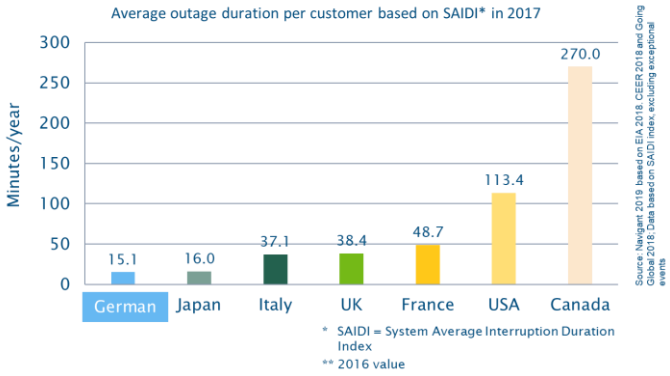
Energy Security

On average, renewables covered approx. 42% of Germany's gross electricity consumption in 2019. There were a couple of times when they even covered 100%. Periods of low feed-in from renewables occur rarely.

***MISCONCEPTION*: "Due to the energy transition, Germany can no longer guarantee energy security. Blackouts occur frequently."**

The facts: Hardly any other country in the world has as few supply failures as Germany. In 2017, the average outage duration per customer was down at 15 minutes even though renewables accounted for around 36% of gross electricity consumption. Regional fluctuations in renewables can be offset by European grid integration, demand-side response, the flexibilisation of fossil power plants and other measures. Studies with predictions for future periods show that security of supply would be guaranteed in Germany even in rare cases when neither solar nor wind energy is being produced.



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Blackouts due to the energy transition?

Misconceptions about the German energy transition explained

UNCOVERED

Electricity Prices

In the early years of the world wide expansion of renewables and the beginning of Germany's energy transition (2000 and the following years) high investments in renewables were necessary and high feed-in tariffs were guaranteed for 20 years to refinance these investments. The costs of renewable energies and grid expansion in Germany are covered by consumers via surcharges which are part of the electricity price. However, the global trend shows decreasing prices for renewables due to the fall in component costs, reduction of margins through increased competition and beneficial financing conditions. Therefore, the future expansion of renewables will only have a very limited impact on electricity prices.

MISCONCEPTION: "Electricity bills increased significantly due to the energy transition."

The facts: Although German households pay one of the highest electricity prices per kWh within the group of industrialised countries, their electricity bills are not significantly higher than in those industrialised countries with low electricity prices - thanks to the successful implementation of efficiency measures and energy saving behaviour.

Average household electricity bill in 2018

	Consumption (kWh/a)	Price (€ct/kWh)	Electricity expenditure (€/a)
Denmark	3780	31	1182
Australia	5939	17	1023
Germany	3360	30	1008
US	10399	9	936
Spain	3900	24	929
France	5290	18	928
UK	3910	18	719
Japan*	3120	20	626

Consumption: Average annual household electricity consumption
Price: Retail electricity price for households with average consumption
Electricity expenditure: Annual household electricity bill
* 2017 values

Sources: Navigant 2019 based on BMWi 2019, EIA 2019, Eurostat 2018, Carstarblue 2019, Bundesbank 2019, UN 2017, Nikkei 2017

Energy Poverty

MISCONCEPTION: "The energy transition has caused an increase in energy poverty in Germany."

The facts: Energy poverty is less of a problem in Germany than in most European countries: in 2018, 3% of the population was in arrears with their electricity bills, well below the EU average of 6.6%. The amount of arrears has not increased in Germany since 2005.

Economy and Employment

MISCONCEPTION: "The energy transition has made the German economy less competitive."

The facts: Energy-intensive industries pay a reduced renewable energy levy and therefore a significantly lower electricity price. This is a significant contribution to ensuring the competitiveness of German industry.

MISCONCEPTION: "The German energy transition has caused net job losses."

The facts: In 2017, the renewable energy sector employed 317,000 people in Germany. These are mostly well-paid jobs in a future-oriented industry. Although there are inevitably job losses associated with the decomissioning of conventional power stations, the overall net employment effects of the energy transition are positive. This positive employment trend is not limited to Germany: worldwide there were 11 million people employed in the renewable energy sector in 2018. The approx. 20,000 workers in the German lignite industry affected by the coal phase-out will receive retraining measures to facilitate their transition into new jobs that will be created, for instance, in the renewable energy field. The government will invest 40 bln EUR to facilitate structural change in the affected regions. This includes employment policy measures.

Public Acceptance

MISCONCEPTION: "There is a lack of acceptance for the energy transition amongst the German population."

The facts: According to the 2018 IASS Social Sustainability Barometer, more than 90% of the German population support the energy transition. Nevertheless, projects face resistance at the local level, e.g. with regard to onshore wind projects and grid expansion. Local acceptance will be increased by financial participation of citizens and involved communities. It is always helpful to provide key information and ensure maximal transparency and by enabling an early dialogue with and participation of all relevant stakeholders.

Infobox: Reduction of CO_2 emissions

The German government estimates that around 187 million tonnes of CO_2 emissions in 2018 were saved by **renewables** alone. Electricity generation from renewables accounted for the largest contribution to emission reduction.

To further reduce CO_2 emissions, the **coal phase-out** was anchored in law in 2020 and will be completed by 2038 at the latest. Additionally, in 2019, the government adopted a comprehensive **climate change mitigation program** that introduces a CO_2 price for heating and transport starting in 2021 and includes a wide range of other measures for generating significant emission savings in the various sectors.

Germany is going to phase-out **nuclear energy** entirely by the end of 2022. Although this lowers the mitigation potential of CO_2 emissions, there are compelling reasons for it: avoiding risks associated with nuclear energy - above all, reactor accidents and the unsolved question of how and where to safely dispose of and store radioactive waste.