

POWER TO HEAT

Emerging Technologies for The Renewable Energy Sector



Shared Prosperity Dignified Life



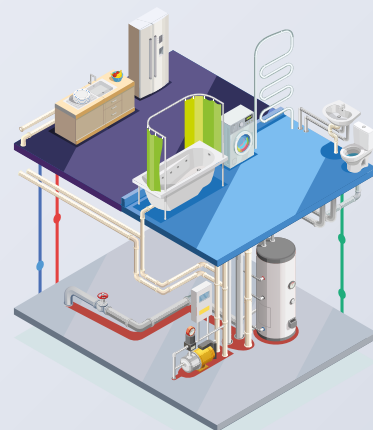
What is power to Heat?

Heat pumps and boilers are devices that transform electricity into efficient heating and cooling. Thermal storage systems provide flexible power and heat sector coupling. Using renewable energy to power the heating sector minimizes fossil fuel consumption. It boosts the power system's flexibility when combined with smart load management.



The role of power to heat in the power sector

By integrating heat pumps and electric boilers as a source of demand-side flexibility in power systems, power-to-heat systems can help integrate increasing shares of VRE. These electric loads can be used to reduce excess renewable generation curtailment, and load shift to match renewable energy generation and provide grid services.



Applications of power to heat in the energy sector



REDUCING RENEWABLE ENERGY CURLIAMENT



INCREASING FLEXIBILITY THROUGH LOAD SHIFTING



STORING ENERGY ON LARGE SCALES



PROVIDING GRID SERVICES VIA AGGREGATORS



INCREASING SELF-CONSUMPTION FROM LOCAL RENEWABLE-BASED GENERATION

