

100 percent Energy Independent Living

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THE IDEA

The idea behind the project is to develop energy independent houses and spread the production of energy out to households all over Denmark. This will provide greater supply options and eliminate the risk of major blackouts. The idea is to develop an energy independent home by combining already existing technologies to produce renewable energy. Furthermore we will look into the benefits of smart grid in residential areas and how to store the produced energy.

THE METHOD

We have decided to start in small scale and will focus on the technical requirements for one energy independent house. We imagine the house being part of a small neighborhood of 10 houses. All the houses are equipped with various technologies to produce renewable energy and will be connected by smart grid.

The energy produced during the day will be stored for later use due to the fact that energy consumption is generally low during the day while people are at work. When the demand for energy increases the stored energy will be returned to the houses.

During the project we will look at different ways to store energy. Is it better to equip every household with a small storage tank or should the whole neighborhood be equipped with one large storage tank? And what sort of energy is most suitable for this kind of storage? Hydrogen, methane, methanol, ethanol?

We will also follow new trends and developments in laboratories all over the world.

THE PROSPECTS

We believe that this idea can be integrated in existing towns and cities all over the world. Even though the expenses are high during the installment of energy independent houses the investment will pay it self relatively quick. The dimensions are easy to adjust and most of the components can be placed underground.