

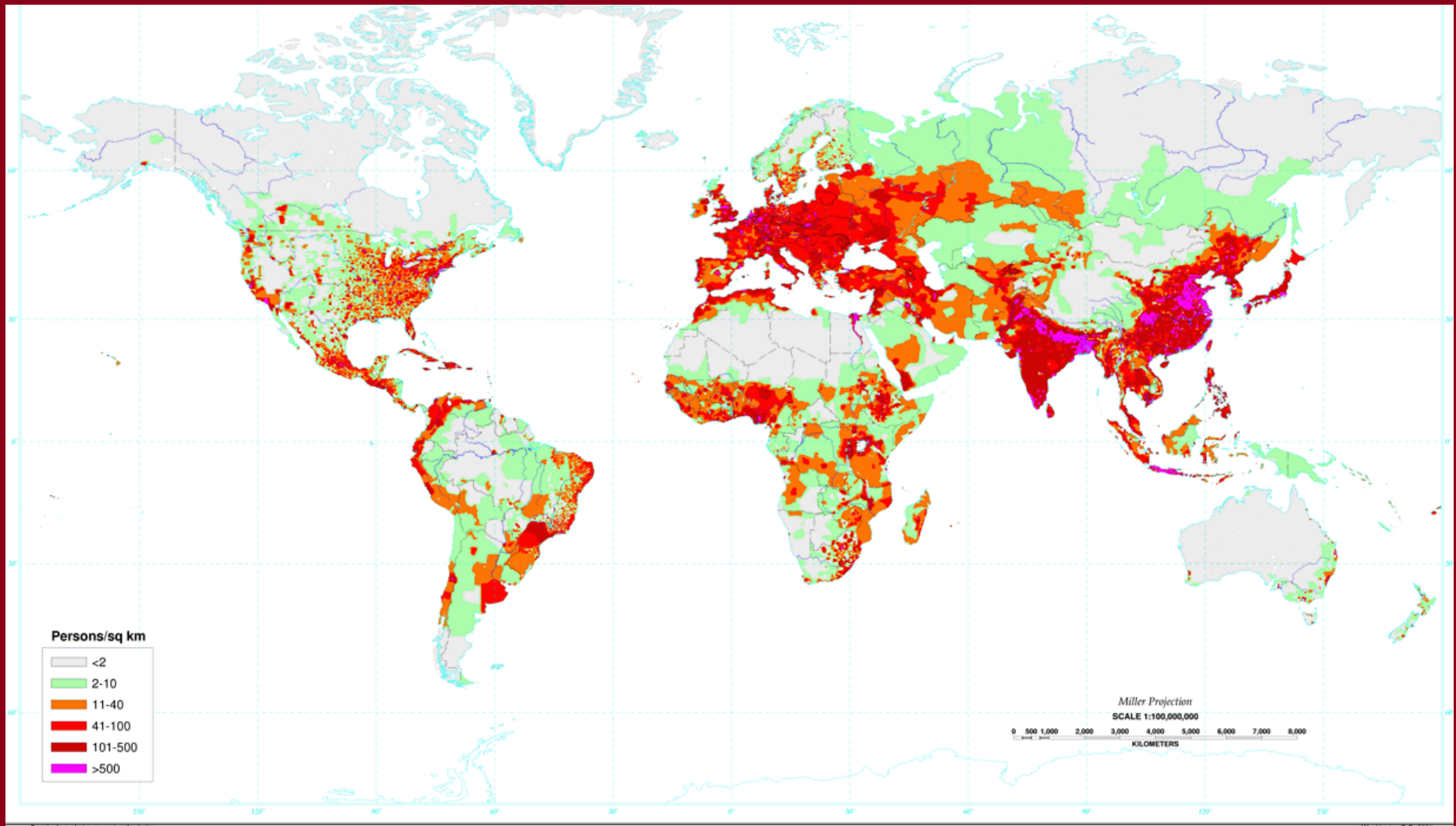
Passive Houses - Overview and the World Wide Perspective

„A sustainable economy can be continued, without causing disadvantages for humans, environment and posterity.“

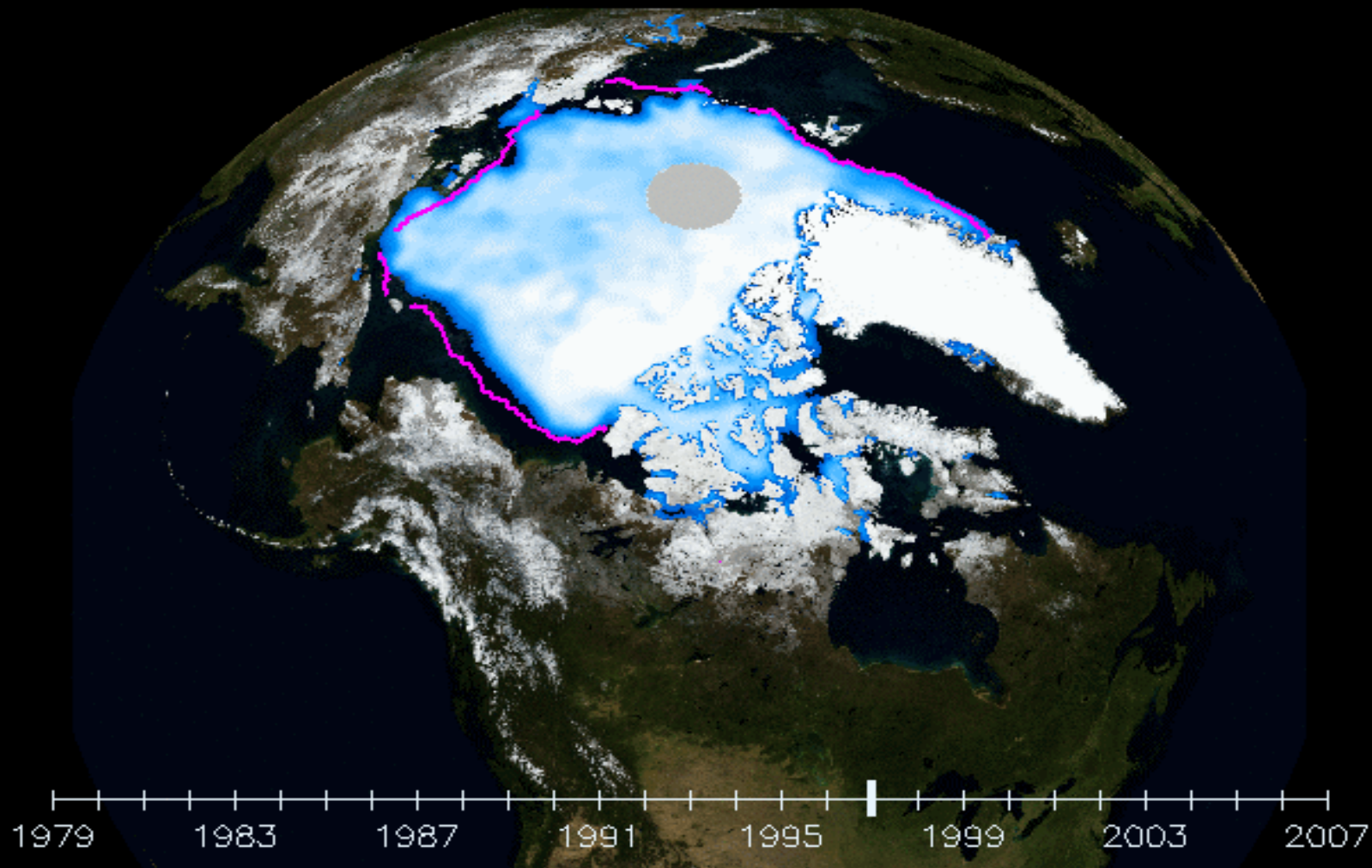
[6. Passive House Conference
Bale 2002]



*The planet will survive...
...if we act responsibly.*



*Climate change...
is the main problem.*





IEA Energy Outlook 2008

Current global trends in energy supply and consumption are *patently unsustainable* – environmentally, economically, socially.

There's still time to change the road we're on.

What is needed is nothing short of an *energy revolution.*

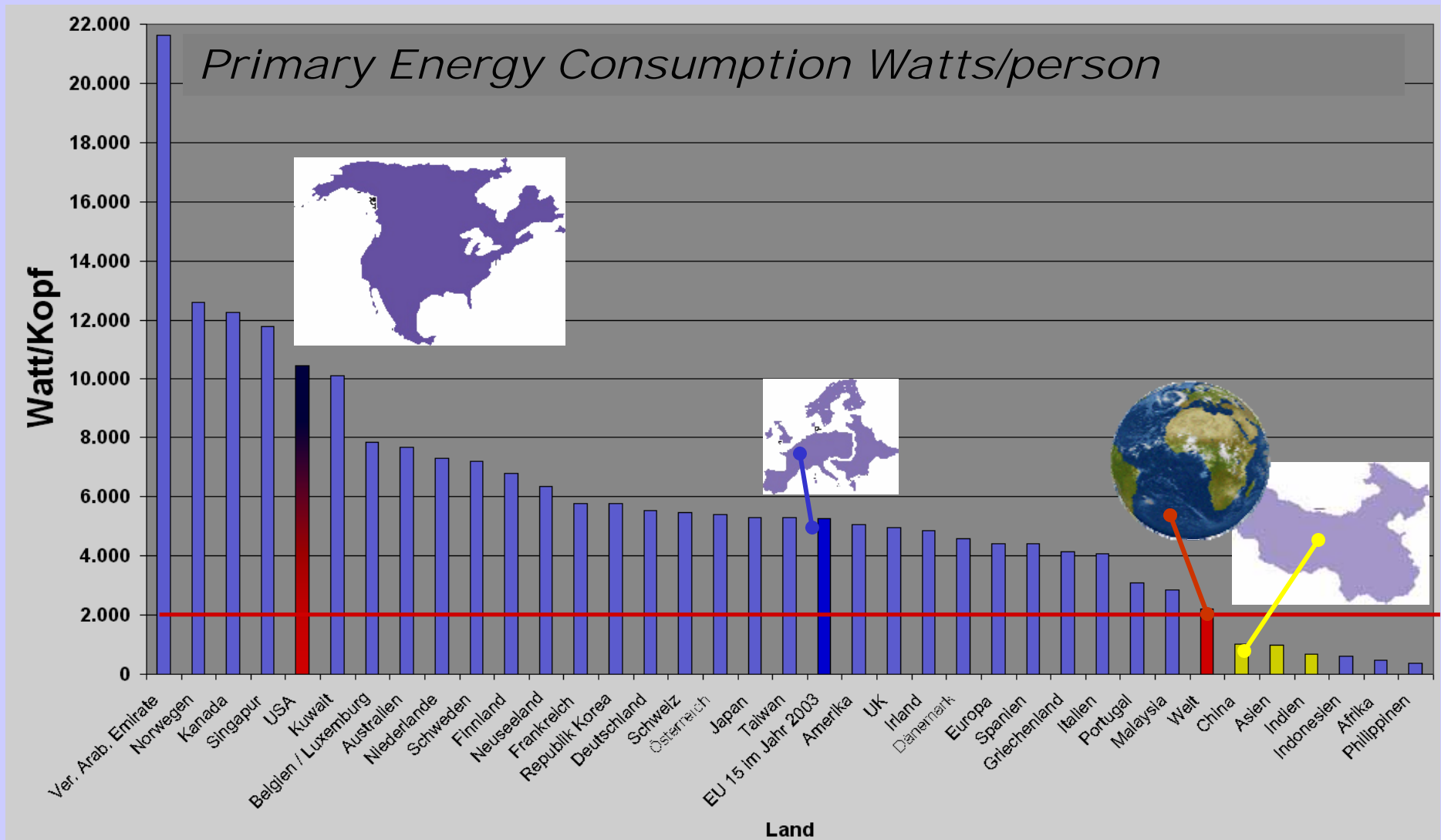


Let's aim at an evolution to sustainability

*The Reason:
... consumption of fossil fuels*

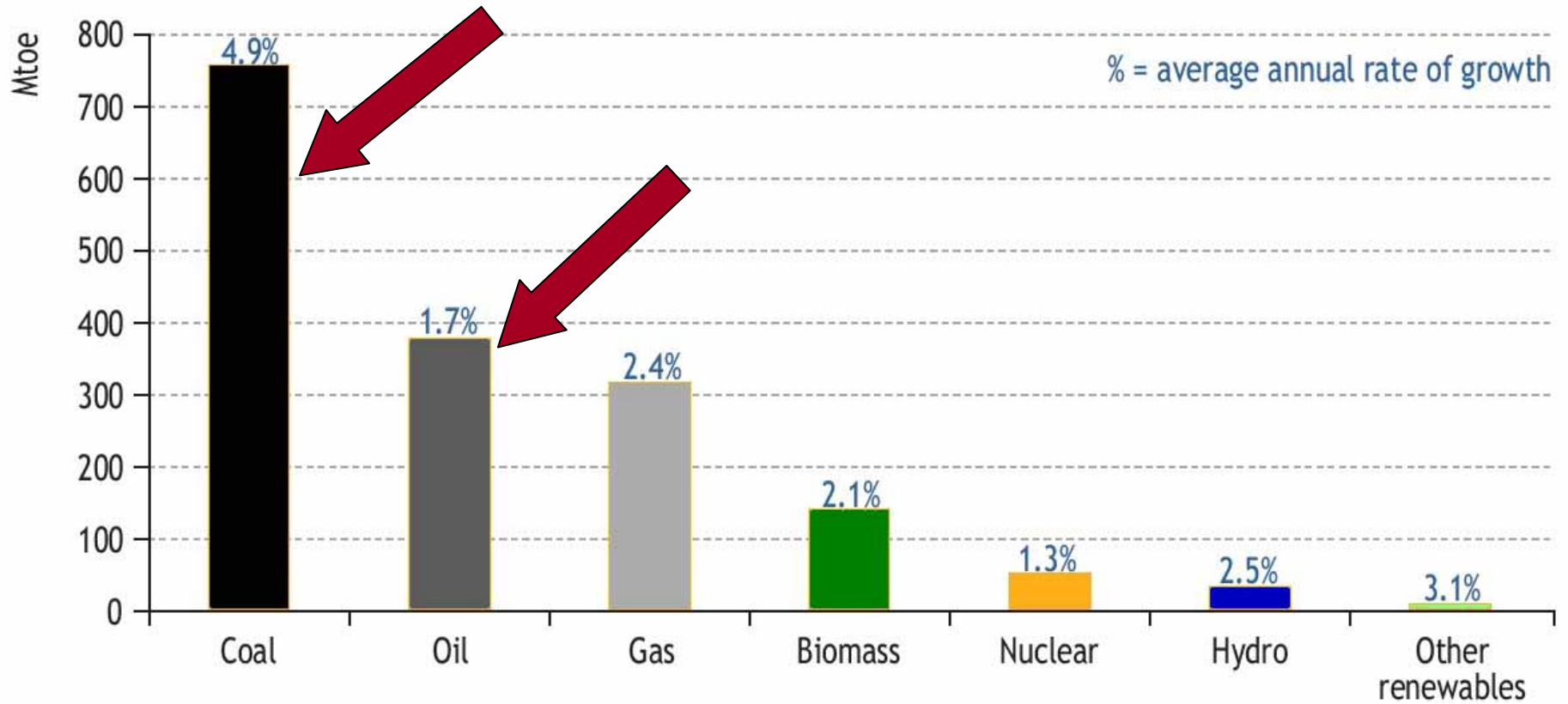


Primary Energy Consumption per Person

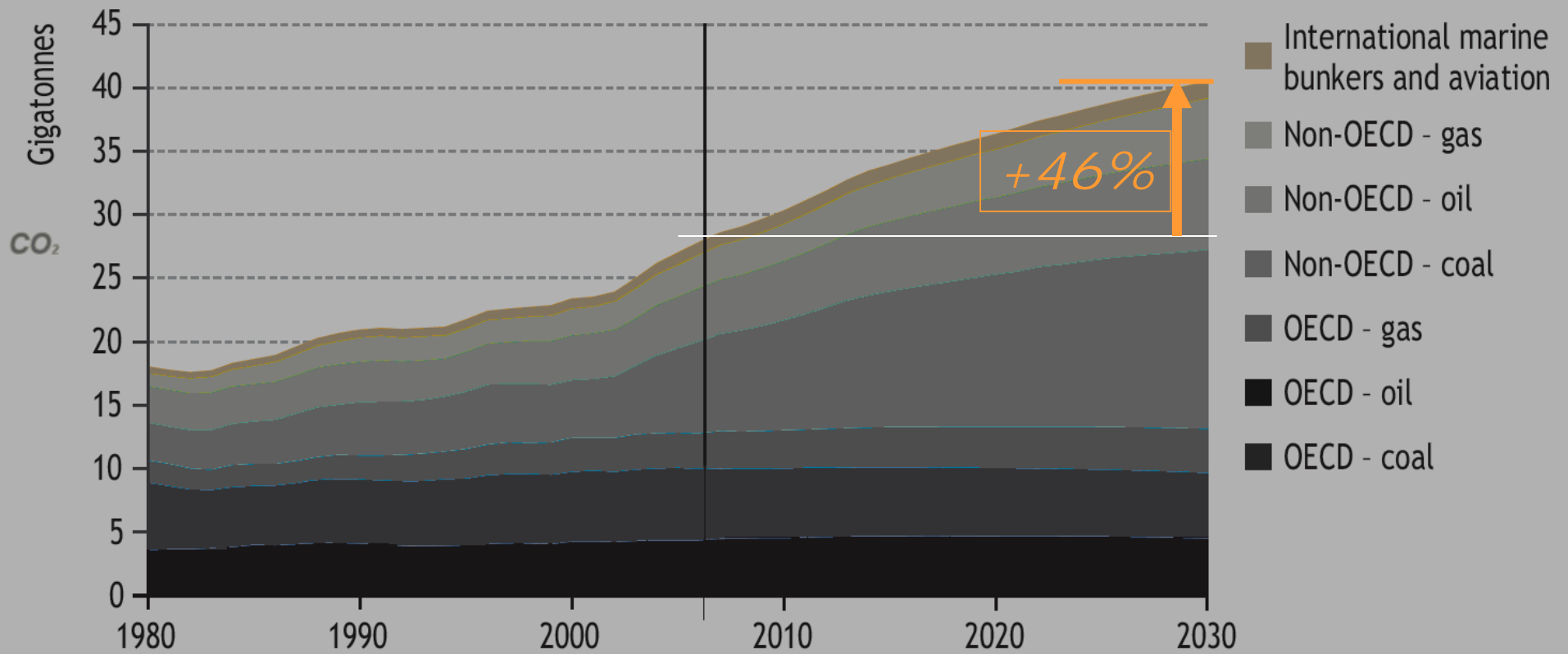


Trend:

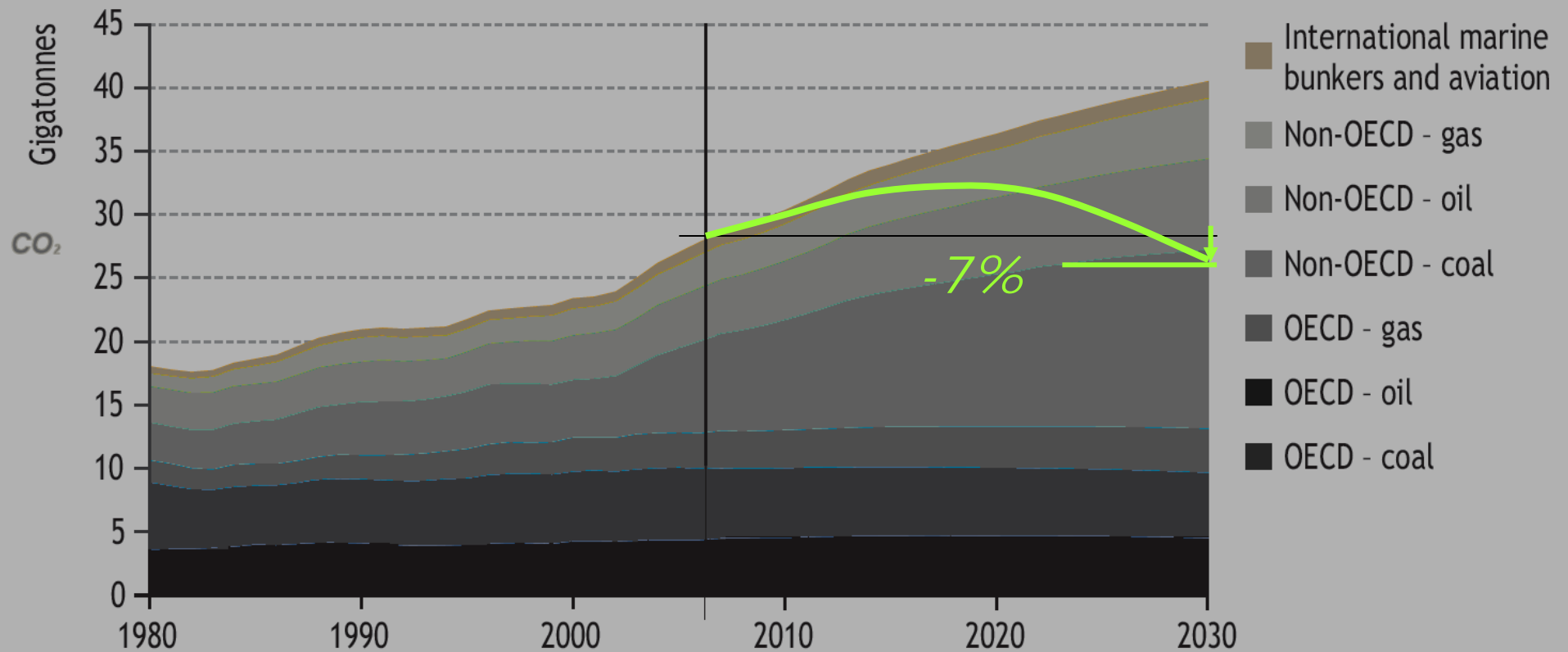
highest growth: coal and oil



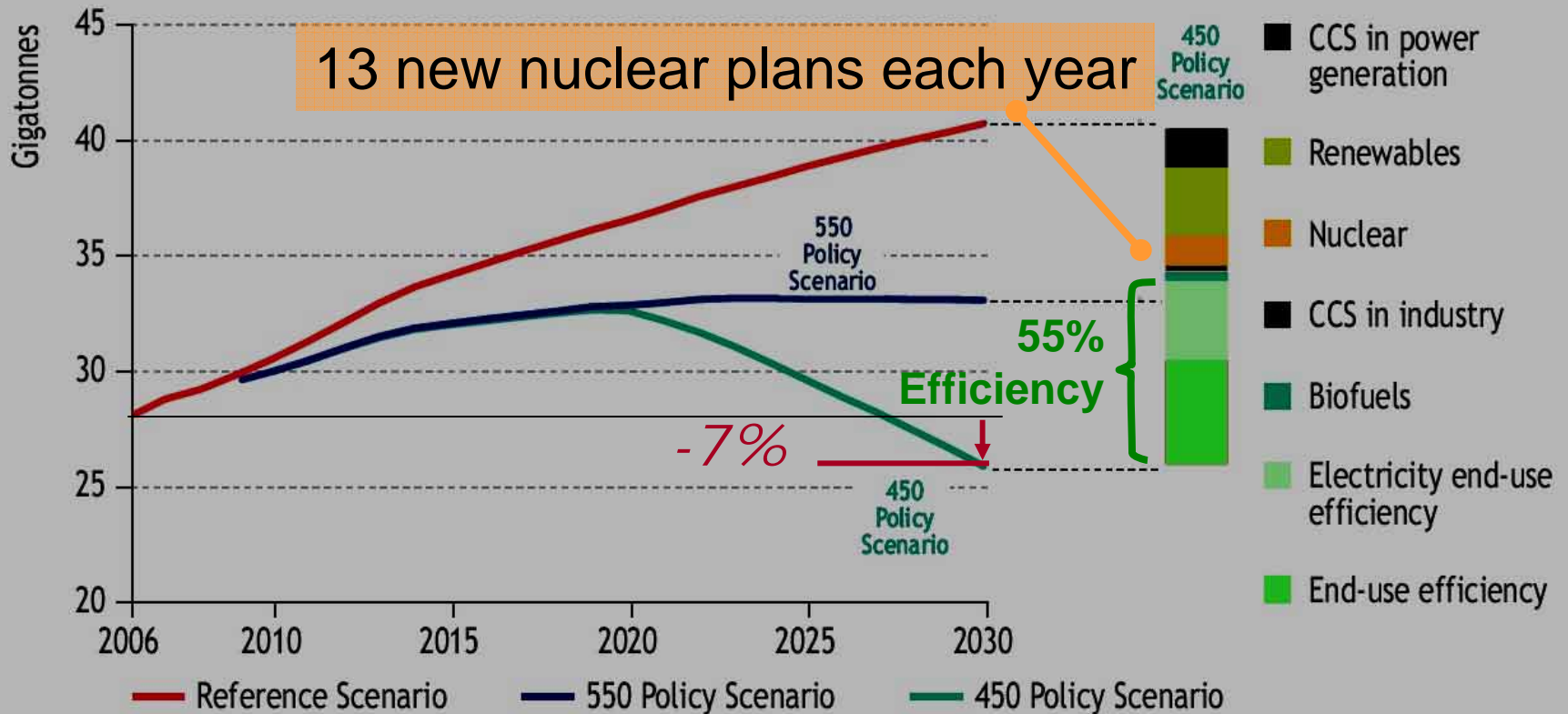
„Business as Usual“: dramatically increased CO₂-Emissions



IEA-Szenario for „450 ppm policy“:

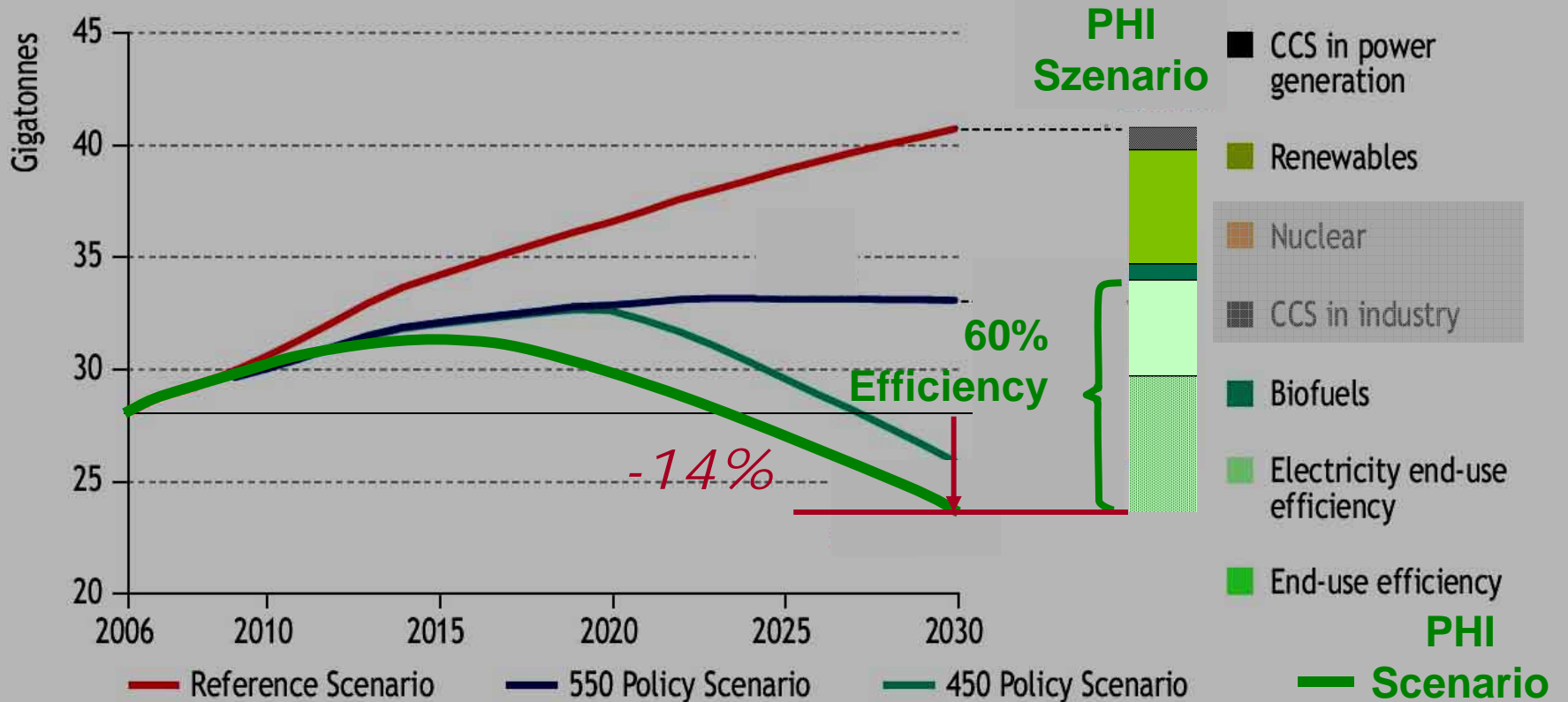


IEA-Szenario for „450 ppm policy“:



Efficiency Scenario

faster, cleaner, cheaper, more socially acceptable



What it means: sustainability concrete efficiency in lightning



<i>El. Power</i>	<i>46 W</i>
<i>Invest</i>	<i>0,36 €C</i>
<i>El /a</i>	<i>54 kWh/a</i>
<i>Total costs</i>	<i>10 €/a</i>



<i>El. Power</i>	<i>9 W</i>
<i>Invest</i>	<i>5,40 €C</i>
<i>El /a</i>	<i>11 kWh/a</i>
<i>Total costs</i>	<i>2,93 €/a</i>

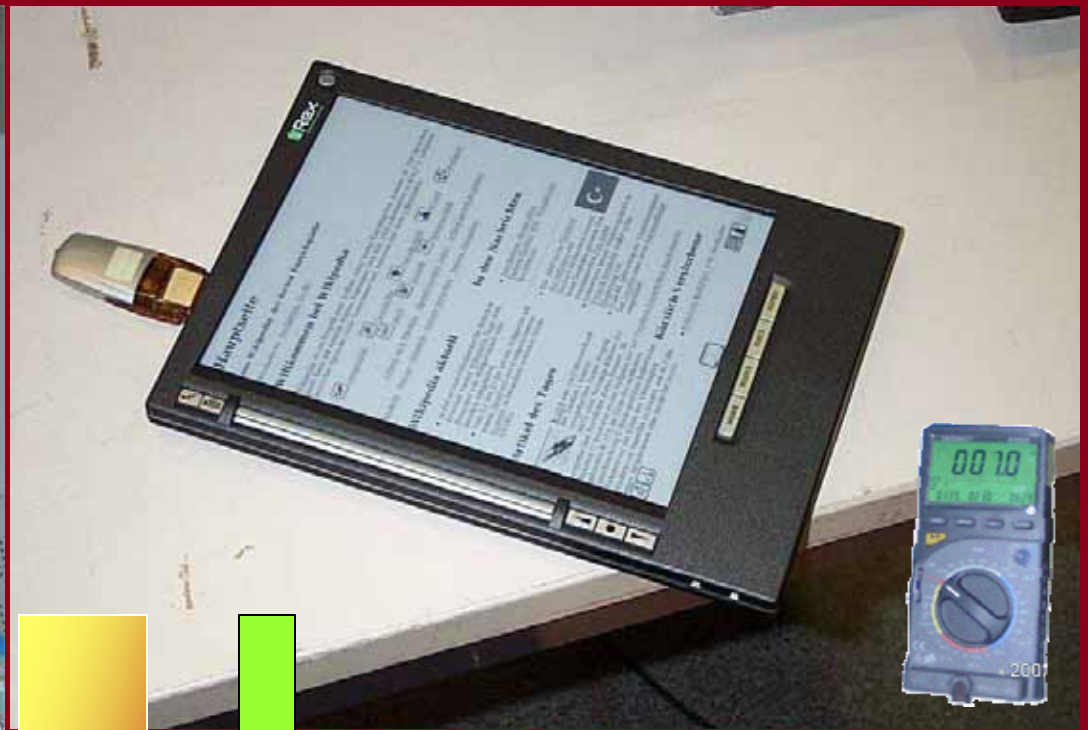


1,4 €Cent/kWh

What it means: sustainability concrete efficiency in IT: „electronic ink“



76 Watt

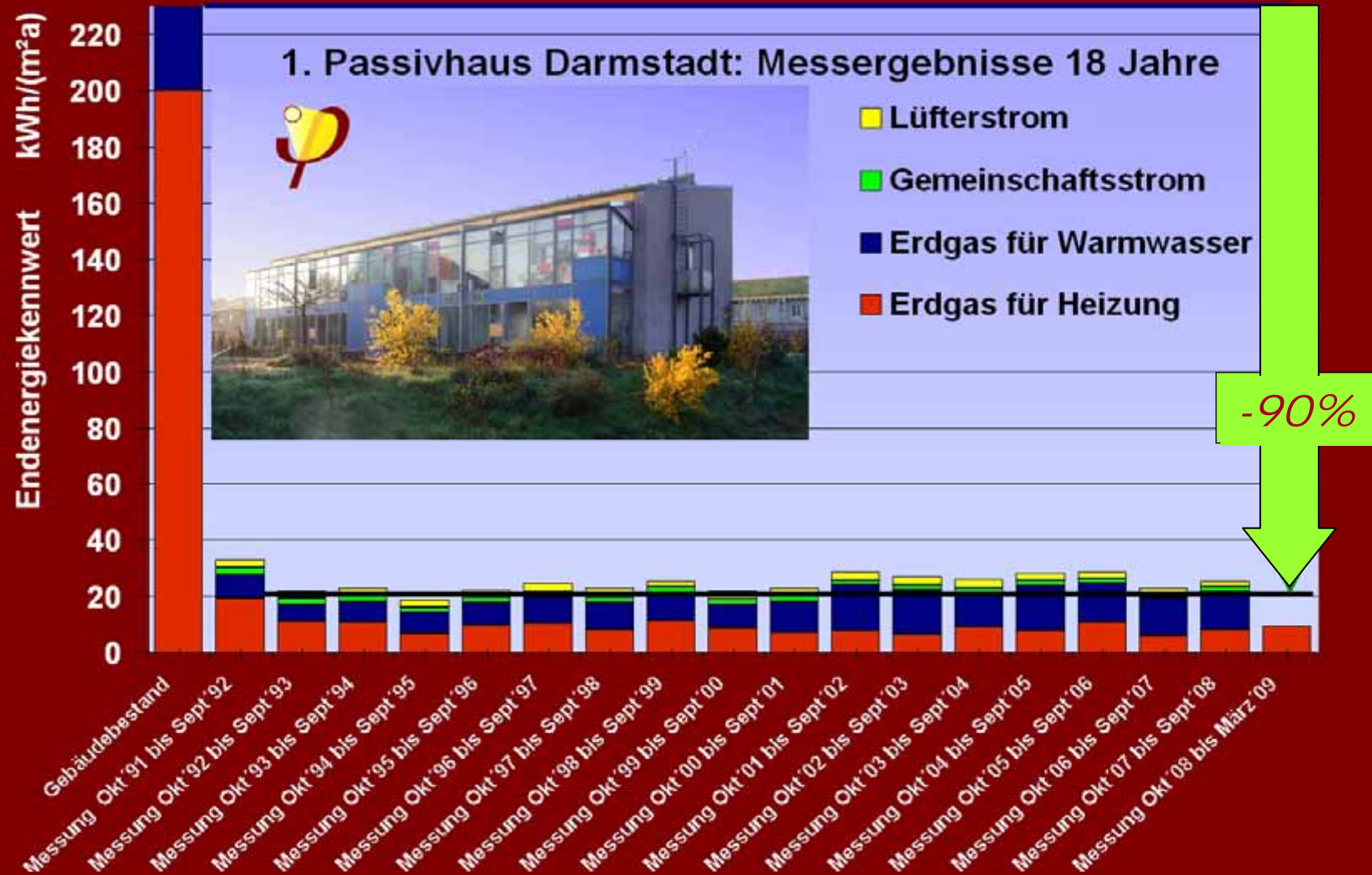


1 Watt

-98%

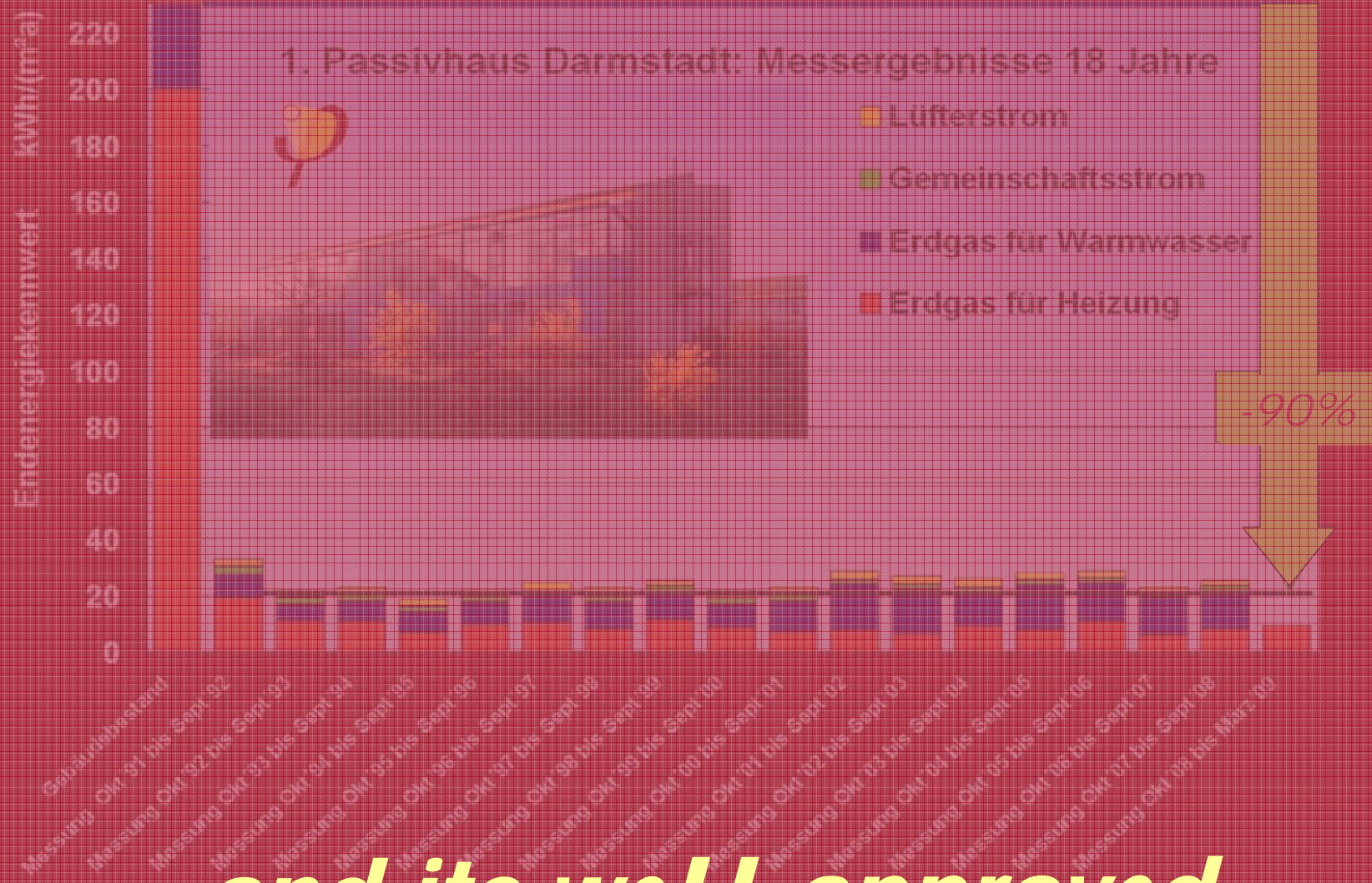
*Less than
3 €Cent/kWh*

What it means: sustainability concrete efficiency in Building: „Passive House“



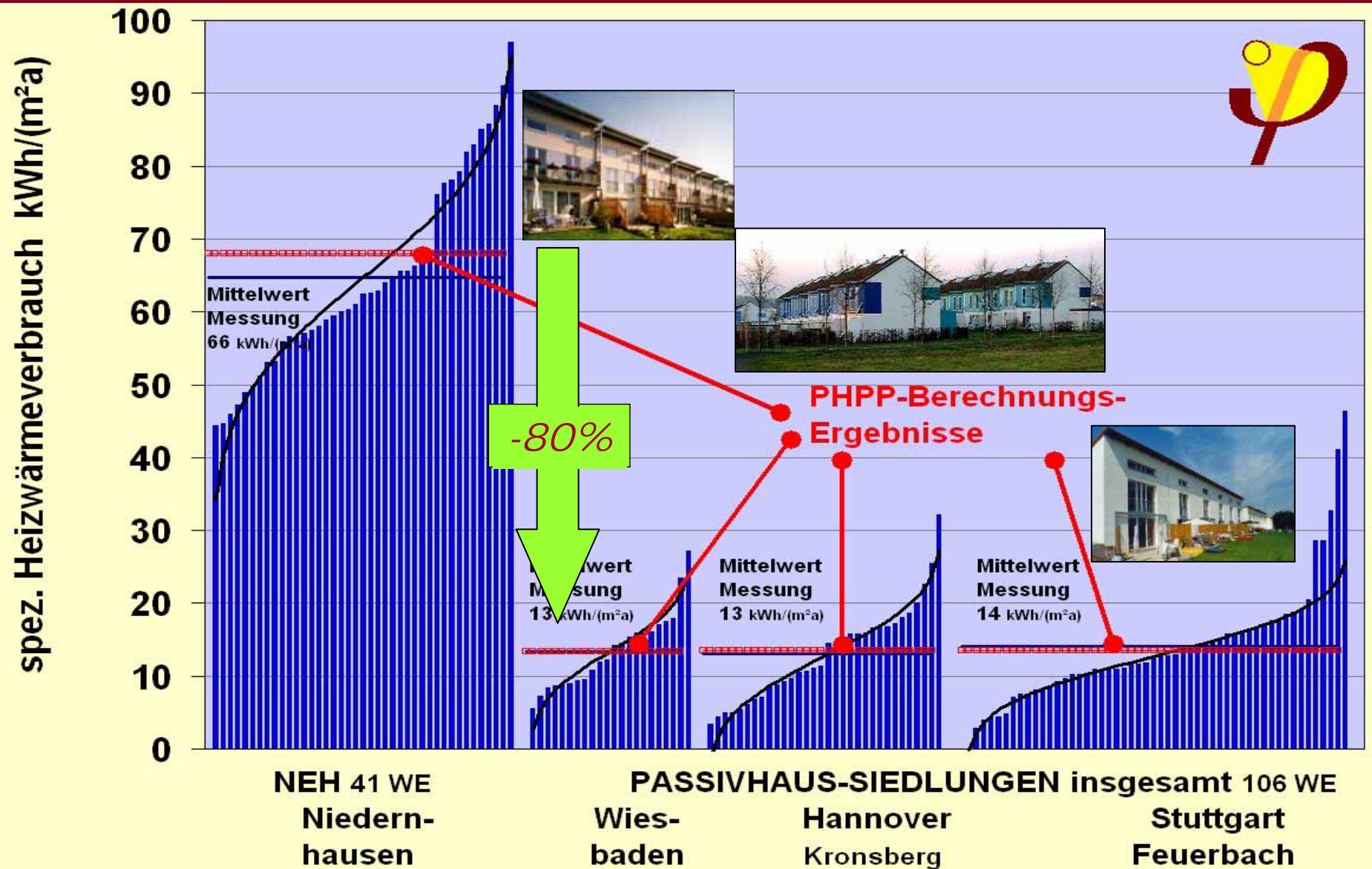
long time stability

The Passive House is sustainable



and its well approved

Case studies: Passive House settlements Monitoring results

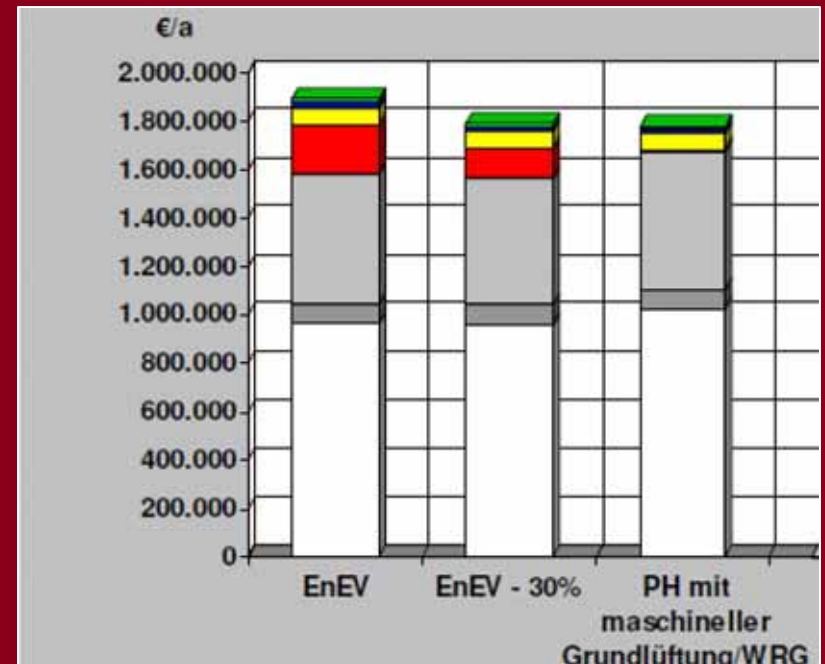


Sustainable Solutions: Passive House – School Buildings

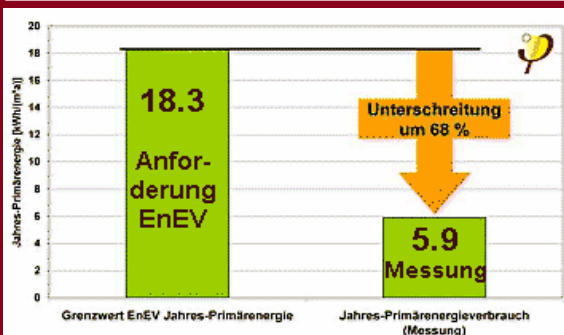
Realised: Frankfurt 2003



economic results: 2008



measured consumption: 68%
lower than German ordinance



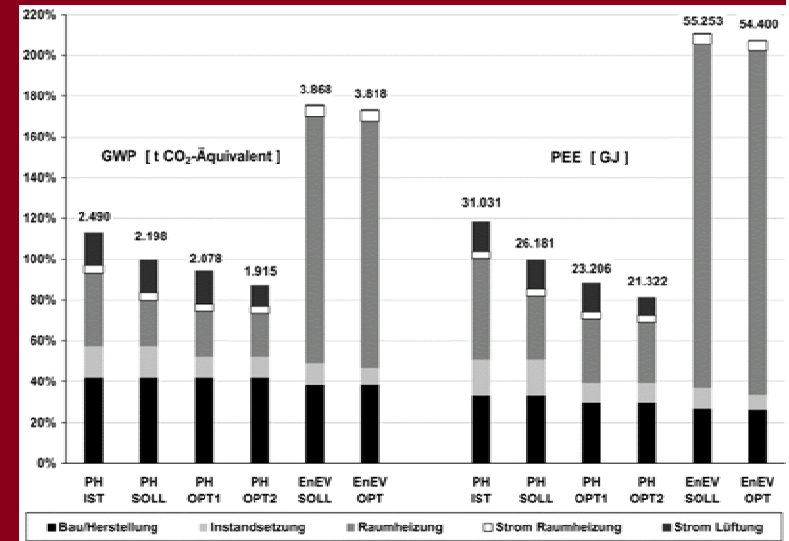
Sustainable Solutions: Passive House – Council Buildings

Realised: Kassel 2000

macro-economic result: 2008



Measured



**Measured Consumption: 45%
lower than German Ordinance**

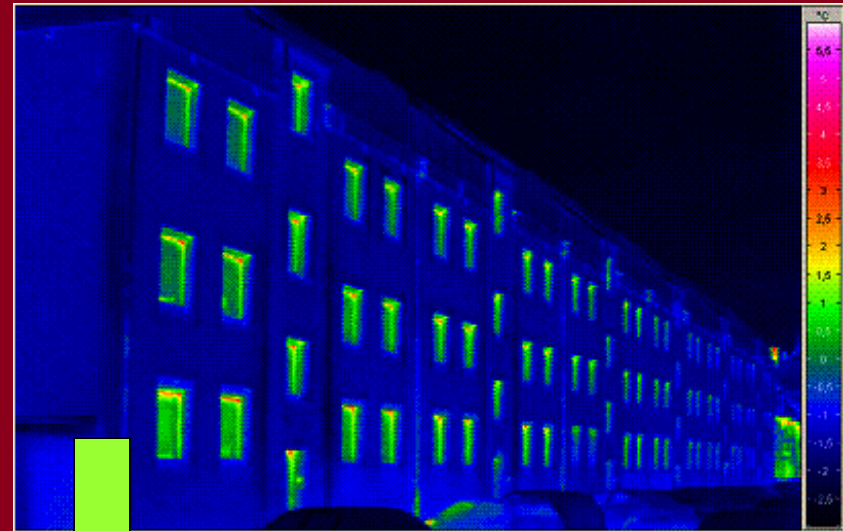
Sustainable Solutions: Passive House – Retrofit

Realised: 2006

Results: 2009



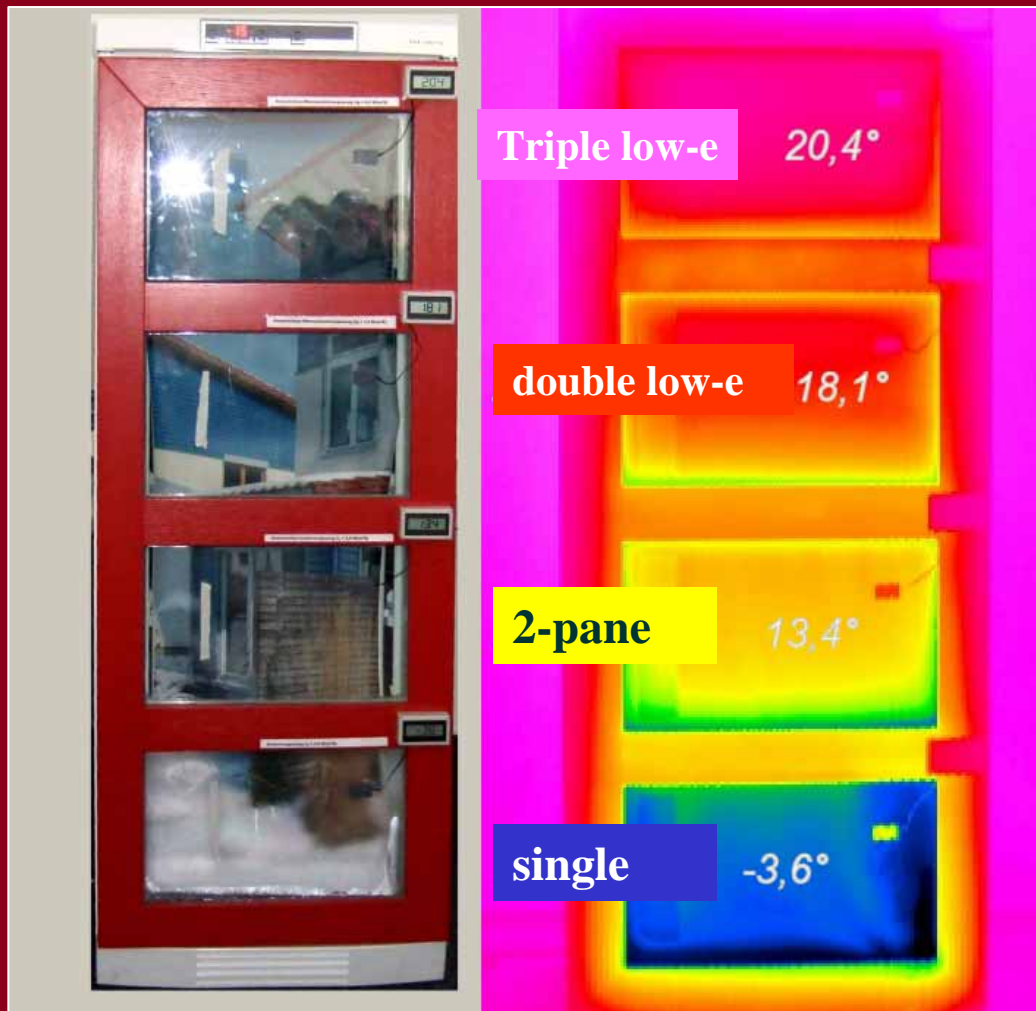
290 kWh/(m²a)



-95%

16 kWh/m²a

Sustainable Solutions: energy + glazings



advantages: not only energy savings, but

- higher surface temp.
- better comfort
- no condensation
- no drafts
- better preservation of the structure

Sustainable Solutions: compact HRV + heating systems

**All in One:
Heating
Domestic hot water
ventilation
(+ cooling)**

Idea: 1995

concept: 1996

prototype: 1998

On the market

Maico Haustechnik
Aerex



Paul Wärmerückgewinnung
Kompakt



Stiebel Eltron
LWZ 303 sol



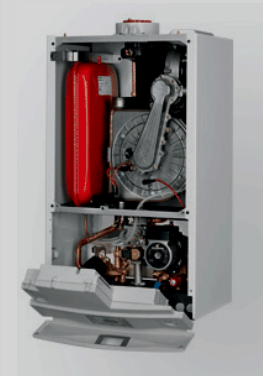
Nilan
VP18 - 10P



Genvex/Pichler
Kompakt



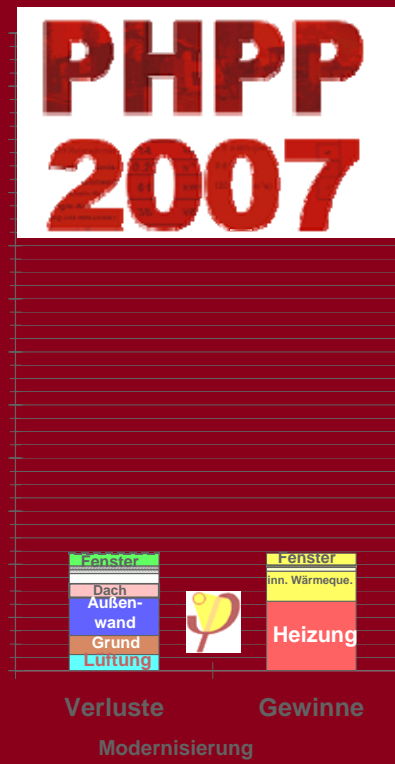
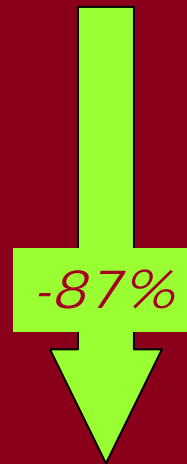
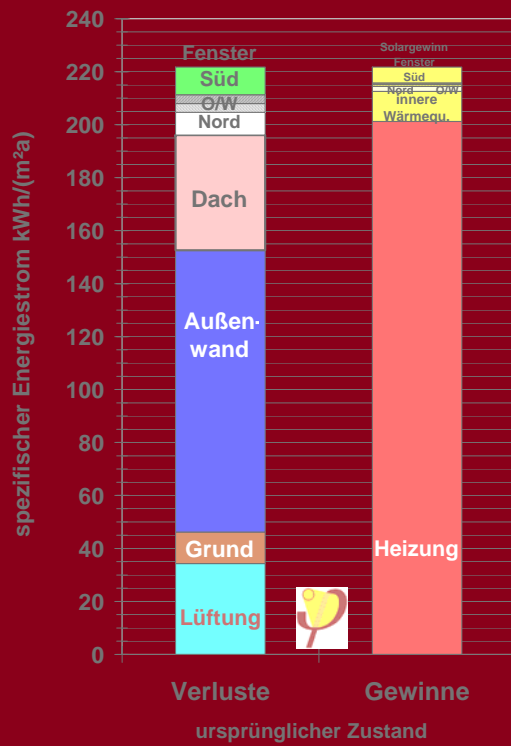
Drexel & Weiss
aerosmart S



Sustainable Solutions: PHPP

Tool

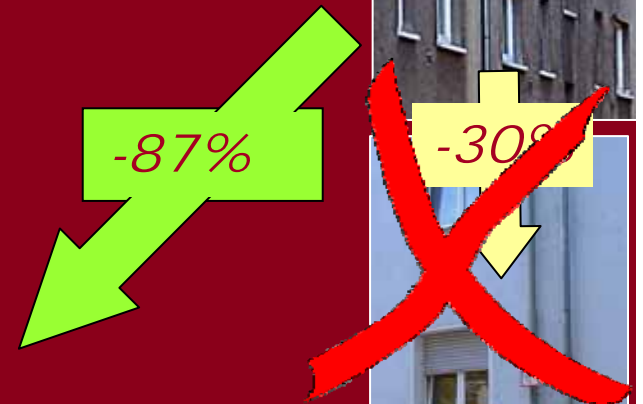
+ Know how + Calculation + Optimisation



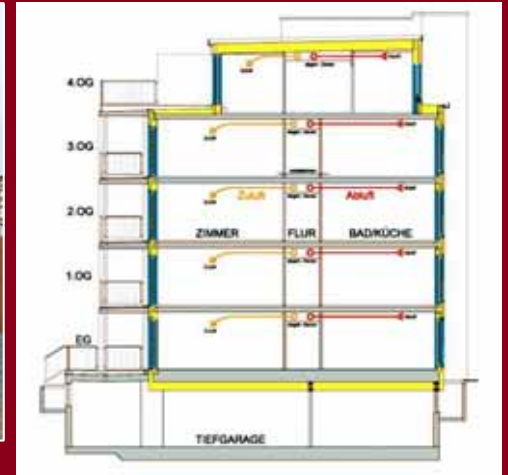
If you do it, do it right...

*The effort for refurbishment is high.
Anyhow. Its not done just for fun.
But: It will have to be done
– at a certain time.*

*And that is the very moment –
To do it right.
If not:
It's a lost
opportunity.*



Sustainable Solutions: Example Frankfurt



Sustainable Solutions: Example Frankfurt

Frankfurt



**Major
Petra Roth**

**All new public buildings:
Passive Houses.**

**“If it is just a 3,7% higher Invest
- we cannot afford building less
efficient.”**



**CEO public building society FAAG
Frank Junker**

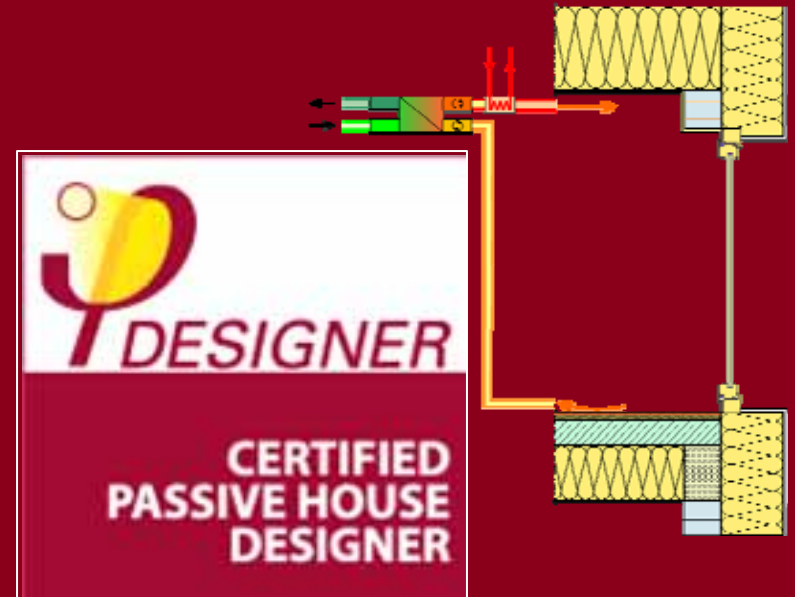


Europe



Passive House- Education

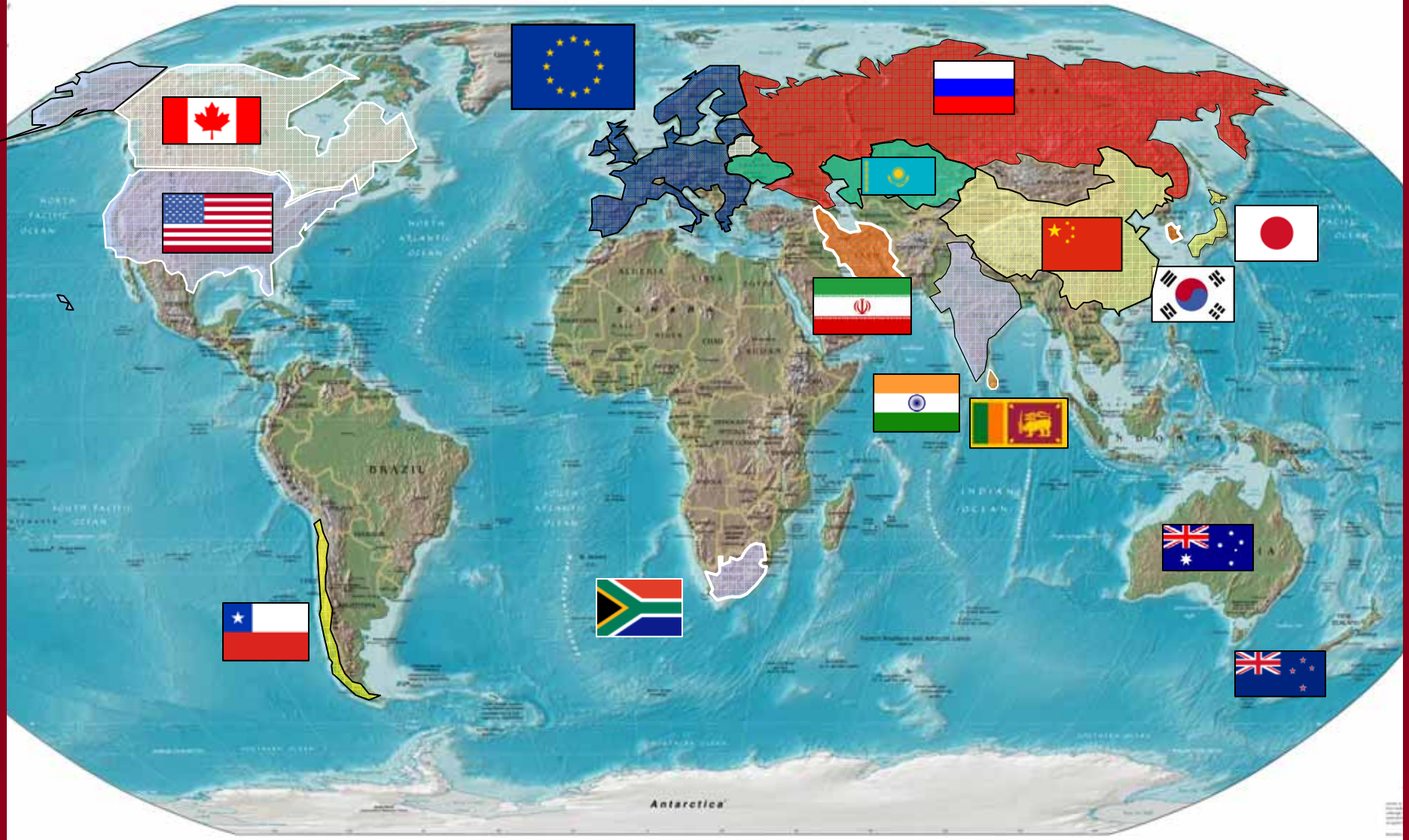
- Development of a 10 days training course for Passive House Design
- Training materials for 9 European countries
- "Train the Trainers"
- Implementation in 9 European countries
- certificate "Certified European Passive House Designer" on passing the **associated exam**.
- Creating a high transparency for the certification procedure.



(Austria, Czech Republic, Denmark, Germany, France, Italy, Slovakia, Great Britain and Netherlands).

Passivhaus-Initiatives world wide

World, April 2001





6th–8th November 2009 PASSIVE HOUSE DWELLERS OPEN THEIR HOMES:

6th International Passive House Days



The Passive House comes of age!

- innovative architecture
- mature technology
- Passive Houses have been lived-in and well-proven for 18 years!

18th
anniversary

You can contact us on info@ig-passivhaus.de for further information or simply have a look at our website at www.ig-passivhaus.de.
From September 2009 on, you will start finding participating buildings at www.passivhausprojekte.de.

International contact
Sabine.Stillfried@passiv.de

