat pumps”.

The selected key topics introduce the subject of large-scale heat pumps for district heating. The content is based on the latest practical experiences from their current deployment seen in the Danish district heating system. The aim is to direct information to relevant stakeholders such as decision-makers, authorities, utilities and others interested in how heat pumps for district heating can create links between the electricity and heating sectors thus representing “hybrid” energy networks and systems. Since various other relevant sources of information exist covering case studies and the thermodynamic principles of the technology these topics are not included here. Further information is available at the homepage for the IEA Technology Collaboration Programme on Heat Pumping Technologies (IEA HTP): heatpumpingtechnologies.org.

The standalone documents cover the following topics:

- Market status, incentives and policies in Denmark
- Configurations and energy system integration
- Heat sources
- Refrigerants
- Air-source heat pump operation
- Tendering process
- Economics and the electricity grid connection