

2020 annual report

in accordance with Article 24(1) of the EED

For the 2020 annual report on progress in meeting the national energy efficiency targets in accordance with Article 24(1) in conjunction with Part 1 of Annex XIV to Directive 2012/27/EU¹, the German Government is pleased to provide the following information:

a) Estimate of the following indicators in the year before last (year X-2)

			2011	2012	2013	2014	2015	2016	2017****	2018*	Source
B1	Primary energy consumption	PJ	13599.3	13447.1	13821.6	13179.6	13261.5	13490.6	13523.0	13129.0	AGEB
B2	Total final energy consumption	PJ	8881.4	8918.5	9178.5	8698.8	8898.1	9071.2	9207.8	8963.0	AGEB
B3	Final energy consumption by sector: industry	PJ	2634.0	2587.1	2550.7	2545.4	2547.9	2609.3	2666.0	2600.8	AGEB
B4	Final energy consumption by sector: transport	PJ	2567.8	2558.6	2611.6	2615.5	2620.8	2689.7	2765.3	2743.0	AGEB
B6	Final energy consumption by sector: final energy consumption in pipeline transport										
B7	Final energy consumption by sector:	PJ	2333.4	2427.5	2556.0	2188.0	2301.7	2376.3	2342.3	2320.1	AGEB

¹ Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC (OJ L 315, p. 1), as last amended by Directive (EU) 2018/2002 of 11 December 2018 (OJ L 328, p. 210).

	households										
	Final energy consumption by sector: services	PJ	1346.1	1345.4	1460.3	1349.8	1427.8	1396.0	1434.3	1349.8	AGEB
B11	Gross value added by sector (2015 real value****): industry	€ bn	659.2 ****	660.0 ****	657.1 ****	686.7 ****	695.3 ****	724.9 ****	748.2	757.8	StBa
B12	Gross value added by sector (2015 real value****): services	€ bn	1941.8 ****	1954.2 ****	1969.3 ****	1998.2 ****	2030.6 ****	2061.9 ****	2109.7	2142.5	StBa
B13	Household disposable income	€ bn	1577.6 ****	1614.0 ****	1637.0 ****	1678.0 ****	1723.7 ****	1779.6 ****	1834.1 ****	1898.5 ****	StBa
B14	Gross domestic product (2015 real value****)	€ bn	2888.9 ****	2901.0 ****	2913.4 ****	2978.3 ****	3030.1 ****	3097.6 ****	3174.0	3222.5	StBa
B15	Electricity generation from thermal power generation	TWh	520.2 ****	523.3	526.2	507.8	504.1	506.3	482.5	463.6	AGEB
B16	Electricity generation from combined heat and power plants	TWh	98.6 ****	101.7 ****	103.3 ****	102.7 ****	108.5 ****	118.4 ****	125.7	117.5	AGEB
B17	Heat generation from thermal power generation	PJ	732.2 ****	753.8 ****	766.8 ****	744.8 ****	775.8 ****	804.6 ****	813.6	812.9	AGEB
B18	Industrial waste heat										
B19	Electricity generation from combined heat and power plants including industrial waste heat										
B20	Heat recovery from industrial waste heat										
B21	Fuel input for thermal power generation	PJ	4848.5	4700.2	4710.7	4576.9	4440.2	4408.4	4144.6	3999.9	AGEB
B22	Passenger-kilometres (pkm)	billio n	1131.0	1135.6	1144.5	1163.5	1180.8	1204.6	1178.4	1182.2	BMVI
B23	Tonne-kilometres (tkm)	billio n	628.1	618.2	636.0	643.6	651.3	654.8	690.7	699.0	BMVI
B24	Population	milli on	80.3	80.4	80.6	81.0	81.7	82.3	82.7	82.9	StBa

* preliminary

** where appropriate may be possible to report after amendment to Energy Statistics Act [*Energiestatistikgesetz – EnStatG*]

*** domestic transport

**** correction

Sources:

Working Group on Energy Balances (AGEB)

Federal Ministry of Transport and Digital Infrastructure (BMVI)

Federal Statistical Office (StBa)

Reasons why energy consumption remained stable or increased in final energy consumption sectors:

In 2018, primary energy consumption fell by 2.9% compared to the previous year. Final energy consumption in 2018 was 2.7% lower than in 2017.

By sector, the biggest fall was in commerce, trade and services (5.9%), followed by industry (2.4%). Final energy consumption by private households fell by 0.9%. The smallest rate of reduction was observed in the transport sector (0.8%), which had otherwise only seen increases during the previous five years.

Factors which contributed to this trend included an increase in energy prices, mild weather conditions compared to the previous year and improvements in energy efficiency. Consequently, energy productivity across the economy improved significantly (5.9%). In comparison to the previous year, factors leading to increased consumption, e.g. economic growth and population growth, had a relatively small impact in terms of increasing consumption. A major reason for the decline in primary energy consumption was the fall in coal and nuclear-based electricity on the one hand, and the increase in renewable electricity on the other. As conventional electricity generation declines, resulting conversion losses (efficiency of old coal-fired power plants at 35 to 40 percent) are also saved.

b) Updates on major legislative and non-legislative measures implemented in the previous year (2019) which contribute towards the overall national energy efficiency targets for 2020

Measures taken the previous year (2019) are listed in the 2050 Energy Efficiency Strategy and can be viewed online at:

<https://www.bmwi.de/Redaktion/DE/Publikationen/Energie/energieeffizienzstrategie-2050.html>

c) Total area of buildings to be renovated under Article 5 of the EED

<p>Total surface area of buildings with a total useful surface area in excess of 250 m² which are owned and used by the central government and which did not comply with the energy efficiency requirements laid down in Article 5(1) of the EED on <u>1 January 2020</u>:</p>	<p style="text-align: center;">2.9 million m²</p> <p style="text-align: center;"><i>No change due to alternative procedure pursuant to Article 5(6) of the EED - therefore determination of renovated areas not applicable.</i></p>
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The total surface area referred to above is used to make the necessary estimate for the energy savings to be achieved under the alternative procedure laid down in Article 5(6) of the EED. The method and demonstration of equivalence are presented in the report entitled 'Implementation of requirements under Article 5 of the Energy Efficiency Directive 2012/27/EU', which was submitted to the Commission on 29 January 2018.

d) Total savings achieved in the previous year pursuant to Article 5 of the EED

Alternative measures in accordance with Article 5(6) of the EED	Brief description	Primary energy savings on the basis of measures under Article 5(6) EED <u>in 2016</u>	Primary energy savings on the basis of measures under Article 5(6) EED <u>in 2017</u>	Primary energy savings on the basis of measures under Article 5(6) EED <u>in 2018</u>	Primary energy savings on the basis of measures under Article 5(6) EED <u>in 2019</u>
Measure 1	Thermal protection: window replacement, insulation of top floor or roof	4.113 million kWh of primary energy	0.539 million kWh of primary energy	0.253 million kWh of primary energy	0.154 million kWh of primary energy
Measure 2	Technical building equipment: building management technology, presence and daylight control for lighting, installation of variable-speed pumps	6.614 million kWh of primary energy	3.836 million kWh of primary energy	1.558 million kWh of primary energy	2.565 million kWh of primary energy
Measure 3	Installation of PV modules	0.270 million kWh of primary energy	0.324 million kWh of primary energy	0 million kWh of primary energy	0 million kWh of primary energy
Total energy savings <u>in the relevant year</u> through measures under Article 5(6) of the EED (primary energy savings)		11.0 million kWh of primary energy	4.7 million kWh of primary energy	1.8 million kWh of primary energy	2.72 million kWh of primary energy
Total energy savings <u>between 2014 and the relevant year</u> through measures under Article 5(6) of the EED (primary energy savings)		31.7 million kWh of primary energy	36.4 million kWh of primary energy	38.2 million kWh of primary energy	40.9 million kWh of primary energy

The total primary energy savings objective for Germany in order to meet the requirements under Article 5(6) of the EED is a maximum of approximately 45.9 million kWh between 2014 and 2020. This also includes all primary energy savings achieved by renovating listed buildings to meet the minimum energy requirement for overall energy efficiency of approximately 7.9 million kWh.

e) Energy savings achieved through alternative measures adopted pursuant to Article 7(9) of the EED

The alternative measures which had the highest new final energy savings in 2018 are presented in the table below. For some of those measures, the savings reports for the 2014-2017 reporting years were updated compared to previous annual reports where more up-to-date evaluation results were available.

Alternative measures which had a low savings impact between 2014 and 2020 and measures for which no reliable evaluation results are available have not been notified in this annual report. Where appropriate, Germany reserves the right to report savings made between 2014 and 2020 under Article 7 of the EED in subsequent annual reports.

The cumulative final energy saving of 902.8 PJ indicated in the following table, which was achieved between 2014 and 2018, corresponds to approximately 51% of the cumulative final energy savings target of 1,758 PJ to be achieved by the Federal Government between 2014 and 2020 under Article 7 of the EED. Over the duration of the measures and through the accumulation of final energy savings under Article 7 of the EED, alternative measures implemented previously between 2014 and 2018 will continue to contribute significant additional final energy savings during the remaining years of the savings commitment period ending in 2020.

Notification ref.	Name of measure	New final energy saving in 2014 (in PJ)	New final energy saving in 2015 (in PJ)	New final energy saving in 2016 (in PJ)	New final energy saving in 2017 (in PJ)	New final energy saving in 2018 (in PJ)	Cumulative final energy saving in 2014-2018 (in PJ) (within meaning of EED)
M 01	Energy Savings Regulation (construction of new buildings)	4.6	4.6	2.8 4.6 ⁵	2.8 4.6 ⁵	4.6	69.0
M 02	Energy Savings Regulation (existing buildings)	11.0	11.8	11.2	11.2	11.2	169.4
M 03	Renewable Energy Heat Act (EEWärmeG)	0.8 1.0 ⁵	1.0	0.8	0.8	0.8	13.8
M 04, M 21	KfW funding programmes for energy-efficient construction and renovation (CO ₂)	6.5	7.1	7.4	5.5	4.9	99.0

	building renovation programme ²⁾ incl. further development (M 21)						
M 06, M 24	Business investment support incl. further development (M 24) ³	1.0	3.4	4.1	3.6 3.3 ⁵	2.5	40.1
M 08	Market incentive programme for promoting use of renewable energy in the heating market (BAFA component)	0.8	0.4	1.1	1.2 1.0 ⁵	0.9	11.8
M 13	Energy and electricity tax	74.0	74.0	73.0	73.0	73.0	367
M 15	Aviation tax	4.2	4.2	4.2	4.2	4.2	21
M 16	Emissions trading	4.3	4.7	Deduction under Article 7 of the EED no longer pursued (see reply to EU Pilot(2017)923 of 29 January 2018)			
M 17, M 20	Federal advisory service programmes incl. quality assurance and optimisation (M 20 ⁴)	2.2	2.1	2.4	1.9	3.3	33.7
M 25	Energy efficiency networks initiative	N/A	2.8 2.7 ⁵	6.9	4.3	7.5	47.7
M 26	Energy audit obligation for non-SMEs	N/A	N/A	3.0	3.0	3.0	18.1
M 27	National efficiency label for heating systems	N/A	N/A	0.04 0 ⁵	2.1 0.3 ⁵	0.5	1.1
M 29	Waste heat offensive	N/A	N/A	0.5	1.7 1.2 ⁵	7.1	11.1

f) Germany's EU 2020 energy efficiency target for 2020 (as requested by the European Commission in its e-mail of 16 April 2020 to the members of the Energy Efficiency Directive Committee)

As a contribution towards the EU 2020 energy efficiency target, the German Government announced that primary energy consumption in 2020 would be reduced to 276.6 Mtoe, corresponding to final energy consumption of 194.3 Mtoe.

² Includes measures for residential and non-residential buildings.

³ Includes the following programmes: Kfw energy efficiency programmes for production facilities and processes, cross-sector technology and energy-efficient and climate-friendly production processes.

⁴ Includes the following programmes: energy advice for residential buildings, energy advice for small and medium-sized businesses, energy advice for municipal buildings not used for residential purposes and energy checks and energy advice from vzbv (German consumer organisation).

⁵ Adjustment to the value notified in the previous year.