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THE ENERGY TRANSITION IN GERMANY AND THE RENEWABLE ENERGY SOURCES ACT: CONTEXT, LEGAL AND PROCEDURAL ASPECTS

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Content

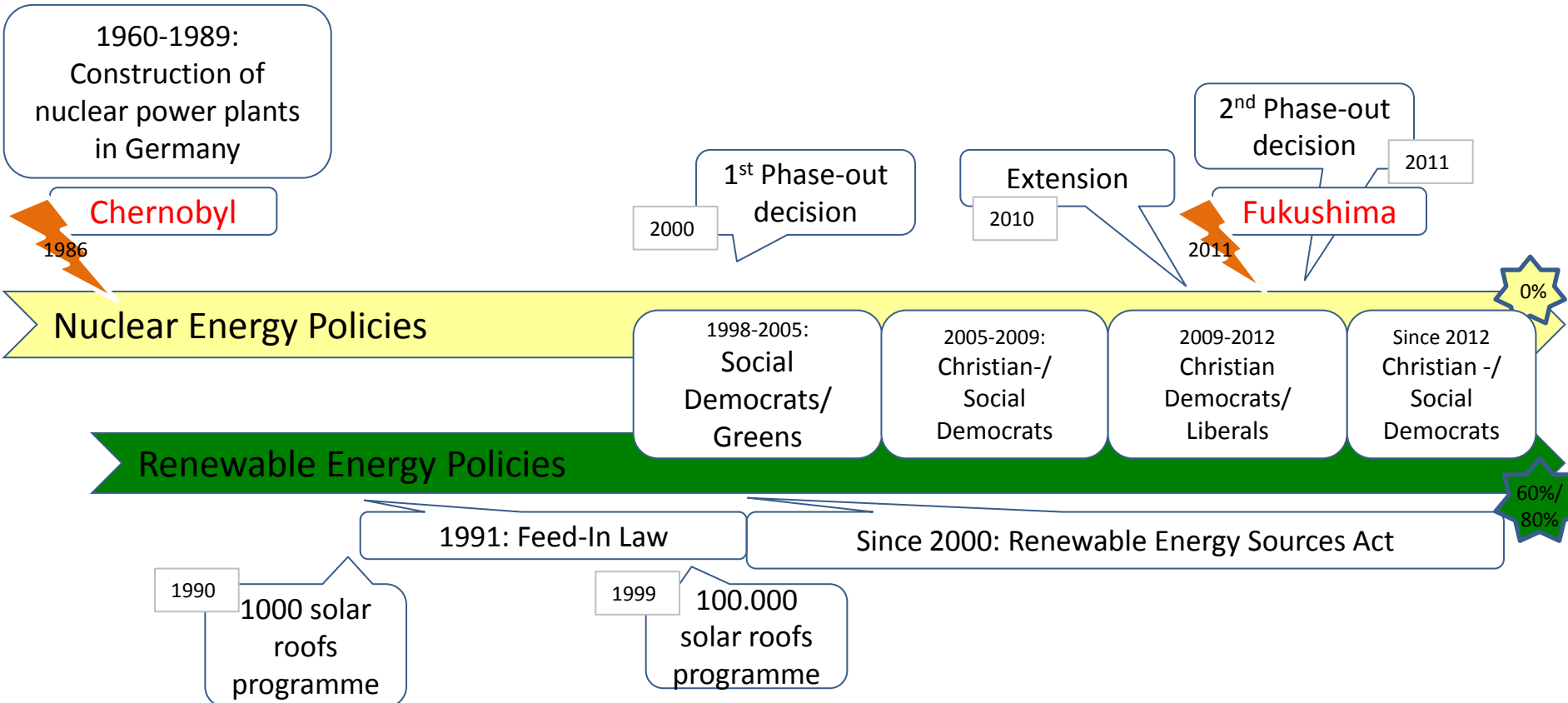
- ▶ Development of the energy transition in Germany
- ▶ The European framework for renewable energy
- ▶ The national framework for renewable energy
- ▶ The support systems of the Renewable Energy Sources Act (EEG)
- ▶ Reporting and monitoring
- ▶ Institutions (selection)

Development of the energy transition in Germany

▶ Key decisions:

- Feed-in Law (1990)
- Renewable Energy Sources Act (2000 - Last reformed 2014)
- 1st Nuclear phase-out decision (2000)
- Energy Concept / Prolongation of nuclear power plants lifetime (2010)
- Fukushima / Second nuclear phase-out decision (2011)

The Energiewende has a history...



Source: Ecologic Institute

Pillars of the Energy Transition beyond nuclear phaseout

- ▶ Renewable Energy (Electricity, Heat, Transport)
- ▶ Energy Efficiency (Buildings, Industry, Appliances)
- ▶ European Emissions Trading Scheme (EU-ETS)

EU Framework on Renewable Energy

▶ **Climate and Energy package 2020**

- EU target for a share of renewable energy of 20% of final energy consumption
- Renewable Energy Directive (RED):
 - ▶ Individual binding targets for Member States
 - ▶ Free choice of support systems
 - ▶ National action plans
 - ▶ Biennial progress reports
 - ▶ Cooperation mechanisms

EU Framework on Renewable Energy

- ▶ **State Aid Guidelines for environmental protection and energy (2014-2020)**
 - Compatibility of support for renewable energy installations with EU competition law
 - Not binding on Member States, but non-compliance leads to competition procedure including suspension of contested financial support
 - In principle, compatibility requires tenders from 2017 onwards

EU Framework on Renewable Energy

▶ **Climate and Energy package 2030**

- EU target for a share of renewable energy of 27% of final energy consumption
- No individual targets for Member States
- National contribution process according to new governance structure (including regional cooperation), still to be agreed upon
- Revision of RED planned for 2017

National Framework on Renewable Energy

- ▶ **Energy Concept of 2010 (revised):** share of RES in
 - 2025: 40 - 45%
 - 2035: 55 - 60%
 - 2050: At least 80%
- ▶ Climate Change Plan (in process)
- ▶ **Renewable Energy Sources Act (EEG)**
- ▶ Other legislation on renewable energy, e.g. Renewable Energy Heat Act (EEWärmeG)

Targets of the *Energiewende*

Table 7

	2020	2025	2030	2035	2040	2050
Reduction in GHG emissions (compared with 1990)	40%		55%		70%	80-95%
Increase in share of RES in gross electricity consumption		40-45%		55-60%		At least 80%
Reduction of primary energy consumption (compared to 2008)	20%					50%
Reduction in gross electricity consumption	10%					25%
Share of electricity generation from CHP plants	25%					
Reduction of energy use in transport sector (against 2005)	10%					40%

BMWi, 2014a, p. 4.

Support systems of the Renewable Energy Sources Act (EEG)

▶ **Three phases:**

- Feed-in Tariffs (2000-2014)
- Premium Tariffs (since 2009/2012)
- Tender system (since 2014, in process)

Feed-in Tariffs: Main features

- **Guaranteed grid access:** priority transmission and distribution
- **Fixed price** for every kWh produced for 20 years; Tariffs are set by the law for each type of technology and with regard to further provisions (e.g. site, system services).
- **Annual degression** of tariffs due to technical development
- **EEG-Surcharge:** Additional costs for renewable energy production are offset by all electricity consumers (EEG levy 2015: ~ 6.17 ct/kWh), energy-intensive industries are widely exempt

Feed-in Tariffs: pros and cons

▶ **Pros:**

- Investor security (low risk)
- Suited for all technologies and small installations
- Flexibility via differentiated tariffs
- Suited for quick deployment of RES
- Decentralised approach with high local acceptance

▶ **Cons:**

- Funding rates fixed by Government, must be continuously adapted (risks: political bargaining, cost inefficiency, complexity)
- No cap on investments (deployment difficult to control)
- Harmonisation with other EU States' support systems difficult

Premium system: Main features

- ▶ Direct selling of the produced renewable energy on the spot market; if wholesale price is below a reference tariff producer gets feed-in premium on top
- ▶ Premium: difference between wholesale price and reference tariff
- ▶ Since 2012 optional, mandatory for certain technologies (biomass)
- ▶ Since 2014 mandatory for all technologies
- ▶ Exceptions for small installations (<100 kW since 2016)
- ▶ Annual degression according to capacity addition (deployment paths and „corridors“)

Annual Degression: how it works

ANNUAL DEGRESSION RATES DEPENDING ON CAPACITY ADDITION

Onshore Windpower



Photovoltaics



Source: BMWi

Premium system: pros and cons

▶ **Pros:**

- Producers act as market participants, away from „produce and forget“ mentality
- Target more efficient grid management

▶ **Cons:**

- Higher costs due to higher financing risks
- Unclear whether sufficient for better market integration and cost decrease in the long term
-

Tender system: Main features

- ▶ Determination of RES funding via market-based auction scheme (plant operators submit bids for funding)
- ▶ Since 2015: Pilot phase for auctioning 1,200 MW of ground-mounted solar PV (2015-2017)
- ▶ From 2017 extension to other technologies according to current EEG-revision:
 - Onshore wind energy
 - Offshore wind energy
 - Large PV installations
 - Biomass
- ▶ From 2017 5% of tenders to be opened for installations in other EU Member States

Tender system: Pros and cons

▶ **Pros:**

- Market-based system
- Cap on investments
- Better control of RES deployment

▶ **Cons:**

- No experience so far in Germany except for ground-mounted PV (not fully transferable to other technologies)
- High administrative costs
- Underbidding may lead to lower realisation rate
- Unclear whether costs will sink
- Diversity of actors difficult to maintain

▶ **Individual tender design for each technology needed**

Why does Germany switch to a tender system?

- ▶ Difficulties in steering the deployment of RE and resulting increase of the EEG levy
- ▶ Competition procedure against EEG 2012: deal with European Commission to secure EEG levy exemptions for energy-intensive industries
- ▶ Legal security from further competition procedures
- ▶ **Mainly political reasons, not based on evidence or conviction that tender system is better!**

Reporting and monitoring

- ▶ **Report on experience with EEG**
 - Evaluation of EEG every four years, report to Bundestag
 - Support by several institutions and independent experts
 - Main function (until transition to tenders): preparation of adjustment of tariffs
- ▶ **Monitoring Report**
 - Annual report on progress and specific issues to Bundestag
 - Included in monitoring report on Energy Transition
- ▶ **Statement by Independent Monitoring Commission**
 - Statement on monitoring report on Energy Transition by four independent experts, published together with Government Report

Institutions (selection)

▶ **Clearingstelle EEG**

- Private independent entity, since 2007 in its present form
- Avoidance and settlement of disputes:
 - General advice how to apply EEG provisions
 - Alternative dispute resolution procedures
- Services open to installation and grid operators
- Information and regular expert discussions
- Discharge of courts, high acceptance by stakeholders

▶ **Bundesnetzagentur (Federal Network Authority)**

- Specific monitoring and decision-making functions
- Responsible for the Register of Installations
- Responsible for auctions

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▶ THANK YOU FOR YOUR ATTENTION

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