

# THERMAL ENERGY STORAGE

The world of energy is going through a transformation. Energy storage technologies offer many new opportunities to reduce pressure on the grid, improve resilience and lower operating costs.

BUILDINGS ARE RESPONSIBLE FOR

**40%** of the world's energy consumption<sup>1</sup>

AND OUT OF THAT

**ALMOST HALF** due to HVAC (Heating, Ventilating and Air Conditioning)<sup>1</sup>

Power consumption forecasted to grow by

**13%** by 2040<sup>2</sup>

**72 GW+**

of electrical generating capacity have already, or are now set to retire.<sup>3</sup>

**70%**

of the US grid's transmission lines and power transformers are over 25 years old.<sup>4</sup>

## THERMAL STORAGE SYSTEMS

store energy during off peak times in tanks as ice or chilled water and then release it during peak hours.

"The value of Thermal Energy Storage systems are more accurately quantified when based on

**1-IN-10**

heat event (hottest hour in 10 years) method - which is how many other utility investments are evaluated"

According to Western Cooling Efficiency Center at University of California-Davis, the traditional 10 day average methodology for measuring the impact of demand management technologies

**underrepresents the value of thermal storage by as much as 77%**

Because it does not adequately account for shifts in building loads due to extreme weather, holidays, or weekends.

Sources: <sup>1</sup> EIA / <sup>2</sup> EIA and based off of 2015 consumption / <sup>3</sup> Institute for Energy Research / <sup>4</sup> Energy Department, 2014