

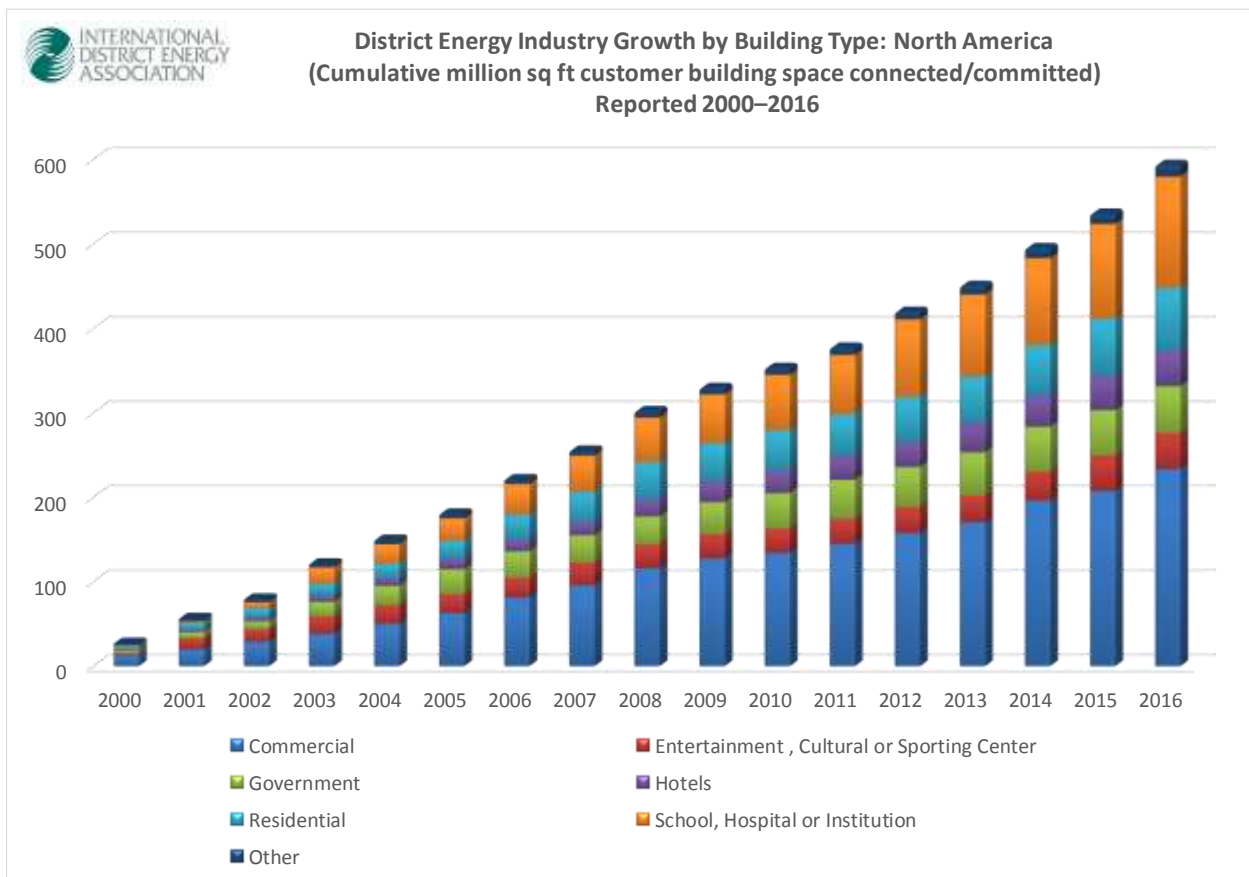
Comments in Support of Proposed Addendum to Standard 189.1-2017

International District Energy Association

March 23, 2018

The [International District Energy Association \(IDEA\)](#) strongly supports the proposed Addendum. It provides an appropriate methodological framework for Performance Path calculations for buildings using district energy for heating and/or cooling. The Addendum will facilitate increased use of highly efficient, low carbon energy sources.

District energy systems have existed in North America for decades, but is experiencing tremendous growth and revitalization. Nearly 600 million square feet of building space has been added since 2000, as documented by IDEA and illustrated in the chart below.



District energy systems produce and pipe steam, hot water or chilled water underground through a dedicated piping network to heat or cool buildings in a given area. The fundamental idea of district energy is simple but powerful: connect multiple heating and cooling energy users through an underground piping network to environmentally-responsible and efficient energy sources such as combined heat and power (CHP), sewage heat recovery, chiller heat recovery, geo-exchange, deep lake water cooling, biomass and deep geothermal. For example:

- Most of the buildings in downtown St. Paul, Minnesota are heated and cooled using energy that literally comes from residents' backyards: tree trimmings and other waste wood. This community waste material is converted to supply heating, cooling and electricity.
- Markham District Energy supplies district hot water and chilled water primarily produced using waste heat from natural gas fired CHP engines.
- In Boston, Veolia supplies steam heat recovered from power generation, significantly reducing regional carbon emissions and eliminating heat discharges to the Charles River.
- Enwave in Toronto and Cornell University in New York both use naturally cold, renewable lake water for district cooling, cutting power consumption by 87-90%.
- The Oregon Institute of Technology and others, primarily in the western part of North America, use an underground resource -- geothermal hot water that provides a clean, renewable source of heat.
- The City of Vancouver supplies district hot water to buildings in the Southeast False neighborhood with heat extracted from sewage.
- Amazon Headquarters in Seattle uses district heating supplied from a nearby data center and looks to incorporate similar technology in its prospective landmark HQ2 project.

District energy is recognized throughout the world as an important strategy for increasing energy efficiency, enhancing resiliency, facilitating use of renewable energy, and reducing greenhouse gas emissions. The United Nations Environment has established the [District Energy in Cities Initiative](#) to accelerate the transition of cities in emerging economies and developing countries to low-carbon, climate resilient societies through modern district energy systems.

The IDEA appreciates the opportunity to comment on the proposed Addendum and looks forward to participating in future evolution of this and other Standards, and the methodologies and factors used therein. In particular, we believe that the CO₂e Emission Factors in Table 7.5.2B do not accurately reflect emissions from district energy systems, and we intend to engage with ASHRAE to modify these values.