

§ 6 Innovative: renewable energies law [Recht der erneuerbaren Energien]

I. What are renewable energies?

- definition: energies obtained from sources that renew themselves in the short term or whose use does not deplete the source
 - clarification of terminology: not the energies but the energy sources are renewable
- examples:
 - solar radiation energy (in particular photovoltaic energy)
 - wind energy (used by wind turbines or mechanical windmills)
 - hydropower (including wave, tidal, salt gradient and ocean current energy)
 - geothermal energy (from hot springs, geysers, volcanos; also ambient energy extracted by heat pumps)
 - biomass energy (esp. from biomethane; from energy crops, agricultural crop residues and biodegradable waste)

II. The importance of renewable energies for a greenhouse gas emission-free energy supply

- The use of most renewable energy sources is *emission-free*, the use of biomass energy at least *emission-neutral* (since greenhouse gas is absorbed during the growth process).
- The use of *solar energy* has *no side-effect*, the use of wind and geothermal energy little side-effects and the use of hydropower much smaller side-effects on the environment than using fossil fuels.
- Note that in Europe the *use of fossil fuels* for energy production, though still very common, is considered dirty and polluting!
 - However, it is more lucrative for big business and therefore still pushed by its influential lobbies...

III. The EU Renewable Energy Directive (RED) (Directive 2018/2001)

- a new directive that replaces an older one of 2009 and has been revised in 2023

1) The firm European commitment to the timely promotion of the use of renewable energy

- the European Union's goal to promote energy production from renewable sources and strengthen its competitiveness on the global renewable energy markets
- the *binding target of a share of at least 42.5 % in 2030* in the EU's overall gross final energy consumption (art. 3(1))
- member states encouraged to joint projects for electricity, heat or cooling production from renewable sources (art. 9 et seq.)

2) Restrictions on biomass use to minimise negative effects on the biomass raw material market, biodiversity, environment and climate (art. 3(3))

- taking into account that even biomass use, although emission-neutral, has a negative impact on environment and climate
- biomass use and its promotion must comply with a number of sustainability criteria, in particular the *principle of the cascading use of biomass* (art. 3(3 - 3d))

3) The member states' obligation to establish a framework for adequate promotion of renewable energy (art. 3(4a))

- to foster renewable energy purchase, increase its electricity share and tackle barriers, e.g. in bureaucratic procedures and infrastructure development

- 4) **The member states' obligation to require fuel manufacturers to increase the share of renewable fuels to 29 % by 2030** (art. 25(1))
- for a higher share of biofuels, green hydrogen fuel, electrofuel

IV. **The German Renewable Energies Act 2023** [Erneuerbare-Energien-Gesetz 2023]

- serves to implement the Renewable Energy Directive and other European Union law

1) **The pioneer predecessor: the Law on the Sale of Electricity to the Grid of 1990** [Stromeinspeisungsgesetz]

- regulated for the first time the obligation of electricity suppliers to purchase and compensate for electrical energy from renewable sources

2) **The replacement by a frequently updated Renewable Energies Act (2000 - 2023)**

- with changing concepts of compensation for electricity fed into the grid

3) **The present Renewable Energies Act 2023** (originally of 2000)

a) **The aim of transformation to a sustainable, greenhouse gas-neutral power supply entirely based on renewable energies** (sect. 1(1))

- an aim also supported by the Electricity and Gas Supply Act [Energiewirtschaftsgesetz] (cf. sect. 1(1))
- the *target* of a renewable energy *share in electricity consumption of 80% by 2030* (sect. 2(2))
 - actual share in February 2025: 42 %
- ambitious, detailed expansion plans for onshore and offshore wind turbines and solar plants, less ambitious plans for biomass plants (sect. 4)
- individual consumers know their personal shares, since the electricity bill lists the proportion of electricity from renewable sources in their consumed energy mix (sect. 42 Electricity and Gas Supply Act)
- after Germany's coal phase-out in 2038 (see supra, § 4 X), emission-neutral electricity supply shall be achieved in a purely market-driven way (sect. 1a))

b) **The *renewable energy privilege***

- the construction and operation of renewable energy installations are by law in the *overriding public interest*, serve public health & security and must be prioritised in balancing processes under the law (sect. 2)
- this can speed up planning and authorisation procedures for such facilities

c) **Promotion of hydrogen-based electricity** (sect. 28f, 28g, 39o - 39q)

- of innovative concepts with hydrogen-based electricity storage
- of facilities for electricity generation from green hydrogen (hydrogen produced by electrolysis of water with electricity from renewable sources)
- so far, little use of hydrogen-based power in Germany

V. In particular: the integration of private photovoltaic installations into the electricity grid and the remuneration claims of their operators for electricity fed into the grid (sect. 19 - 21 Renewable Energies Act)

- a revolutionary approach allowing every citizen to contribute himself to the transformation of the energy supply system
- has made the use of renewable energy popular in Germany

1) The right to connect one's photovoltaic installation to the public electricity grid (sect. 8)

- has fostered the development of a broad spectrum of photovoltaic systems,
 - from rooftop solar systems on private homes
 - to industrial-scale solar power parks
- trendy in 2024: balcony power plants on the balconies of apartments
 - landlords of rented apartments cannot usually object

2) The claim for remuneration against the electricity grid operator for electricity fed into the grid (sect. 19 et seq.)

- a financial claim for
 - feed-in remuneration [Einspeisevergütung] (sect. 19(1) no. 2, sect. 21(1, 2))
 - tenant electricity surcharge [Mieterstromzuschlag] (sect. 19(1) no. 3, 21(3)) or
 - market premium [Marktprämie] (sect. 19(1) no. 1, sect. 20)
- alternatively, the operator can opt for direct marketing (sect. 21a)
- the claim is directed against the grid operator, not the electricity provider, and therefore not offset against the electricity charges
- the claim is granted for 20 years (sect. 25)
- disputes can be settled at a special clearing center [EEG-Clearingstelle]

VI. Practical problems and perspectives of the current renewable energies law

- German Renewable Energies Act effective but only a transitional solution
 - therefore claim duration of 20 years too long
- high number of small photovoltaic installations feeding into the grid at the same time can cause technical problems
- photovoltaic installations not effective in the evening, when they are most needed
- lack of efficient large-scale storage solutions for the energy generated from renewable sources
- high demand for overland power lines to transport electricity from wind energy to industrial and densely populated areas
- resistance and floods of lawsuits of parts of the population who demand effective climate action but will not accept wind turbines or overland power lines in their own neighbourhood