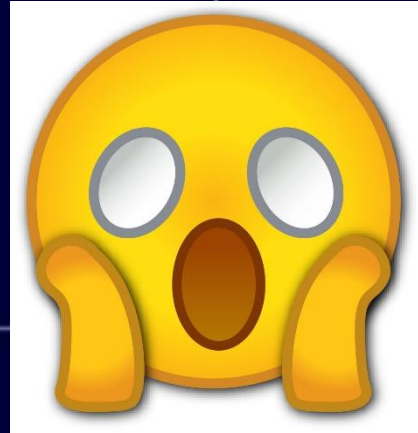




The threat from PVs: Yes,
now they come on our
buildings



Søren Rise
TEKNIQ

Friday 6th of April
meeting room S09, building 101, DTU Lyngby campus

TEKNIQ
INSTALLATIONSBRANCHEN

PV systems from 2012 to 2018



- 100 m² Building
- Today based on buildingcode (BR2018)
PV typical 2,5 kW PV-system PV generates 2.500 kWh/year
- BIPV 10 kW installed production 10.000 kWh/year.

Economy (I)

The driver beside architects

- **Installation**
- Price split between solarmodules and installation
- 2012 price split: PV module 75 %, Installation 25 %
- 2017 price split: PV module 25 %, Installation 75 %

Installation

- Today the mounting and installation is the most expensive part of a PV system.
- BIPV is the solution for this problem.
- BIPV modules replace normal roof and facade materials.
- This reduce the price for installation, because mounting of BIPV systems are not much more demanding than mounting of normal roof materials.
- THE BIPV products are more expensive than normal roof and facade materials, but BIPV will like any other PV system drop in price within a short time.

Production and consumption

- 100 m² house
- Electricity that is not consumed at moment of production is sold to the grid.

- Add-on-roof 2,5 kW = 2.500 kWh/year
- 75 % of production consumed at moment of production
- 25 % delivered to the grid
-
- BIPV 10 kW = 10.000 kWh/year
- 30% consumption at moment of production.
- 70 % delivered to the grid for 10 – 20 øre/kWh.

Economy (II)

- **Building owner**
- 2,5 kW = 2.500 kWh/year
- 10 kW = 10.000 kWh/year
- Electricity (buying) price 2,20 kr/kWh.
- Electricity (selling) price max 20 øre/kWh.
- Electricity that is not consumed at the moment of production is sold to the grid.

Economy owner incentive

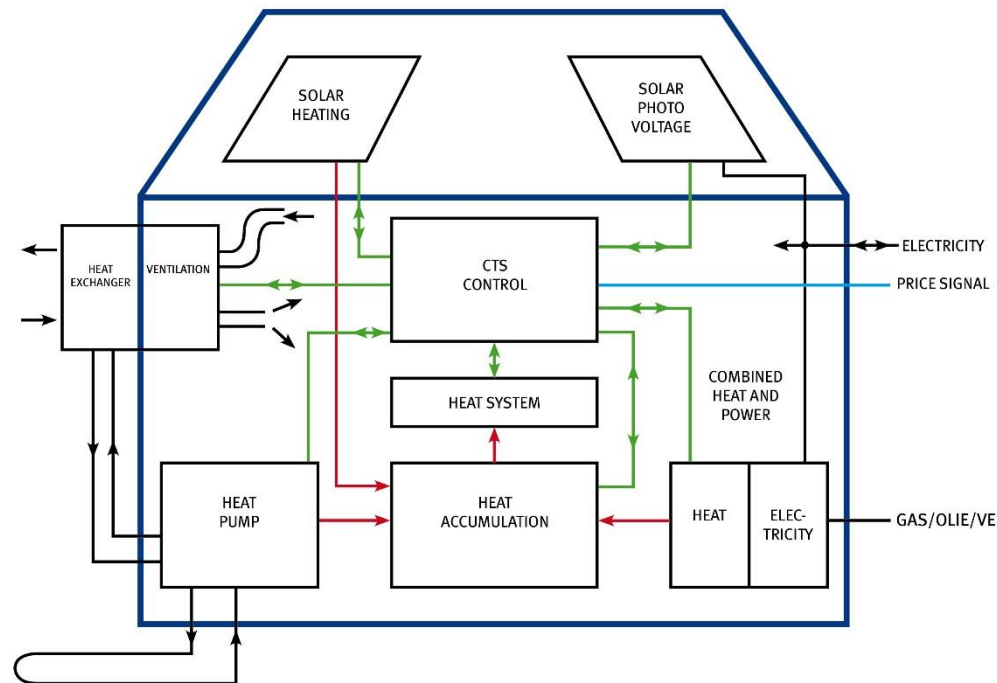
- A BIPV owner 10 kW
- Maximum value = $10.000 \times 2,20 = 22.000$ kr.
- Real value = $10.000 \times 0,25 \times 2,20 = 5.500$ kr.
- Sale to grid = $10.000 \times 0,75 \times 0,20 = 1.500$ kr.

- Incentive to energyoptimising = 15.000 kr./Yr

Incentive for batteries and CTS systems

- Battery and heatpump/cooling equipment and controlsystems will have a focus on this area.

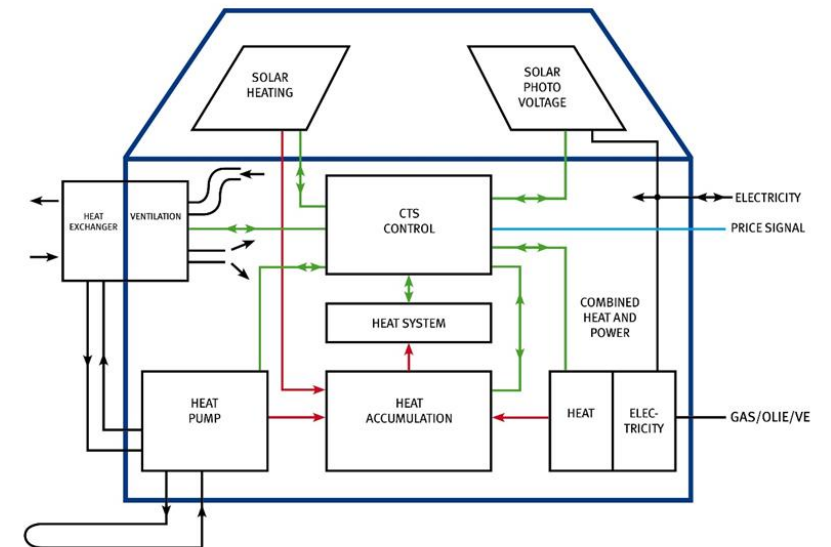
TEKNIQ installation: Smart House⁺



Actual delivery

- The future premium building energysupply will be a stable energyconsumption, and a possibility to support the grid and distribution system as peakshaver
- The main consumers in the house
- Heatpump and electric car.
- You Ladies and Gentlemen are supposed to deliver the necessary hardware and software.

TEKNIQ installation: Smart House⁺



The way BIPV will look in the future



And there will be a lot of it. In 2050 there are room for 5 GW BIPV systems in Denmark

Thank You for listening

