IEA District Heating & Cooling Programme (IEA DHC)
The international research programme for DHC

What is IEA DHC?

The IEA District Heating and Cooling Programme (IEA DHC) is the major international research and development programme for district heating see www.iea-dhc.org It functions within the IEA's Framework for International Energy Technology Co-operation. Established in 1983, IEA DHC now has ten participant countries: Canada, Denmark, Finland, Germany, Korea, Netherlands, Norway, Sweden, UK and USA.

Who can join?

As it embarks on a new three-year programme, IEA DHC is happy to extend a warm welcome to new participants. Countries which have recently become part of the European Union may find it particularly rewarding to join. Special terms are being offered to facilitate participation by countries with a large interest in DHC but a more modest GDP.

When a country joins this programme, it nominates a specific organisation which is thereafter represented at meetings of the IEA DHC Executive Committee. That nominated organisation is usually a government department or agency, a district heating association, or an academic association. The Executive Committee's job is to manage the overall IEA DHC programme.

What does IEA DHC do?

IEA DHC co-ordinates a research programme (known as an "Annex") by running a group of six or seven three-year projects. The current Annex VII includes research into thermal storage, system optimisation, improving distribution systems and examining the relative benefits of small- and large-scale networks. Another project investigates biofouling and microbiologically influenced corrosion of pipes. Descriptions of all the programme's projects can be found on the IEA DHC Web site. Further information is contained in the Annex VII brochure.

IEA DHC collaborates with Euroheat & Power and the International District Energy Association. These organisations attend meetings of the Executive Committee as Observers.

At the end of each three-year period, or Annex, all the research projects are presented at a seminar. The next seminar, concluding Annex VII, will take place during the Euroheat & Power Congress in Berlin on 6-7 June 2005. Details of this event can be found on the Euroheat & Power Website's conference pages. Attendees will have the opportunity to talk to Committee members about the benefits of joining IEA DHC. The following topics are on the seminar's agenda.

- A comparison of distributed CHP[1]/DH with large-scale CHP/DH.
- A two-step decision and optimisation model for centralised or decentralised thermal storage of DHC systems.
- Improvement of operational temperature differences in DHC systems.
- How cellular gases influence insulation properties of district heating pipes and the competitiveness of district energy.
- Biofouling and microbiologically-influenced corrosion in district heating networks.
- Strategies to manage heat losses – technique and economy.
- Dynamic heat storage optimisation and demand-side management.

[1] Combined Heat & Power

What are the benefits for participants?

The main advantages of participating in this programme are:

- Involvement in the major international R&D programme for DHC, dealing with a technology whose carbon-saving potential is established nationally and internationally.

- New techniques: participation in this international R&D programme helps to accelerate the spread of knowledge of new techniques within participant countries. This helps to ensure the best modernisation and optimisation solutions for existing networks.

- Economic solutions: the programme as a whole has a strong emphasis on finding more economic solutions for district heating and cooling.

- High-quality research: international partnership within the project teams, and support for each project by a panel of Experts from each country, enhances the quality of research.

- International partnership and networking: participant countries and individual experts benefit from maximum partnership and networking opportunities.

- Policy input: there is considerable momentum for district heating and CHP at an EU policy level. The IEA DHC programme has its own policy paper.

- Involvement in an IEA programme - the IEA Secretariat has recently been very active in assisting district heating efforts in transition economies. The programme took an active part in supporting the IEA Secretariat initiative 'District Heating in Transition Economies', which focuses on the policy aspects of district heating in CEE and CIS countries. An IEA workshop addressed the issues and an IEA publication reports on findings (Russian-language version downloadable free).

- The IEA also runs a Buildings Co-ordination Group, which facilitates links with other technologies and programmes, such as those on heat storage. This is particularly useful for an integrative technology like district heating.

- District heating and cooling: building networks for a sustainable future: District heating and CHP are increasingly acknowledged by decision makers for their environmental and overall community benefits.

What about financing and decision-taking?

The IEA DHC programme works through 'cost sharing'. That means each country contributes an annual subscription which finances the research projects. Participation embraces several levels and most projects have partners from several participant countries. Each project is also supported by a panel of 'Experts', for which each participant country nominates one member to attend project meetings, convened roughly every nine months. For initiation of new projects, themes are first selected through consultation with the key players in each country. A "Call for Proposals" is issued and a competitive bidding process then takes place. Organisations from any of the participant countries can submit proposals.

Contact us! If your country is not a member, but is interested in joining the IEA DHC programme please contact Robin Wiltshire, IEA DHC's Executive Committee Chair.