



Title: District Energy for heating and cooling

Draft

Description: District Energy is a cooperative effort to provide space heating, domestic hot water and cooling for buildings in a defined area in the most sustainable way for the lowest cost. District energy systems have significantly reduced consumption of fossil fuel in many countries around the world, and are emerging as a key strategy for reducing greenhouse gas emissions among local governments in the U.S.

Basis in Vision: In responses to visionPDX, the City learned that Portlanders value a community whose members care about and committed to our collective well being. Portland values its natural environment and recognizes that the actions of individuals, communities, government and businesses can impact our environment, both locally and globally. District Energy systems can creatively address the environmental challenges of our growing energy needs by building heating and cooling systems that are very efficient and readily embrace clean energy sources.

How does it work? In the most basic terms, district energy involves replacing heating and cooling equipment inside individual buildings with a distribution network that delivers energy (heating or cooling, based on the need) to each building as needed. The source of energy can be a single, larger energy facility or a series of facilities, reflecting an analysis of what options provide the best overall performance and cost-effectiveness. District energy should be expected to provide better reliability, greater flexibility to adapt to changing technology, and improved environmental performance through efficiency and clean energy.

District energy offers two principal benefits. First, building developers and owners do not have to determine specific heating and cooling equipment, nor do they need to dedicate significant space within their buildings for boilers or cooling equipment. This difference can lead to big improvements in efficiency, as individual developers and building owners often oversize their equipment and are reluctant to consider investments that have payback periods of more than three years. Second, district energy systems are much more capable of improving on energy technology over time. For instance, a district energy system need only change equipment at the central energy plant rather than expensive retrofits within each building.

Meeting the Criteria:

Investment by City	Public/private partnership	Community involvement / impact
Initial funding for a feasibility study Request for Proposals: \$100,000 for technical feasibility and business modeling	Through the feasibility study a model for public and private interaction will be developed. At the base level, the City, developers, building owners and business entities will all need to coordinate on the development of the distribution network.	The community will be impacted by a more efficient use of energy that will have positive environmental impacts as well as possible efficiencies in the costs and the usage of resources. Additionally, the model of local self-sufficiency will be reinforced.