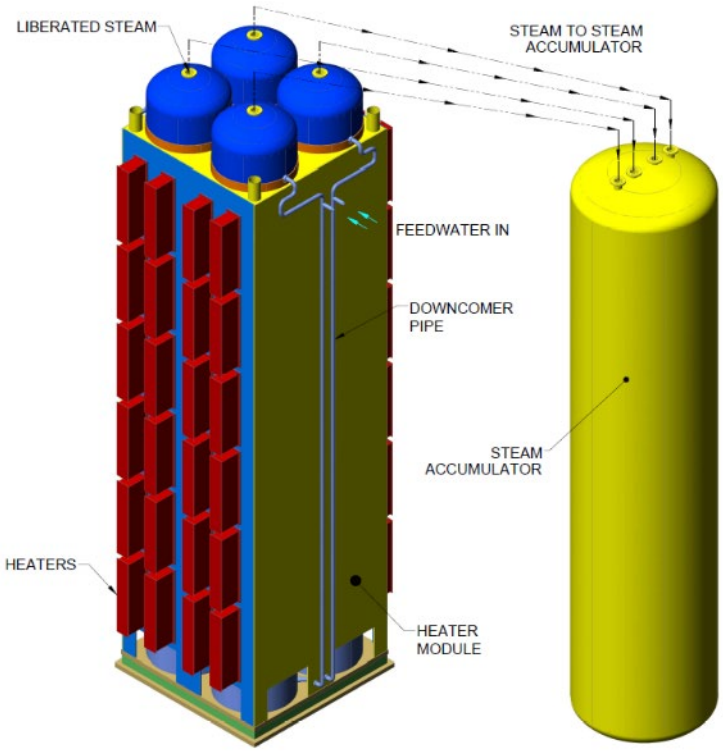
Holtec's HI-HEAT™ District Heating System Ready for Manufacturing and Deployment to Provide District Heating Steam in Countries Facing Shortage of Gas

We are pleased to announce the completion of design and computer simulation phases of Holtec's HI-HEAT™ district heating system, which has been underway since May 2020. The system design is complete and digitally verified. Certain miscellaneous laboratory tests to re-confirm the critical characteristics of the thermal capacitor material, Feorite™, are underway to complete the quality documentation on the development program.

HI-HEAT™ is intended to provide a carbon-free solution for district heating in countries facing a cut-off of Russian fuel supplies as well as countries aiming to shrink the footprint of fossil fuels in their national economies. HI-HEAT™ is the low-pressure steam supply version of Holtec's Green Boiler which is characterized by harnessing an external heat source such as surplus electrical energy available during off-peak hours or a co-located nuclear reactor (viz., Holtec's SMR-160) or the molten salt from a proximate solar power plant. The external thermal source is used to heat the HI-HEAT™ thermal capacitor, called Feorite™, to elevated temperatures reaching 700 degrees C. A single shop-manufactured HI-HEAT™ module stores over 300 million BTUs of thermal energy in its Feorite™ capacitor which is enough to produce 300,000 pounds of steam.

There is no limit on the number of HI-HEAT™ modules that can be arrayed in parallel to achieve the rate of steam generation needed for a district.



Holtec's HI-HEAT™ District Heating System

Fortunately, the raw materials needed to manufacture the HI-HEAT™ district heating system are typically available in every region of the world, which will facilitate their manufacture to occur locally under Holtec's technical guidance. Even the thermal capacitor material, Feorite™, used in HI-HEAT™ can be sourced locally in most parts of the world.

HI-HEAT™ is entirely based on the Green Boiler design platform and is typified by the fact that it is configured to produce steam at a relatively low pressure (<150 psig). The Green Boiler design platform enables the system to

be designed to produce steam at *any pressure level and any level of superheat*. The ability to produce high pressure/high superheat steam in the Green Boiler affords the opportunity to repurpose coal fired plants which would otherwise be completely dismantled. The high-pressure variant of the Green Boiler can be used to power the turbogenerators of existing coal fired boilers, which can be retired along with their coal and ash handling facilities. Thus, by installing the Green Boiler, much of the existing infrastructure of the coal plant can be saved and re-used.

Holtec is now focused on integrating Holtec's Green Boiler technology with an innovative solar energy collection technology to provide a clean source of high pressure/high temperature steam to support the production of hydrogen fuel, generation of electricity, as well as supply of process steam to proximate industries. We believe that the classical heliostat/receiver-based technology can be optimized to make it commercially competitive and practically viable.

"The express aim of our Green Boiler technology is to help decarbonize the world's economy, which suffers from a deeply imbedded use of fossil fuels in practically every sector," says Holtec's Director of Advanced Technology Programs, Joe Jankauskas.