

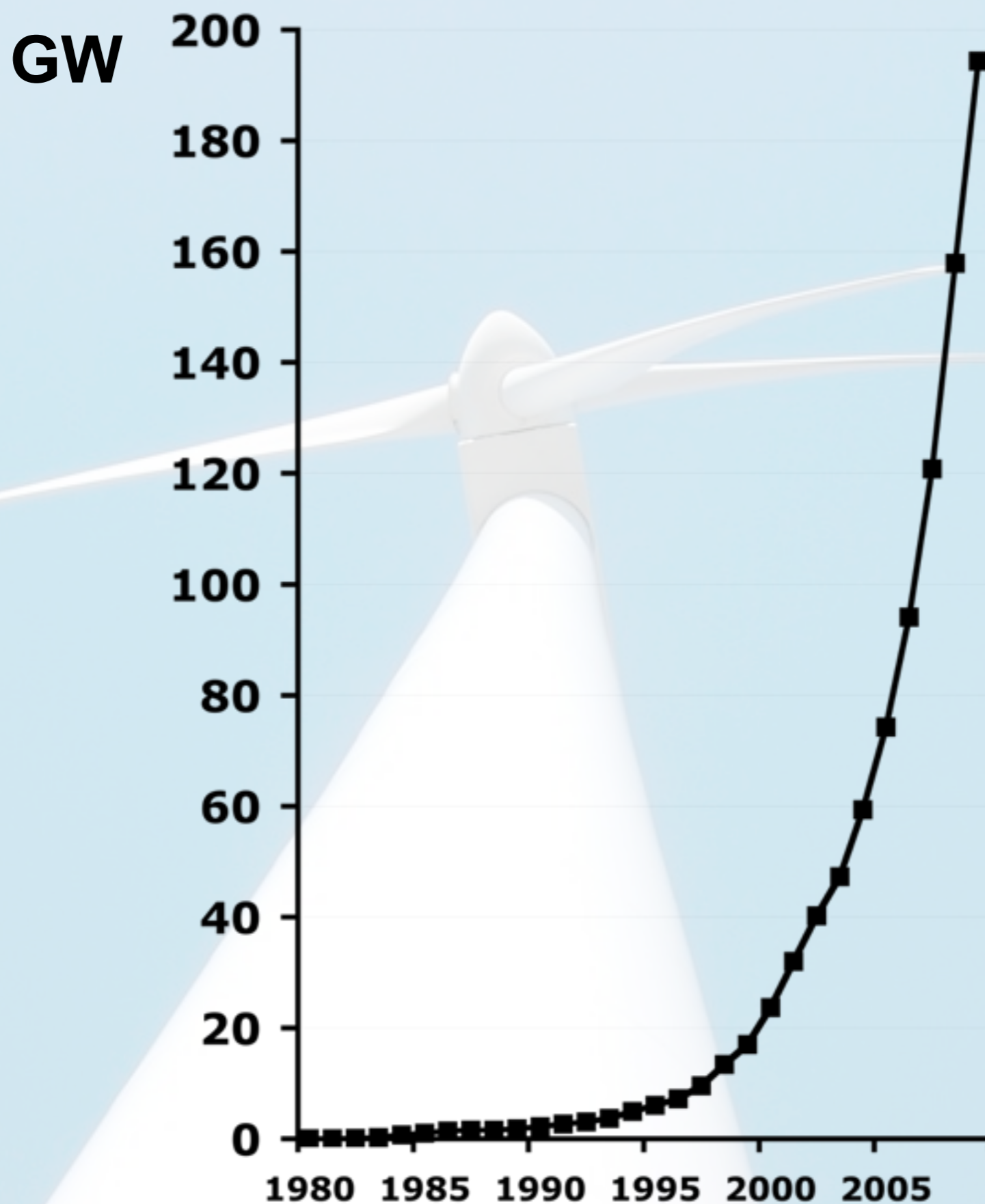


# Opportunities with renewable energy

Tomas Kåberger

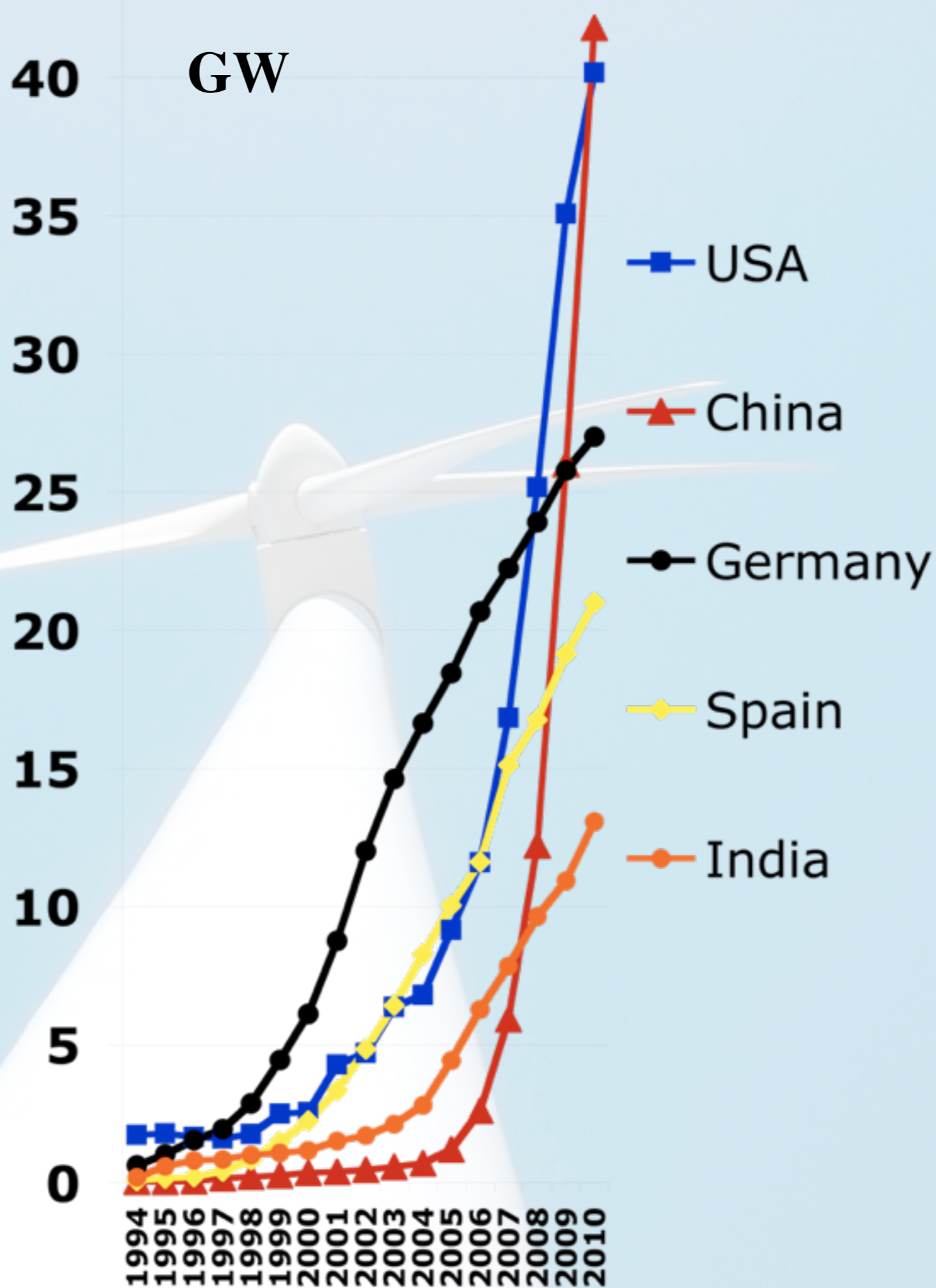


# Global Wind power capacity





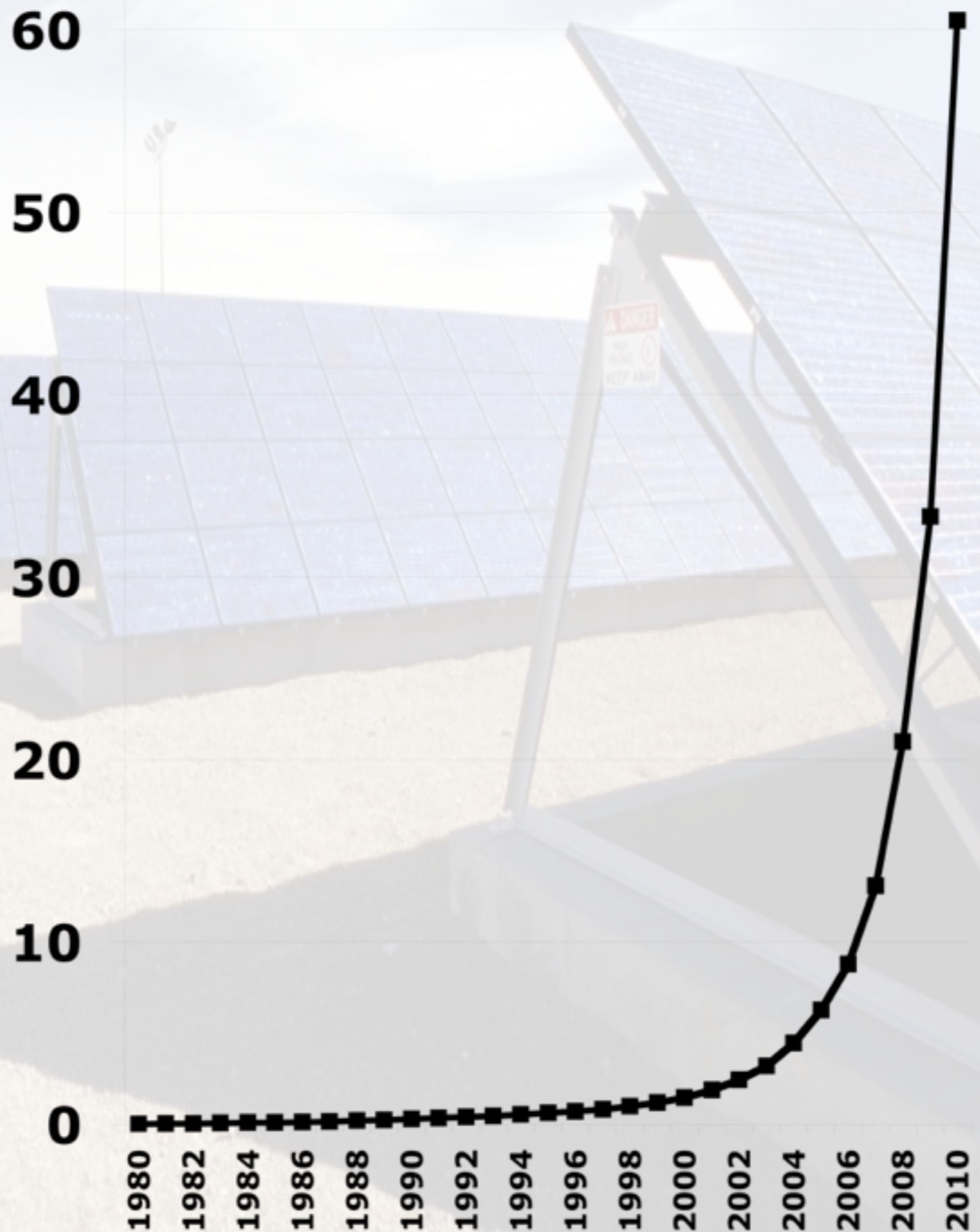
# Wind power in leading countries





# Accumulated Solar PV, Globally

**GW<sub>p</sub>**





# Solar PV leading countries MW

10 000

8 000

6 000

4 000

2 000

0

1996

1998

2000

2002

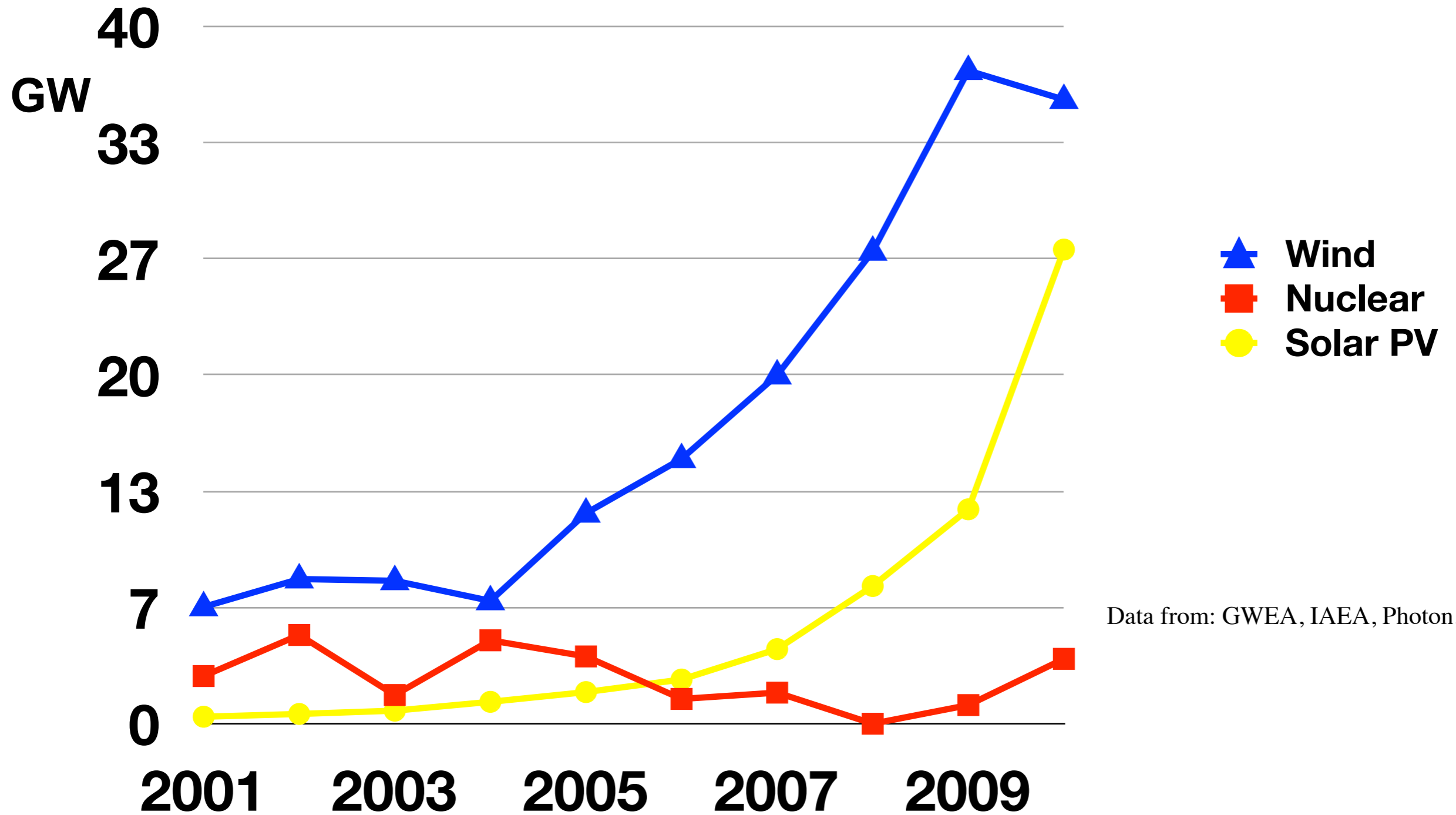
2004

2006

2008



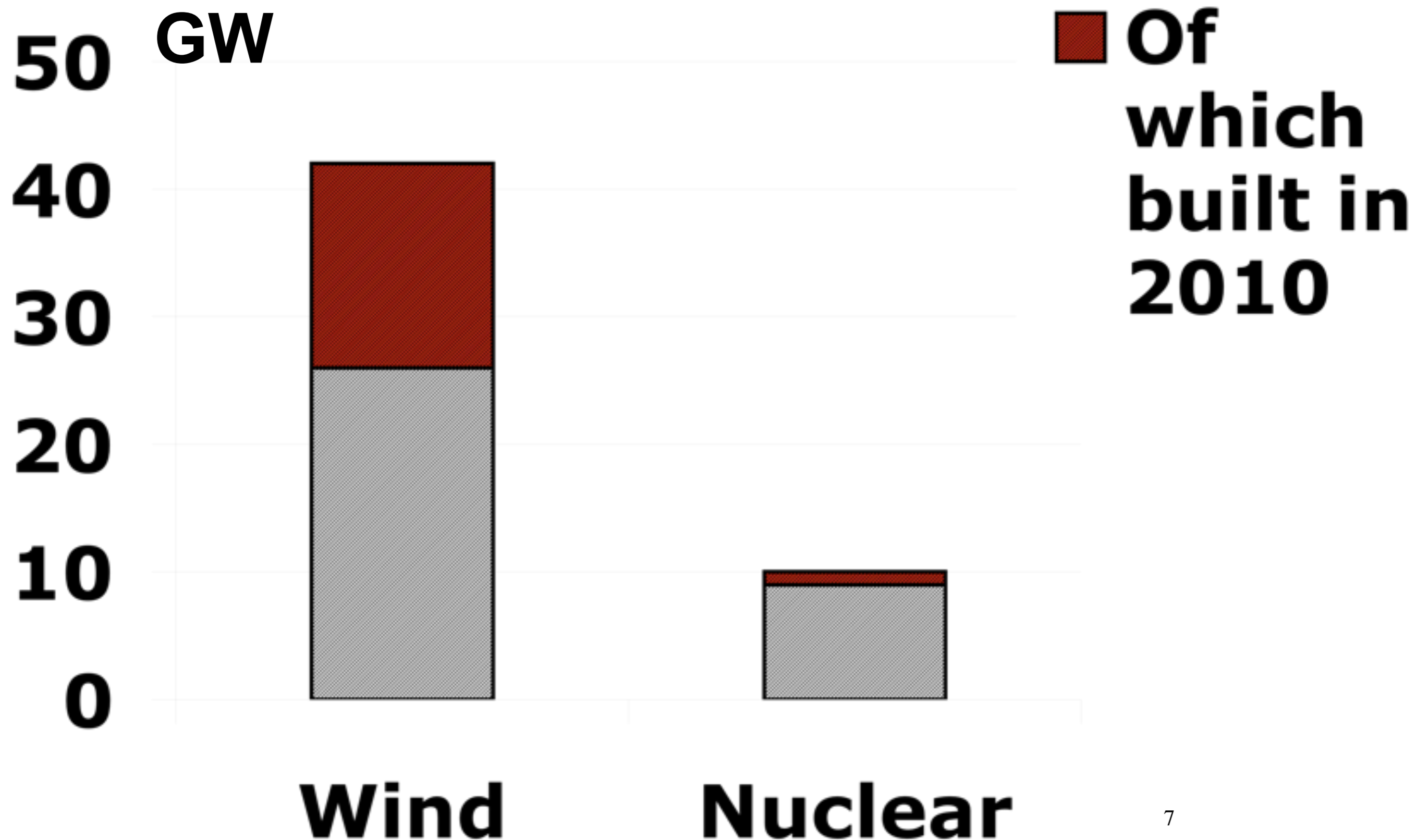
# Global capacity increase 2001-2010



Data from: GWEA, IAEA, Photon, Platts,

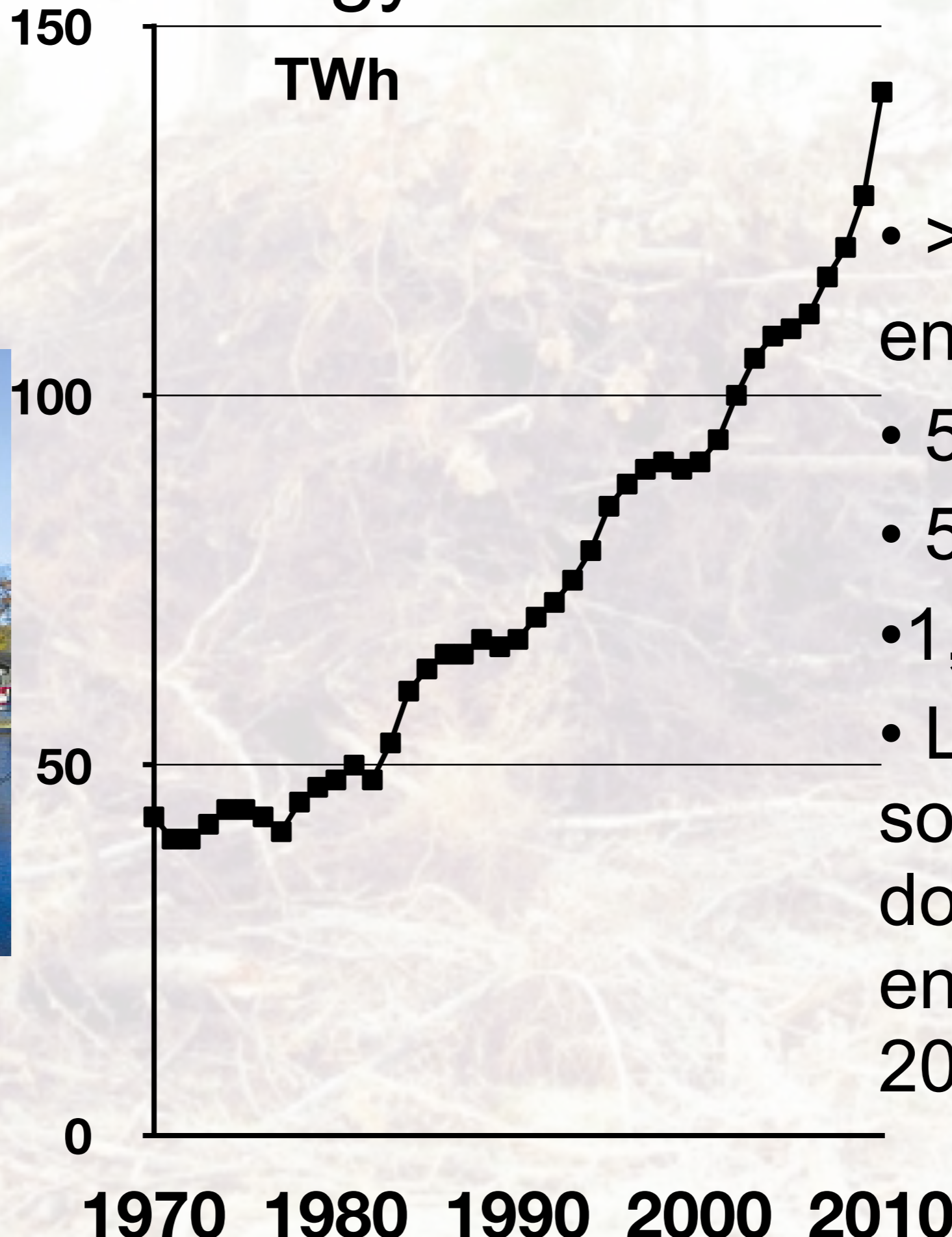


# Power production capacity in China





# Bioenergy use in Sweden

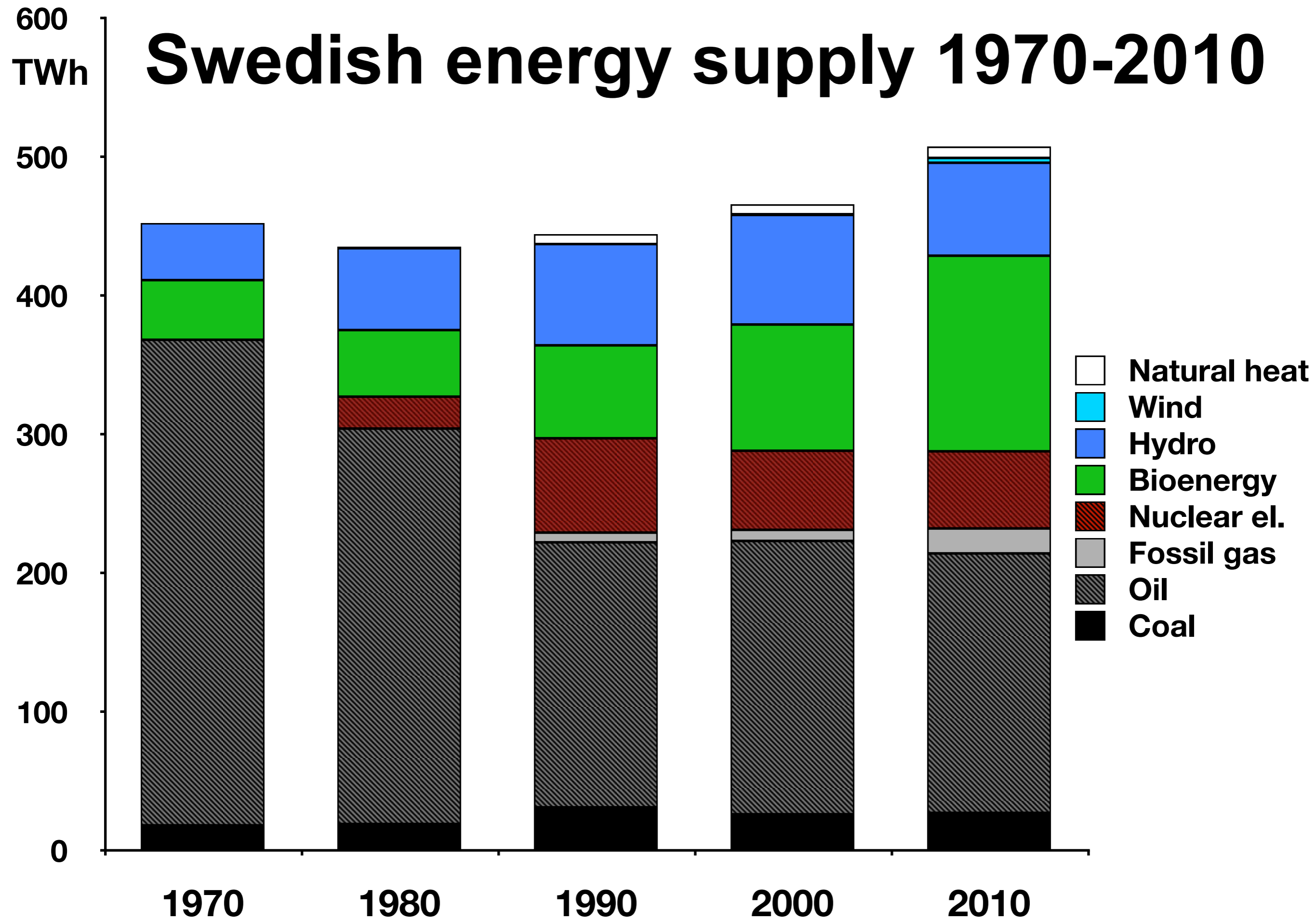


- >1/4 of total energy use
- 500 PJ
- 50 GJ/capita
- 1,7 kW/capita
- Largest source of domestic energy used 2010



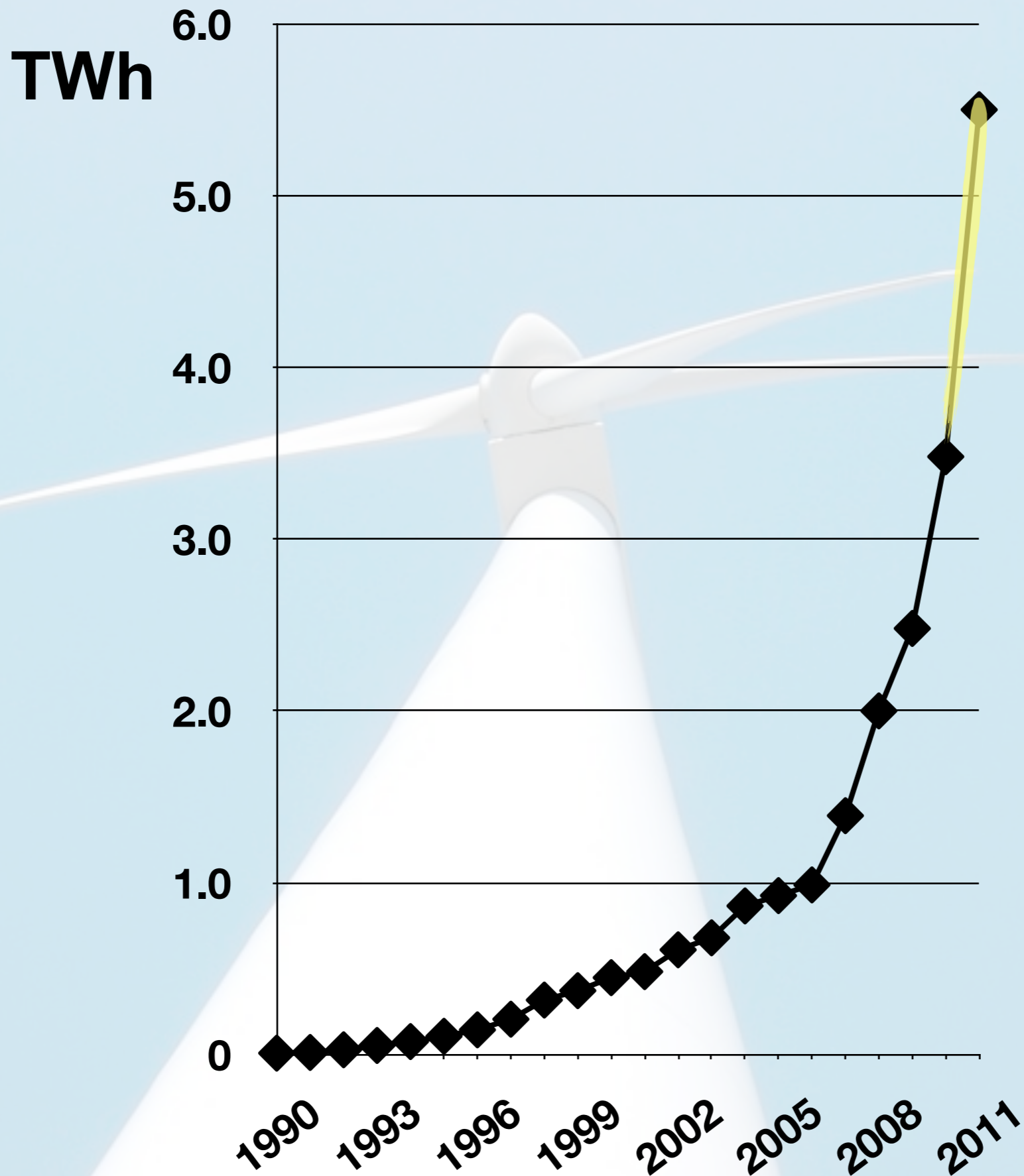


# Swedish energy supply 1970-2010



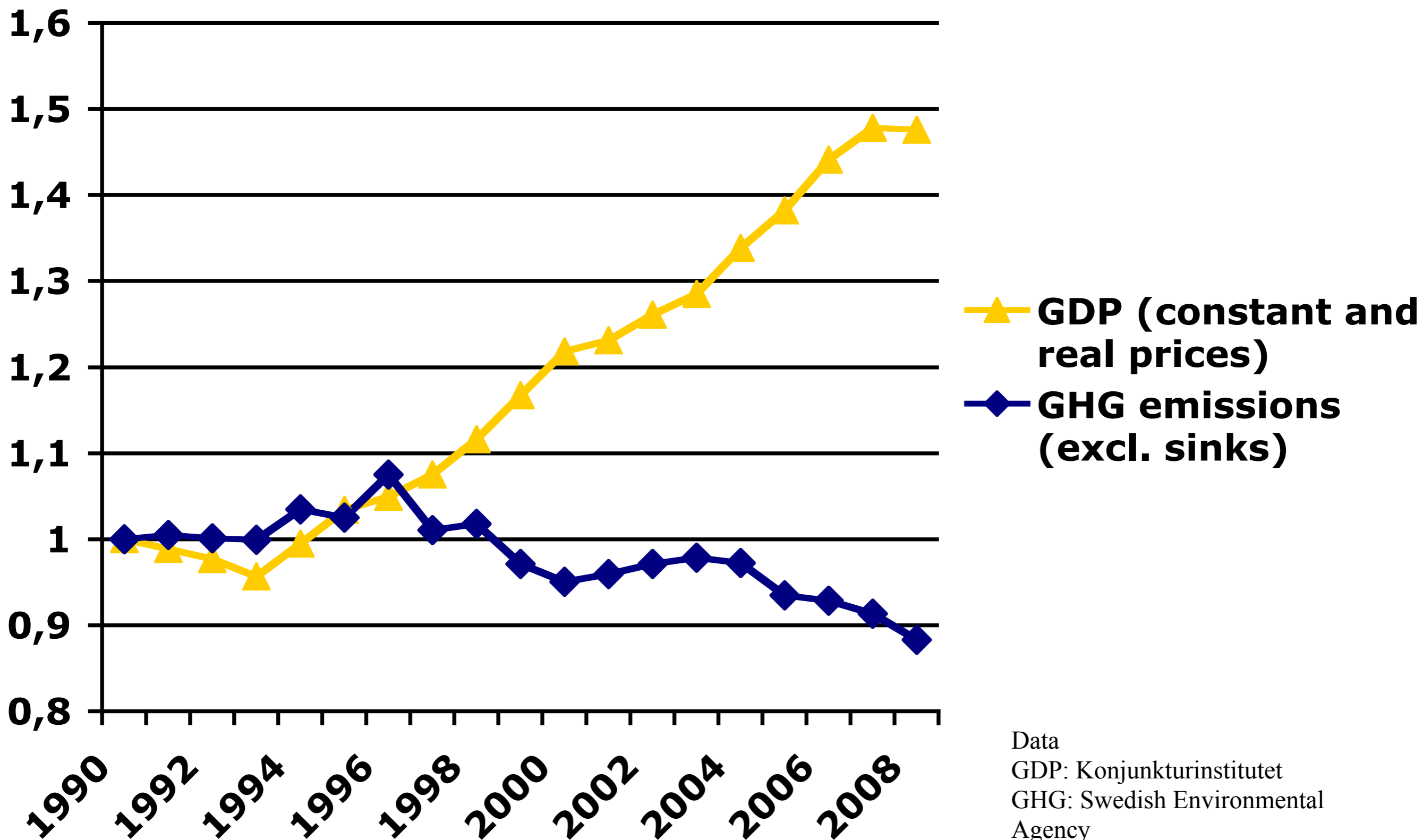


# Wind electricity in Sweden





# Sweden: GDP and Greenhouse gas emissions

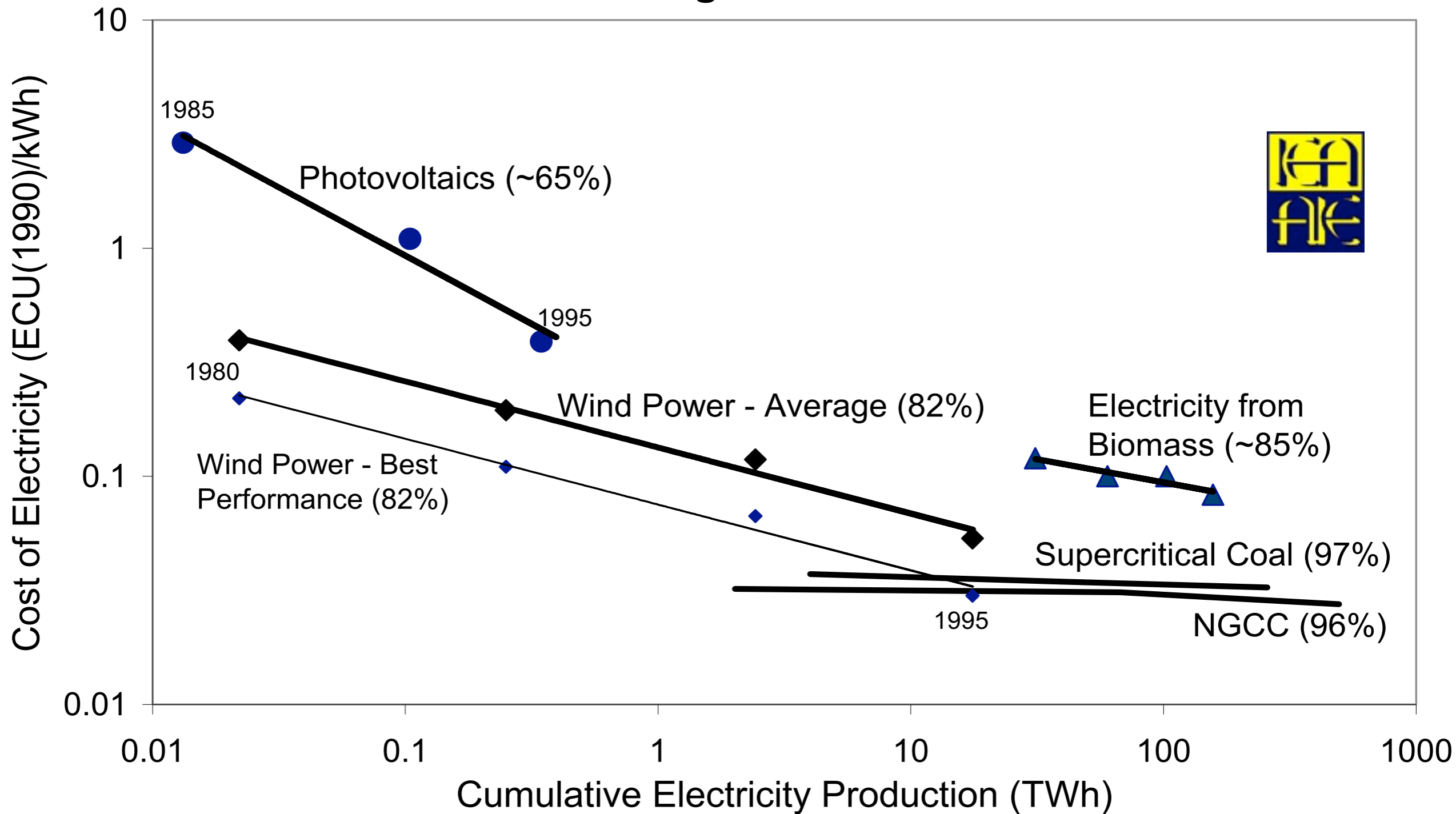


Data  
GDP: Konjunkturinstitutet  
GHG: Swedish Environmental  
Agency



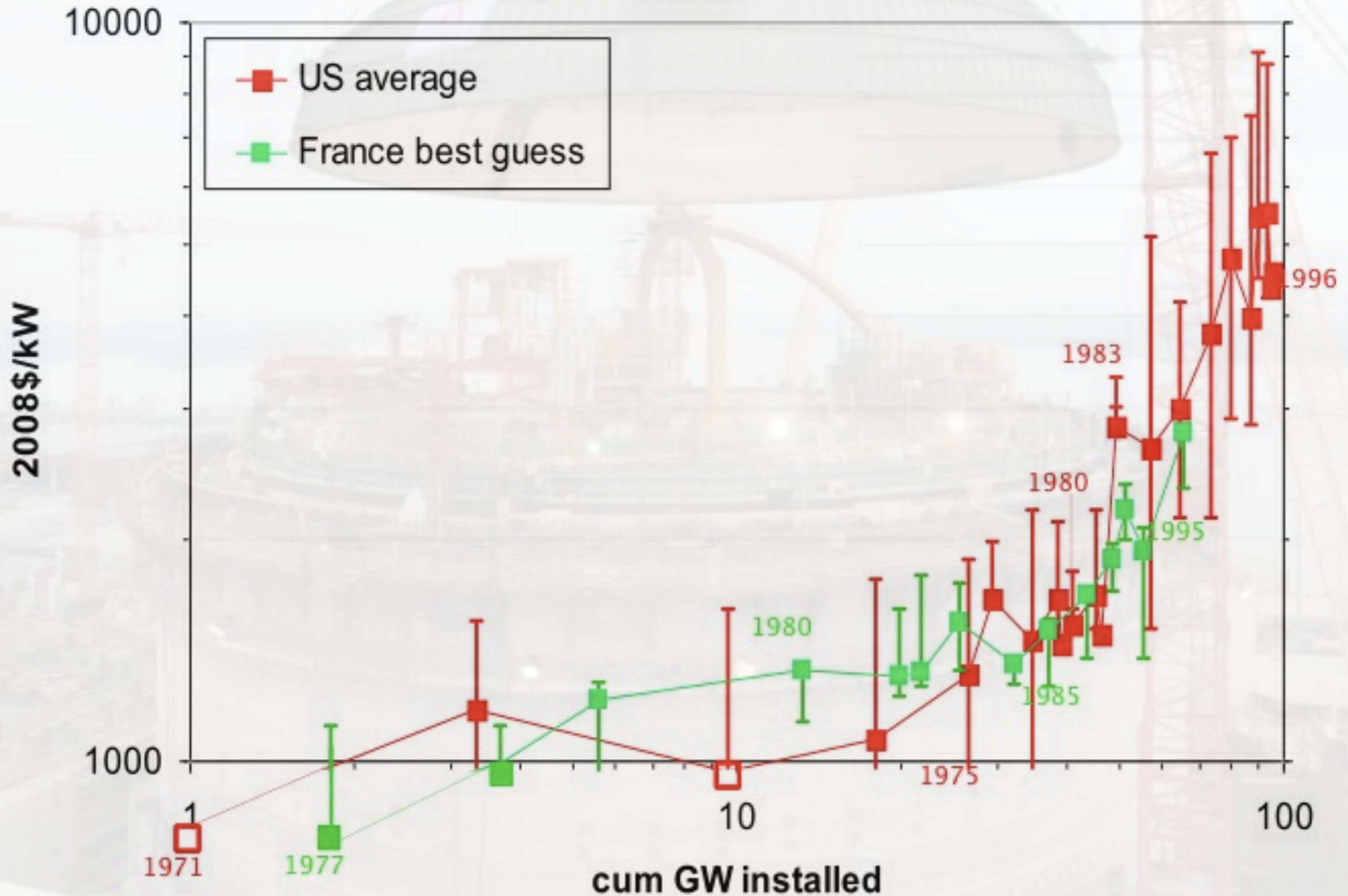
# Industrial learning by experience

## Electric Technologies in EU 1980-1995



# Nuclear PWR Investment Costs

US overnight excl. interest, France partly incl. interests  
 mean/best guess and min/max of costs

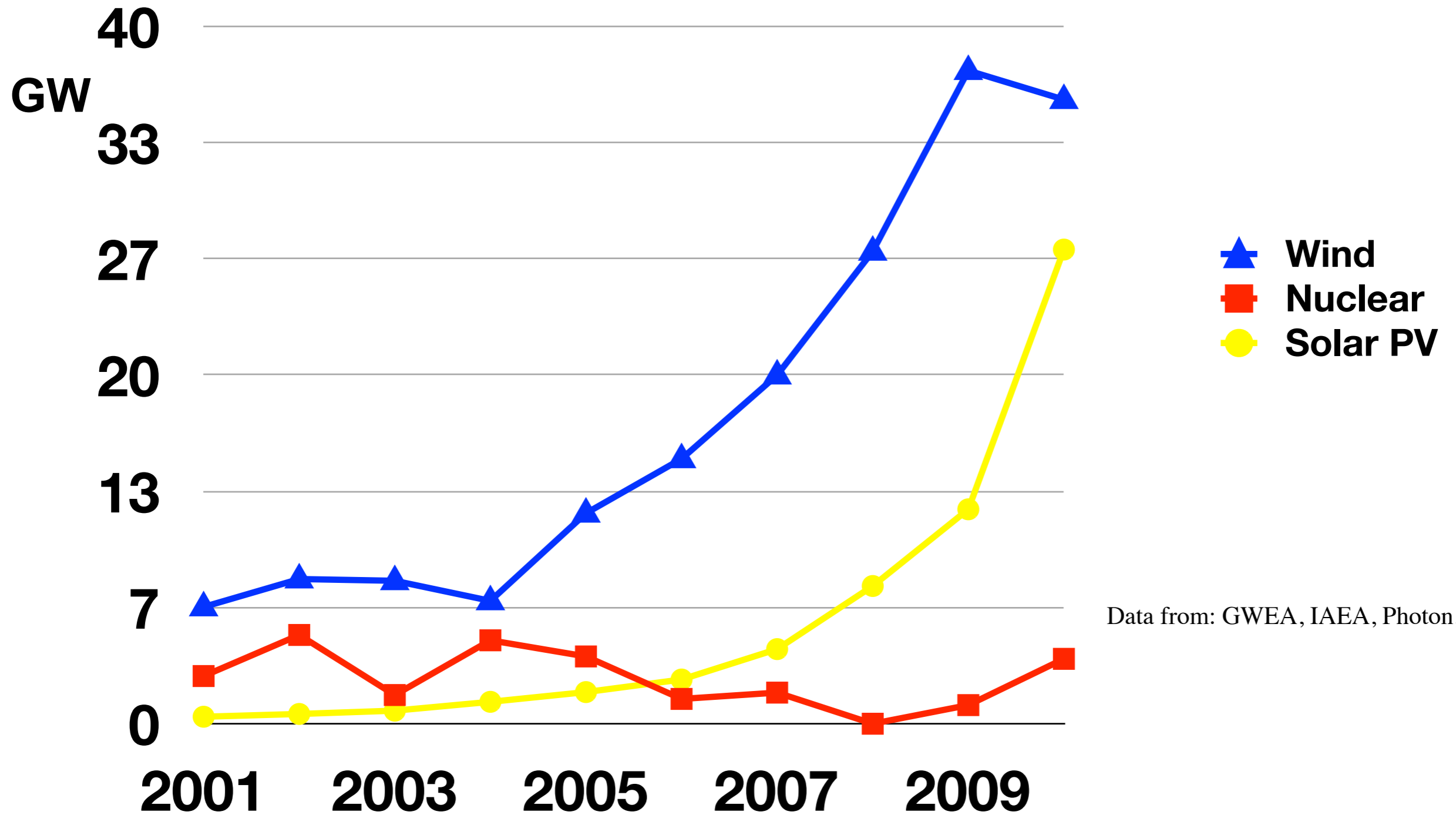


# How many reactors will break?

	No Closed reactors	Of which closed after fuel damaged	Share of number	Closed power capacity MW	Of which closed after fuel damage MW	Share of production capacity
In 2010	<b>125</b>	<b>3</b> (Enrico Fermi-1, Harrisburg, Tjernobył)	<b>1/50</b>	<b>37,794</b>	<b>1,864</b>	<b>1/20</b>
Today	<b>130</b>	<b>7</b> (the above + Fukushima Dai-ichi 1-4)	<b>1/20</b>	<b>40,730</b>	<b>4,583</b>	<b>&gt;1/10</b>

**There are more than 500 power reactors, with more than 400 GW power capacity, in operation or under construction.**

# Global capacity increase 2001-2010



Data from: GWEA, IAEA, Photon, Platts,



# Opportunities with renewable energy

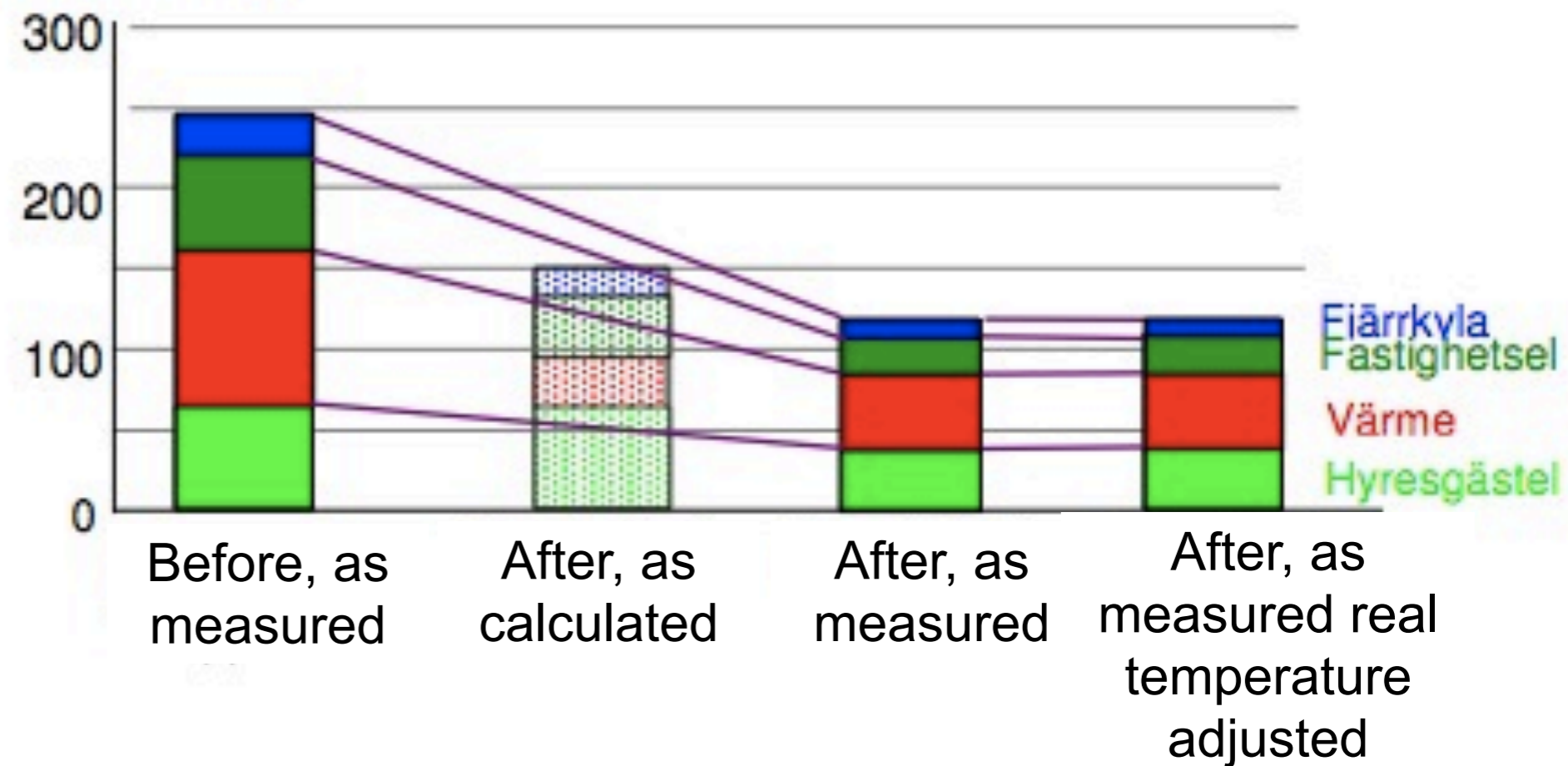
Tomas Kåberger





# Explain

- Why wind and solar electricity results in lowers electricity prices
- Why technology supplying industries benefit
- Why electricity dependent industries benefit
- Why residue utilisation benefits forest- and agriculture sectors



”Getholmen 3”

