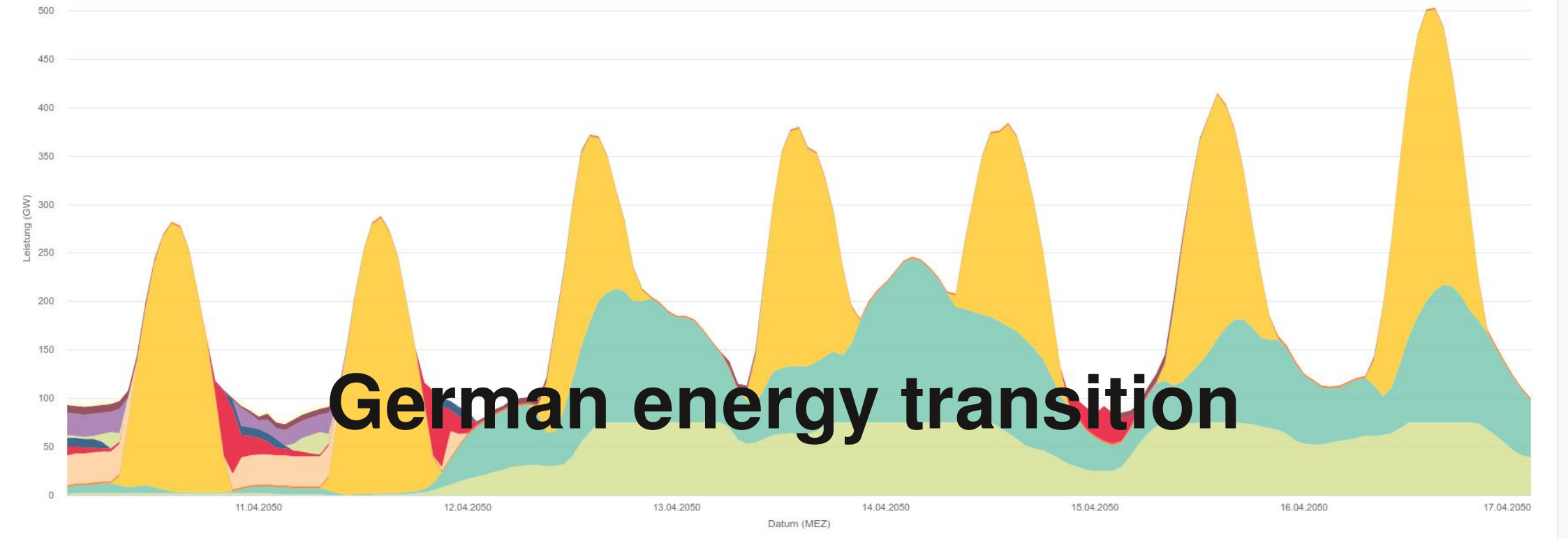
Functional energy transition

vs.



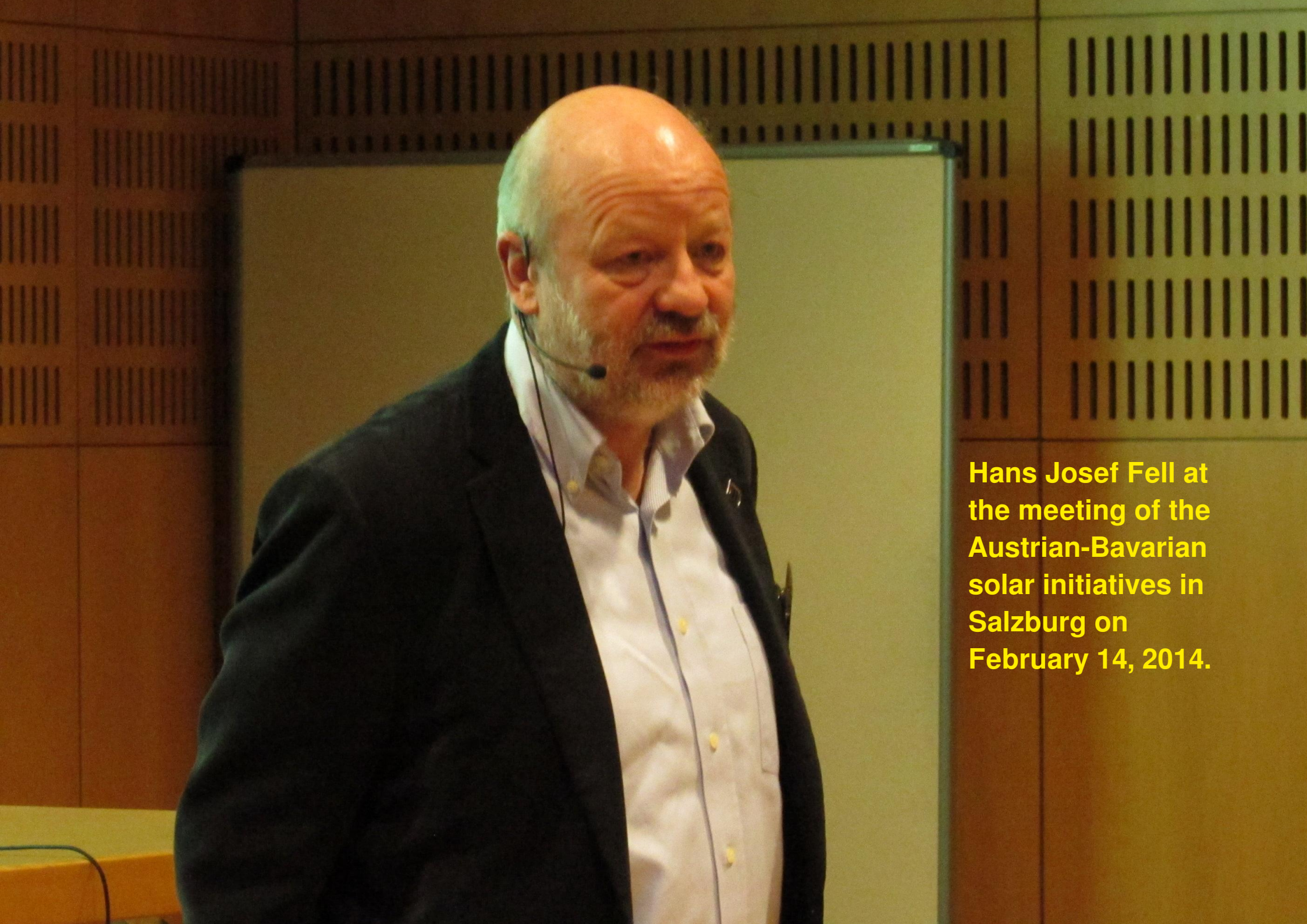
German energy transition

German energy transition

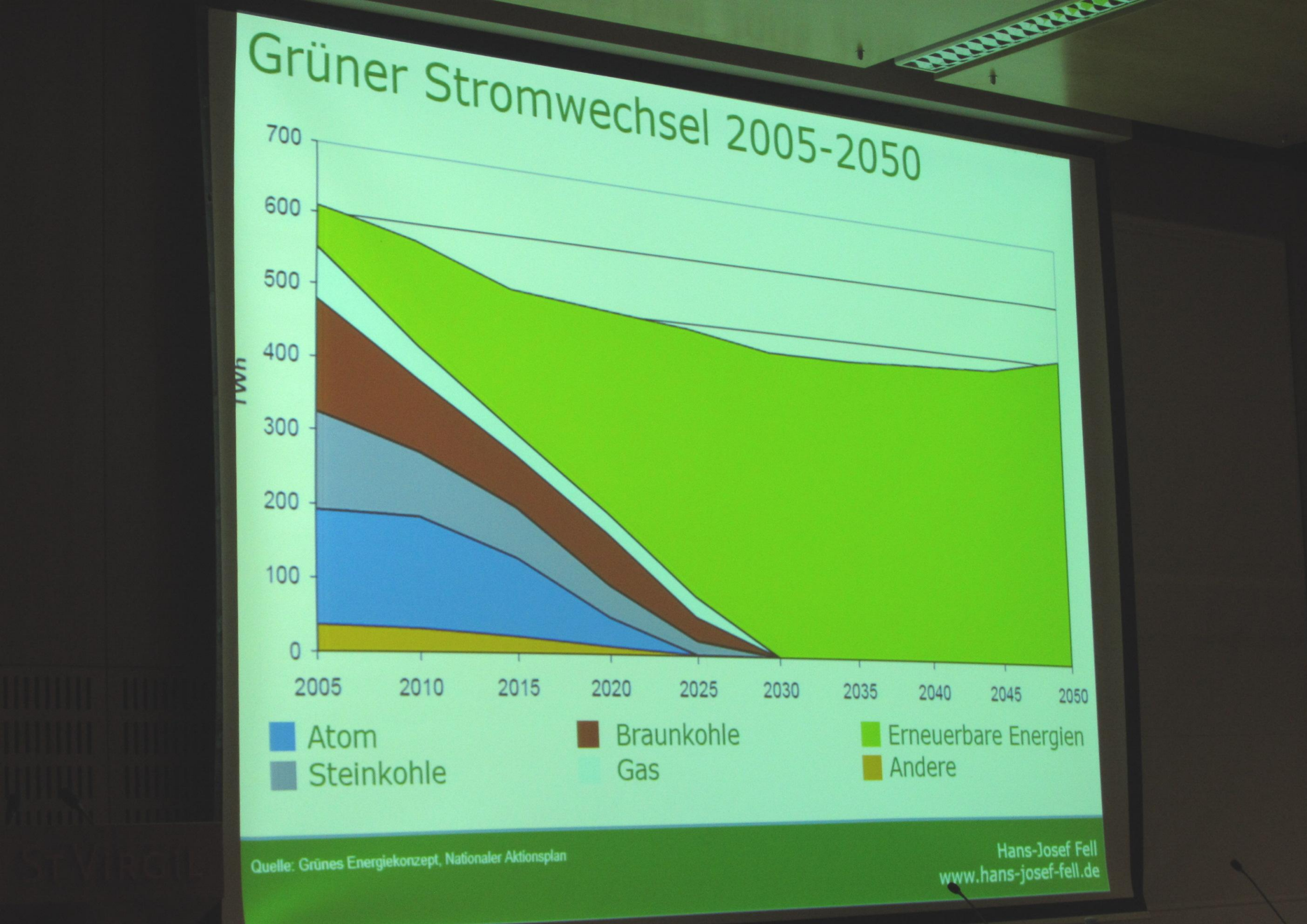
1998 - 2005 Draft under SPD + Green government.
Main work by the green energy spokesman Hans-Josef Fell.
Main instrument is the EEG - Energy Feed-In Act.

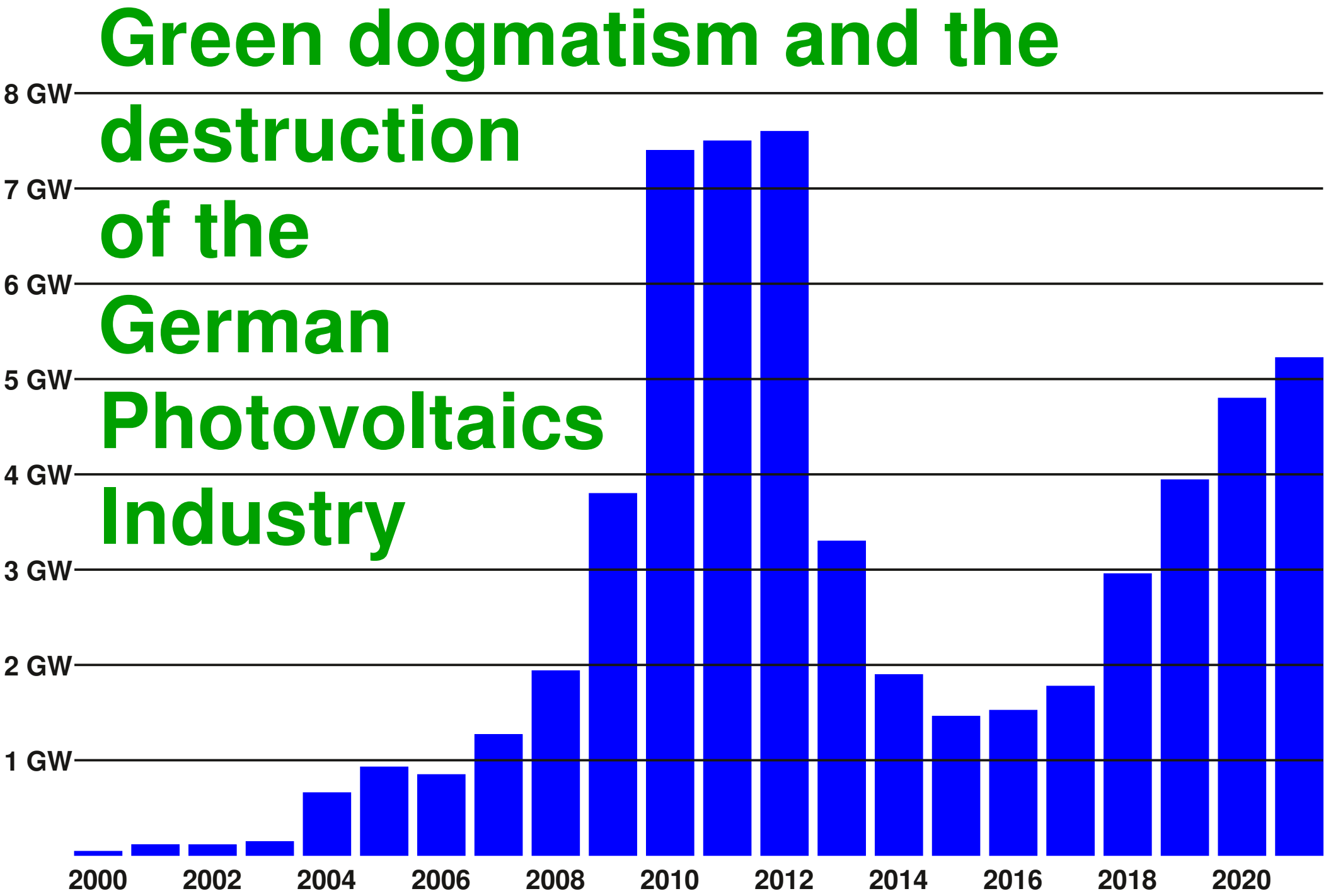
2005 - 2021 Further administration by several CDU/CSU governments in coalition with FDP or SPD.

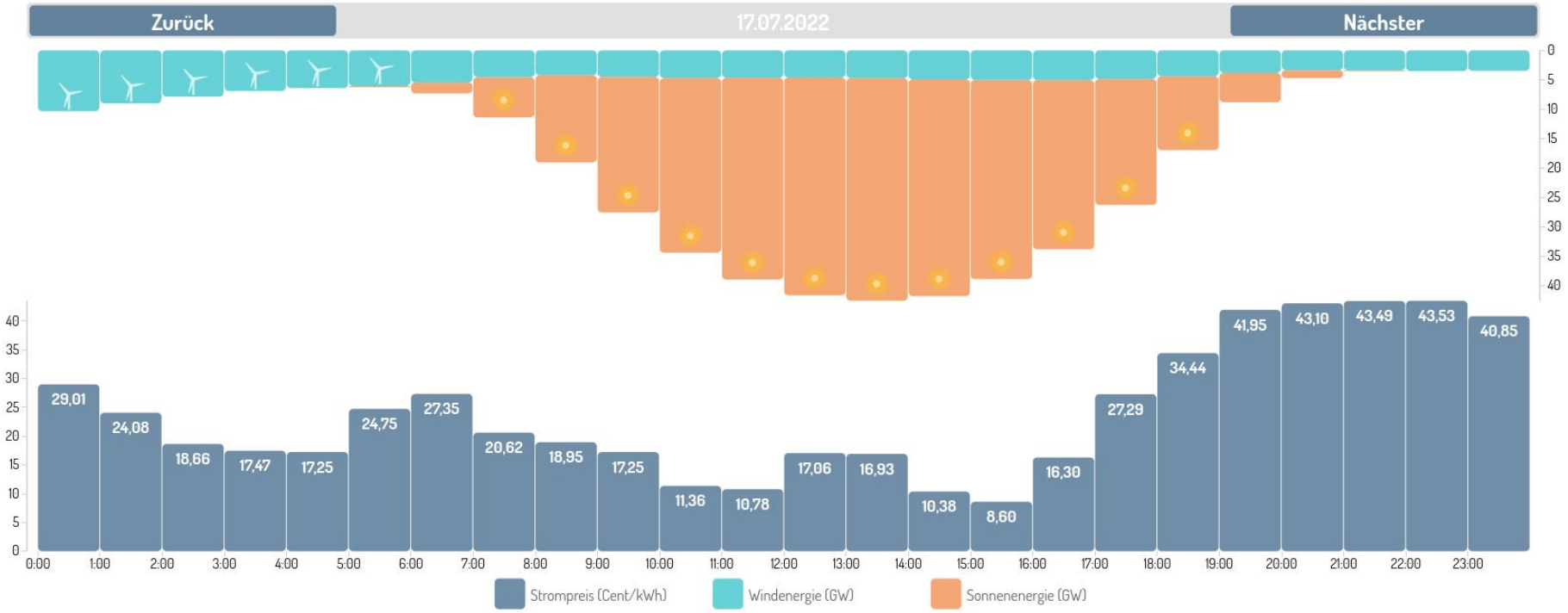
As of 2021 SPD + Greens + FDP government.
The EEG is slightly reformed. The changes are so minimal that one can assume that the Greens were satisfied with the further administration by CDU/CSU governments.



Hans Josef Fell at the meeting of the Austrian-Bavarian solar initiatives in Salzburg on February 14, 2014.


Grüner Stromwechsel 2005-2050
700
600
500
400
300
200
100
0
TWh
2005
2010
2015
2020
2025
2030
2035
2040
2045
2050
Atom
Steinkohle
Braunkohle
Gas
Erneuerbare Energien
Andere
Quelle: Grünes Energiekonzept, Nationaler Aktionsplan
Hans-Josef Fell
www.hans-josef-fell.de


Green dogmatism and the destruction of the German Photovoltaics Industry
8 GW
7 GW
6 GW
5 GW
4 GW
3 GW
2 GW
1 GW
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020


Zurück
17.07.2022
Nächster
0 5 10 15 20 25 30 35 40
40 35 30 25 20 15 10 5 0
29,01
24,08
18,66
17,47
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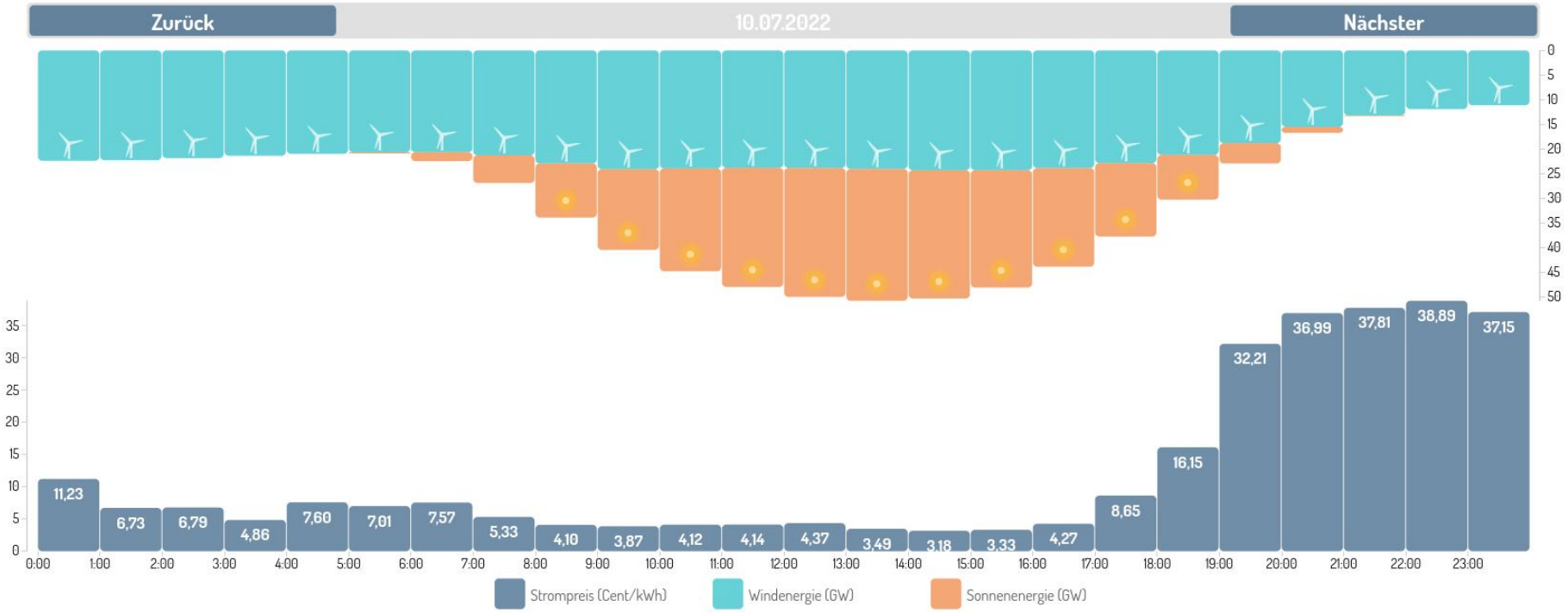
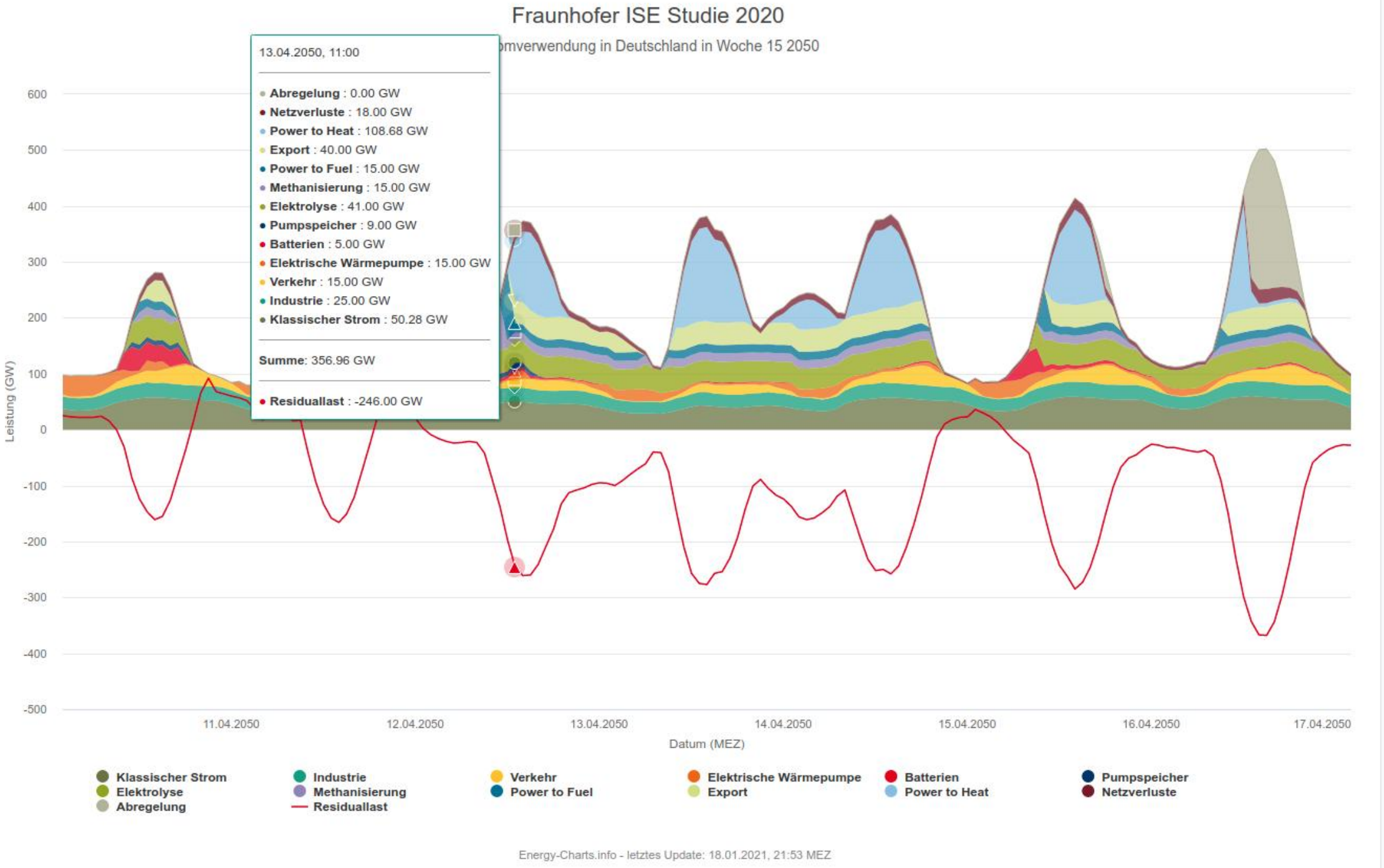
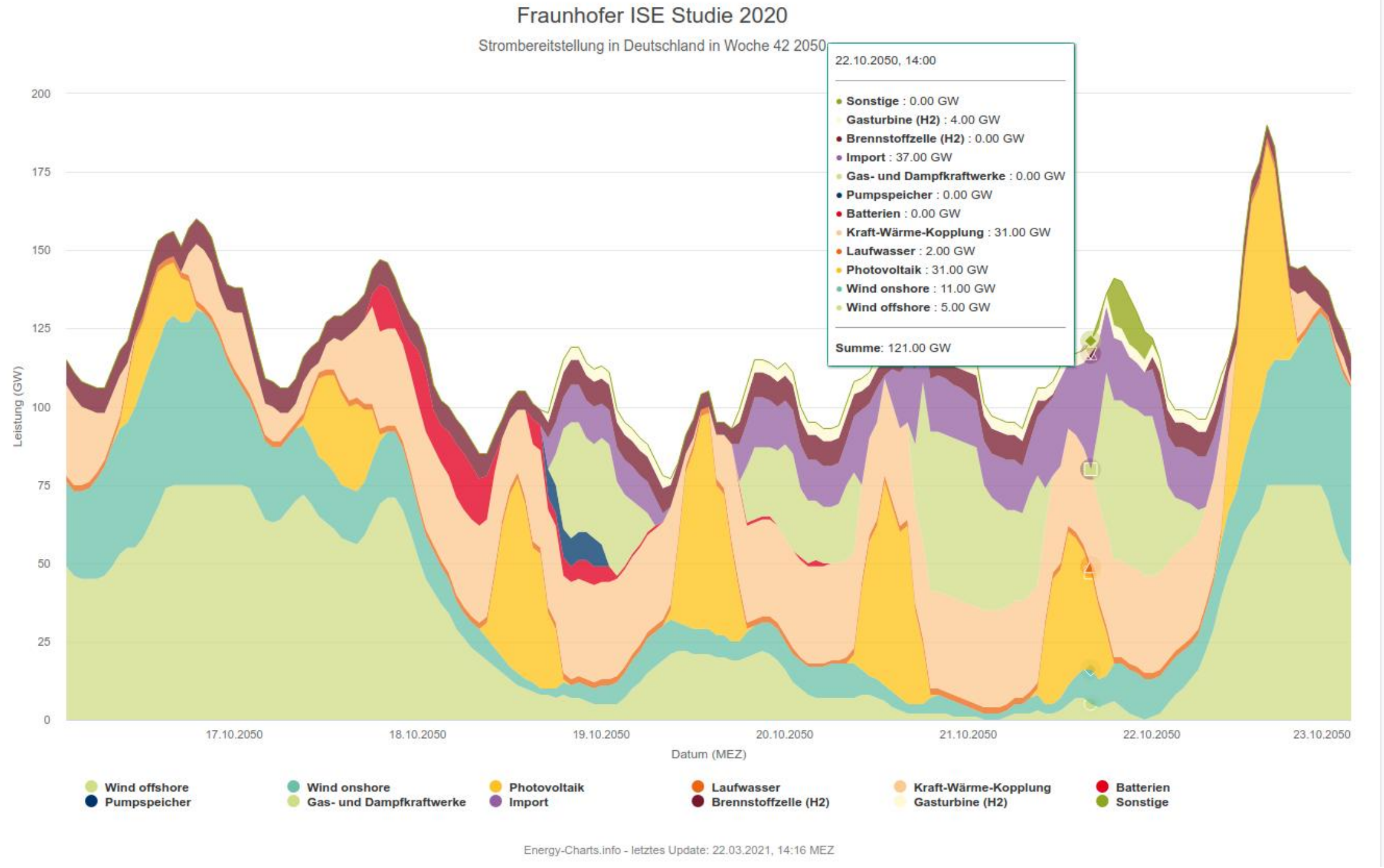
24,75
27,35
20,62
18,95
17,25
11,36
10,78
17,06
16,93
10,38
8,60
16,30
27,29
34,44
41,95
43,10
43,49
43,53
40,85
0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00
Strompreis (Cent/kWh)
Windenergie (GW)
Sonnenenergie (GW)

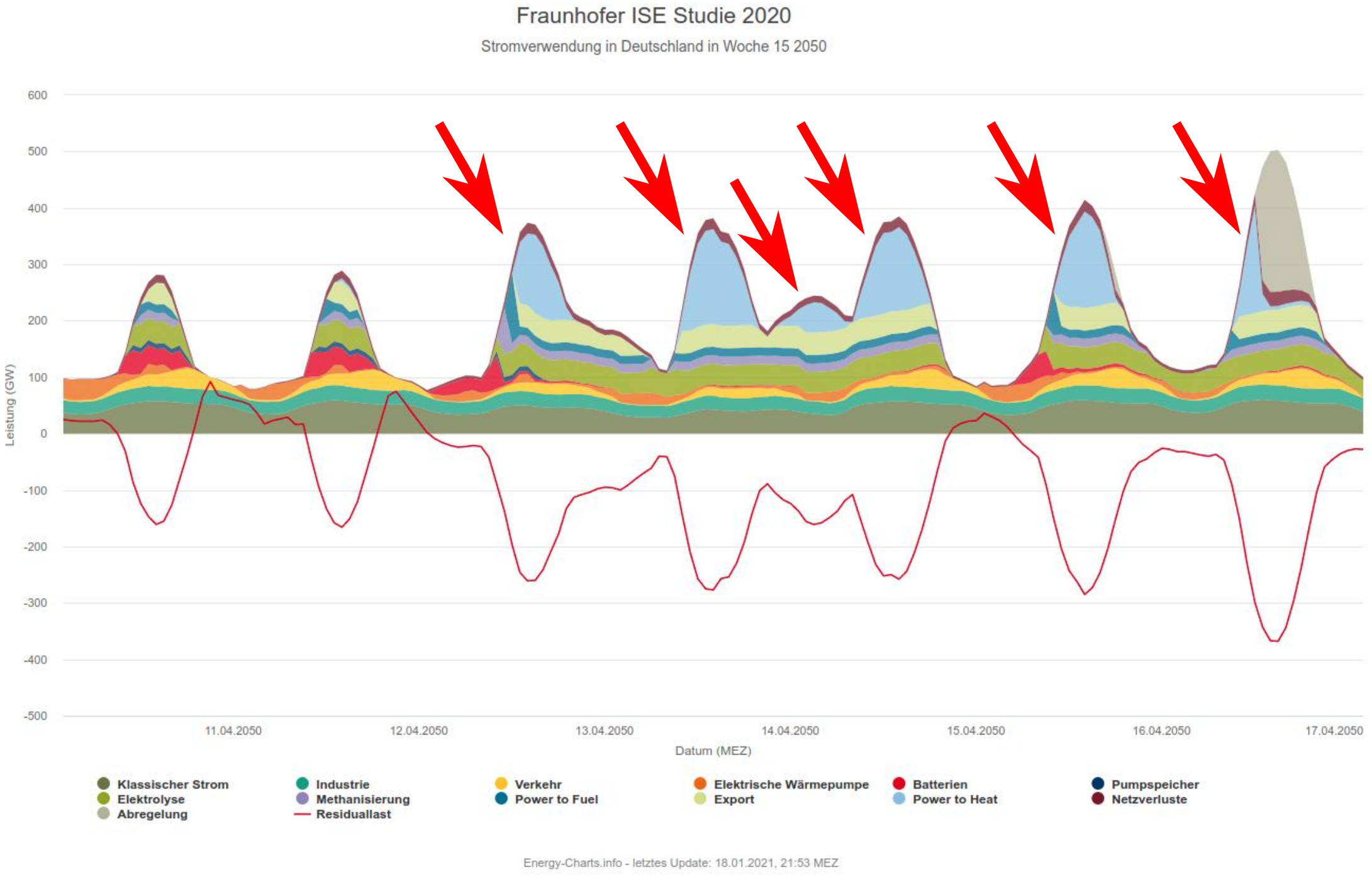

Zurück
10.07.2022
Nächster
0 5 10 15 20 25 30 35 40 45 50
35 30 25 20 15 10 5 0
11,23
6,73
6,79
4,86
7,60
7,01
7,57
5,33
4,10
3,87
4,12
4,14
4,37
3,49
3,18
3,33
4,27
8,65
16,15
32,21
36,99
37,81
38,89
37,15
0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00
Strompreis (Cent/kWh)
Windenergie (GW)
Sonnenenergie (GW)



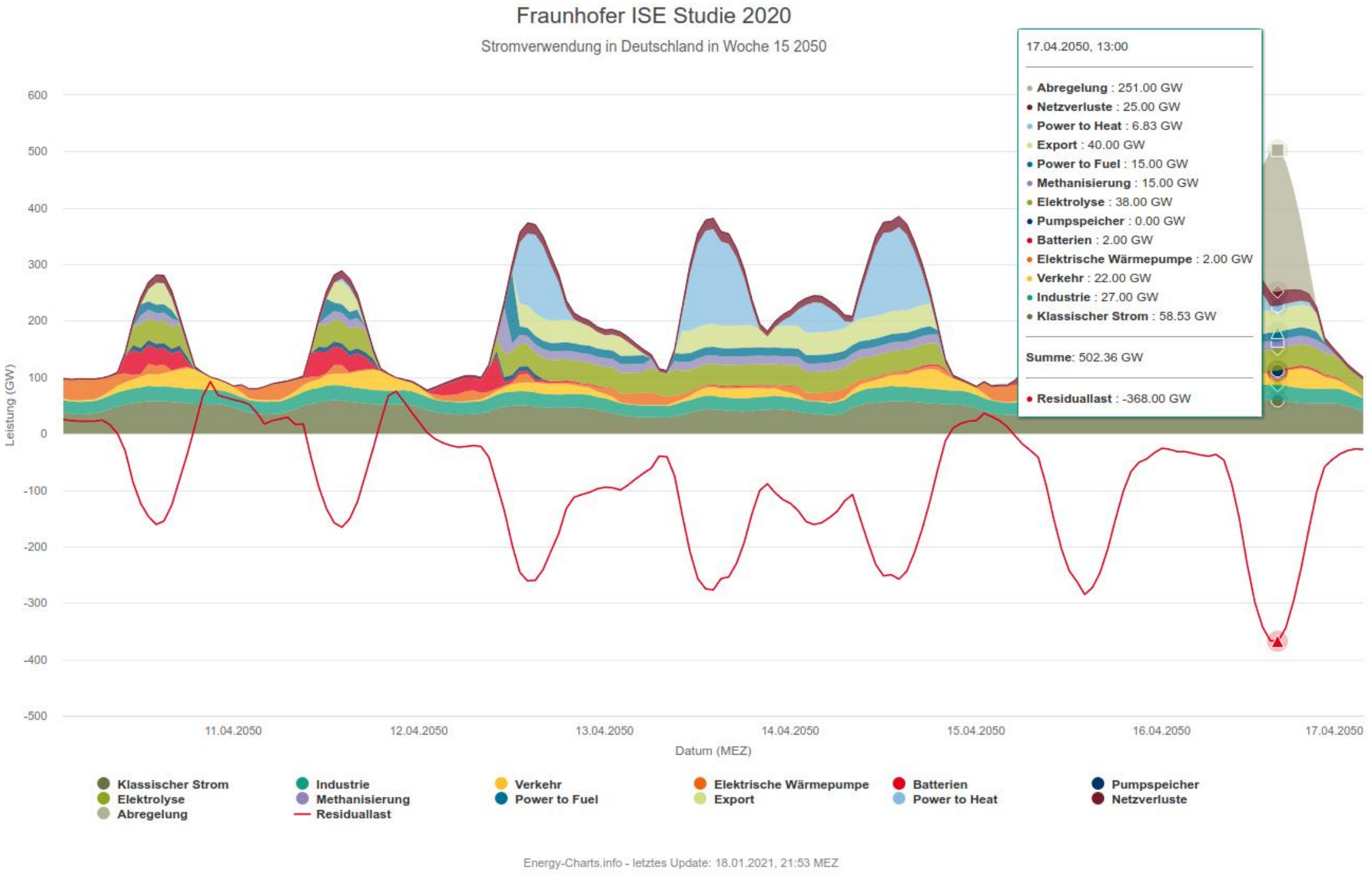
2050-04-13 11:00 40 GW electricity export - when electricity is very cheap



2050-10-22 14:00 37 GW of electricity import when the electricity is very expensive



Week 15 - Up to 190.07 GW Power to Heat



2050-04-17 13:00 251 GW cut-off

General attitude towards the energy transition

Functional energy transition

The energy transition must raise living standards and energy security, as well as reduce import dependence.

German energy transition

More money for climate protection!

We have to do something, no matter what the cost!

Motivation for the energy transition

Functional energy transition

Peak oil, peak gas, peak coal, peak uranium and climate change

Peak-X means the production volume decreases and there are drastic price increases, such as in the oil price crisis of 2008.

Fatih Birol, chief economist of the IEA at the time:

“We have to leave oil before it leaves us”.

German energy transition

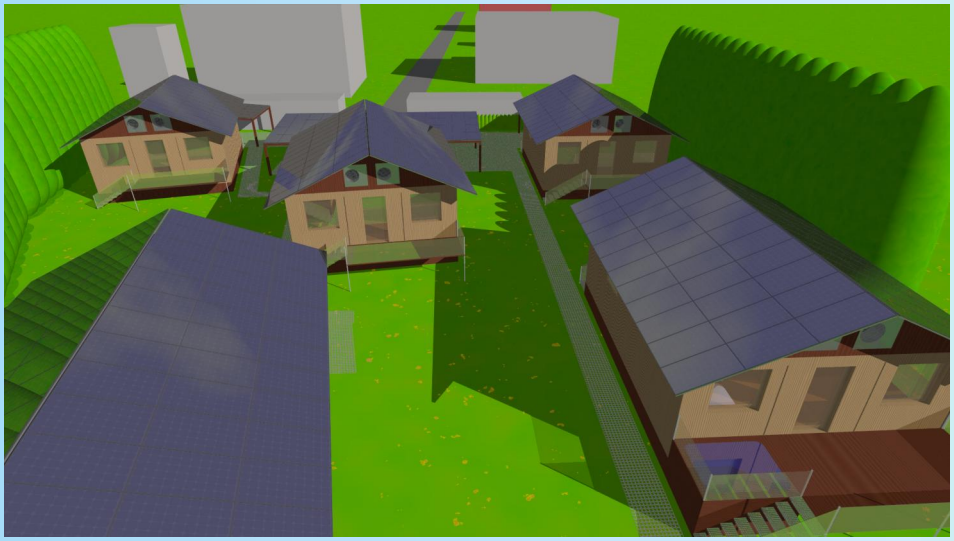
Climate change

Guiding vision and symbol for the energy transition

Functional energy transition

“Land for Energy”, the combination of combating skyrocketing housing costs and skyrocketing energy costs at the same time.

Houses that generate many times their own energy needs and feed the electricity into the grid according to demand.



German energy transition

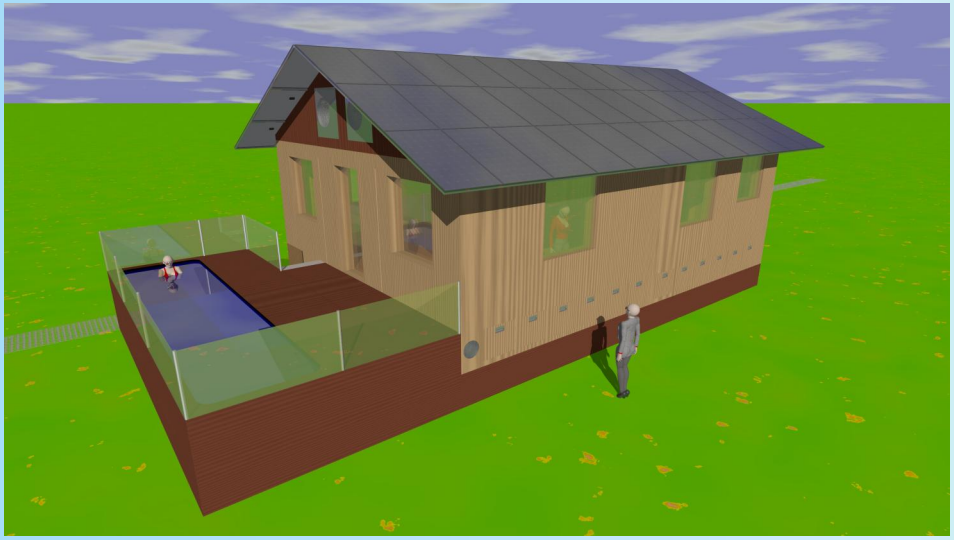
Many wind power plants to the horizon

Guiding vision for people in the energy transition

Functional energy transition

The family that has purchased a new single-family house according to the new building standard ClimateProtectionSuperiorityHouse and enjoys their higher standard of living with their children.

The retired couple, which has senior-friendly 25° in the CPSH and travels a lot with the electric car.



German energy transition

The cargo bike rider who lives in dense residential housing in winter at 15° room temperature and washes only once a week at four places.

Childless, of course, for climate protection reasons.

The exit priorities

Functional energy transition

Oil	Peak-Oil Danger
Coal	dirtiest
Bio-Energy	enormous waste of land
Natural gas	gradually replaced with power to methane from excess electricity
Uranium	So long until natural gas completely replaced with power to methane from excess electricity

German energy transition

Uranium

Coal

Natural gas

Oil

The differences between summer and winter?

Functional energy transition

Up to 300 GW of photovoltaics and 750 GWh of batteries in Germany, the aim is to optimize the operation of caloric power plants.

Then, with power to methane or methanol, fossil energy is gradually replaced by energy generated with summer surplus.

This is the optimize/replace strategy.

German energy transition

In summer, photovoltaics generate more electricity; in winter, wind power plants generate more electricity.

The very large amount of wind power plants required for this must be pushed through, even against the will of the population.

The gaps are filled with electricity from biomass.

In a dark period without wind, a lot of electricity is imported from neighboring countries.

How is the operation of caloric power plants optimized?

Functional energy transition

With a large amount of batteries for day/night balancing, load changes, unfavorable partial loads and cold starts can be reduced more and more.

With enough batteries, medium and peak load power plants are no longer necessary.

Depending on the situation, this allows a free choice between coal and gas.

German energy transition

Caloric power plants with fossil or nuclear energy are our enemies.

If the operation of these power plants is complicated by constantly rapidly changing demands

by different feed-in of solar and wind power,

then this is to be seen positively as fighting an enemy.

What will the world be like after the energy transition?

Functional energy transition

Worldwide wealth through cheap energy.

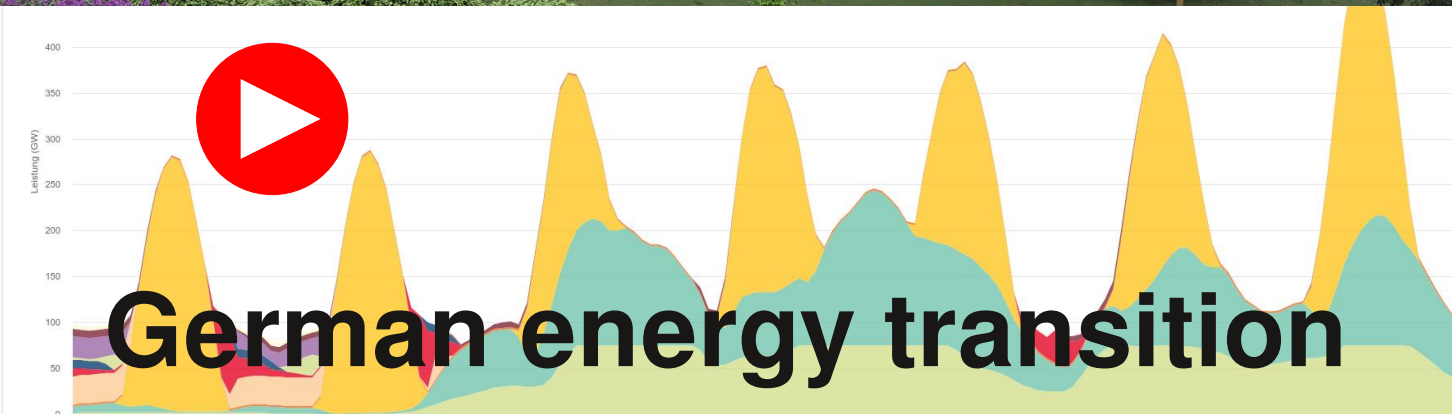
The prerequisites for a planet renovation have been created, which means reducing CO2 in the atmosphere to 350 ppm.

German energy transition

Energy is scarce and expensive, and people are thus educated to save, restrict and do without.

Functional energy transition

vs.



German energy transition