TURNING WASTE INTO ENERGY

→ Household and industrial waste is a resource, which can be utilized for energy generation in various forms. Oslo leads the way.

ECONOMIC

Turning waste into energy means that value is created from your trash.

SOCIAL

The expansion of waste-fuelled district heating in Oslo has led to an overall improvement of its air quality to the benefit of everyone living in Oslo.

ENVIRONMENTAL

The energy produced from Oslo's waste is equivalent to 100,000 tons of oil/yr.

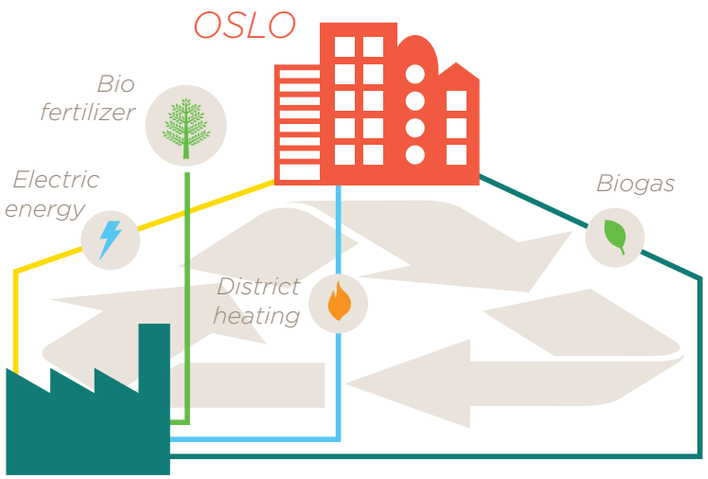
THE SOLUTION

! The Haraldrud and Klemetsrud waste-to-energy plants take waste from households and companies to generate electricity and heat for the city of Oslo. As of 2013, expansions will enable the plants to receive 410,000 tons of waste/yr, from which 840 GWh of heat and 160 GWh of electricity is produced. This corresponds to the energy use of 84,000 households.

Oslo's Agency for Waste Management commissions private companies to collect, via biogas-fuelled trucks, waste and take it to sorting facilities. The refuse is separated into reusable waste, waste for biogas and fertilizer production, and waste for incineration, which generates electricity and heat.

WHY A SUSTAINIA100 SOLUTION?

? Turning waste into energy saves city money and reduces its environmental impact, while providing an efficient waste management solution for its citizens. Cities across the world including, Copenhagen, Manchester, and Tokyo have similar schemes.



OSLO, NORWAY

www.energigjenvinningsetaten.oslo.kommune.no

HALF A GRID OF WIND

→ The electricity grid needs to be able to handle large amounts of renewable energy. This solution demonstrates the ability of the Danish island of Bornholm's energy system to handle a large share of wind energy.

ECONOMIC

Higher shares of home-grown renewable energy insulate countries from price shocks in global energy markets.

SOCIAL

The EcoGrid EU project empowers consumers with with regard to their energy consumption.

ENVIRONMENTAL

Half of the energy supplied through the EcoGrid EU project is based on renewable energy sources.

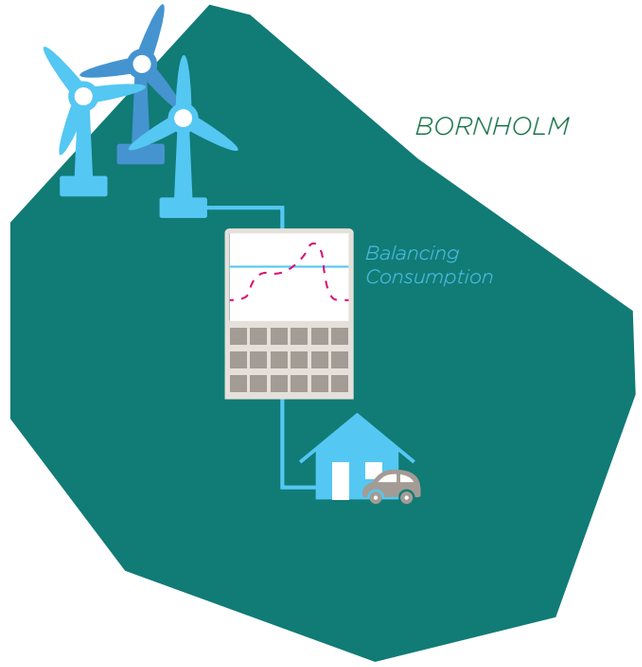
THE SOLUTION

! Using smart technology, EcoGrid EU demonstrates the capacity of the electricity grid to handle more than 50% electricity coming from renewable energy sources. The central idea of the EcoGrid EU is the introduction of market-based mechanisms to release balancing capacity, particularly from flexible consumption.

Approximately 2,000 residential consumers (out of a total of 28,000 customers) participate in this Smart Grid demonstration project, with flexible demand response tied to real-time price signals.

WHY A SUSTAINIA100 SOLUTION?

? Integrating large amounts of renewable energy from wind and solar farms poses significant challenges to the electricity grid as we know it. Raising eyebrows all over Europe for its ability to handle large amounts of fluctuating renewable energy in its system, the EcoGrid project of Bornholm is a demonstration of the future of energy grids. The size of the project, and the amount of fluctuating renewables integrated, make the project particularly noteworthy.



DENMARK

www.eu-ecogrid.net