RES Support Scheme & Development in Germany
Potentially competitive market segments

- No ex-ante regulation, ex-post supervision by the Competition Authority

- Separation of generation and supply activities from network operation (Unbundling)
- Network access regulation, including tariffs
Renewable Energy Development in Germany
German Renewable Target 2050

Renewable energy share of gross final energy consumption

- **Ziel 2020²:** 42.1
- **Ziel 2025²:** 35
- **Ziel 2030²:** 30

**Target Gouvernement**

- **Ziel 2020²:** 18
- **Ziel 2025²:** to 45
- **Ziel 2030²:** 65

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

1. Gross final energy consumption calculated according to Energy Concept
3. Preliminary figures
Figure 11: Installed power generation capacity based on renewables

Gigawatt [GW]

FIT

FIT & FIP

FIP

Auctions

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.

Sources: Federal Ministry for Economic Affairs and Energy based on data from AGEE-Stat and other sources, see Figure 10, some figures are provisional.
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.

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

Cumulative annual Cost in Billion Euro

Households Cost
Costs of Renewable Subsidies

Ct/kWh

- **Rooftop (small scaled)**
- **Non-rooftop PV (large scaled)**
- **PV (Average)**
- **PV (Actioning Process)**
- **Electricity Price (Households)**
- **Electricity Price (Small Industry)**

Source: Frauenhofer ISE
RES SUPPORT: Switch to FIP

Basic Instruments

Feed in Tariff (FIT)

„Produce and forget“

Balancing Responsibility at TSO

Feed in Premium (FIP)

Reactiv on (negative) price signals

Balancing Responsability

Common Case! (Installed Capacity > 100 kW)
RES SUPPORT: Switch to FIP

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)

03.09.16
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

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Quelle: BMWi
Thank you for your Attention