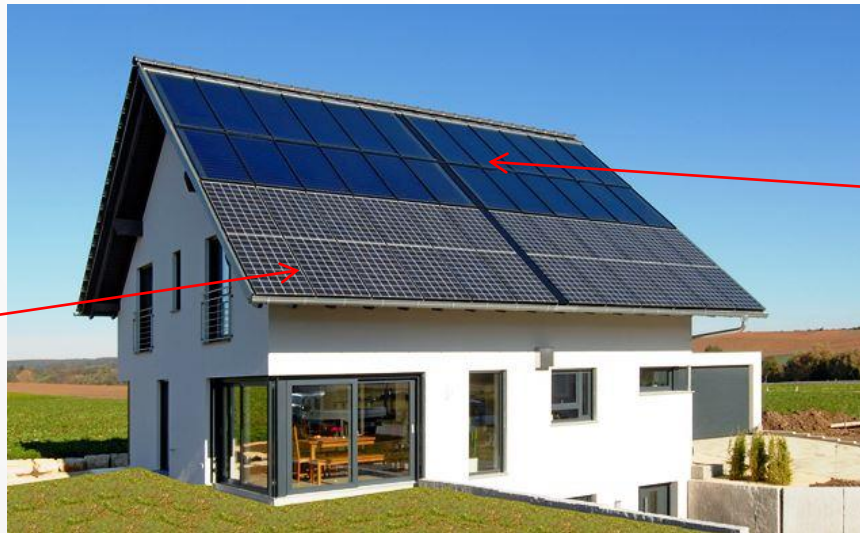




solar energy in  
ERLANGEN

# photovoltaik energy

- solar thermal energy  
heat production for warm water treatment  
and heater support
- photovoltaik energy  
electricity generation and input of the unused electricity into the  
public network



photovoltaik

solar thermal

# Solar Energy in Germany, Erlangen

- many projects and goals to reduce the use of fossil fuels in Erlangen
- passiv-houses and plus-energy-houses
- activities of the association „Solarenergie Erlangen e.V.“



# Solar Energie Erlangen e.V.

## purpose:

active helping to reach a goal of the city Erlangen:

*goal: reduction of the carbon dioxide emissions about 50%  
until 2010*

- informed the public about the possibilities of using solar energy
- projects in schools



# Solar Energy Erlangen e.V.

president Prof. Dr. Martin Hundhausen



Joachim Herrmann (Bavarian minister of the interior),  
left and Martin Hundhausen, right.

# projects in schools

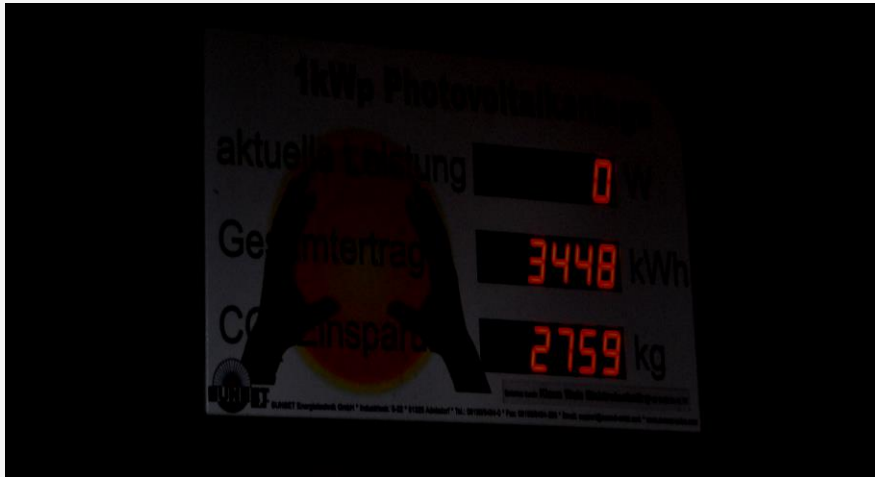
- every school has its own photovoltaik system because of the work and projects of „Solarenergie Erlangen e.V.“

Roof of the Albert-Schweitzer-Gymnasium

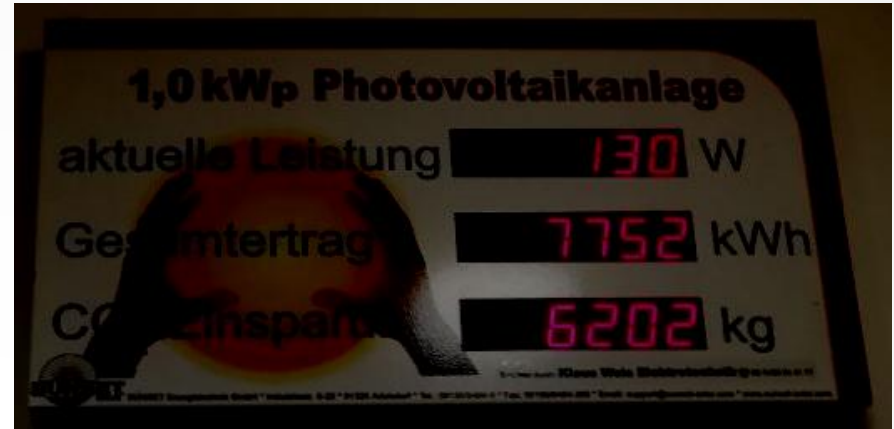


- solar lessons by Prof. Dr. Martin Hundhausen

# schools



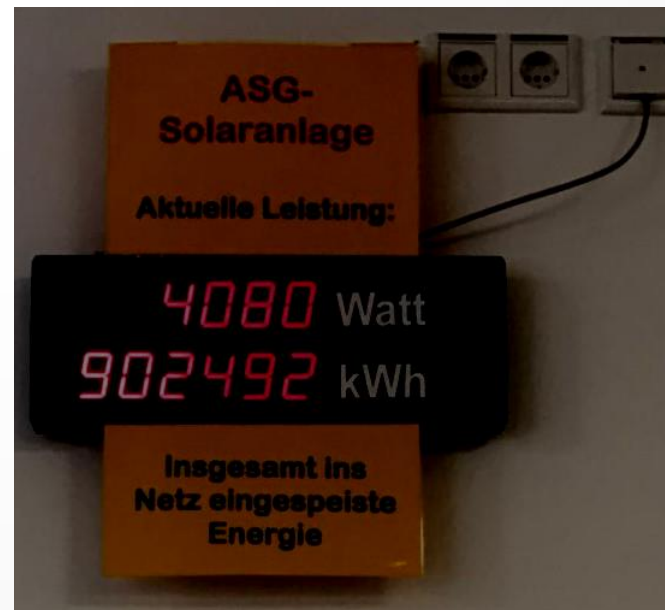
Secondary school (*Realschule am Europakanal*)



Ohm-Gymnasium



vocational school



Albert-Schweitzer-Gymnasium

# counter board





# Prof. Dr. Martin Hundhausen

- expert in alternative energy systems
- designed the first passiv-house in the region

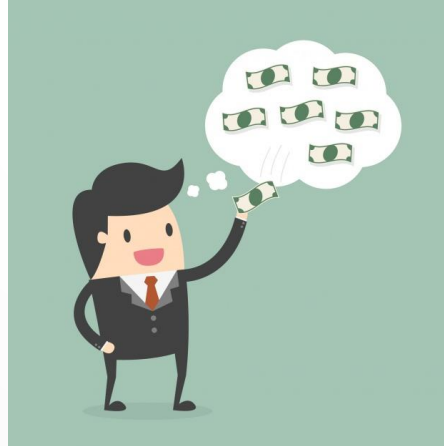


# passiv-houses

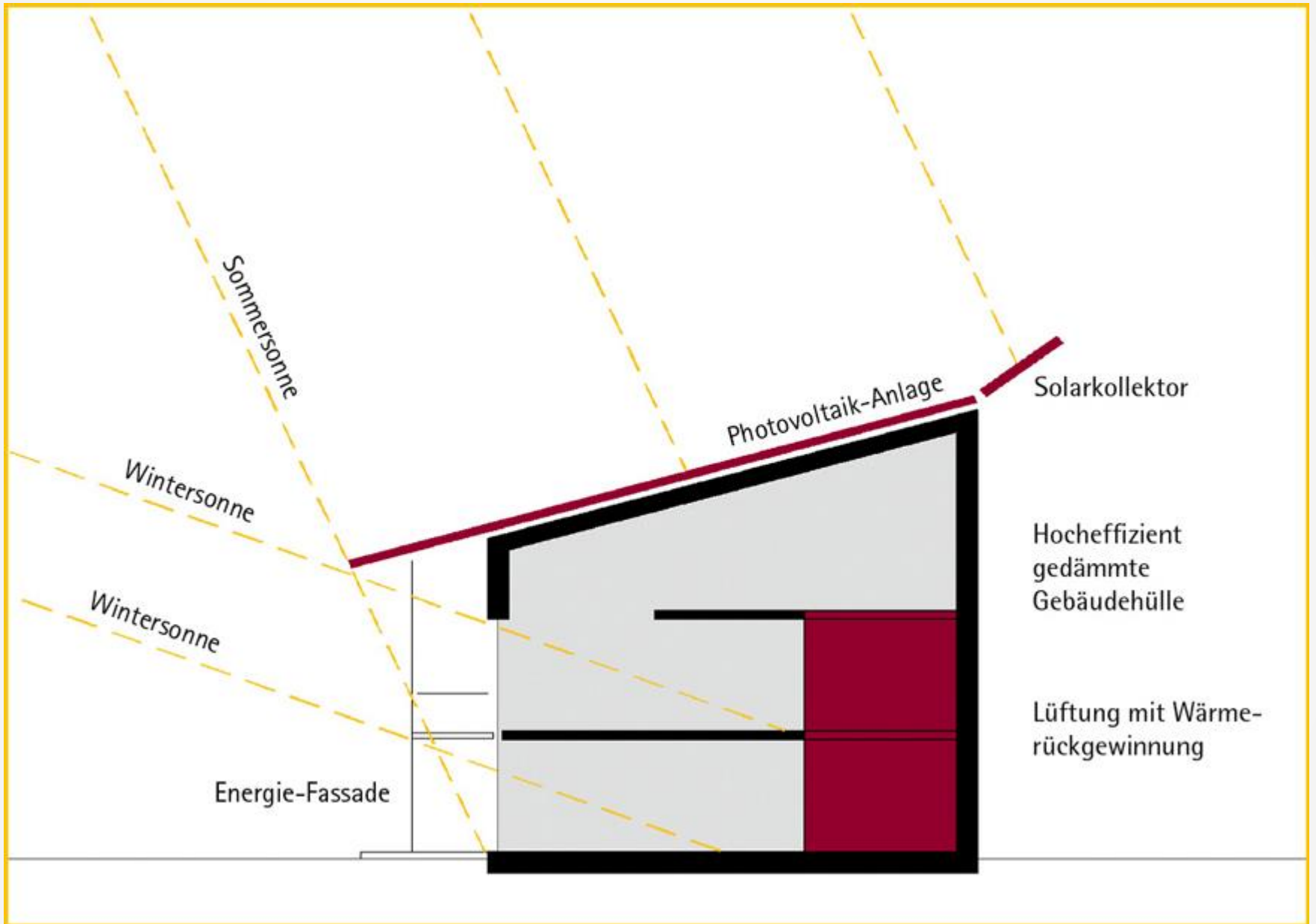
- ventilation system
- extra big walls
- extra heating systems
- advantages:
  - 90 percent less heating costs
  - activ environment and climate protection
- → less than 4.000 kg carbon-dioxide emissions than conventional houses

# plus-energy-houses

- produces more energy than required
  - photovoltaik and solar thermal systems
  - using of the self-produced electricity
  - input of the unused electricity into the public network
- selling electricity



- advantages:
  - independent of rising electricity prices
  - active handling for the energy revolution



# Hundhausen

- 1. How much energy does a plus energy house produce annually?

- needed for heating: 4.000 kw/h
- needed for technical devices: under 3.000 kw/h
- produced: about 14.000 kw/h

- 2. What happens to the unused energy?

*„the unused electricity will be delivered into the public energy network.“*



- 3. Are there already further plus energy houses in Germany or Europe?

*„After a city council resolution a settlement of plus energy houses was built in Erlangen. Of course, there are more plus energy houses in Germany. The first plus energy house settlement was realised in Freiburg. It should be quite easier to enforce any plans of plus energy houses in southern countries (Italy, Spain, ...) in light of the high solar radiation.“*

- 4. Does anything speak against the building of a plus energy house?

*„No, nothing speaks against it!“*



# plus energy house settlement in Erlangen



# QUIZ

- 1.) Which energy system produces electricity to light the rooms?
  - A: solar thermal energy system
  - B: photovoltaik energy system
  
- 2.) Where have been the projects of the association „Solarenergie Erlangen e.V.“?
  - A: in schools
  - B: in universities



# QUIZ

- 3.) is it true?

Prof. Dr. Martin Hundhausen designed the first plus energy house in our region.

A: true

B: false

- 4.) Which car does M. Hundhausen drive?

A: an electric car

B: a petrol-driven car



THANK

YOU FOR

YOUR