



## Press Release

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### District cooling a promising and sustainable option in the move away from HFCs

**Geneva, 6 April 2016** – As delegates of the 37<sup>th</sup> Open-ended Working Group Meeting of the Parties to the Montreal Protocol continue to resolve issues surrounding the proposal to amend the international regime to phase down hydrofluorocarbons (HFCs), a promising alternative solution was presented at a side event organized by the Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants (CCAC) and the United Nations Development Programme (UNDP).

The event titled “District Cooling for Sustainable, Energy Efficient Ozone-Depleting Substances (ODS) Phase-out”, showcased different district cooling project activities, their impact on the environment, and an overall perspective on policy, business models and technical aspects to facilitate the adoption of district cooling. Unlike traditional air conditioning, which is often building based, district cooling distributes cooling energy from a central source and can be much more efficient and sustainable.

“We believe that this project is of particular importance to the Maldives and other Small Island Developing States dependent on imported fossil fuels because it helps us gain energy security and pave the path for a sustainable economy,” said Mr Mauman Abdul Rasheed of the Government of Maldives.

About 60-70% of the domestic energy demand of the Maldives is due to cooling needs. The UNDP and Devcco, with funding from the CCAC, carried out a feasibility study for district cooling on the Maldives island of Male to look at costs and financing options available for implementation of climate-friendly district cooling technology.

“The feasibility study allows us to explore the potential of district cooling which would reduce energy use by 20% and promote low Global Warming Potential HFC alternative technology,” Mr Abdul Rasheed said. “This will also contribute to our national goal of low greenhouse gas emissions and ozone-depleting substances phase-out.”

The study’s original aim was to assess possibilities to phase out HFCs and HCFCs in the Maldivian capital Male through district cooling. However, Devcco found that there is more potential in Hulhumale, an artificial island created to make room for the future growth of Male.

The study showed that up to 300,000 kg of refrigerant can be avoided for Hulhumale, making it a sound base for project financing. However, detailed analysis of the preferred business model and financing options need to be carried out.

The side event also featured presentations and interventions on the district cooling experiences of Sweden, Kuwait, Colombia, Dominican Republic and Sri Lanka.

In Sweden, particularly in Stockholm, district and remote cooling (and heating) has worked well and is widely used in both homes and commercial buildings. Kuwait also has a long experience with

district cooling and highlighted the benefits of the system, including good remote maintenance, improved safety and security due to a controlled environment and the significantly reduced leakage rate, which could be up to 80% in Kuwait's case. On the other hand, Sri Lanka, which has a very limited experience with district cooling, believes that it could contribute significantly to their national policy of achieving a 25% dependency on renewable energy.

In Latin America, the Multilateral Fund for the implementation of the Montreal Protocol has begun to support two initiatives on district cooling being implemented by UNDP. In the Dominican Republic, UNDP is conducting a feasibility study for the establishment of district cooling in Punta Cana which includes several hotels, a shopping mall and an international airport. In Colombia, UNDP and the National Ozone Unit provided technical assistance for the establishment of a district cooling project which is currently under construction, and will include several public buildings led by Empresas Publicas de Medellin (EPM) and the National Ozone Unit.

From this experience, UNDP has observed that many countries need to consider revising building codes in order to allow for centralized systems in new and larger buildings, as there is a large potential for district cooling if these are planned properly from the beginning.

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#### **Notes:**

**District Cooling** distributes cooling energy from a central source for air-conditioning in a district. It is a more efficient and sustainable alternative with for economic and urban development. All currently manufactured air-conditioners work on the principle of the vapour compression cycle with refrigerants in a closed loop. HCFCs, traditionally used as the preferred refrigerants in air-conditioners over the past few decades, need to be phased-out. The current alternatives include HFCs and Hydrocarbons. While HFCs are not seen as a sustainable solution, there are safety issues surrounding hydrocarbons. Not-in-kind alternatives, which include vapour absorption systems, deep seawater cooling systems, tidal and other cooling systems in a district cooling configuration, do not use conventional refrigerants such as HCFCs, HFCs and HCs. The multitude of energy sources use in not-in-kind alternatives yields potentially more energy efficiency and lower carbon footprint. With the right business model and technology, district cooling could become an environmentally sustainable and economically viable option.

**DEVCCO** is a private company specialised in project development and services in district energy industry. The company is the operating branch of CCO Holding AB, who carried out the feasibility of the district cooling in the Maldives.

The **CCAC HFC Initiative** supports the development of HFC inventories and studies, information exchange on policy and technical issues, demonstration projects to validate and promote climate-friendly alternatives and technologies, and various capacity-building activities to disseminate information on emerging technologies and practices to transition away from high-GWP HFCs and minimize HFC leakages.

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