



WASTE WATER TO ENERGY

→ Clean water is an essential resource for a good life. Turning to energy-efficient wastewater treatment methods can help fight water scarcity and provide clean energy.

THE SOLUTION

! Lynetten, the water treatment plant in Copenhagen, cleans sludge and wastewater from private, public, and industrial institutions, and provide clean water to about 1 million people. The sludge is converted into biogas, supplying energy to over 3,000 households.

The technology used at Lynetten enables wastewater to be recycled and re-used as energy. Sludge is incinerated to supply energy for district heating and electricity.

WHY A SUSTAINIA100 SOLUTION?

? Water is a scarce resource not just because of geography and climate but because of a lack of proper wastewater treatment systems. Fresh water is wasted, polluted, and not managed sustainably. Efficient wastewater treatment systems allow for wastewater and sludge to be recycled as much as possible. Lynetten has cleaned the previously heavily polluted harbor in Copenhagen to such a level that it is now fit for swimming.



DENMARK

www.lyn-is.dk



BULK ENERGY STORAGE



ECONOMIC

According to Pike Research, the market for energy storage will receive a capital injection of \$122 billion over the next decade.



ENVIRONMENTAL

Enabling further expansion of renewable energy capacity reduces pollution from fossil fuels.

→ Bulk energy storage makes it possible to integrate more renewable energy into the grid while increasing efficiency and stability.

THE SOLUTION

! Bulk energy storage is one of several solutions in this guide whose primary attraction is its ability to enable higher shares of renewable energy into the energy system. Because solar and wind energy is intermittent, we need ways to compensate for that fluctuation. Energy storage is one way to do just that.

The most common technology is pumped-storage hydropower (PSH) – 99% of global bulk storage capacity – whereby water is pumped into a reservoir when excess electricity is available and released for power generation when needed. However, geography imposes limits on further expansions of PSH.

Different technologies are competing on cost and environmental sustainability as demand for bulk storage grows. The only one in commercial operation is compressed air energy storage. Washington-based General Compression is currently building a 2-MW compressed air energy storage facility in Texas.¹

WHY A SUSTAINIA100 SOLUTION?

? Bulk energy storage enables integration of large amounts of renewable energy and increases the overall efficiency and security of the electricity grid. This benefits the consumer in terms of lower prices and less blackouts, and it benefits society with less pollution from fossil fuels and increased overall efficiency.

1. The economist (2012): "Energy storage: packing some power"



USA

} GLOBAL

www.generalcompression.com

