maxi·therm

STEAM·I·FI·CA·TION

The concept of centralized district energy networks distributing "green" steam to achieve the vision of a future where decarbonization does not depend on electrification alone.

"Steamification is the alternative"

"STEAMIFICATION OFFERS A PATH TO ENERGY SECURITY"

and here is why:

- You can generate steam from multiple green source fuels such as biomass, solar, hydrogen, nuclear, waste-to-energy or an unknown future fuel.
- Steam is easy to transport without pumps, up to 10,000 feet per minute.
- Steam is safe and reliable. When a steam leak occurs, it's never an emergency.
- Steam is visible, non-flammable, non-toxic and has no electric shock hazard.
- Steam can be used for heating and cooling using technologies proven for over 100 years.
- Steam turbines can generate electric power and run pumps and fans.
- Steam has very low transmission loss compared to electricity.
- Steam is a utility much like electricity.
- One pound of steam contains over 1,000 BTUs . How many for a pound of water?
- Steam generation only requires small boiler feed pumps, less than 10 times the electrical energy required when comparing to hot water loop pumps.
- Steam systems can be at least as efficient as condensing hot water boilers.
- Low condensate temperatures allow the use of non-metallic (PEX) piping for return to powerhouse.
- Carbon capture is easier to consider with a central steam plant, especially including cogeneration with a steam distribution system for heating and cooling.
- Steam offers electric grid relief, especially for heating and cooling loads.

Steamification Innovative Steam Solutions by Maxi-Therm

Maxi-Therm's mission is to advance the concept of Steamification by manufacturing cutting-edge steam heat transfer solutions and educating designers, contractors, district steam suppliers, and end-users about the benefits of using steam as an energy transport medium. We offer innovative steam solutions that use fewer components, reduce installation costs, require less maintenance, have a smaller footprint, and use less energy, while also lowering carbon emissions.

Steam is more efficient than you might think – in fact, Maxi-Therm has recently applied for a patent (United States Application No: 63/286,132 and Canadian Serial No: 3,183,035) for a 95+% efficient steam generation system combined with a 100% steam & condensate closed-loop distribution design. The key to achieving 95+% efficiency in a central steam boiler plant lies in the ability of a Maxi-Therm vertical flooded heat exchanger to produce low temperature condensate. The cool condensate can then be used to extract energy from waste heat within the boiler room.

Since 2004, Maxi-Therm has provided thousands of units across North America. Our equipment is used by prestigious universities such as Harvard, Duke, Yale, Towson, and Washington & Lee, as well as world-class hospitals such as Johns Hopkins in Baltimore, Swedish Hospital in Seattle and Children's Hospital in Philadelphia. Other prominent installations include the American Museum of Natural History in New York City, Two Liberty Place in Philadelphia and McCormick Place in Chicago, and well-known manufacturers including Pepsi Beverages, Merck Pharmaceutical and Dupont Chemicals.

There are many more benefits to using Maxi-Therm vertical flooded heat exchangers, including eliminating condensate receivers, PRV stations & steam vents through the roof, reducing air infiltration which produces condensate up to 6 times less corrosive than conventional systems, and producing zero flash steam losses.

To learn more about Maxi-Therm steam solutions; Vertical flooded design, 95% Steam generation efficiency, 100% Steam & condensate closed-loop, and Hydronic vs Steam videos.

https://maxi-therm.net/videos

Centralizing district energy provides economy of scale that would not otherwise be available in individual building systems.

WHY DISTRICT ENERGY? The International District Energy Association states:

«District heating service simplifies building operations, allow customers precise control over heating and provides flexibility to adapt as occupant needs change or building efficiency improves. The critical advantage is that connecting multiple buildings to a district system creates economies of scale that enable the deployment of more efficient, resilient local energy resources. This scale also enables integration of cleaner options like CHP, waste to energy, biomass, geothermal, and other renewables which significantly cut emissions unachievable on a building by building basis.»

To learn more click here or scan the QR code

https://www.districtenergy.org/topics/microgrids

https://www.unep.org/resources/report/district-energy-cities-unlocking-potential-energy-efficiency-and-renewable-energy

https://www.districtenergyinitiative.org/

maxi·therm™
steamification is the alternative

(514) 351-1001 | info@maxi-therm.net | **maxi-therm.net**
7559 MB Jodoin | Montreal Quebec Canada | H1J 2H9