

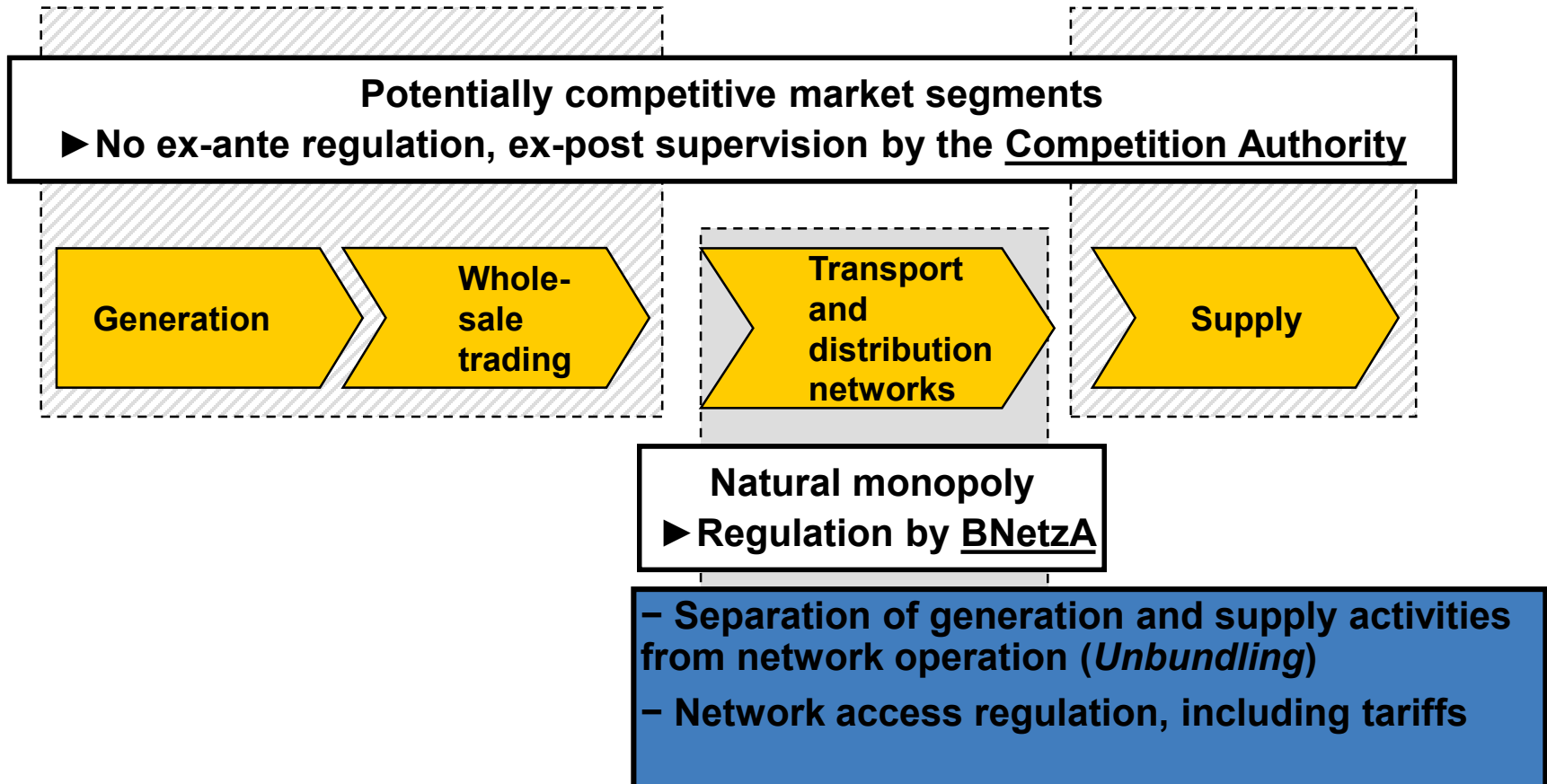


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RES Support Scheme & Development in Germany



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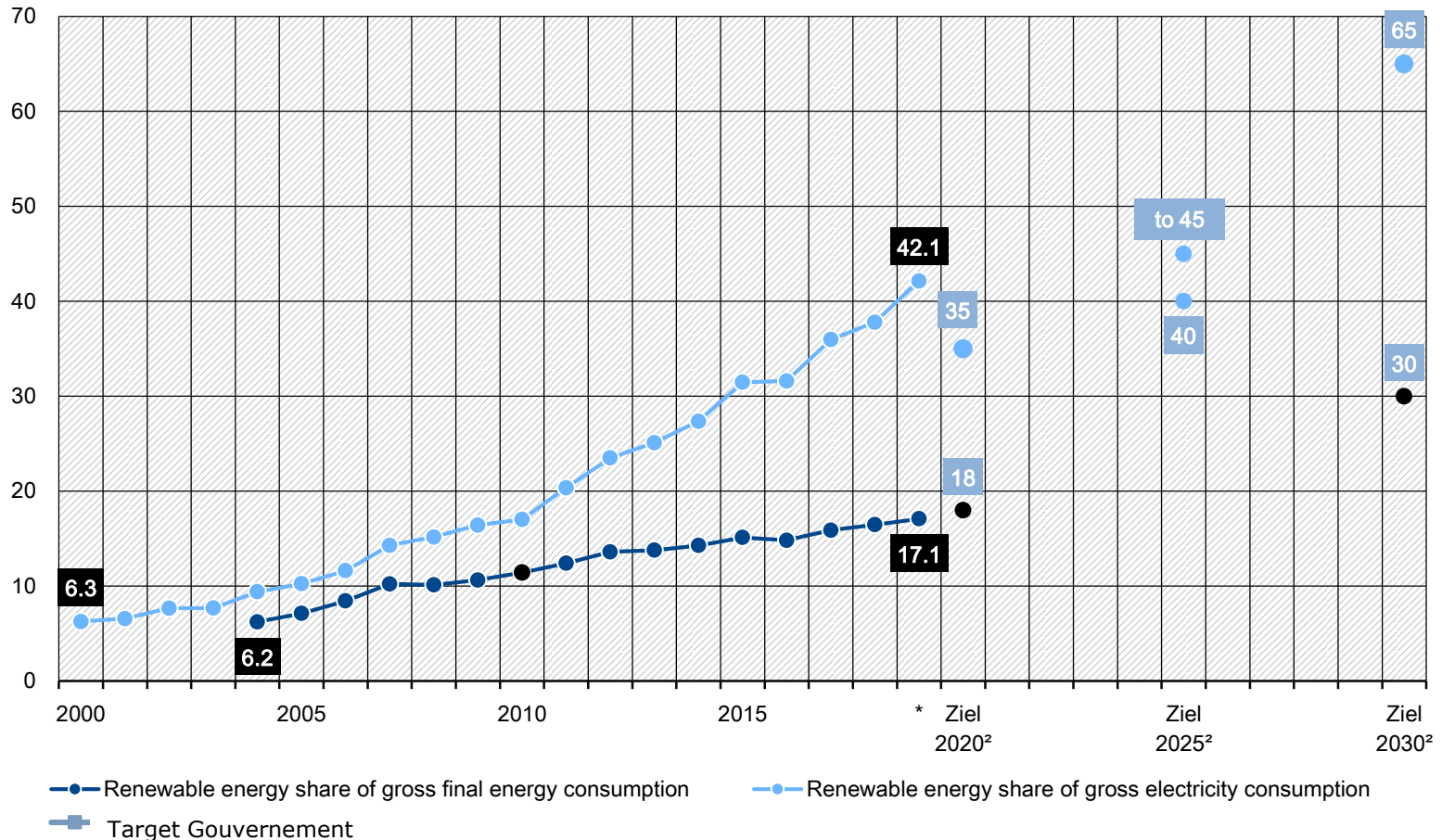
Renewable Energy Development in Germany



German Renewable Target 2050



Percent



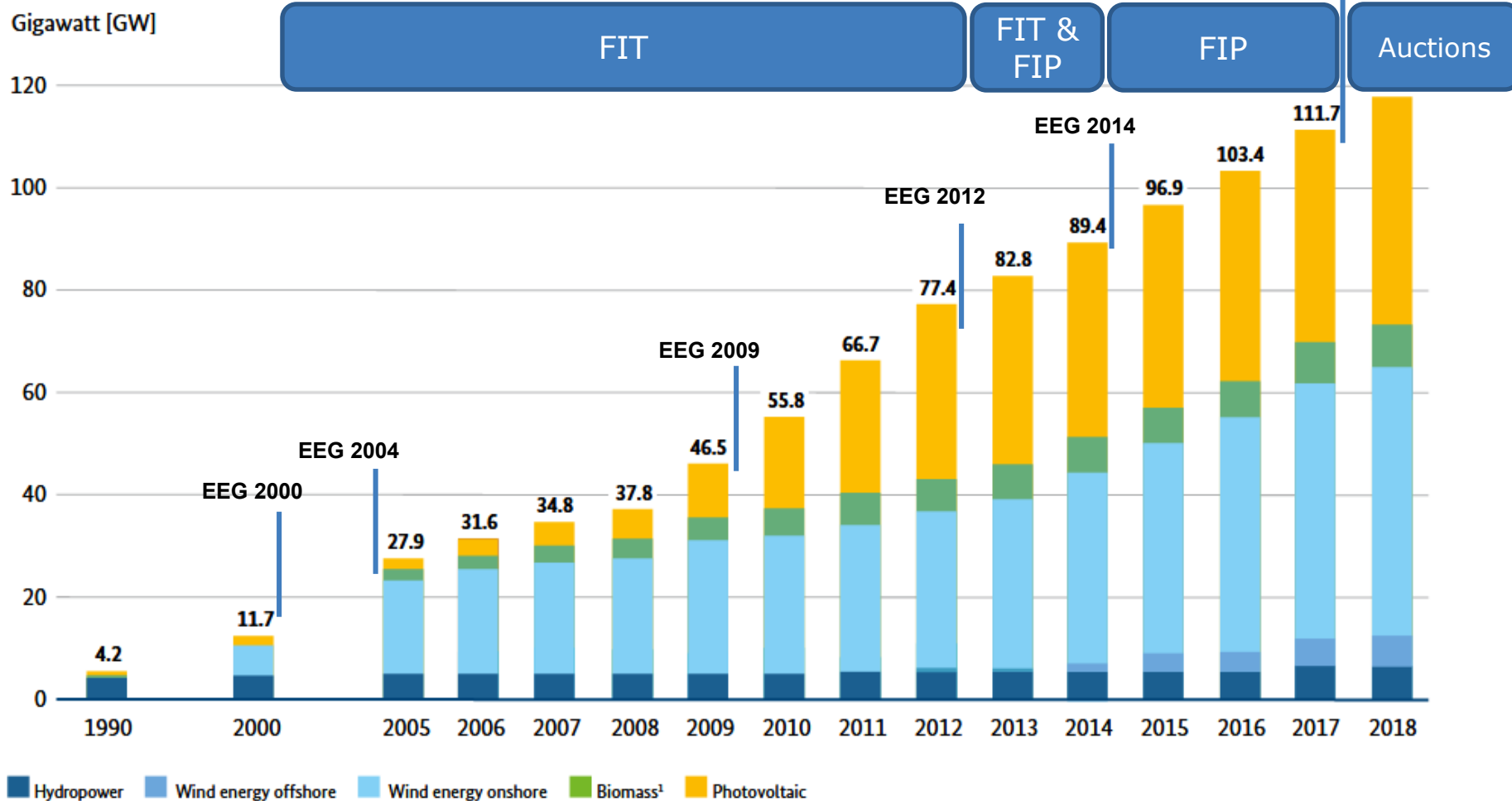
¹ Gross final energy consumption calculated according to Energy Concept
² Source target values: Directive 2009/28/EC, Energy Concept (2010), Climate protection programme 2030 (2019)
 * Preliminary figures

Source: German Environment Agency on the basis of Working Group on Renewable Energy Statistics (AGEE-Stat), as of 02/2020

Installed Renewable Capacity



Figure 11: Installed power generation capacity based on renewables



¹ Solid and liquid biomass, biogas, biomethane, landfill gas, sewage gas and sewage sludge, excluding biogenic share of waste
Geothermal power plants are not shown here because of the very small share involved. See Figure 10



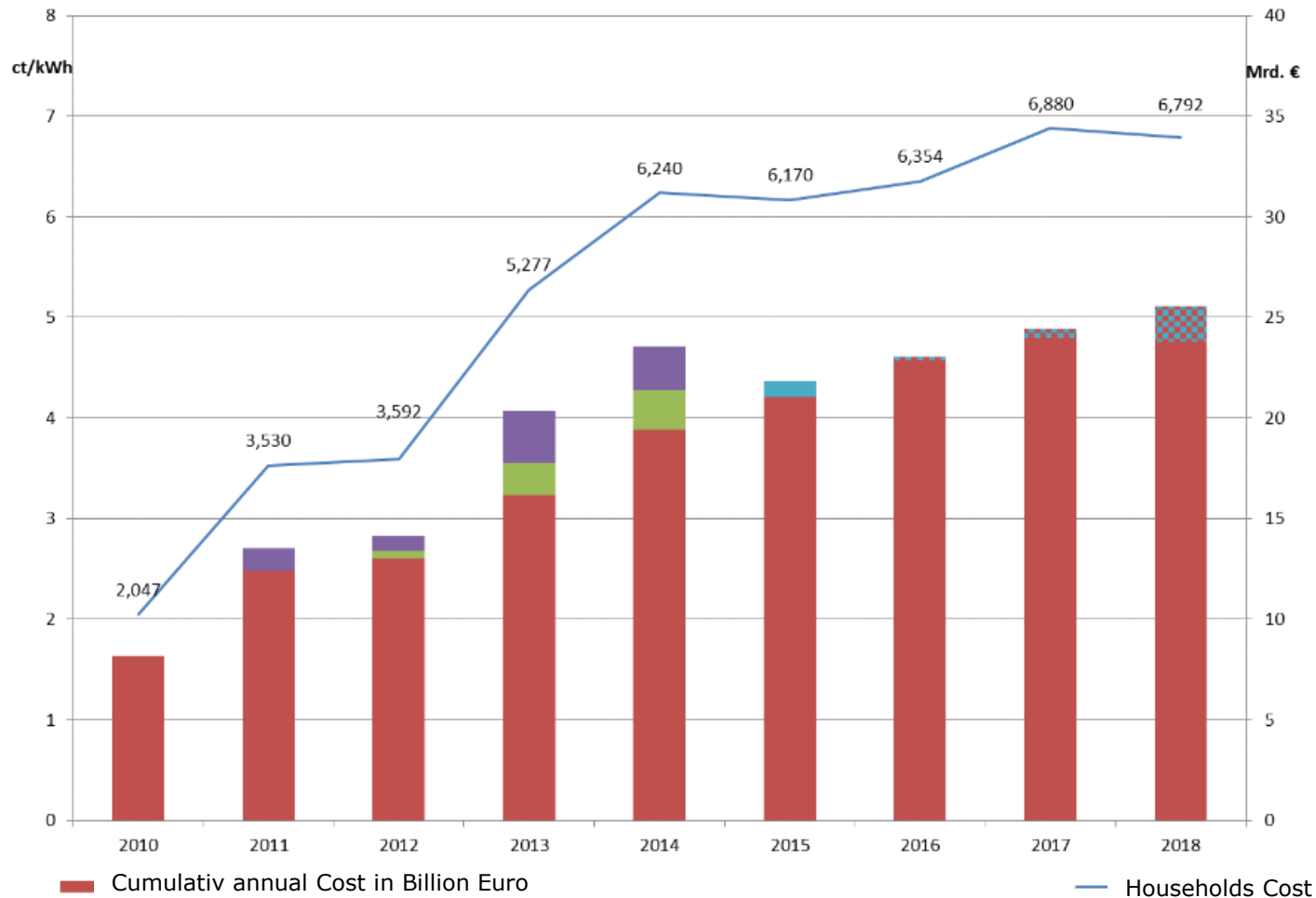
Background

- **Since 2000**, a legal framework (EEG) is in place under which selected RES technologies (e.g. hydropower, wind energy, PV, geothermal energy, biomass) can claim a FIT.
- **Very successful support scheme** for scaling up RES generation.

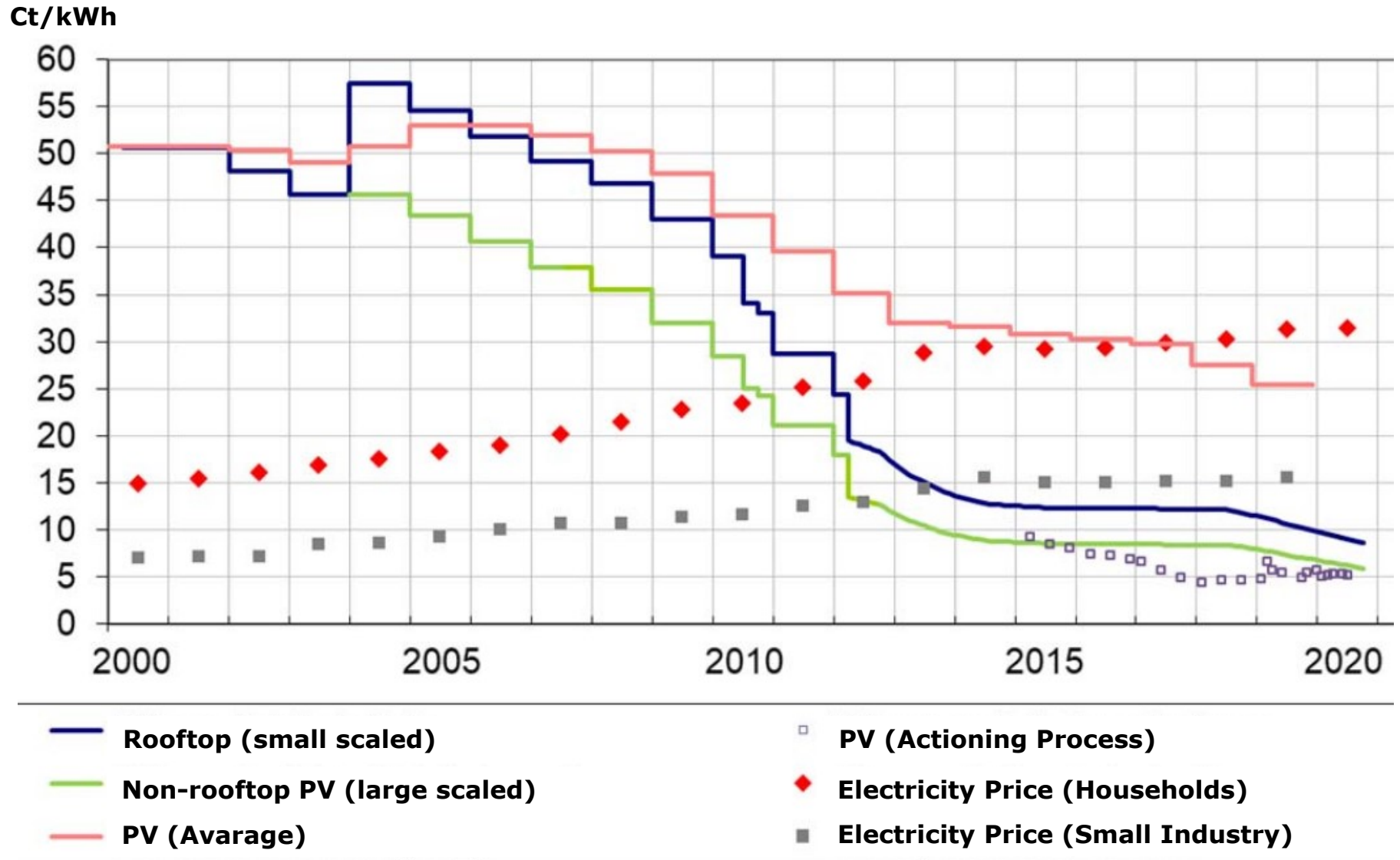
Key features of FITs

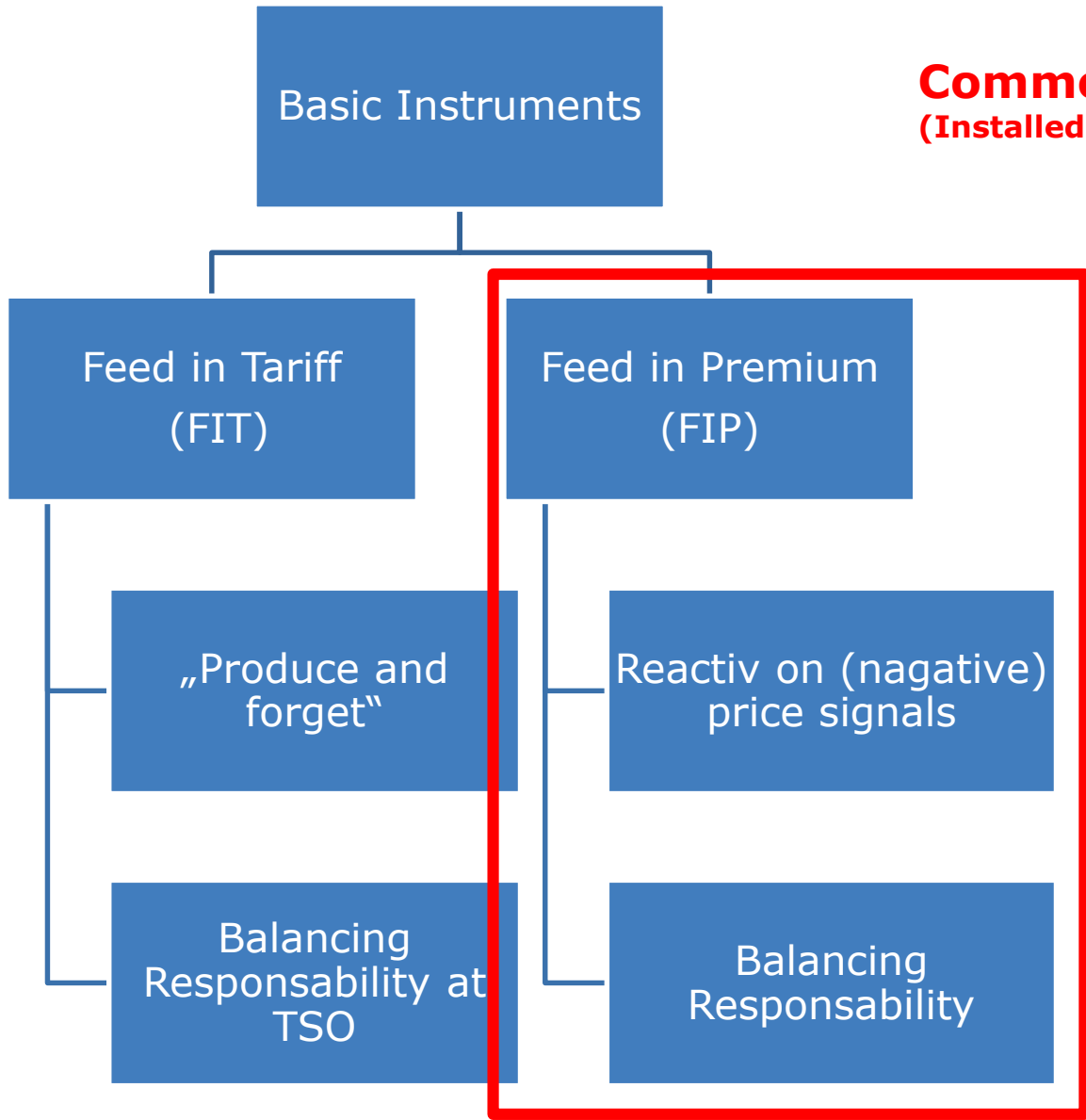
- **Set by the administration** and embedded in the law: full transparency and planning security.
- **Support levels set per KWh for each type of technology** and according to further provisions such as size and location (for wind).
- Level of support determined such as to **cover the full costs** of the RES installation.
- **Guaranteed for 20 years.**
- Guaranteed **grid access and priority dispatch in the network.**
- No interaction with the electricity market

Costs of Renewable Subsidies



Costs of Renewable Subsidies





Common Case!
(Installed Capacity > 100 kW)



Support

- **Market premium paid** in addition to market price
- Incentive for a **rational selling behaviour**
- Avoiding a „**produce and forget**“ mentality

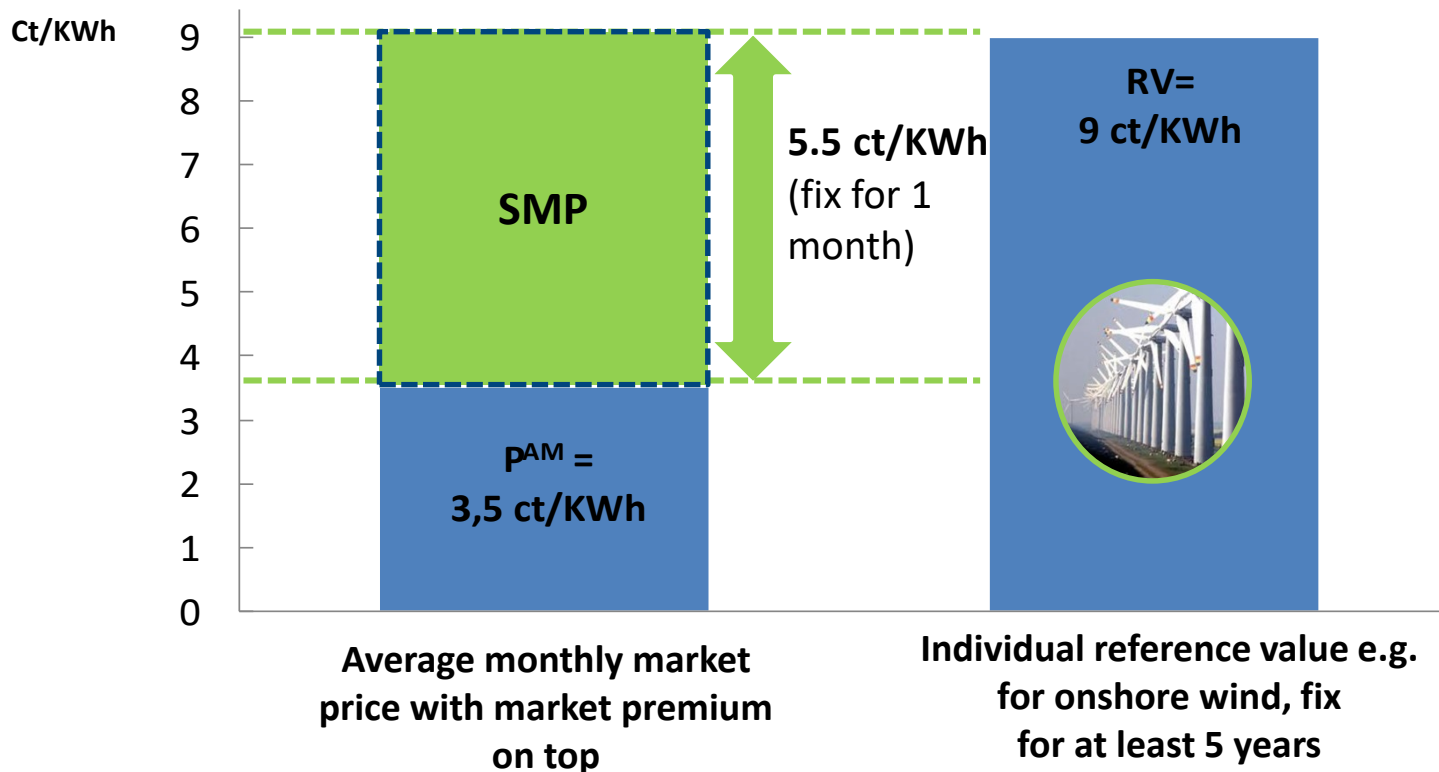
Market integration

- RES producers **sell electricity** directly **on the energy market**
- RES quantities influence the market outcome (wholesale price level)
- RES quantities under FIT scheme are sold on the market by the TSOs

Market risks

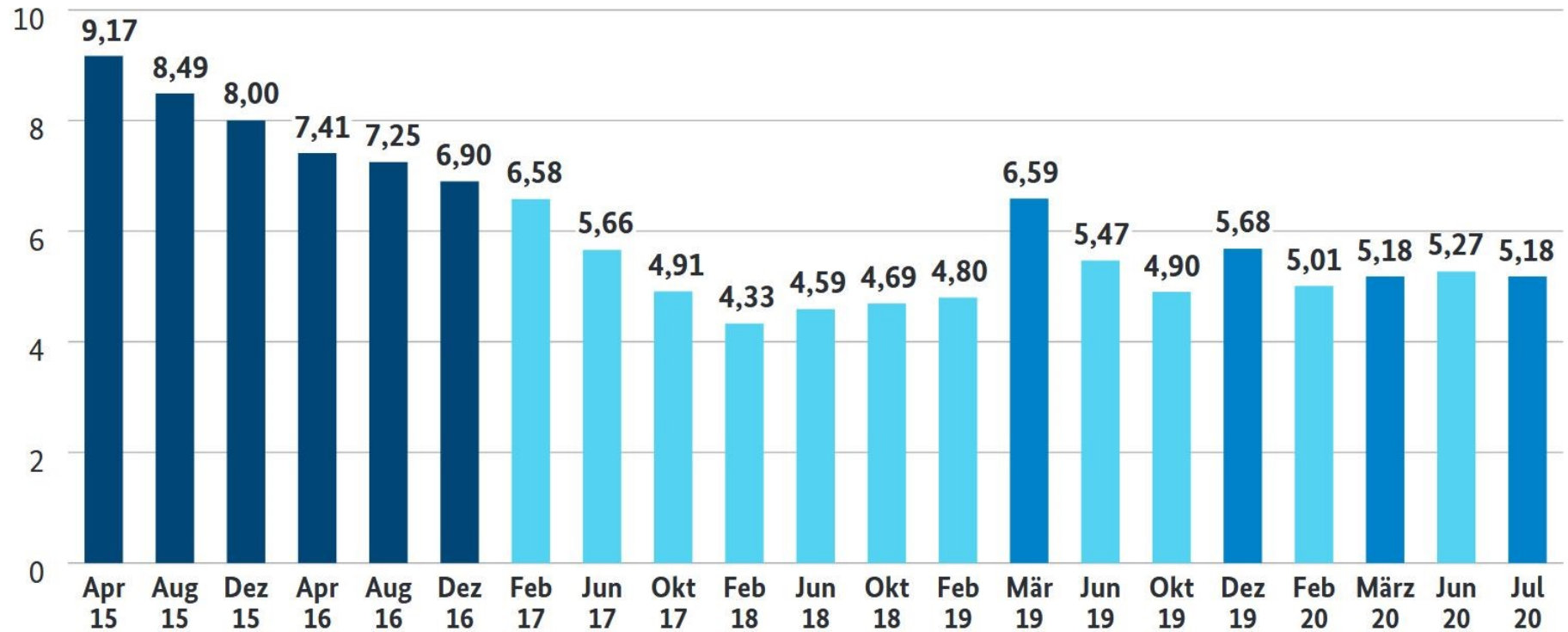
- Financing and operational risks
- Financial settlement (forecast accuracy) risks
- Risks linked to the availability of e.g. sun & wind
- RES producers are **shielded from the long term market price** risk (which is born by conventional producers)

- The Market Premium paid is the difference between the **average monthly market price (P^{AM})** and the installation specific **reference value (RV)**
- “Average monthly” means: the German model is a fixed market premium with monthly adjustment → incentive to best possible marketing but shielded from long term market-price risks



Development of FIP (auctioning)

in ct/kWh



■ Pilots ■ EEG 2017 ■ Special Auctions

Quelle: BMWi



Thank you for your Attention