

# UPDATE

SUSTAINABILITY  
REPORT

# 2021





FOREWORD

Sustainability is more than just climate neutrality. It is also about social responsibility and social standards. Nevertheless, the focus right now is on our contribution to the targets of the Paris Agreement on climate change. The integration of renewable energies is therefore our most important assignment alongside ensuring system security. We are well-equipped for the challenges of the future - because at the core of all our activities are innovation, sustainability and resilience. We live sustainability in our core business and integrate it into our processes.

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# REVIEW 2021

**At Amprion, the year 2021 was characterised by major investments in grid expansion and other initiatives to implement sustainability. The focus was on climate protection and decarbonisation. It was only logical that we should also pledge our backing to the clear course of action adopted by the new federal government.**

**April:** Amprion invests 180 million euros in the world's most powerful voltage regulation system, which will make a significant contribution to stabilising the power grid.

Parallel to this, the company launches the Eurobar initiative together with other European transmission system operators. The objective is to integrate offshore wind energy into the European power grid efficiently and securely.

**June:** The new System Operation and Control Centre in Brauweiler near Cologne is an important technical building block on the road to Germany's climate targets. It relies on innovative technologies to unite climate neutrality with system security.

**July:** Amprion launches a joint climate neutrality initiative together with seven other European transmission system operators.

**September:** The first comprehensive sustainability report is published in accordance with the criteria of the German Sustainability Code.

**December:** In a 10-point plan, Amprion analyses the effects of early decarbonisation and proposes ways to advance grid expansion.

## THE AMPRION GRID

Our 11,000-kilometre extra-high-voltage network transports electricity across an area that extends from the North Sea to the Alps. Our grid is of central importance for the success of the energy transition. By expanding it, we enable electricity from renewable energy sources to get to where it is needed. At the same time, we are creating a "breathing" system that can balance out weather-induced fluctuations in infeeds from renewable energy sources. The energy system is more resilient as a result.

# 11,000

**Kilometres** is the length of our transmission grid. It transports electricity across an area that extends from the North Sea to the Alps.



You can find more information about Amprion on our [website](#)

## AMPRION - A BRIEF OVERVIEW

Amprion GmbH is a German transmission system operator. Our power lines are lifelines of society: they secure jobs and quality of life for 29 million people. We maintain the grid in a stable and secure condition – and by expanding our network prepare the way for a climate-neutral energy system. We also perform overarching operations for integrated grid systems in Germany and Europe.

Around 2,200 employees in Dortmund and at more than 30 other sites help make sure the lights never go out. Their actions are guided by the principles of sustainable development and the aim of socially responsible corporate governance.

# SUSTAINABILITY MANAGEMENT

## OUR SUSTAINABILITY STRATEGY

Sustainability is an integral part of Amprion's corporate strategy. Embodying and promoting responsibility, shaping the energy system of tomorrow – this is the objective we are pursuing. Our sustainability strategy comprises five fields of action covering all aspects of sustainability. The goals we have set ourselves in these fields are in turn anchored in the processes and goals of all company departments. The implementation of our sustainability strategy is coordinated by the European Affairs/Sustainability Management department.

The department regularly addresses new requirements, such as the establishment of a sustainable supply chain. In 2021, however, the main focus of its activities was on developing a climate strategy. Another step forward was completed in our systematic sustainability drive and concrete greenhouse gas reduction targets formulated in line with the Paris Agreement on climate change.

## OUR FIELDS OF ACTION



### The highlight in 2021: Our climate strategy

In the first step, Amprion's climate strategy sets reduction targets for direct greenhouse gas emissions (Scope 1) as well as emissions from the use of purchased energy (Scope 2). Our analysis showed that around 95 per cent of our greenhouse gas emissions are related to grid losses: when power lines heat up, less energy reaches the customer. Transmission system operators compensate for these losses by purchasing additional electricity – based on regulatory requirements oriented to the current energy mix.

The remaining 5 per cent are accounted for by the energy consumption of buildings and our vehicle fleet plus emissions of sulphur hexafluoride (SF<sub>6</sub>) from existing plant. This gas is used as an insulating agent in switchgear and equipment. Although it only ever escapes there in small quantities, it has high global warming potential.

### Our climate protection goals

By 2032, Amprion aims to reduce direct and indirect greenhouse gas emissions from its operations (Scope 1 and 2) by at least 63 per cent. More renewable energy sources (RES) in the electricity mix in combination with grid expansion measures will help us achieve this goal – as will the addition of electric cars to our vehicle fleet and climate-friendly solutions for heating and ventilation.

A reduction target for emissions across the value chain (Scope 3) is currently under development.



FIELD OF ACTION

# CORPORATE GOVERNANCE

Corporate governance with integrity and foresight is the foundation for all of Amprion's activities. As a transmission system operator, we operate in a regulated environment. Our business is impacted by a wide range of regulations and laws imposed by European and national policies. It is a matter of course that we always comply with the legal requirements. Our compliance management system plays a central role here.

## VALUE-BASED ACTION

Amprion's actions are characterised by a sense of direct responsibility, sincerity and integrity as well as respect for our fellow human beings and the environment. We act dependably and fairly by guaranteeing the safe and secure transmission of electricity and non-discriminatory access to our grid for all market participants. We inform the public and other important stakeholders continuously and transparently about our plans and our activities.

All employees receive a copy of our Compliance Code, which provides guidance for value-based and law-abiding conduct in everyday life. In 2021, we expanded the code to include a commitment to human rights and other aspects of sustainability. We have thus taken the first step towards preparing for the implementation of the German Supply Chain Due Diligence Act. Along our value chain, we advocate the observance of human rights, labour standards, environmental protection and anti-corruption policies.

As in previous years, no fines were imposed on Amprion in 2021 in connection with breaches of the law. Amprion does not donate to political parties.

### GUIDING PRINCIPLES

## BASIC PRINCIPLES OF OUR CORPORATE GOVERNANCE

#### Profitability, efficiency and sustainability

Amprion guarantees an efficient transmission system that supports the energy policy goals with a view to 2030/2050.



#### System security and reliable grid operation

Amprion ensures system security and establishes the conditions necessary to configure the grid to meet demands, manage it efficiently and operate it safely.



#### Environmental protection

Amprion meets high environmental protection standards in its planning, construction and operation of the grid.



#### Innovation, knowledge and skills

Amprion manages the grid with the aid of a qualified workforce.



#### Collaborations

Amprion cooperates with other grid operators and maintains respectful dealings with authorities and organisations.





FIELD OF ACTION

# SECURE POWER SYSTEM

Amprion's role as a grid operator at the heart of Europe is steadily gaining in importance. With the increased adoption of renewables and the growing electricity trade, the challenges for our grid are rising. Keeping the system stable and secure is therefore a central part of our remit. In doing so, we also contribute to the security of the European interconnected grid.



## GRID EXPANSION FOR THE ENERGY TRANSITION

Amprion has a legal mandate to operate, reinforce and expand the transmission grid in a stable and secure manner. We are driving its expansion and the integration of renewable energies, for example by connecting offshore wind farms to the grid. Over the next five years, we will invest around 12 billion euros in grid expansion measures on land and at sea.

We will build or extend a total of some 3,900 kilometres (km) of power lines – the majority of them utilising existing routes. 731 km of these lines have already been completed. This includes projects approved under the Power Grid Expansion Act (EnLAG) and the Federal Requirement Plan Act (BBPIG) as well as various other schemes. The energy system is more resilient as a result.

### Status in 2021

- 2,692 km in the approval phase
- 253 km under construction
- 731 km completed

# KEY DATA SECURE POWER SYSTEM

### Technical data of the grid

	2021	2020
Grid area [km <sup>2</sup> ]	79,187	79,187
Total grid length [km]	10,565.83	10,557.83
Length of routes [km]	5,655.46	5,875.87
Overhead lines	5,578.92	5,630.22
Cables	76.54	245.65
Interconnectors [no.]	13	13
Substations [no.]	165	163

The method of calculating the length of routes in kilometres changed in 2021: cable systems running parallel to one another are now only counted once. Despite the lower figure in 2021 compared to 2020, an additional 40.2 km of lines have been built.

### Installed capacity of grid

in MW	2021	2020	2019	2018
<b>Total</b>	<b>67,995</b>	<b>65,286</b>	<b>66,872</b>	<b>66,211</b>
<b>Non-renewable energies</b>	<b>41,047</b>	<b>39,837</b>	<b>42,530</b>	<b>42,369</b>
<b>Renewable energies</b>	<b>26,948</b>	<b>25,449</b>	<b>24,342</b>	<b>23,842</b>
Solar	12,927	11,891	11,046	10,342
Wind	11,223	10,784	10,504	10,260
Biomass	1,595	1,507	1,483	1,492
Hydropower (excl. pumped storage)	929	1,008	1,012	1,403
Geothermal	8	8	8	8
Other	265	251	289	337



**For the energy world of tomorrow**

Amprion already transmits large volumes of renewables via its grid. Of a total transmission volume of 67,995 megawatts (MW), 26,948 MW come from renewable energy sources. This corresponds to a share of about 40 percent, which will continue to rise. The aim is for the European energy system to be climate-neutral by 2050. Germany hopes to reach this target by 2045.



**40**  
per cent share of renewable energies in the Amprion grid in 2021.

You can find more information on this field of action in our **Sustainability Report 2020**

**Grid availability**

	<b>2021</b>	<b>2020</b>	<b>2019</b>	<b>2018</b>
Grid availability [%]	<b>99.9979</b>	100.0000	99.9977	99.9983
Interruptions/100 km of cable [min]	<b>0.009</b>	0.000	0.009	0.009
Average duration of interruptions [min]	<b>11</b>	0	12	9
Volume of energy not transported [MWh]	<b>27.5</b>	0.00	8.60	39.75

Grid availability is an important metric. It has remained consistently high over the years.

**Grid investments**

<b>in € million</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>	<b>2018</b>
Investments in the grid	<b>1,240</b>	1,069	779	762

Investment in the grid has increased steadily since 2018 - by 63 per cent in total.


**Grid losses**

	<b>2021</b>	<b>2020</b>	<b>2019</b>	<b>2018</b>
Volume [MWh]	<b>2,667,742</b>	2,760,650	2,501,106	2,626,932
Price [€ cents/kWh]	<b>4.095</b>	5.108	3.512	2.783

**FIELD OF ACTION**

# CUSTOMERS AND SOCIETY

The energy transition is one of the largest infrastructure projects in the history of the Federal Republic of Germany. This restructuring can only work if we have the broad acceptance of the population. It is important to Amprion that we take the concerns of customers, municipalities and citizens into account in the plans from an early stage. Our dialogue formats encourage an exchange of ideas and experiences and a discussion of different interests.





**Customer focus**

The further development of the grid infrastructure also thrives on dialogue with our customers from the industry, distribution grid operators and power plant operators segments. We work together with them on solutions that help protect the climate and safeguard grid stability. Every two to three years, we survey our 60 or so grid customers on aspects such as performance, competence, customer focus, dependability and trustworthiness. In the latest survey for 2020, overall satisfaction was 85 per cent.

**Social responsibility**

System security is our mandate and our social responsibility: we keep the grid stable and secure, so that 29 million people and thousands of businesses are supplied with electricity reliably. Parallel to this, we are paving the way for a climate-neutral energy system.

Even beyond our core business, we champion a range of social issues and we also support community work conducted by our employees through our “Soziale Projekte im Netz” (SPIN, Social Projects on the Net) funding programme. In 2021, a total of 15 SPIN projects were funded, including a holiday camp for socially disadvantaged children and a bicycle repair café for the needy and refugees.

**Stakeholder engagement: Grid customers**

	2021	2020	2019	2018
Participants at customer events	1,233	710	555	-
Electricity transported to grid customers in terawatt-hours	112	103	110	114

Interest in our customer events among grid customers continued to rise in 2021. We were able to offer five events in total. Some events were online while others were hybrid.

**Our formats for customer dialogue**

	Power plant operators	Distribution grid operators	Industry
<b>Amprion Customers' Day</b>	•	•	•
<b>NetzDialog</b>		•	
<b>NetzForum</b>			
<b>DSO Day</b>			
<b>Surveys</b>	•	•	•
<b>NetzImpuls</b>	•	•	•

The events were realised as online or hybrid events. The NetzForum and DSO Day did not take place in 2021.

**FIELD OF ACTION**

# ENVIRONMENT

The protection of the environment, climate and nature is an important concern for Amprion which is anchored in all corporate processes. Across our entire grid area, we implement measures that protect our natural resources and livelihoods. We design our routes and substations in accordance with green standards. We look to protect the climate and operate as resource-efficiently as we can in everything we do. In this way, we reduce the impact of our actions on the environment and help to preserve biodiversity.



## COMMITMENT TO BIODIVERSITY

Amprion's overhead lines span countryside with a very diverse range of vegetation. An ecological route management system ensures trouble-free transmission of power and protects flora and fauna along our overhead lines. By planting flowering meadows on the land on which our facilities stand – for example next to substations – we are committed to insect protection and promote a type of habitat that has become rather scarce. Our concept was launched in 2019 and has been further developed over the last few years, during which we have created eleven flowering meadows at various locations.

The protection of birds is a major issue for Amprion. Our overhead power lines can be a serious obstacle for them. By attaching markings to the earth wires, we have been able to reduce the collision risk for some species by up to 90 per cent. As part of our bird protection programme, we also equip suitable pylons with nesting aids, for instance for falcons.

## KEY DATA ENVIRONMENT

### Energy consumption\*

in MWh	2021	2020	2019	2018
<b>Total</b>	<b>152,017**</b>	<b>146,920</b>	<b>135,455</b>	<b>135,981</b>
Diesel	8,354	7,901	7,893	7,516
Petrol	77	55	107	87
Natural gas	8,986	8,333	6,548	6,093
Electricity	134,600	130,631	120,907	122,285

\* Excl. grid losses

\*\* The consumption figures included in the total for diesel, natural gas and electricity were partly estimated on the basis of the previous year's figures.

### Greenhouse gas emissions

in tCO <sub>2</sub> e	2021	2020	2019	2018
<b>Total</b>	<b>835,989*</b>	<b>1,115,915</b>	<b>1,012,830</b>	<b>1,239,551</b>
<b>Scope 1</b>	<b>9,113</b>	<b>8,894</b>	<b>9,886</b>	<b>10,147</b>
Fleet fuel	2,249	2,123	2,134	2,028
Gas consumption	1,815	1,683	1,322	1,231
SF <sub>6</sub> losses	5,039	5,084	6,430	6,863
Refrigerant losses from A/C units	10	4	0	25
<b>Scope 2</b>	<b>826,876**</b>	<b>1,107,021</b>	<b>1,002,944</b>	<b>1,229,404</b>
Own consumption of electricity	41,726	52,383	48,484	57,229
Grid losses	785,150	1,054,638	954,460	1,172,175

\* These figures are based on estimated consumption and should be regarded as provisional.

\*\* Since 2021, the emission factor for the German electricity mix according to ENTSO-E 2020, which is published by the German Association of Energy and Water Industries (formerly the Federal Environment Agency), has been used for the calculation.

Amongst other things, the lower value is the result of a change in the calculation basis: since Amprion is seeking to have its climate targets validated by the SBTi, a different emission factor was used in 2021 for Scope 2 emissions arising from electricity consumption. Direct comparisons with the figures for the previous year are therefore only possible to a limited degree.

### Our environmental management system

Amprion’s corporate environmental management responsibilities are handled by a separate in-house policy unit and certified in accordance with international standard ISO 14001. The aim is to conserve resources and to reduce – and where possible avoid – environmental pollution. An ISO 50001-certified energy management system ensures that diesel, natural gas and electricity are used efficiently.

As a contribution to climate protection, whenever we construct new buildings, we always include photovoltaic systems in our plans. In addition, geothermal heat pumps are installed in a number of our buildings. Last but not least, two charging stations are helping to speed up the electrification of our own vehicle fleet.

### Climate strategy for CO<sub>2</sub> reduction

In 2021, Amprion developed a climate strategy. In line with the Science Based Target initiative (SBTi), we are aiming to reduce our CO<sub>2</sub> emissions (Scope 1 and 2) by at least 63 per cent by 2032. We are in the process of setting a reduction target aligned with SBTi requirements for Scope 3.

### SF<sub>6</sub>

	2021	2020	2019	2018
SF <sub>6</sub> emitted [kg]	221	223	282	301
SF <sub>6</sub> losses [tCO <sub>2</sub> e]	5,039	5,084	6,430	6,863
SF <sub>6</sub> loss [%]	0.11	0.13	0.17	0.19

### Waste

	2021	2020	2019	2018
<b>Total [t]</b>	<b>23,297</b>	<b>11,678</b>	<b>9,687</b>	<b>12,053</b>
Non-hazardous waste	11,480	9,587	8,112	10,514
Hazardous waste	11,817*	2,091	1,575	1,539
Recovery/recycling [%]	73.6	83.3	94.1	56.4
Disposal* [%]	26.4*	16.7	5.9	43.6**

\* A large proportion of the hazardous waste and waste for disposal is due to construction measures for the new Project Centre 2022 in Dortmund.

\*\* The comparatively high rate of waste for disposal is the result of an unusually large amount of soil that had to be disposed of following construction measures.

### Biodiversity

	2021	2020	2019	2018
Maintenance based on ecological route management* [ha]	9,000	9,000	-	-
Hazardous waste	11	10	2	-
Route sections with bird markers [km]	333	332	-	-

\* These figures refer to the entire supply area. Significant changes are only observed when new construction projects are completed.

**FIELD OF ACTION**

# EMPLOYEES

Amprion employs more than 2,000 people in a wide variety of professions, ranging from engineers and lawyers to fitters and IT specialists. Attractive jobs, a safe and healthy working environment and a needs-oriented personnel development policy are the foundation on which we build a motivated workforce. We also create opportunities and ways to help our employees find their own work-life balance.





## GOOD TOGETHERNESS

Amprion brings together people from very different backgrounds. That is why we consciously oppose any form of discrimination. In 2021, to express this commitment, we signed the “Diversity Charter”. No cases of discrimination came to light in 2021.

In 2020, a network was launched under the patronage of our CEO to recognise and support the interests of people of different sexual orientations and gender identities. Since 2021, we have also had a dedicated women’s network, which tackles issues such as equal rights, the advancement of women and the compatibility of family and professional life.

All staff profit from tailored advancement and personnel development measures. Each employee spends an average of 38 hours attending advanced training measures every year.



per cent of Amprion’s workforce were women in 2021.

## KEY DATA EMPLOYEES

### Workforce

	2021	2020	2019	2018
<b>Total no. of employees</b>	<b>2,148</b>	<b>2,037</b>	<b>1,682</b>	<b>1,425</b>
Full time	2,016	1,911	1,565	1,308
Part time	58	47	41	36
Permanent	2,062	1,953	1,619	1,383
Temporary	86	84	63	42
Pay scale	1,676	1,614	1,308	1,107
Non-pay scale	437	389	342	289
Senior executives	35	34	32	29
New hires	216	424	324	186
Turnover [%]	1.9	1.5	1.8	1.3

### Age structure

	2021	2020	2019	2018
<b>Average age overall</b>	<b>39.8</b>	<b>39.7</b>	<b>40.6</b>	<b>41.6</b>
< 30	393	417	324	256
30–50	1,367	1,245	994	826
> 50	464	445	425	400
No. in semi-retirement	74	79	76	81
<b>Average age in supervisory bodies*</b>	<b>53.6</b>	<b>52.1</b>		
< 30	0	0		
30–50	4	8		
> 50	12	8		

\* Only surveyed since 2020

**Safe and healthy working**

Our employees go home each day as healthy as when they came to work. We attach great importance to occupational health and safety management. People frequently work close to high-voltage components and also at great heights or beneath heavy loads. Work in the stations and on the power lines in particular therefore demands the highest occupational safety standards.

In 2020, we succeeded in significantly reducing the number of accidents among our employees by around 5.4 per cent compared to the previous year, despite an increase in staff. The number of work-related and commuting accidents decreased from 15 to 11. Most of these were minor accidents, of which only six were directly related to work processes.

Amprion is also setting the course for mobile and flexible working: a new company agreement makes it possible to work from home or while travelling on up to four days a week in consultation with each employee's manager. This makes it easier to find the optimum work-life balance.

You can find more information on this field of action in our **Sustainability Report 2020**

**Equal opportunities**

	2021	2020	2019	2018
<b>Overall proportion of women [%]</b>	<b>20.3</b>	<b>20.4</b>	<b>19.3</b>	<b>18.0</b>
Proportion of women in management positions	8.6	8.8	6.7	6.3
Proportion of women in supervisory bodies	18.8	18.8	16.7	8.3
Proportion of severely disabled employees	2.7	2.7	2.8	3.0
Cases of discrimination	0	0	2	0
Nationalities [no.]	27	28	-	-

**Basic and advanced training**

	2021	2020	2019	2018
<b>Trainees</b>	<b>44</b>	<b>43</b>	<b>36</b>	<b>36</b>
Proportion of trainees [%]	2.0	2.1	2.1	2.5
<b>Advanced training courses</b>				
In-house training events [no.]	849	612	412	294
Participations at in-house training events [no.]	8,678	4,335	3,186	2,273
Participations at external training events [no.]	442	632	564	478
Average no. of hours of advanced training per employee per year (qualified estimate)	38	38	38	38

**Occupational health and safety**

	2021	2020	2019	2018
Work-related/commuting accidents [LTI]*	11	15	17	17
Rate for work-related/commuting accidents [LTIF]**	3.0	4.6	6.5	7.4
No. of deaths	0	0	0	0
No. of work-related/commuting accidents among contractors' workers	19	32	39	24
No. of deaths among contractors' workers	0	0	0	1

A breakdown by gender is of no relevance to Amprion's management activities and is therefore not reported.

\* Lost time incident (LTI)  
 \*\* Lost time incident frequency (LTIF): no. of occupational accidents resulting in lost time (> 24 h) per 1,000,000 man-hours actually worked



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**NOTE**

This is a translation of the German version. In cases of uncertainty or conflict, the German version shall prevail.