



Hochschule für Technik
und Wirtschaft Berlin

University of Applied Sciences



Role of photovoltaics in the future energy mix: What comes after the current regulations?

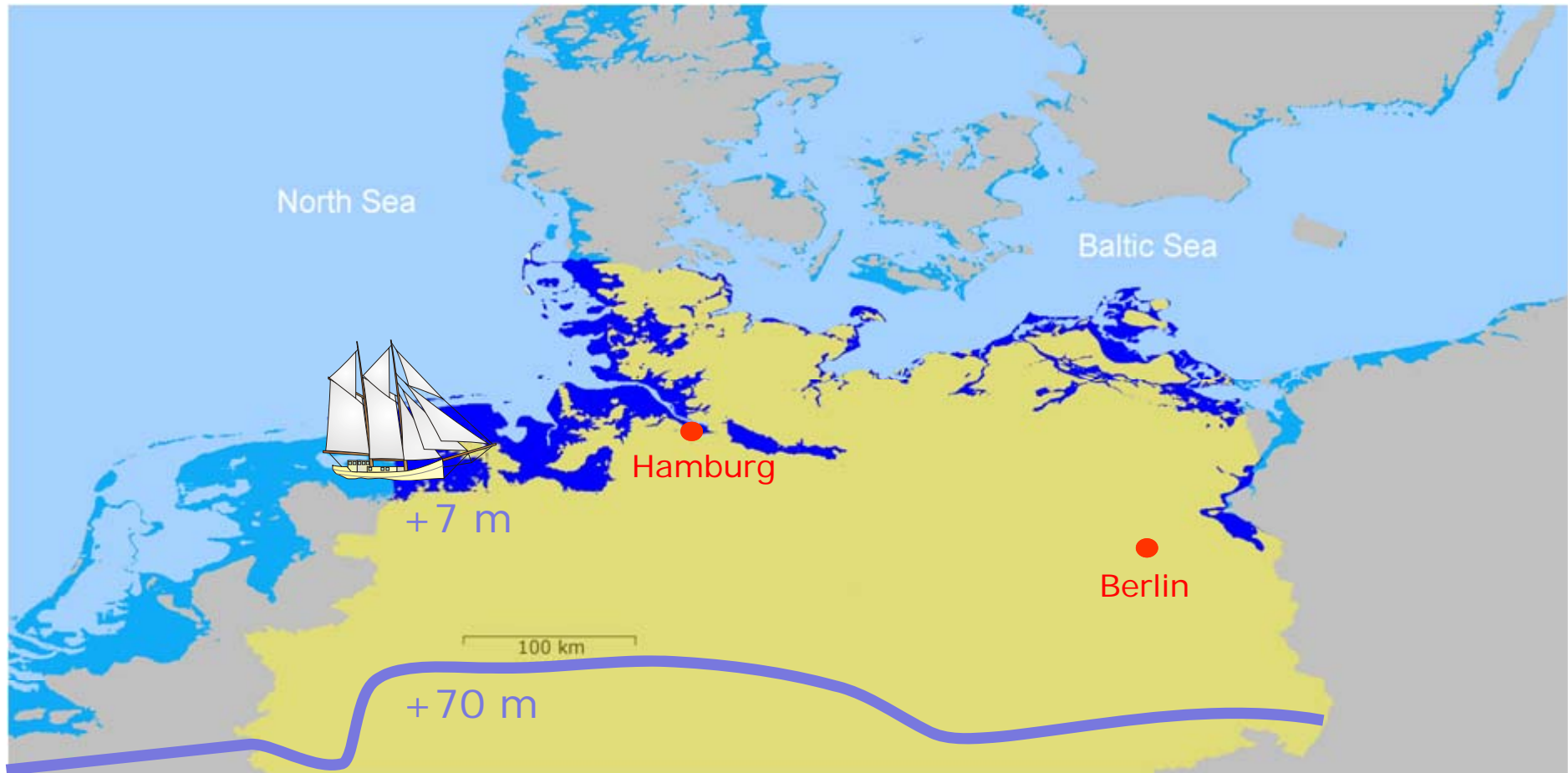
Prof. Dr. **Volker Quaschnig**

Hochschule für Technik und Wirtschaft HTW Berlin

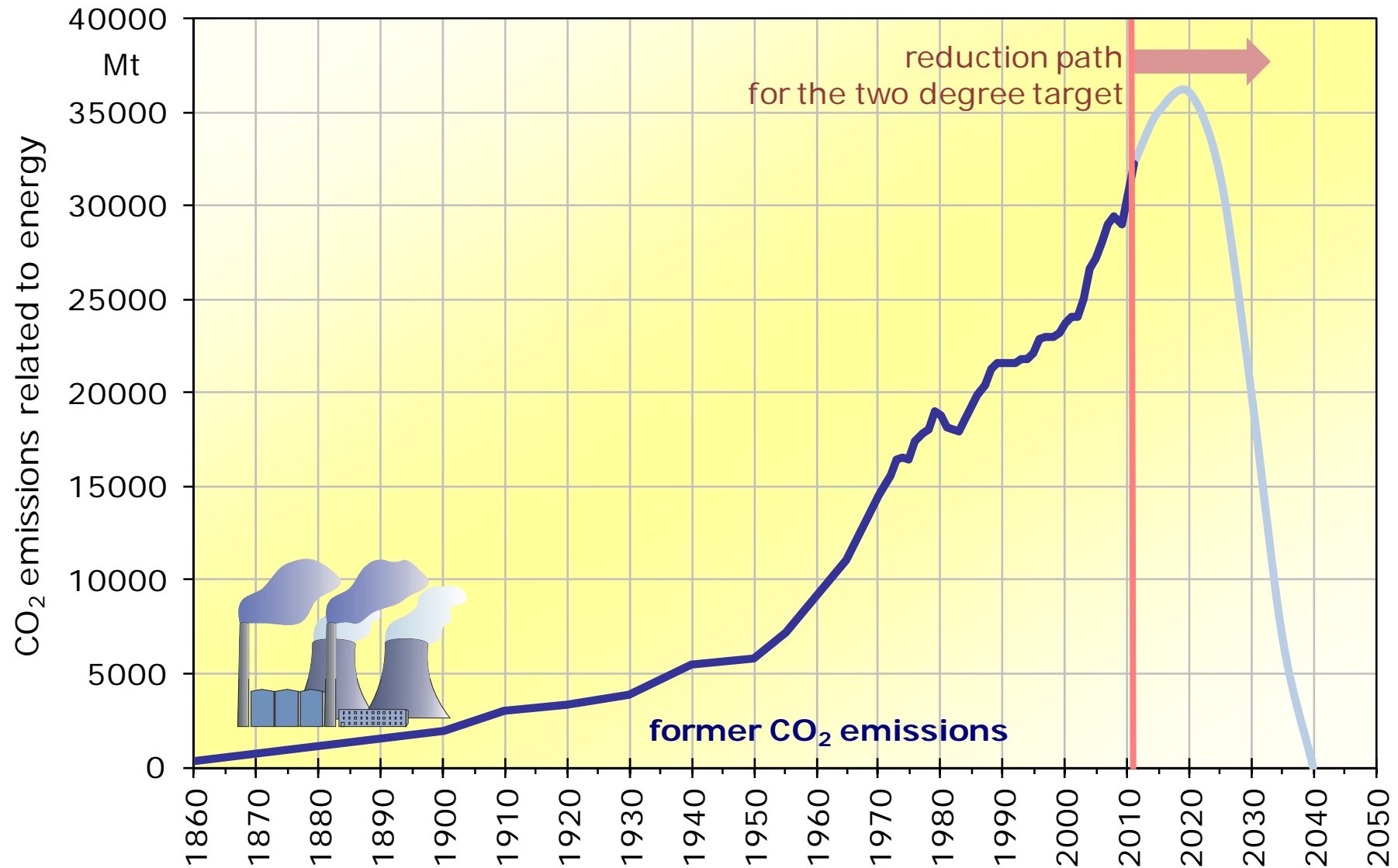
2nd Inverter and PV System Technology Forum 2012

23 January 2012

Berlin

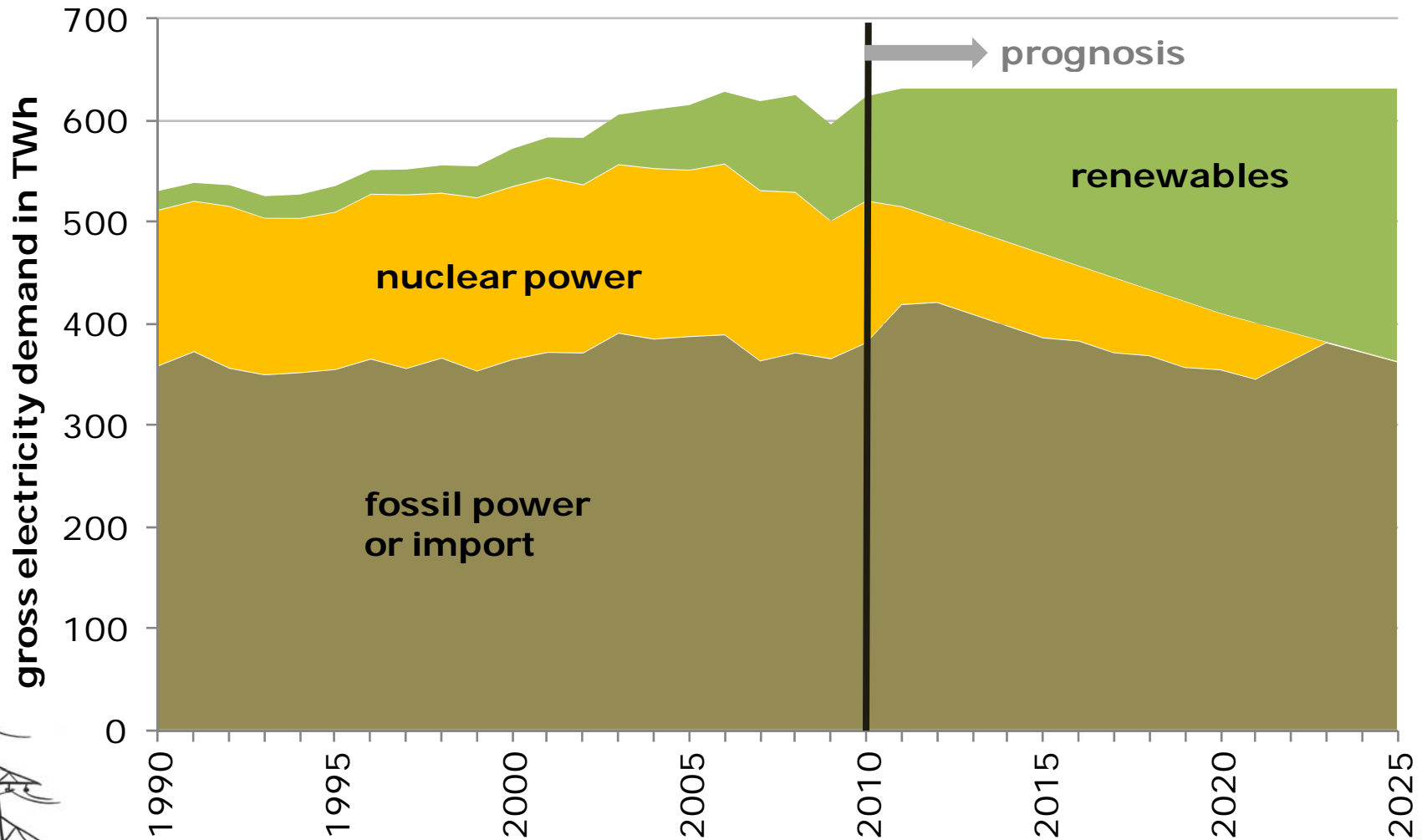


graphic: Norbert Geuder, DLR



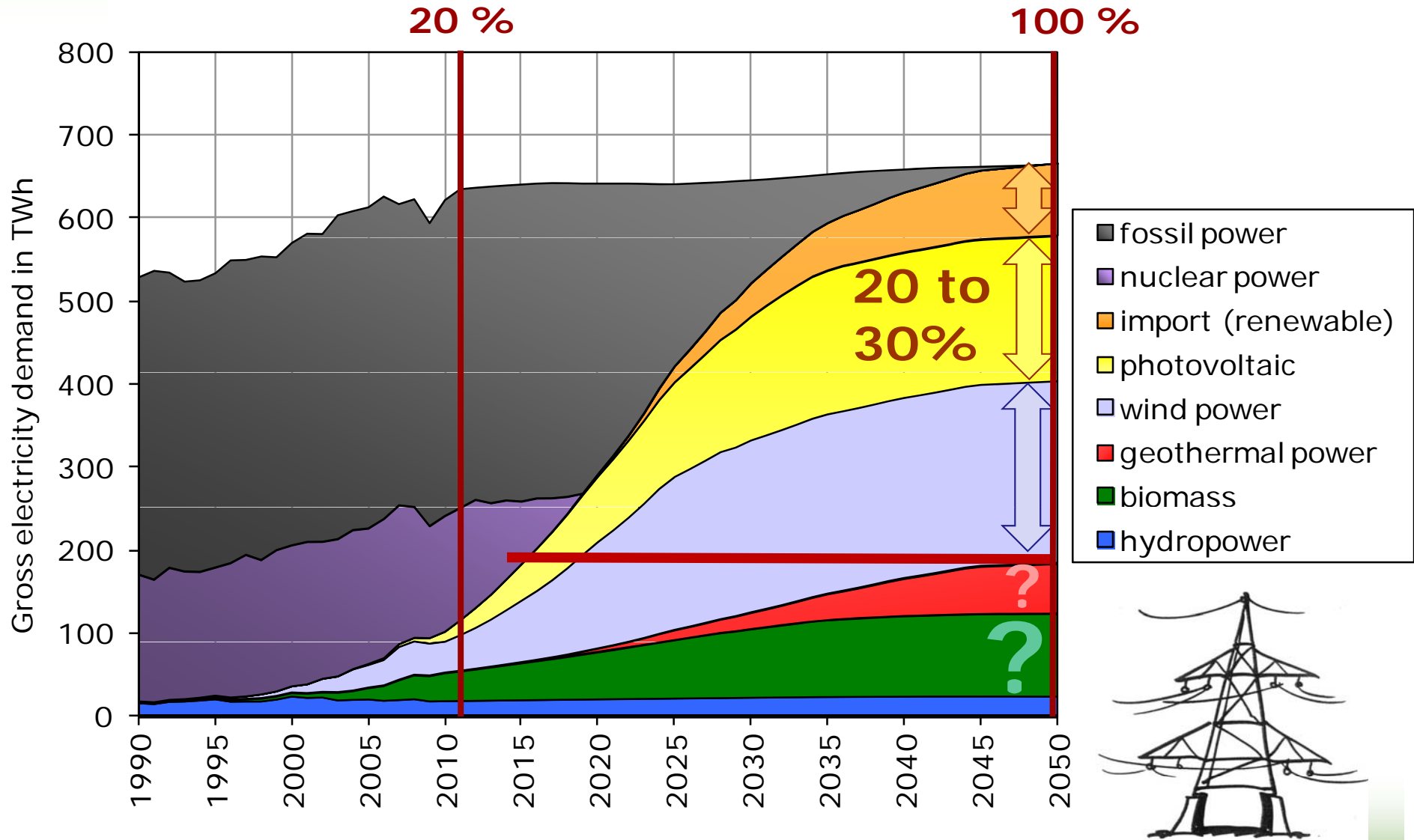
data: WRI, IEA, PIK-Potsdam

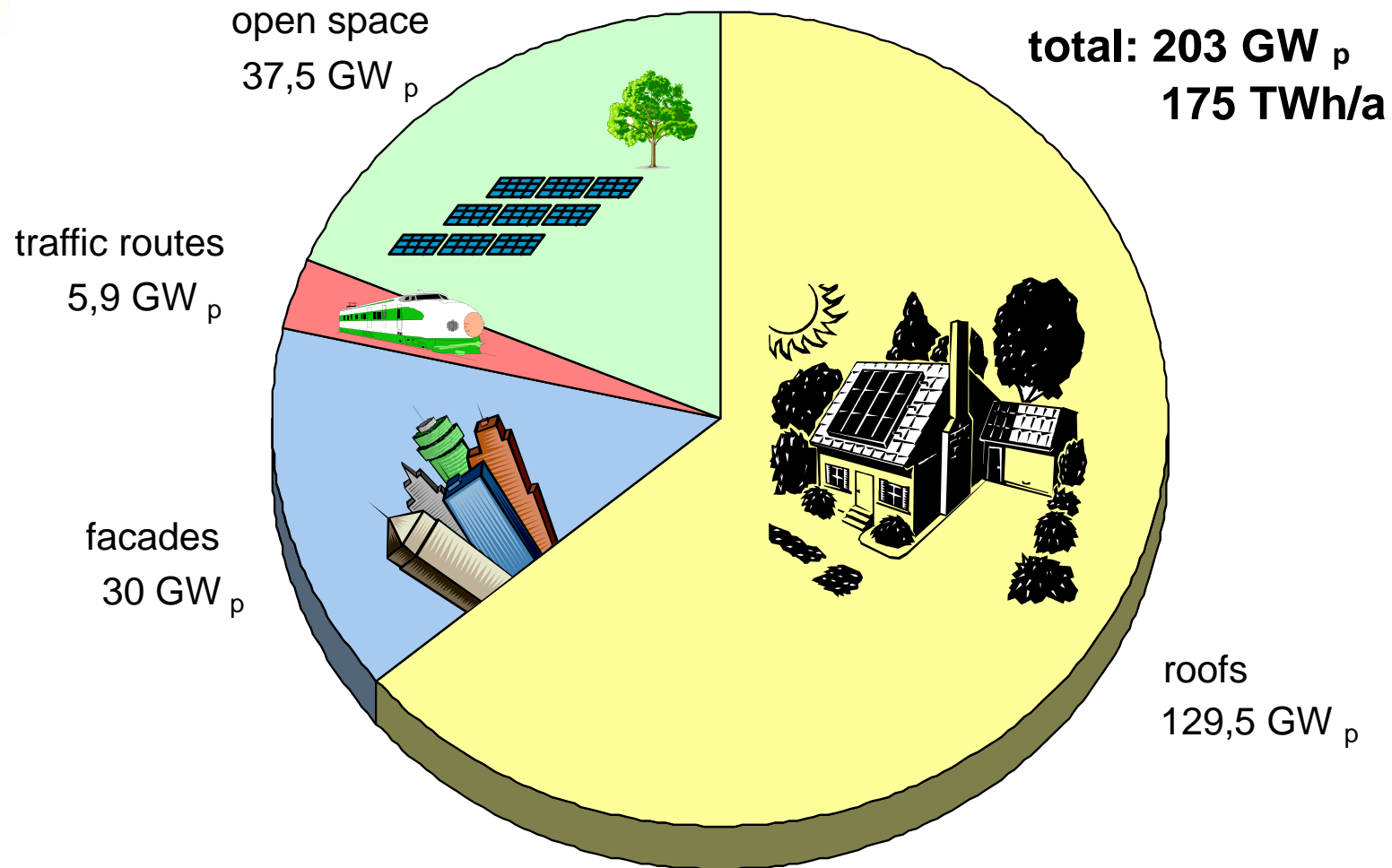
Prognosis based on the Energy Concept of the Federal Government



Grafik: Michael Hüter

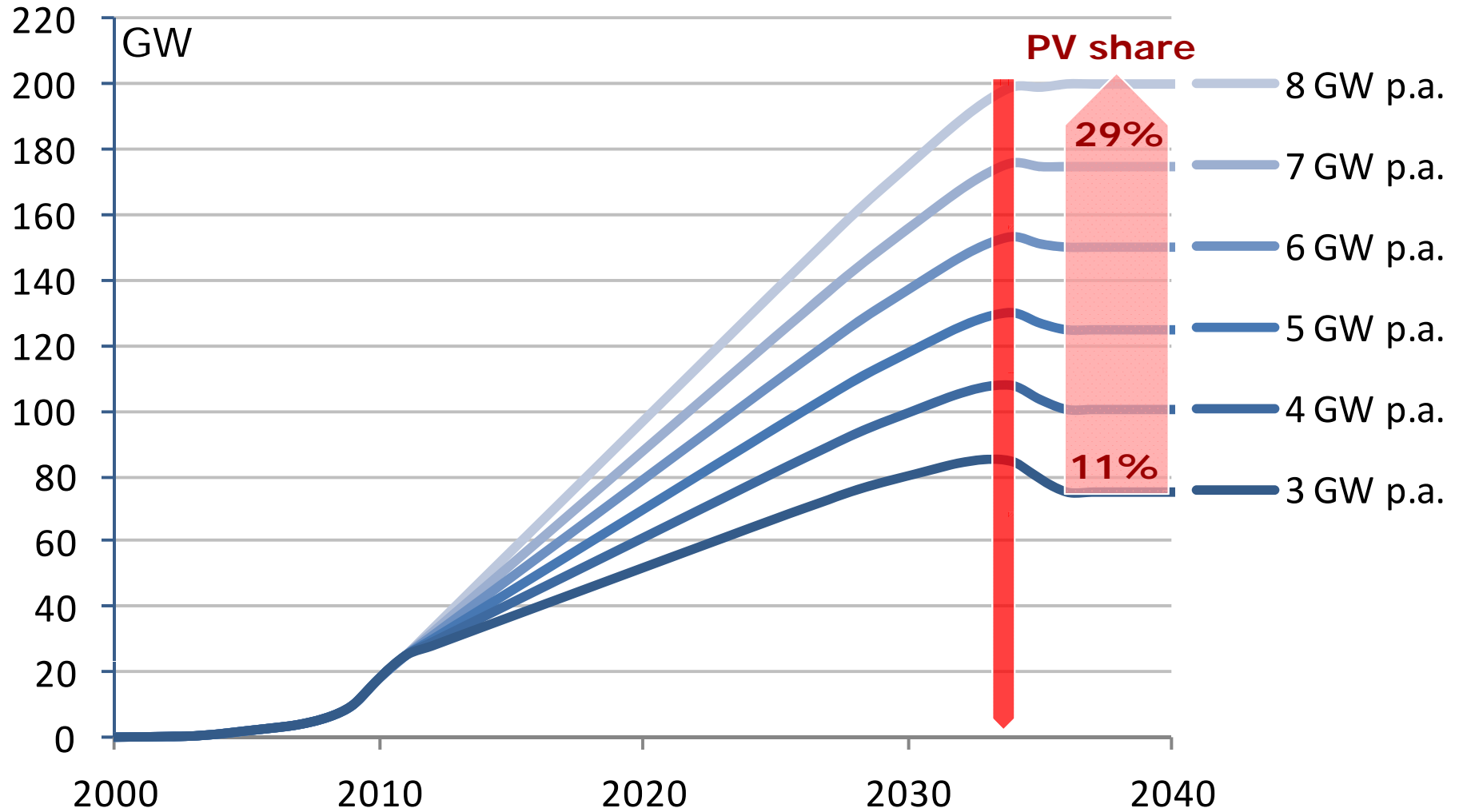
HTW Scenario: Climate Protection and Sustainable Development





7 GW is equal to 1 % solar share.

203 GW can cover 29 %.

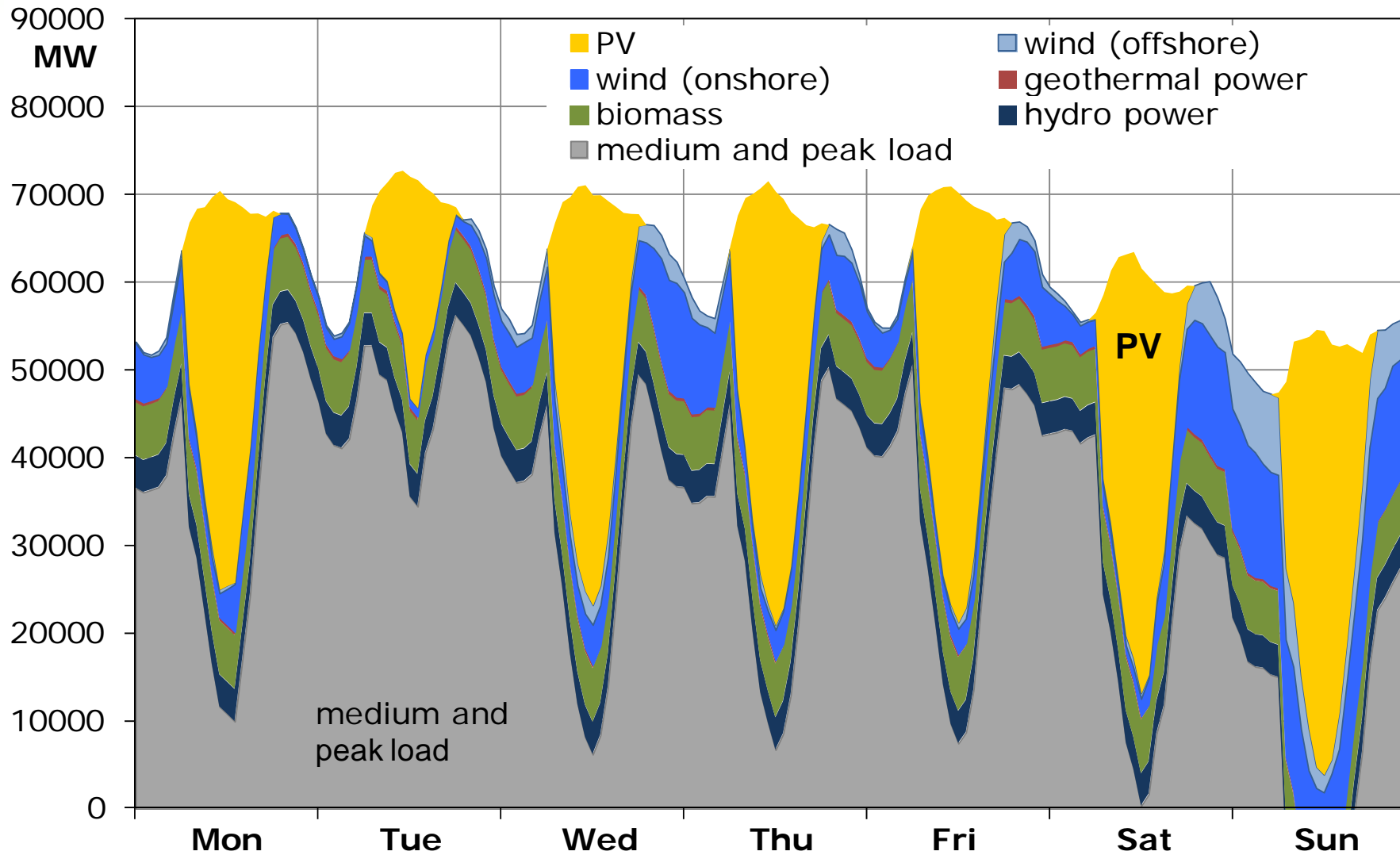


For a sustainable energy supply we have to become **carbon dioxide free until 2040**.

Otherwise we risk to sink our costal cities. In the longer term we risk a sea level rise of up to 70 meters.

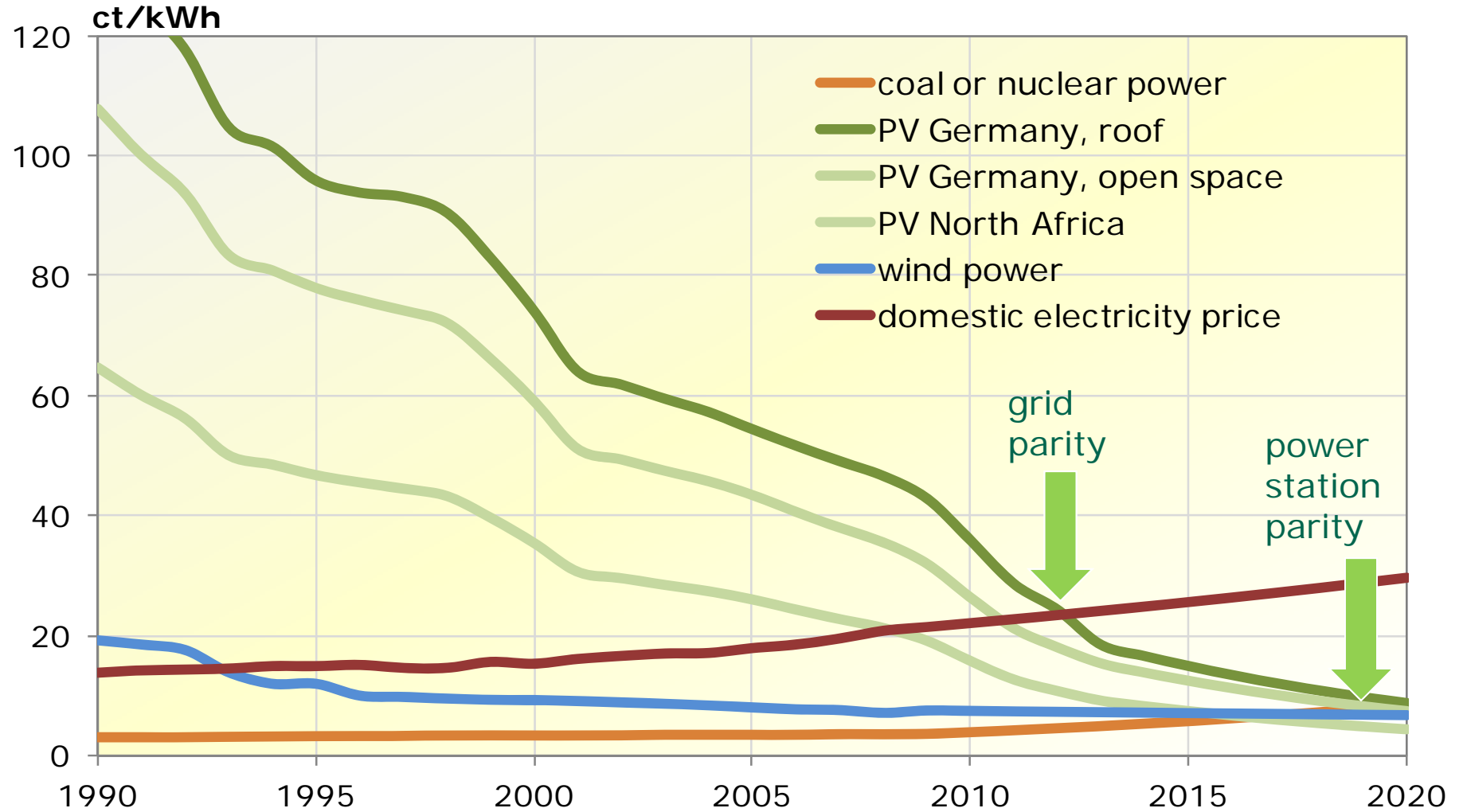
To establish a carbon dioxide free electricity supply in Germany **we need** 20 to 30 % PV (i.e. **200 GW** in total) and an **annual installation rate of 8 GW**.

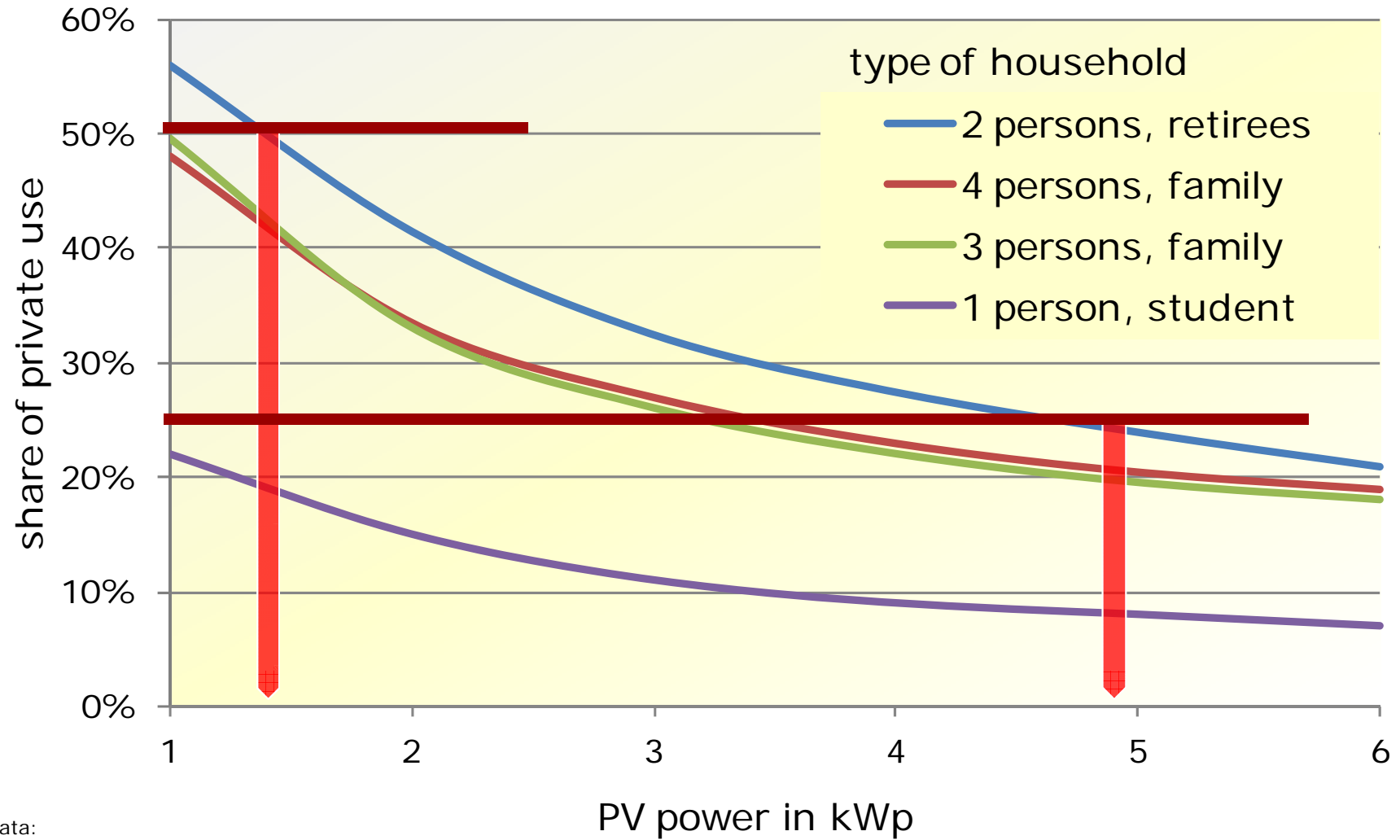
Possible Generation During a Spring Week 2020



If we install **more than 50 to 60 GW** of grid-connected PV in Germany there will be **excess generation** during some hours.

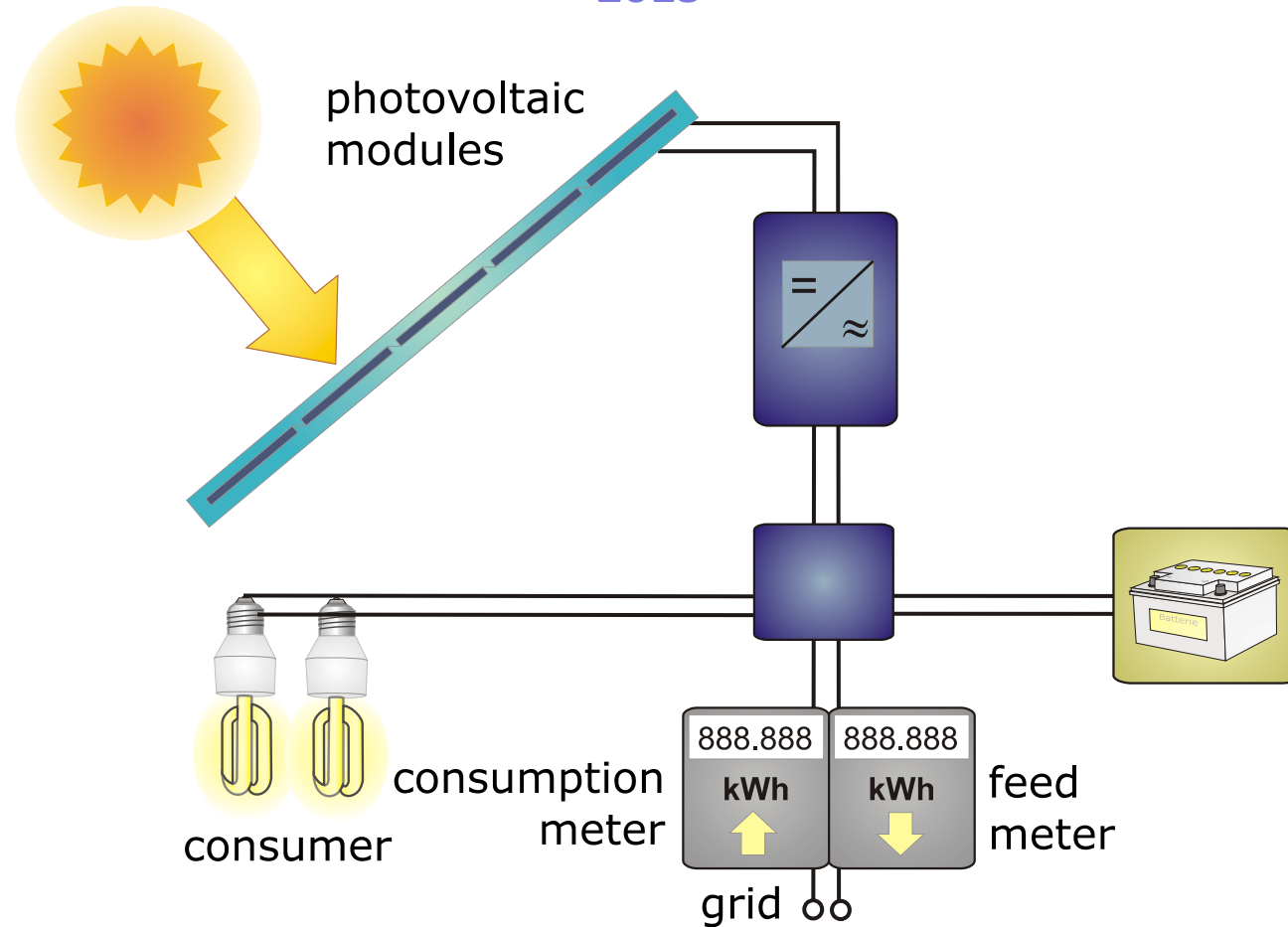
At that point it does not make much sense to install more grid-connected systems. It is highly probable that **EEG will stop** to prefer photovoltaic systems.



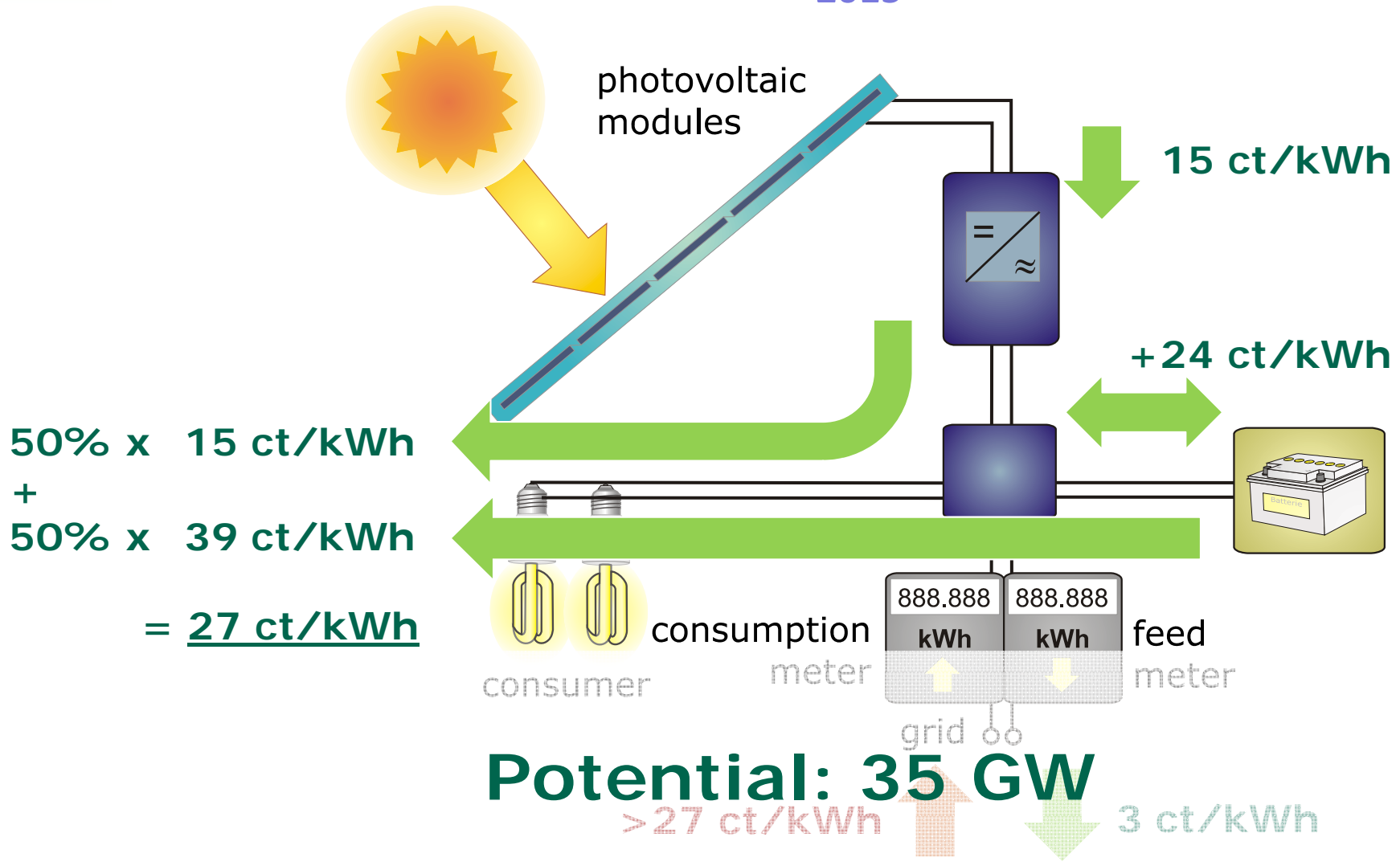


Data:
Steve Linke
HTW Berlin

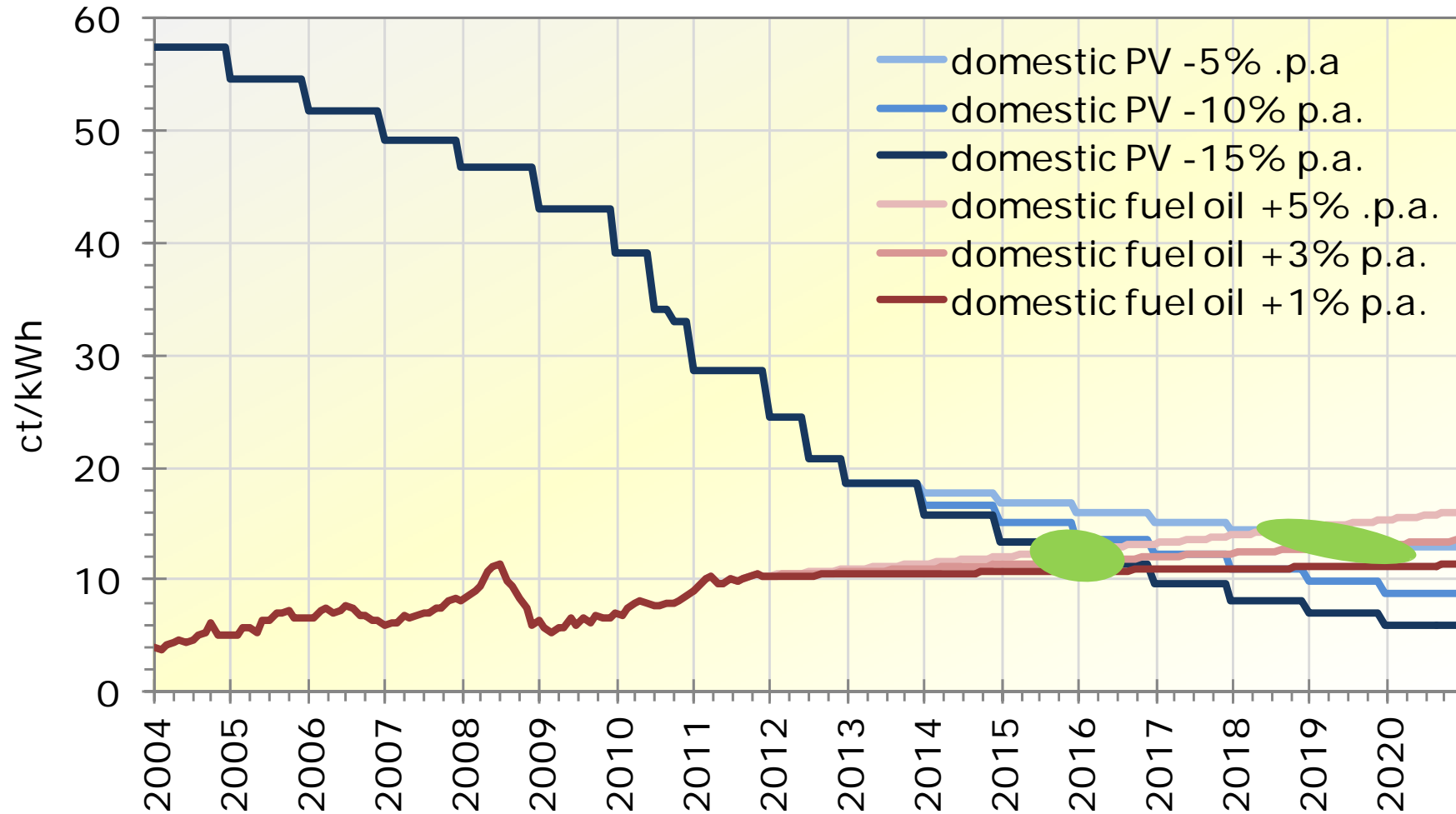
2015



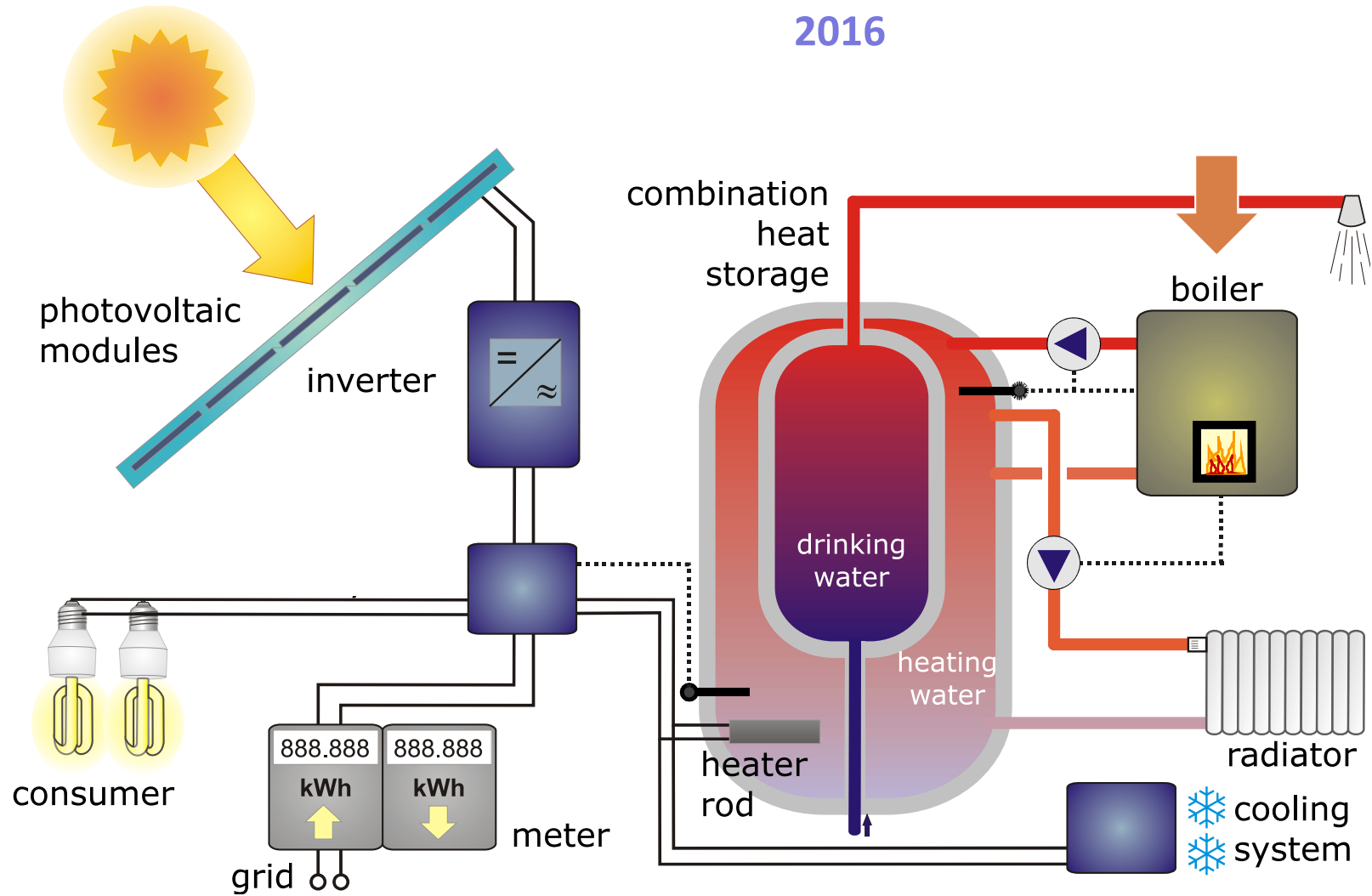
2015

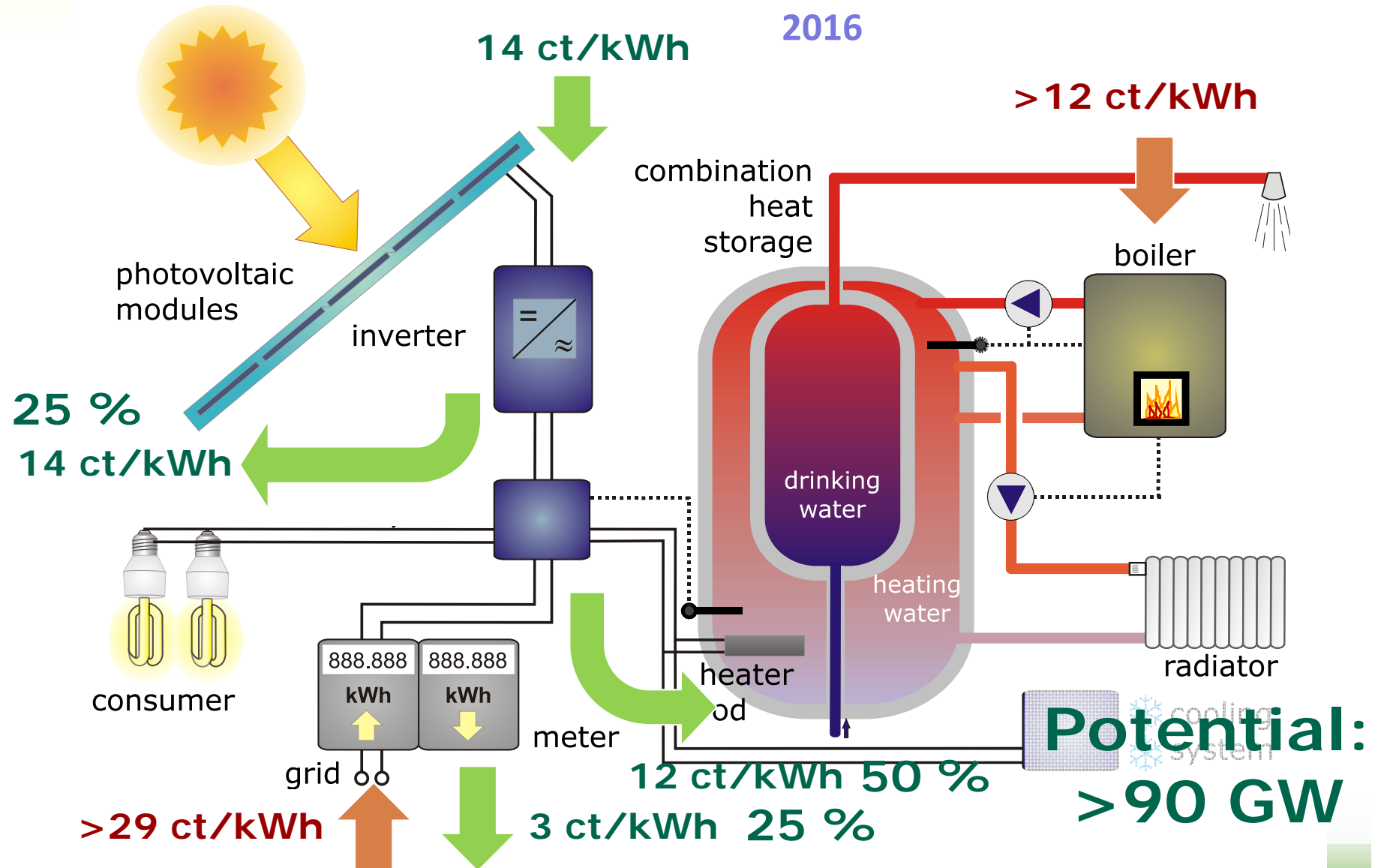


Assumptions: Boiler efficiency 80%, calorific value of fuel oil 10.5 kWh/l



2016



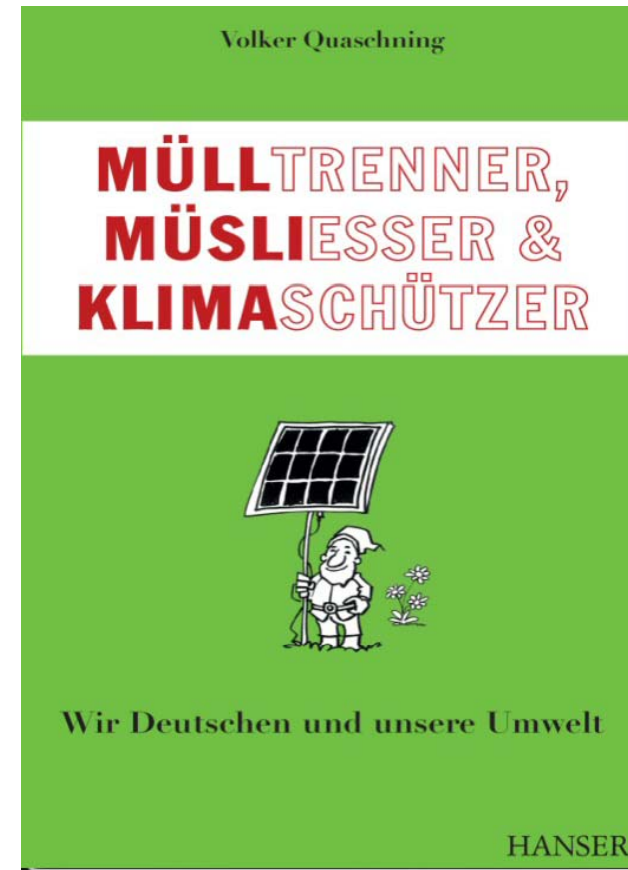
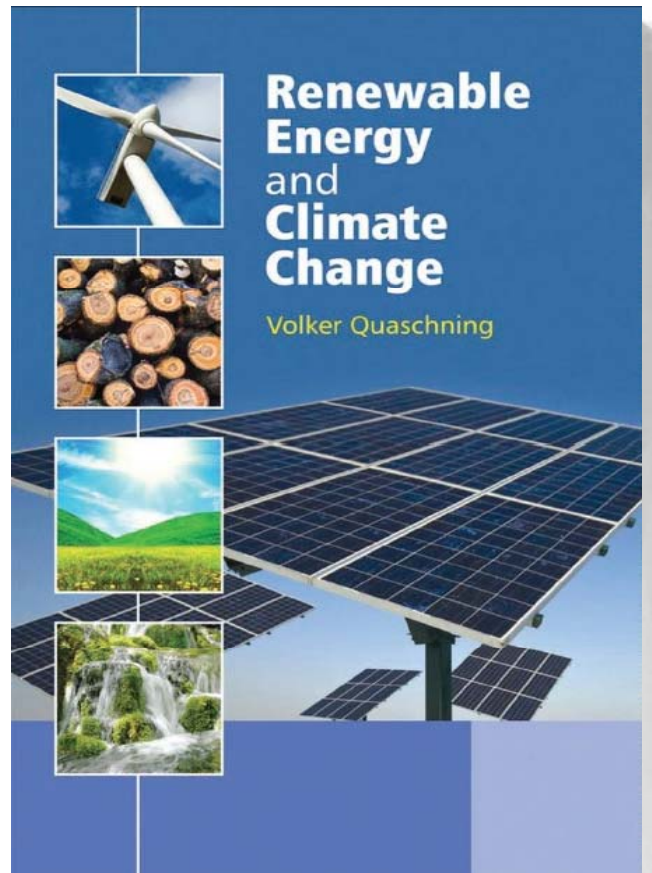


Starting from the year **2015 systems for private use will be fully competitive** even if the feed-in tariff will go down below 3 ct/kWh. In the year 2020 the **potential for domestic systems** is in the range of **100 GW**.

Hence, PV will provide an important part for climate protection in Germany.

Let's speed up this development.

Book and web recommendation



www.volker-quaschnig.de