

vitalruralarea



Educationer.eu

The Vital Rural Area project is designed to ensure that SMEs in the region maintain and attract young people to these companies. In this way, aging and depopulation occur and preserve the livability, creating a vital (North East) Friesland. The general idea behind this project is that by working together and building networks rural areas in Europe will be brought to a higher level.

ROC Friese Poort Bedrijfsopleidingen participates in the first work package: Strengthening of SMEs, where entrepreneurs, educational and government institutions necessary and available knowledge more closely align and develop new knowledge.

In consequence ROC Friese Poort Bedrijfsopleidingen has developed a digital learning module Solar Water Heaters. The learning module is also translated into English and German and is free available for students and SMEs.

On March 10 2010 a presentation is given to the SMEs in North East Friesland. During this meeting the installers from this region had the opportunity to work with the teaching module. This showed that there is also a need for expansion in the curriculum direction Installation and Maintenance. Subsequently, this module also been developed and incorporated in the supply.



- The development of this module is groundbreaking for a stream of innovative knowledge to the smaller companies.
- One should not see the course solar water heaters itself as a stand alone product, but as a breakthrough.
- This leads to a faster international knowledge exchange.
- Knowledge of the latest developments in the fields of solar, wind and earthwarmth wil lead to a independence of fossil energy.

## Applicability

- The module can be used in all rural areas
- The module can be used by technical schools and knowledge centers
- Create an international network of installers for knowledge exchange

# Introduction solar water heater

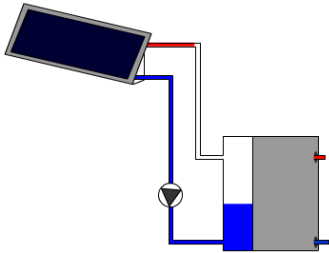
## Drainback system

The pump has been long term out

The pump is switched on

The circuit is entirely filled

The pump is switched off



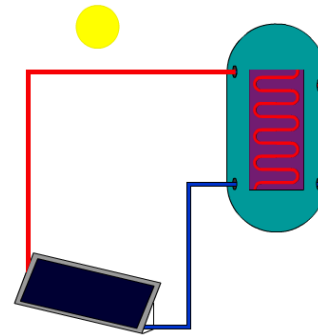
- Drainback system

- Thermosiphon system

## Thermosiphon system

Sun shines. Collector starts to work.

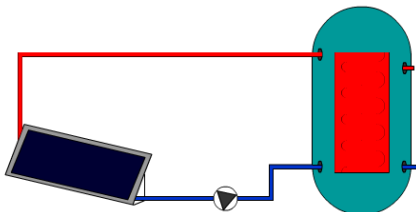
Sun goes down. Collector stops.



## Fully filled system

Sun shines. Collector starts to work.

Sun goes down. Collector stops.



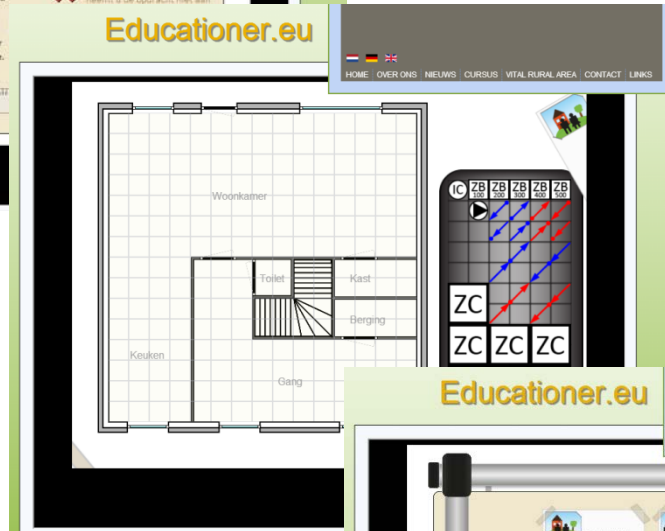
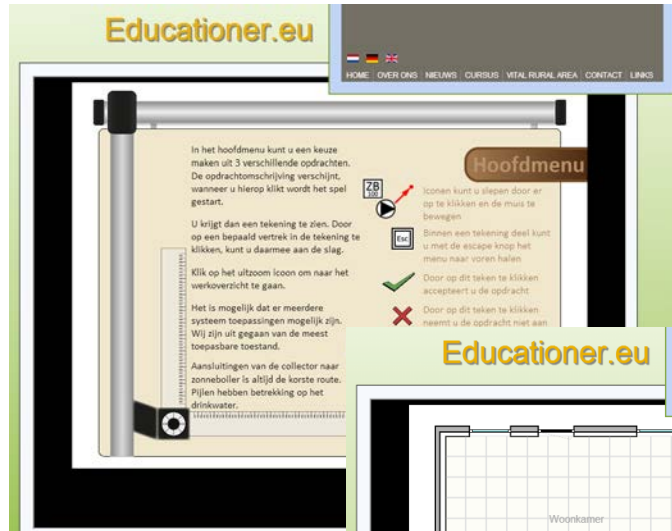
- Pump circulated system

# Introduction solar water heater



- There are two courses of solar water heaters.
  - Design and System Selection (office)
  - Installation and Maintenance (mechanics)
- The course consists of
  - Theory with images
  - Game (2d and 3d)

# 2d game



# 3d game

