

Welcome to your CDP Climate Change Questionnaire 2019

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

EnBW Energie Baden-Württemberg AG – our name points to our roots and our engagement in the region. Our predecessor companies started delivering electricity – and thus as a consequence industry and growth – to Baden-Württemberg over one hundred years ago. Today, we are one of the largest energy supply companies in Germany and Europe. With a workforce of over 21,500 employees, we supply electricity, gas, water and energy-related products and services to 5.5 million customers.

As a result of our origins and the fact that the State of Baden-Württemberg and the Oberschwäbischen Elektrizitätswerken – a municipal association of regional and local authorities – are the majority shareholders in the company, we have special links to Baden-Württemberg. Our primary goal is to provide a reliable supply of energy to our home market and to act as a partner in supporting the efforts of citizens, local authorities and companies to develop a decentralised and autonomous energy supply.

As an integrated energy company, EnBW operates along the entire energy industry value chain in four segments: Sales, Grids, Renewable Energies, and Generation and Trading. We draw on a variety of resources – from finances through to expertise – for our corporate activities. As a result of the efficient application of these resources, we create value for ourselves and our stakeholders.

In 2013, we realigned our company under the motto: “Energiewende. Safe. Hands on.” We have been driving the Energiewende in Germany forward since then and have streamlined the structure of the Group so that we can react quickly and flexibly on the market. We earn the trust of our customers – households, industry and local authorities – by being their first point of contact for energy issues.

We honour this commitment by utilising our experience and innovative abilities, as well as through listening and engaging in dialogue. By being in close proximity to our customers, we are able to open up new opportunities for growth by offering new products and decentralised solutions for sustainable energy provision and greater energy efficiency.

In the coming years, we will make additional investments totalling billions of euros to become the “engine room of the Energiewende”: We are accelerating our expansion of renewable energies – primarily wind and hydropower – and, at the same time, securing the supply of energy through our modern conventional power stations. By expanding the grids and utilising intelligent technology, our grid subsidiaries (Netze BW - distribution grid; TransnetBW - transmission grid) are laying the foundations for integrating the ever increasing amount of renewable energies into the grids and smart energy networks.

EnBW supports global efforts to protect the climate and is committed to ambitious climate protection targets. These should be in accordance with the reduction path of greenhouse gases

necessary for the achievement of the 2 degrees target on the basis of the scientific recommendations of the Intergovernmental Panel on Climate Change.

Further strategic development of EnBW beyond 2020:

We would like to place the strategic focus of our company increasingly on the infrastructure aspect of existing business areas and also open up new growth opportunities based on the core expertise of EnBW beyond the energy sector. The core expertise of EnBW – what we can do well and better than many others – are the safe and reliable operation and management of critical energy infrastructure. These distinctive competencies can also be transferred to other infrastructure areas where initial topics have already been identified and worked on (e.g. broadband business, urban neighbourhood development, or the expansion of charging infrastructure as the basis for electromobility). EnBW is transforming itself into a sustainable and innovative infrastructure partner with three focal points:

- The further expansion of low-CO2 generation (i.e. renewable energies), the active shaping of decarbonisation, and the phasing out of nuclear energy will create a sustainable generation infrastructure.
- The main topic of system-critical infrastructure comprises the expansion and operation of transport networks, the upgrading of distribution networks, and network-related services.
- In the key activity Intelligent Infrastructure for customers, we will develop, launch, and scale new digital business models. EnBW concentrates on growth and innovation for the markets of the future. The digital transformation of EnBW is an integral part of the company's development.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Row 1	January 1, 2018	December 31, 2018	Yes	3 years

C0.3

(C0.3) Select the countries/regions for which you will be supplying data.

Germany

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

EUR

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your consolidation approach to your Scope 1 and Scope 2 greenhouse gas inventory.

Financial control

C-EU0.7

(C-EU0.7) Which part of the electric utilities value chain does your organization operate in? Select all that apply.

Row 1

Electric utilities value chain

Electricity generation

Transmission

Distribution

Other divisions

Gas storage, transmission and distribution

Smart grids / demand response

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
Chief Executive Officer (CEO)	CEO Dr. Frank Mastiaux. (Responsibility for Corporate development and sustainability). Ecological issues are discussed on all hierarchical levels, from the board of directors (including CEO and CTO), to the operational levels, such as the Environmental Steering Committee, which is headed by the CTO as well as the

	Corporate Environment Committee which brings together all responsible environment protection officers of all business units.
Other C-Suite Officer	<p>Chief Technical Officer Dr. Hans-Josef Zimmer (Head of Environment Steering Committee).</p> <p>Ecological issues are discussed on all hierarchical levels, from the board of directors (including CEO and CTO), to the operational levels, such as the Environmental Steering Committee, which is headed by the CTO as well as the Corporate Environment Committee which brings together all responsible environment protection officers of all business units.</p>
Chief Financial Officer (CFO)	<p>Thomas Kusterer, Member of the Board of Management of EnBW Energie Baden-Württemberg AG / Chief Financial Officer.</p> <p>Sustainable economic development: We endeavour to conduct all of our activities in a sustainable way, from the responsible procurement of raw materials through to the provision of smart energy solutions for our customers. In addition, we are actively involved in the area of sustainable finance, which is exemplified by, amongst other things, the membership of the EnBW Chief Financial Officer, Thomas Kusterer, on the Technical Expert Group on Sustainable Finance (TEG) that was newly founded in June 2018 and on the Task Force on Climate related Financial Disclosures (TCFD). As part of his work in the climate protection initiatives named above, he regularly reported to internal bodies on the climate-related opportunities and risks.</p>

C1.1b

(C1.1b) Provide further details on the board's oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – some meetings	<p>Reviewing and guiding strategy</p> <p>Reviewing and guiding major plans of action</p> <p>Reviewing and guiding risk management policies</p> <p>Reviewing and guiding annual budgets</p> <p>Reviewing and guiding business plans</p>	<p>EnBW & climate related issues (governance mechanisms):</p> <p>- Reviewing and guiding strategy: The strategy being followed by EnBW of concentrating investment on renewable energies, expanding the grids and developing new and increasingly digitalised business models works towards the achievement of the targets set at the Climate Change Conference, while the strategy itself is being validated by the international efforts for climate protection.</p> <p>(For example, "Foundation 2 Degrees" – an initiative</p>

	<p>Setting performance objectives</p> <p>Monitoring implementation and performance of objectives</p> <p>Overseeing major capital expenditures, acquisitions and divestitures</p> <p>Monitoring and overseeing progress against goals and targets for addressing climate-related issues</p>	<p>started by German businesses – is committed to climate protection and limiting global warming to significantly below two degrees Celsius.</p> <p>EnBW and its CEO, Dr. Frank Mastiaux, have been members since May 2018. The aim of the initiative is to support politicians in the creation of the market economy-based Framework conditions for climate protection)</p> <p>- Setting performance objectives / Monitoring implementation and performance of objectives: Since 2013, corporate management has been continually expanded through the addition of non-financial and strategic goals, so that it encompasses the dimensions of strategy, customers and society, employees and environment. The key performance indicators of EnBW in the environment goal dimension are the installed output of renewable energies (RE) and the share of the generation capacity accounted for by RE and CO2 intensity.</p> <p>- Capital expenditure: In October 2018, EnBW published its first Green Financing Framework and issued its first green bond with a volume of €500 million.</p> <p>- Monitoring and overseeing progress against goals and targets for addressing climate-related issues: The EnBW Chief Financial Officer, Thomas Kusterer, is a member of the Technical Expert Group on Sustainable Finance (TEG), which is supporting the European Commission up to the end of 2019 in the development of a legal Framework for sustainable financing opportunities. Thomas Kusterer is also a member of the Task Force on Climate-related Financial Disclosures (TCFD) for the development of climate-related risk reporting.</p> <p>- EnBW is also advocating the introduction of a minimum price for CO2 in order to help steer investment towards climatefriendly technologies. A minimum price could be introduced in Germany but this measure should cover as many European countries as possible, such as France.</p>
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		<p>Further Information:</p> <p>In Germany, the national climate targets for 2020 will not be achieved. In order to minimise the deviation from the Targets for 2020 and ensure the targets for 2030 will be achieved, additional measures are required. Amongst other things, the German government has thus announced new legal regulations.</p> <p>The aim is to increase the share of gross energy consumption accounted for by renewable energies to 65% by 2030.</p> <p>The Omnibus Energy Act, which was passed by the Bundestag in November 2018, includes special auctions in the period from 2019 to 2021 with a total capacity of 4 GW each for onshore wind and photovoltaic power plants.</p>
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C1.2

(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Risk committee	Both assessing and managing climate-related risks and opportunities	Quarterly
Other, please specify Head of Strategy & Energy Economics	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly
Corporate responsibility committee	Both assessing and managing climate-related risks and opportunities	Quarterly
Other, please specify Corporate Environment Committee	Both assessing and managing climate-related risks and opportunities	Quarterly

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).

- Risk Committee: The Committee belongs to the functional unit Controlling& Risk Management. Among other things, an important activity is the identification and management of climate-related opportunities and risks based on an established and proven process for risk management. As EnBW is an electrical utility our business is very closely related to the climate driven transition of the power sector. Furthermore, also physical climate change aspects considerably impact our business. Both aspects lead to substantial risks and opportunities. This also explains the importance of the Committee vis-à-vis the management of climate-related issues. One essential member is the CFO which has also a major part in the Taskforce for climate-related financial disclosure. Further members are the CTO and the leading management for each business unit.

The role of the CFO and of the CTO on the Committee is to approve the risk report for the Board of Management of EnBW every three month. Important aspects relating to climate protection are coordinated at the meeting and tracked by the responsible persons/units.

- Head of corporate development, strategy and energy economics: Sustainability and climate protection are taken into account in the development of EnBW's strategy.

- CSR-(Corporate Social Responsibility) Committee: The Committee belongs to the functional unit corporate development, strategy and energy economics. Coordination between the functional units of EnBW on CSR-related topics is handled by the CSR-Committee, that is organised by the sustainability team.

- Corporate Environment Committee: The Committee belongs to the functional unit "occupational safety & preventive fire protection, crisis management, environment. The focus of the committee is on environmental aspects of the individual units, companies and participations of EnBW. Climate-related issues are monitored and evaluated qualitatively and quantitatively.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

Yes

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Who is entitled to benefit from these incentives?

Board/Executive board

Types of incentives

Monetary reward

Activity incentivized

Emissions reduction target

Comment

- The remuneration in 2018 comprises basic remuneration, one year and multi-year variable remuneration, as well as contributions as part of the company pension scheme. The Ratio of single-year to multi-year variable remuneration is 40% to 60%, so that multi-year variable remuneration significantly outweighs single-year variable remuneration. In general, the variable remuneration components have a multi-year measurement basis in accordance with section 4.2.3 sentence 4 DCGK. The single-year variable remuneration component is described below as the Short Term Incentive (STI) while the multi-year variable remuneration component is described as the Long Term Incentive (LTI).

- The regulations for the Board of Management remuneration system that were valid up to 31 December 2017 apply for the long-term variable remuneration in the measurement periods 2015 to 2017, 2016 to 2018 and 2017 to 2019, whereby the Supervisory Board of EnBW passed a resolution on 12 July 2018 that a remuneration cap for the total LTI of 110% of the total target remuneration will be introduced for the measurement periods 2016 to 2018 and 2017 to 2019. The LTI value appreciation bonus according to the old remuneration system consisted of a basic LTI, a competition component and a sustainability component.

The goal of the sustainable growth of the company in its strictest sense is also taken into account through the LTI sustainability component. In this component, the impact of the sustainable growth of the company on the areas of customers, employees and environment/society is taken into account. The extent to which the targets for all three components have been achieved is determined after the conclusion of the three-year planning period that acts as the basis for the calculations in each case.

C2. Risks and opportunities

C2.1

(C2.1) Describe what your organization considers to be short-, medium- and long-term horizons.

	From (years)	To (years)	Comment
Short-term	0	1	Deviations are checked and counteracted during the year.
Medium-term	1	3	Opportunities and risks are considered within medium-term planning
Long-term	3	50	Opportunities and risks are coordinated with the Strategy Division

C2.2

(C2.2) Select the option that best describes how your organization's processes for identifying, assessing, and managing climate-related issues are integrated into your overall risk management.

Integrated into multi-disciplinary company-wide risk identification, assessment, and management processes

C2.2a

(C2.2a) Select the options that best describe your organization's frequency and time horizon for identifying and assessing climate-related risks.

	Frequency of monitoring	How far into the future are risks considered?	Comment
Row 1	Six-monthly or more frequently	>6 years	assessing of risks every 3 months by the board of risk management

C2.2b

(C2.2b) Provide further details on your organization's process(es) for identifying and assessing climate-related risks.

Integrated opportunity and risk management system (iRM) of EnBW is based on internationally established COSO II framework standard for risk management systems that span entire companies. The iRM aims, through a holistic and integrated approach, to effectively and efficiently identify, evaluate and manage opportunities and risks and report on the opportunity/risk position, as well as to ensure appropriateness and functionality of related processes. Risk management involves measures for avoiding, reducing or transferring risk through adequate accounting provisions, as well as measures for managing risk tolerance. For this purpose, EnBW defines an opportunity/risk as an event that might cause a potential over-attainment/non-attainment of strategic/sustainability, operational, financial and compliance goals in the future.

Identification process (company and asset level):

In order to identify and categorise opportunities and risks, the opportunity and risk map that is anchored throughout the Group is utilised. The map now explicitly considers – alongside the previous themes – possible opportunities and risks that affect the sustainable orientation of EnBW.

The risk managers hold discussions with the group-wide specialist departments within the framework of quarterly risk inventories. the inventory also focuses on questions relating to climate protection and sustainability. in this context, issues identified by central risk management, e.g. environmental protection or specific issues, are also specifically addressed. if a risk is identified, it is assigned precisely to a risk officer who is responsible for the risk within the framework of the process. the process is carried out quarterly. following the survey, the

risks are then reported to central risk management and reviewed and verified accordingly. the risks are then reported to the Management Board and Supervisory Board.

Assessment process (company and asset level):

The iRM is regularly checked by the Group auditing department and results of the audit are presented to the Supervisory Board.

For the purposes of evaluation, all opportunities and risks are firstly assessed with the help of the iRM relevance filter before and after consideration has been taken of both implemented and envisaged management instruments. The relevance class is determined in each case based on quantitative and qualitative criteria for each of the four dimensions: strategic/sustainability, operational, financial, compliance.

The opportunities and risks allocated to relevance class 5 or higher and with a probability of occurrence of over 50% are generally included in the Group report on opportunities and risks. Insofar as a financial evaluation is possible, this corresponds to a value of €50 million within the medium-term planning period. Long-term opportunities and risks that are of particular importance are then added. The reports are submitted on a quarterly basis in standardised form. In the case of any significant changes, a special report is immediately issued.

Those opportunities or risks relevant to the Group report on opportunities and risks are generally evaluated in relation to the current planning period using quantitative methods (e.g. scenario techniques and distribution functions) for the purpose of stochastic modelling. Any possible effects on the adjusted EBITDA, the adjusted EBIT and the capital employed (with any associated impact on the ROCE) and the retained cash flow or net investment (with any associated impact on the internal financing capability) are considered. Alongside these financial effects, opportunities and risks can also have impacts on other key performance indicators, which are discussed with those responsible in specialist areas.

Any opportunities and risks with a probability of occurrence of up to 50% are subject to an individual review to determine whether they should be taken into account in the next planning session. Opportunities and risks with a probability of occurrence of over 50% are generally taken into account in the planning process and, as far as possible, appropriate accounting measures are taken in the consolidated financial statements in accordance with IFRS.

Definition of substantive financial impact:

EnBW's risk management process to identify, collect and evaluate opportunities and risks is audited by an auditor. Within this risk process, opportunities and risks are checked for materiality by means of a relevance filter. The relevance filter is divided into 6 levels. Opportunities and risks of relevance levels 1 to 4 means a financial impact either on the adjusted EBITDA and internal financing capability or the net debt between 1 to 49 Mio. Euros, are reported within the business units. Level 5 (financial impact from 50 Mio. Euros or more) and level 6 (substantive financial impact from 250 Mio. Euro or more) opportunities and risks are reported to the Risk Committee, the Management Board and the Supervisory Board as part of the process.

C2.2c

(C2.2c) Which of the following risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	<p>- Relevance: For the generation segment, developments relating to the EU ETS (European Union's Emission trading System) are relevant.</p> <p>- Explanation: CO2 allowances: Under the European emissions trading system, proof must be provided of the correct number of CO2 allowances for the corresponding CO2 emissions from power plants. In 2018, supply and demand stood at around the same level. Nevertheless, the price of EUA certificates increased sharply in 2018 from around €8/t CO2 to around €25t CO2. This was primarily attributable to speculative demand due to the expectation of further price increases because the reform of the market stability reserve (MSR) – a measure drawn up by the EU Commission to reform the European Union emissions trading system over the long term – will result in a significant reduction in supply over the next four years. Therefore, further price increases are expected in 2019 and in subsequent years.</p> <p>- Inclusion in climate-related risk assessment: EU ETS / CO2 allowances is included in analyses, planning and scenario development. These tasks are carried out regularly by the Energy Economics Department.</p>
Emerging regulation	Relevant, always included	<p>- Relevance: Future regulation of the renewable energy market in Germany is relevant for the renewable energy segment.</p> <p>- Explanation: The operation of renewable energy plants is financially supported by the state in Germany. Changes in subsidies have an impact on the profitability of (future) plants.</p> <p>- Inclusion: Developments regarding to the regulation of the renewable energy market are continuously analysed by the Policy Department.</p>
Technology	Relevant, always included	<p>- Relevance: Unsuccessful investment in new technologies</p>

		<p>- Explanation: With the transformation of the generation portfolio from conventional to renewable generation, there exists the risk that investments will not generate the intended return.</p> <p>- Inclusion: The department Renewable Energies - Business Development focuses on the selection of possible technologies. The departments of finance and technology are involved in the investment calculation.</p>
Legal	Relevant, always included	<p>- Relevance: Legislation relating to environmental and climate protection is of high relevance for the generation, renewable energy and grid segments.</p> <p>- Explanation: Legislation relating to the amount of emissions from conventional power generation has a direct impact on the potential operation of conventional power plants.</p> <p>- Inclusion: The political and legal departments are permanently working on (new) climate-relevant laws that have a direct impact on EnBW's business activities.</p>
Market	Relevant, always included	<p>- Relevance: Climate protection is becoming more and more important for customers. This has a direct impact on the demand for certain products and services.</p> <p>- Explanation: EnBW offers climate-friendly products, such as charging stations for electric mobility. If sustainable mobility becomes more important for customers, demand for products in the mobility sector will also increase.</p> <p>- Inclusion: The market research team deals with customer requirements and analyses to what degree the topic of climate protection is relevant for customers. On this basis, climate-friendly products and services are developed and offered on the market (e.g. green electricity) by the Sales segment.</p>
Reputation	Relevant, always included	<p>- Relevance: Reputation is a target dimension of EnBW's performance management system. Climate protection as a topic has an impact on the reputation.</p> <p>- Explanation: The expansion of renewable energies for electricity generation and the reduction of conventional electricity generation can have positive impacts on reputation.</p> <p>- Inclusion: In order to calculate the Reputation Index, a total of around 5,000 People – from the stakeholder groups relevant for the EnBW brand of</p>

		<p>customers, the wider public, industrial companies, opinion leaders and investors – are asked about their impressions of the EnBW brand by an external market research institute. Results were collected for each stakeholder group about the distinctiveness of the brand and the assessment of the competence of and emotional attitude towards the EnBW brand. These are merged together to form a Reputation Index. The individual reputation indices for each stakeholder group are weighted equally to form a consolidated and reported Reputation Index. Topics regarding to climate protection are considered.</p>
Acute physical	Relevant, always included	<p>- Relevance: Increased severity of extreme weather events such as floods have an negative impact on EnBW's business activities.</p> <p>- Explanation: Netze BW, the subsidiary of EnBW, is responsible for operating the distribution networks in Baden-Württemberg. An important aim is supply reliability. Floods can disrupt the supply of electricity.</p> <p>- Inclusion: Netze BW is responsible for the development and operation of distribution grids in Baden-Württemberg. Potential weather extremes are taken into account in the development of the networks (planning, approval, etc.).</p>
Chronic physical	Relevant, always included	<p>- Relevance: Increased severity of extreme weather events such as continuous rise of temperature have an negative impact on EnBW's business activities.</p> <p>- Explanation: Continuous increase in temperature can lead to low water in rivers. There is a risk that power plants will have to be shut down due to lack of cooling for which water is needed.</p> <p>- Inclusion: The technical department regularly checks the availability of water for cooling the machines - innovative systems are used for cooling.</p>
Upstream	Relevant, always included	<p>- Relevance: Emissions from suppliers have an impact on EnBW's CO2 footprint (Scope 3).</p> <p>- Explanation: Emissions arising from the provision of raw materials and products for EnBW at the supplier's site</p> <p>- Inclusion: Emissions in relation to the procurement of raw materials and products are analysed in the Environmental Protection Department. Based on this, measures to reduce Scope 3 emissions can be derived.</p>

Downstream	Relevant, always included	<ul style="list-style-type: none"> - Relevance: Green markets are becoming more important in Germany. - Explanation: Customers are increasingly demanding climate-friendly products and services. - Inclusion: Within the framework of innovation management and product management, climate-relevant aspects are taken into account. Innovative products shall contribute to climate protection.
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C2.2d

(C2.2d) Describe your process(es) for managing climate-related risks and opportunities.

Climate related risks and opportunities are effectively identified and managed through our integrated opportunity and risk management system (iRM). The structures and processes of the iRM are anchored throughout the Group in all relevant business entities, business units and functional units. The central risk management & ICS functional unit is responsible for specifying methods, processes and systems for the whole Group, determining the opportunity and risk position of the Group and for reporting. The central steering body is the risk committee, which – with the involvement of specially selected business units/entities – is responsible for clarifying relevant issues from various Group perspectives, as well as for determining the top opportunities/risks.

Opportunities and risks that have been identified and classified as relevant are managed in a standardized manner. Suitable measures must be determined for each risk and each opportunity. These measures either stabilize or reduce risk or stabilize or increase opportunities. The responsible department (e.g. sales, renewable energies) is in charge of identifying and implementing these measures. In this context, discussions are held with those responsible departments (from interviews to detailed workshops). A validation is carried out at least once a year to verify fulfilment of agreed measures. This validation is based on a four-eyes principle, whereby the head of the department confirms by signing that the measures are appropriate and functional. The management process described here is reviewed once a year by the auditor and approved by the Supervisory Board (effectiveness report).

EXAMPLES:

- Transitional Opportunity: Electromobility

Structural changes:

Greenhouse gas emissions in the transport sector need to be reduced by 42% by 2030 compared to the figure in 1990, for climate protection reasons. The gradual decarbonisation of the transport sector will be necessary in order to achieve this target. Carbon-neutral fuels such as hydrogen or synthetic fuels (e-fuels) can make a contribution, while above all the transition to battery-powered electric vehicles will make the achievement of this target possible.

Situation assessment:

In risk management, we have identified these developments in the transport sector as an opportunity to offer products and services for electric mobility. The sales department has initiated analyses, projects and inmeasures for electromobility.

Activities and results:

We assume charging infrastructure will be expanded further. Alongside charging at home, the ability to charge at work and in car parks will become increasingly important. Large department stores and hardware stores are equipping their car parks with quick-charging stations. A network of quick-charging stations with ever increasing charging outputs is being installed along the motorways. 150 kW charging stations reached market viability in 2018. In future, they will be supplemented with other 350 kW charging stations. There were 13,500 public and semi-public charging points at 6,700 charging stations across Germany in the middle of 2018, which represented a 25% increase compared to the previous year. EnBW is engaged in the expansion of the charging infrastructure for household customers and also for commercial and local authority partners.

- Physical Risk: Sales of Energy

Climate-related changes:

EnBW supplies around 5.5 million customers with Energy. There is a risk that rising average temperatures will cause the volume of energy sold to customers to fall continuously. If, for example, the weather is mild in winter, customers requirements for heating their houses and apartments will be significantly lower. Lower sales volume of energy leads to lower revenues for EnBW. With its strong sales brands, EnBW, Yello and NaturEnergiePlus is close to its customers and is consistently oriented to their needs.

Situation assessment:

In risk management, we have identified these developments in the energy sector as an risk to offer products for customers(energy sales in billion of kWh)). The sales department has initiated analyses, projects and inmeasures for electromobility.

Activities and results:

To prevent a possible reduction in energy sales and to increase the number of customers, EnBW has taken various initiatives - these initiatives are supported by different companies (e.g. Yello and NaturEnergie+) and departments (e.g. communication, marketing, product management). We use bundle offers to offer customers attractive deals, promote market penetration and strengthen customer loyalty. Our customers are currently able to choose from three different devices with the new EnBW tariffs. At the same time, a cross-selling and customer referral campaign was started in combination with online advertising to increase traffic on our websites. E.g. the Yello Plus tariff – an energy contract offered in combination with a chosen device – was also in high demand in 2018.

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Physical risk

Primary climate-related risk driver

Chronic: Changes in precipitation patterns and extreme variability in weather patterns

Type of financial impact

Reduced revenues from lower sales/output

Company- specific description

Fluctuations in wind energy yield: There is a General risk for wind power plants due to wind fluctuations because the amounts of electricity generated by them are subject to fluctuations in the mean annual wind speed. In order to take these wind fluctuations into account in our planning, wind reports were created. In addition, measurement campaigns are being carried out up to the end of 2020 to evaluate wind speeds. Nevertheless, wind fluctuations could by their nature have a negative effect on the key Performance indicator adjusted EBITDA and on the key performance indicator internal financing capability in the low double-digit million euro range in 2019 and 2020.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

23,000,000

Potential financial impact figure – maximum (currency)

28,000,000

Explanation of financial impact figure

EnBW generates renewable energies by operating wind farms (offshore and onshore). These business activities generate sales and profits. The amount of sales and profits depends on the amount of energy generated (electricity) - the amount of electricity depends on the wind conditions. From this follows: In a year with little wind, less electricity is generated and this leads to lower sales and Profits (EBITDA: €23,000,000 - €28,000,000).

Management method

Activities:

- In order to take these wind fluctuations into account in our planning, wind reports were created. In addition, measurement campaigns are being carried out up to the end of 2020 to evaluate wind speeds.
- Possible effects of wind yield fluctuations are taken into account in future financial- and investment planning and in investment decisions.
- The Investment Committee, among others, decides on specific investment projects - fluctuations in wind yield are also taken into account.

Cost of management

1

Comment

Regarding to Cost of management: Employees from various departments (including the technical and finance ressorts) are involved in implementing the activities listed (Management method). Therefore, personnel resources are required to realize the activities, with internal costs resulting. Concrete costs for these activities are not documented.

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Customer

Risk type

Physical risk

Primary climate-related risk driver

Chronic: Rising mean temperatures

Type of financial impact

Reduced revenues from lower sales/output

Company- specific description

EnBW supplies around 5.5 million customers with Energy. There is a risk that rising average temperatures will cause the volume of energy sold to customers to fall continuously. If, for example, the weather is mild in winter, customers requirements for heating their houses and apartments will be significantly lower. Lower sales volume of energy leads to lower revenues for EnBW.

EnBW and its subsidiaries differentiate between two customer groups: The B2C customer group includes retail customers, small commercial enterprises, the housing industry and agriculture. The B2B customer group encompasses major Commercial enterprises and industrial customers, as well as redistributors, municipal utilities, local authorities and public entities.

With its strong sales brands, EnBW is close to its customers and is consistently oriented to their needs. As an active partner for the energy system of the future, EnBW sells electricity, gas and district heating the B2C sector under the EnBW brand. These products and services focus on Baden-Württemberg. EnBW primarily sells electricity and gas to retail and commercial customers throughout Germany through the Yello brand. The needs of ecologically oriented customers are addressed across Germany through the NaturEnergiePlus brand.

Time horizon

Short-term

Likelihood

More likely than not

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

EnBW supplies around 5.5 million customers with Energy. There is a risk that rising average temperatures will cause the volume of energy sold to customers to fall continuously. If, for example, the weather is mild in winter, customers requirements for heating their houses and apartments will be significantly lower. Lower sales volume of energy leads to lower revenues for EnBW.

Further Information:

- Electricity sales of the EnBW Group in the 2018 financial year: 37,3 (in billions of kWh)
- Gas sales of the EnBW Group in the 2018 financial year: 56,5 (in billions of kWh)

Management method

To prevent a possible reduction in energy sales and to increase the number of customers, EnBW has taken various initiatives - these initiatives are supported by different companies (e.g. Yello and NaturEnergie+) and departments (e.g. communication, marketing, product management).

We use bundle offers to offer customers attractive deals, promote market penetration and strengthen customer loyalty. Our customers are currently able to choose from three different devices with the new EnBW tariffs. At the same time, a cross-selling and customer referral campaign was started in combination with online advertising to increase traffic on our websites. E.g. the Yello Plus tariff – an energy contract offered in combination with a chosen device – was also in high demand in 2018. The range of hardware options available was continuously expanded to improve the attractiveness of the product even further.

EnBW, Yello and NaturEnergie+ received several awards for their products and customer service in 2018. EnBW was awarded the title of “Best electricity supplier in Germany” by Focus Money magazine and Statista as part of the Energy Atlas Germany 2018. The magazine Wirtschaftswoche (10/2018) ranked the best gas suppliers in the 100 largest cities using data from comparison portal Verivox. The result: EnBW is one of the fairest gas suppliers in Germany. Both Yello and NaturEnergie+ were awarded the title of “Fairest electricity supplier” for the eighth time by Focus Money (edition 38/2018).

Cost of management

1

Comment

To prevent a possible reduction in energy sales and to increase the number of customers, EnBW has taken various initiatives - these initiatives are supported by different companies (e.g. Yello and NaturEnergie+) and departments (e.g. communication, marketing, product management). The implementation of these initiatives is associated with a great amount of effort. Personnel resources are needed and this leads to costs. The concrete costs for these tasks cannot be shown because these employees also fulfil various other tasks.

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Physical risk

Primary climate-related risk driver

Chronic: Changes in precipitation patterns and extreme variability in weather patterns

Type of financial impact

Reduced revenue from decreased production capacity (e.g., transport difficulties, supply chain interruptions)

Company- specific description

Operation of nuclear power plants - low water and hot water in the rivers Rhine and Neckar caused by high temperatures and no rain:

Germany has decided to phase out nuclear energy by 2022. Our subsidiary EnBW Kernkraft GmbH (EnKK) is responsible for the operation and post-operation, as well as the decommissioning and dismantling of our five nuclear power plants. We still produce electricity at two plants (Philippsburg 2 and Neckarwestheim II); however, we have already applied to dismantle them.

Power generation with nuclear power plants requires a cooling system for the production facilities. There is a comprehensive concept for the functioning of this cooling system. The resource water is used for cooling. At both nuclear power plants, water is taken from rivers (Rhine (Philippsburg) and Neckar (Neckarwestheim)). With regard to the cooling process, two conditions must be fulfilled: There must be sufficient water in the rivers (water level) and the water temperature must not exceed a specified temperature (maximum cooling water temperature). If a condition is not met because of high temperature and no rain, this can lead to power limitations, interruptions in power generation or shutdown of the power plant.

Time horizon

Short-term

Likelihood

More likely than not

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

25,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Interruptions in electricity generation or the shutdown of nuclear power plants result in less electricity being generated (i.e. less output). If less electricity is generated, less energy can be sold to third parties (distribution / trading). Economic effects: Revenue decreases and this leads to lower adjusted EBITDA (€25,000,000).

Management method

During operation of the nuclear power plants in Neckarwestheim and Philippsburg, safety is always a top priority. Without exception, our nuclear facilities meet the safety requirements applicable in Germany. Their safety level is in line with the standard for new plants required by the International Atomic Energy Agency (IAEA). As part of an intensive IAEA evaluation programme – the OSART missions – the Neckarwestheim and Philippsburg sites achieved commendable results measured against international standards.

The cooling process is an important factor in ensuring a high level of safety in the operation of the power plant. Therefore, competent and experienced employees are responsible for this topic - supported by innovative technologies. Based on concepts and guidelines, decisions are made on the operation of the plants, standardized processes and measures as well as inspections are specified. Various aspects of the climate /weather and its effects (temperature, water level in the rivers, water temperature) are taken into account by planning the operation of the plants - concrete measurements and evaluations and analyses are carried out by employees from different Departments (for example generation).

Cost of management

1

Comment

Regarding to cost of management: Costs are incurred for the activities described for the management method: Employees from different departments are involved. Hardware and software are used.

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.4a

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Opp1

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Type of financial impact

Increased revenue through demand for lower emissions products and services

Company-specific description

The transformation of the energy system is currently taking place in Germany (so-called "Energiewende") - in particular the conversion of electricity generation from conventional to renewable. The focus here is on climate protection.

he success of the Energiewende is closely linked to the expansion of the transmission and distribution grids. The connection of renewable energies as well as vehicle electrification will require further construction measures at all levels of the electricity grid. Moreover gas grids are major element of the Energiewende.

For EnBW grid expansion constitutes an opportunity. EnBW's activities in the field of grids is the transport and distribution of electricity and gas; provision of grid-related services; water supply; guaranteeing the security of supply and system stability.

In 2018, EnBW operated around 151,000 km of power lines in the electricity transmission and distribution network area. And in addition 24,000 km gas transmission and distribution grids.

We will further expand our grid business in the course of the Energiewende and thus contribute to security of supply and system stability. Our transmission system operator for electricity TransnetBW is involved in the German Network Development Plan through the SuedLink and ULTRANET projects (high-performance north-south connections based on high-voltage DC technology). Moreover, the electricity grid also needs to be equipped for the expected escalation in the number of electric cars. The distribution grid

operators at EnBW (e.g. Netze BW) are preparing to face these challenges. Last not least, our transmission system operator for gas ONTRAS is involved in the in the EUGAL European pipeline project.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

1,300,000,000

Potential financial impact figure – maximum (currency)

1,400,000,000

Explanation of financial impact figure

The adjusted EBITDA for the Grids segment will increase further in 2019. In comparison to the previous year, we expect higher revenue from the use of the grids as we start to see returns on the increased investment activity in projects that are included in the Network Development Plan Electricity and Network Development Plan Gas.

Calculation EBITDA:

The electricity grid business is regulated business. It has become a growth business due to the new energy turnaround concept. Due to additional investment opportunities, the Regulatory Asset Base (RAB) of grid companies is increased, which is remunerated with a fixed interest rate within a regulatory period. The interest rate is determined by the Federal Network Agency (BNetzA). EnBW receives annual reimbursement for investments made in grids and could achieve a positive impact on EBITDA. Changes in legislation have simplified reimbursement for costs of investments in grids, e.g. amendments of the Incentive Regulation Ordinance (ARegV).

Strategy to realize opportunity

The responsibility for topics responding grids is inside the EnBW Group in following subsidiaries: Transnet BW (electricity transport grids), Netze BW (electricity and gas distribution grids), ONTRAS & terranets bw (gas transport grids). Within the respective subsidiaries there are responsible departments (for example grid development planning, grid construction, grid operation etc.) in which the future initiatives and projects are developed and coordinated. Value added in the grid business is based on the existing

infrastructure and the process know-how necessary to operate and expand this infrastructure efficiently. Furthermore, value added is anchored in the numerous close relationships with local authorities and citizens.

New cooperation models are being developed to finance the necessary measures. In addition to traditional financing options, investment models for private or professional asset managers are also conceivable sources of finance.

Example for operationalization of the strategy:

As transmission grid operator, TransnetBW plans and implements grid expansion measures in its own control area. Together with other grid operators, we are also involved in nationwide and European grid expansion planning. While European network expansion planning is carried out within the framework of the Ten Year Network Development Plan, nationwide network expansion planning is carried out within the Network Development Plan.

Cost to realize opportunity

2,700,000,000

Comment

In order to continue to play an active role in shaping the Energiewende, investment in the grid segment of €3,75 billion is planned for the 2019 to 2021 period. Around €2,7 billion will be for growth Projects. This investment program reflects our strategy for massively expanding renewable energies and ensuring security of supply in the regulated areas of the transmission and distribution grids.

Identifier

Opp2

Where in the value chain does the opportunity occur?

Customer

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Type of financial impact

Increased revenue through demand for lower emissions products and services

Company-specific description

Electromobility is a rising market and EnBW is focusing on building a widely spread charging network by investing in charging infrastructure and offering digital services to customers. EnBW already assumed a pioneering role in the area of charging infrastructure many years ago. The company began installing charging stations for electric vehicles in Stuttgart in 2012 and has since supplied electricity to the largest fleet of electric vehicles in a major city. In comparison to conventional AC charging stations

(alternating current), DC charging stations (direct current) allow a significantly quicker charging process. This means that customers can, for example, charge their vehicle with enough electricity to cover a distance of around 100 kilometres in just 3 minutes at DC charging stations with a charging capacity of 300 kilowatts (so-called “high power chargers”). EnBW is one of the market leaders for the operation of fast charging stations in Germany with currently more than 150 fast charging stations, primarily at motorway service stations and in urban areas. And the ambition is to operate 1,000 fast charging stations across Germany by the end of 2020.

Whether electromobility is fit for everyday life is best demonstrated by how easily and intuitively it can be accessed by users. Our EnBW mobility+ app has established itself as a kind of smart guide in this respect. The free app offers drivers of electric vehicles everything they need: an almost seamless overview of the available charging stations, full transparency with respect to tariffs and convenient payment functions.

Demand for eMobility enabling new business areas: Range of electric and hybrid vehicles is growing. Vehicles from German manufacturers will be ready for mass production in the near future.

Municipalities and municipal utilities, as well as companies, are very interested in new mobility and charging infrastructure; market growth is estimated to grow to a sales volume of EUR 350 million in 2020. At all stages (charging infrastructure, power supply, billing/processing, value-added services), EnBW can draw on and expand its own expertise.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

60,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The goal of EnBW is to achieve a share of around €60 million in the market volume in the area of eMobility. This goal is to be achieved step by step by selling various innovative products and services (electricity, charging points, mobility-app etc.) - these will be offered on the market for various customers and prices.

Strategy to realize opportunity

In the sector electromobility, EnBW will be a fullservice provider and together with its subsidiaries cover the complete spectrum of services for the development and expansion of electromobility from the supply of electricity and the operation of a comprehensive charging infrastructure through to digital services for the consumer. EnBW entered into various collaborations with renowned partners in 2018 that promote, above all, the expansion of the quick-charging infrastructure in urban areas across Germany. At the same time, EnBW almost tripled the number of charging stations available via the EnBW mobility+ app. The number of publicly accessible charging stations in Germany, Austria and Switzerland covered by the app increased from 8,000 to more than 22,000 in 2018. In addition, drivers can use the app directly to pay for the electricity used to charge their e-cars at These stations. The EnBW mobility+ Wallbox enables safe and easy charging at home with a charging capacity of up to 11 kW.

Electromobility is an important business for EnBW. EnBW regularly studies publications on the development of electromobility. Market and competitor analyses are also carried out. Based on this, appropriate initiatives are selected and implemented. At all stages (charging infrastructure, power supply, billing/processing, value-added services), EnBW can draw on and expand its own expertise.

Cost to realize opportunity

4,000,000

Comment

Regarding to Cost to realize opportunity: The EnBW Group spent € 40.6 million (previous year: €39.8 million) on research, development and innovation in the 2018 financial year (Innovation Management; Grids Generation from renewables; Smart energy world and storage; Dismantling Customer-related research Projects; Other Gas).

Important activities include the "smart energy world and storage facilities" (€ 4 million) - these include also the topic of electromobility.

Identifier

Opp3

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of lower-emission sources of energy

Type of financial impact

Other, please specify

Increase in adjusted EBITDA

Company-specific description

EnBW Renewable Energies Segment - various renewable energy projects make an important contribution to climate protection and transformation of the energy System.

The company's activities in the area of power generation from renewable energy sources – where we utilise the natural resources of water, wind and sun – are combined under the Renewable Energies segment. We are expanding renewable energies, above all in the areas of onshore and offshore wind energy and photovoltaics, and broadening our activities along the value chain. The principle of partnership plays a central role in this context and we offer potential investors such as local authorities and private citizens, whom we attract with the aid of targeted models, the chance to participate in renewable energy projects. The value we add in this Segment encompasses project development, construction and efficient operation, as well as the repowering of the plants in the future.

Selected projects in the segment renewable energies - "Hohe See" and "Albatros":
The Hohe See and Albatros wind farms are being erected far out in the North Sea: Hohe See is located around 95 kilometres north of Borkum and around 100 kilometres north-west of Helgoland, while Albatros is being constructed 105 kilometres from each coast. On areas covering 42 and 11 square kilometres respectively, both wind farms will generate 2.5 billion kilowatt hours of electricity to supply an aggregate of around 710,000 households from 2019.

Cooperation partner on board:

The investment costs for the construction of the Hohe See wind farm come to 1.8 billion euro, while constructing the Albatros wind farm will cost an additional 0.4 billion euro. This joint project thus represents the largest investment decision for EnBW in the history of the company to date and will bring the company nearer to its goal of expanding renewable energies into a main pillar of its energy generation.

In order to finance the offshore wind farms from their construction through to commissioning, EnBW has secured the Canadian energy infrastructure company Enbridge Inc. as an investment partner: Enbridge Inc. has acquired 49.9 percent of the shares in EnBW Hohe See, while EnBW will retain the remaining 50.1 percent. This investment provides us with scope for the further development of new projects.

Time horizon

Current

Likelihood

Very likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

425,000,000

Potential financial impact figure – maximum (currency)

500,000,000

Explanation of financial impact figure

The adjusted EBITDA for the Renewable Energies segment will increase significantly in 2019 (€425 Mio. - €500 Mio.) compared to 2018 (€297,7 Mio.) . For example, in the offshore wind sector, this will be due to the planned commissioning of our offshore wind farms EnBW Hohe See and EnBW Albatros. In addition, the expansion and acquisition of onshore wind farms in 2018 and those planned in 2019, including in Sweden, will make a positive contribution to earnings.

Strategy to realize opportunity

EnBW Segment Renewable Energies - Tasks and initiatives: Project development and management; construction and operation of renewable energy power plants.

Strategic direction:

- EnBW aims to more than double the share of its Generation capacity accounted for by renewable energies from 19% (based on the reference year of 2012) to more than 40% in 2020. The capacities of our onshore wind farms will be increased significantly in Germany and selected foreign markets. Offshore wind power represents a further opportunity for growth.
- EnBW intends to invest €14.1 billion in total by 2020 (based on the reference year of 2012). In this context, the focus will be placed on expanding renewable energies on an industrial scale.

Cost to realize opportunity

1,792,000,000

Comment

Regarding to "cost to realize opportunity":

EnBW Investment over a three-year period: In order to continue to play an active role in shaping the Energiewende, total investment of €6.4 billion is planned for the 2019 to 2021 period. Around 28% of the total investment will be attributable to the Renewable Energies segment (€1,792,000,000) – of which 27% will be for growth investment. This includes funds for the realisation of the offshore wind farms EnBW Hohe See and EnBW Albatros with a total output of 609 MW, which should be placed into operation in 2019. In addition, funds have been allocated for the construction of onshore wind farms to achieve the 1,000 MW target by 2020 and for solar parks from our comprehensive Project Pipeline.

C2.5

(C2.5) Describe where and how the identified risks and opportunities have impacted your business.

	Impact	Description
Products and services	Impacted	<p>- Impact: Opportunities in the context of climate protection and energy system transformation are realized - therefore climate-friendly business models, products and services are expanded. Examples include the massive expansion of renewable energies (especially wind and solar) and extensive work (development) in the field of electromobility (charging stations, apps etc.).</p> <p>- Magnitude of impact: The Magnitude of Impact is high. Renewable energies and electromobility are main focuses of ENBW's future business activities: a) Sustainable generation infrastructure will be achieved through the further expansion of low-carbon electricity generation, the phasing out of nuclear energy and the intended phasing out of coal-based conventional Generation (decarbonisation). b) Smart infrastructure for customers involves us developing new, digital business models and launching them onto the market where we will then scale them up.</p> <p>Further Information: I. Renewable Energies - significant events in 2018: - Continued construction of the offshore wind farms EnBW Hohe See and EnBW Albatros with total capacity of 609 MW - Selective internationalisation with entry onto the Swedish market and initial activities in France, Taiwan and the USA - Further expansion of the onshore portfolio: Through the Acquisition and construction of 14 wind farms with total output of 178 MW in Germany and Sweden, EnBW has expanded the total output from onshore wind power to 718 MW - Decision to invest and start of construction of first onshore wind farm in Sweden - Opportunity for citizens to participate in seven newly built EnBW wind farms - After the construction of 15 photovoltaic plants with an output of 22 MW, EnBW has a total photovoltaics portfolio of 99 MW</p> <p>II: Expansion of electromobility in 2018: Further expansion of the charging infrastructure, also together with national and international cooperation partners, expansion of the product portfolio, EnBW mobility+ app with</p>

		22,000 charging stations across different countries, simplification of the pricing system when charging with the “Full with E” campaign
Supply chain and/or value chain	Impacted	<p>Value Chain:</p> <p>- Impact: Power generation with nuclear power plants requires a cooling system for the production facilities. There is a comprehensive concept for the functioning of this cooling system. The resource water is used for cooling. At both nuclear power plants, water is taken from rivers (Rhine (Philippsburg) and Neckar (Neckarwestheim)). With regard to the cooling process, two conditions must be fulfilled: There must be sufficient water in the rivers (water level) and the water temperature must not exceed a specified temperature (maximum cooling water temperature). If a condition is not met because of high temperature and no rain, this can lead to power limitations, interruptions in power generation or shutdown of the power plant.</p> <p>- Magnitude of impact: The Magnitude of Impact is medium - Interruptions in electricity generation or the shutdown of nuclear power plants result in less electricity being generated (i.e. less output). If less electricity is generated, less energy can be sold to third parties (distribution / trading). economic effects: Revenue decreases and this leads to lower adjusted EBITDA.</p> <p>Supply Chain:</p> <p>- Impact: The raw material coal is needed for conventional power generation. The coal is delivered by ship directly to EnBW's power plants. In principle, there is a risk that the water level in the rivers will decrease due to high temperatures and that ships will no longer be able to navigate - as a result, no coal can be delivered to the power plants during this time. If the reserves in the power plant's storage facility are exhausted, this would lead to an interruption in electricity generation.</p> <p>- Magnitude of impact: The Magnitude of Impact is medium - Reduced electricity generation due to lack of raw materials leads to decreased revenues.</p>
Adaptation and mitigation activities	Impacted	<p>- Impact: Climate protection has an influence on EnBW's strategic orientation and concretely on EnBW's business activities: a) EnBW is transforming itself into a sustainable and innovative infrastructure partner with an emphasis on three central themes: 1) Sustainable generation infrastructure will be achieved through the further expansion of low-carbon electricity generation, the phasing out of nuclear</p>

		<p>energy and the intended phasing out of coal-based conventional generation (decarbonisation); 2) System critical infrastructure comprises the expansion and operation of the transmission grids and the upgrading of distribution grids, as well as grid-related services provided by our grid subsidiaries; 3) Smart infrastructure for customers involves us developing new, digital business models and launching them onto the market where we will then scale them up.</p> <p>b) EnBW has analysed the robustness of its business model based on the recommendations of the Task Force on Climate-related Financial Disclosures. The EnBW strategy takes into account the demands of the Energiewende and climate protection. Accordingly, an evaluation of the way the Energiewende could possibly develop over the coming years, including the opportunities and risks for the business of EnBW, constitutes a decisive component of our market analyses.</p> <p>- Magnitude of impact: The Magnitude of Impact is high - Climate-relevant aspects are taken into account in business activities and are regularly reviewed. Example: The key performance indicators in the environment goal dimension are the installed output of renewable energies (RE) and the share of the generation capacity accounted for by RE and CO2 intensity. The first are measures of the expansion of renewable energies and refer to the installed output of the power plants and not to their weather-dependent contribution to electricity generation. The emissions of CO2 from own generation of electricity for the Group, as well as the volume of electricity generated by the Group without the contribution made by the nuclear power plants, form the basis for the calculation of the key Performance indicator CO2 intensity.</p>
Investment in R&D	Impacted	<p>- Impact: Environmental and climate protection play an important role in research and development activities. In the case of projects and initiatives, the contribution that can be made to climate protection is examined. The aim of investments in research and development and innovation management is also to develop climate-friendly technologies, products and services.</p> <p>Example: Photovoltaics: The University of Stuttgart has developed a laser process that enables the inexpensive production of non-toxic silicon solar cells with a high level of efficiency. These cells achieve higher efficiency because the electrical connections are all made at the rear of the cell and there are no contacts on the front which could</p>

		<p>shade some of the incident light. EnBW has been cooperating in this government-funded research Project since August 2017. An efficiency of more than 22% was achieved using 16 inch cells for the first time in 2018. The EnBW subsidiary EnPV – founded in December 2017 – has started work on marketing the patented process.</p> <p>- Magnitude of impact: The Magnitude of Impact is high - Know-how and competence are important factors for being competitive. In particular, developments towards climate-friendly activities and climate-friendly technologies are of great importance. Research, development and innovation also leads in many cases to inventions and patents. The portfolio of patents grew by 25 patents (previous year: nine) in 2018; the EnBW Group held 208 patents (previous year: 183) at the end of the year. The patents held by EnBW focus mainly on the areas of generation and grids.</p>
Operations	Impacted	<p>- Impact: In addition to developing climate-friendly business models, we also ensure that we act as a climate-friendly Company. We pursue the goal of reducing our CO2 footprint.</p> <p>Example (Mobility at EnBW): EnBW further expanded its fleet of electric cars to 167 vehicles in 2018 and continues to follow the goal of being one of the largest electric fleet operators in Germany. In order to motivate its employees to use alternative, environmentally friendly solutions for the daily trip to work, EnBW introduced attractive incentives for employees in 2018. These included, for example, a subsidy for the purchase of a yearly ticket to use the public transport systems in Karlsruhe and Stuttgart. In the “job bike” scheme, EnBW as an employer offers its employees the opportunity to purchase high-quality bikes and e-bikes at favourable conditions. As part of the “Your BMW i3” campaign, 180 employees were drawn at random from the numerous applicants and were given the opportunity to purchase the latest BMW i3 model at favourable conditions so they can complete their daily commute using electric power in future.</p> <p>- Magnitude of impact: The Magnitude of Impact is medium - Further actions in the area of climate-friendly corporate mobility are planned. In addition, there are various initiatives in the area of building efficiency to reduce CO2 emissions.</p> <p>Further Information:</p>

		<p>The main subsidiaries of EnBW that have to deal with environmental issues have an environmental Management system certified according to DIN EN ISO 14001:2015. In accordance with the DIN standard, these environmental management Systems follow a concept of continuous improvement in environmental performance which is based on the method Plan-Do-Check-Act (PDCA). The systems encompass the definition and Realisation of environmental targets with their performance indicators and corresponding measures, the procedures and responsibilities and the identification of environmentally relevant risks and opportunities. Alongside the Group environmental targets, which are modelled with the aid of the key Performance indicators, the main subsidiaries that have to deal with environmental issues have also defined additional, quantified environmental targets within the scope of their environmental management systems – especially in the areas of Energy saving/efficiency and mobility.</p>
Other, please specify		

C2.6

(C2.6) Describe where and how the identified risks and opportunities have been factored into your financial planning process.

	Relevance	Description
Revenues	Impacted	<p>EnBW regularly develops long-term premises, strategic long-term planning and medium-term planning. Risks/opportunities are included in the analyses and taken into account.</p> <p>- Impact of financial planning process: Investments in renewable energies and intelligent grids make a contribution to energy system transformation and climate protection. The projects already implemented in these areas as well as future projects will increase sales at EnBW. This is and must be taken into account in the financial planning process.</p> <p>- Magnitude of Impact: Magnitude of Impact is high. Adjusted EBITDA will increase with renewable Energy and grid projects, which is also in line with higher revenues:</p> <p>a) The adjusted EBITDA for the Grids segment will increase further in 2019. It will thus continue to be the segment with the highest earnings. In comparison to the previous year, we expect higher revenue from the use of the grids as we start to see returns on the</p>

		<p>increased investment activity in projects that are included in the Network Development Plan Electricity and Network Development Plan Gas. The share of the adjusted EBITDA for the Group accounted for by this segment is expected to remain stable.</p> <p>b)The adjusted EBITDA for the Renewable Energies segment will increase significantly in 2019. In the offshore wind sector, this will be due to the planned commissioning of our offshore wind farms EnBW Hohe See and EnBW Albatros. In addition, the expansion and acquisition of onshore wind farms in 2018 and those planned in 2019, including in Sweden, will make a positive contribution to earnings. The forecast for the volume of electricity generated by the run-of-river power plants is based on the long-term average water levels. The wind-yield forecasts are also based on the long-term average. As 2018 was negatively influenced by poor wind conditions and low water levels, we expect a significantly higher result in 2019 in comparison to the previous year. We expect an increase in the share of the adjusted EBITDA for the Group accounted for by this segment.</p>
Operating costs	Impacted	<p>EnBW regularly develops long-term premises, strategic long-term planning and medium-term planning. Risks/opportunities are included in the analyses and taken into account.</p> <p>- Impact of financial planning process: EnBW focuses on renewable energies and operates and develops wind, solar and hydro power plants.</p> <p>Hydropower is currently the world's most important source of electricity from renewable sources. It is capable of withstanding base loads and – unlike wind power and photovoltaics – is not strongly subject to weather influences. EnBW has long been committed to this form of climate-friendly energy generation and has an above-average share of hydropower in its energy mix nationwide.</p> <p>Operating Costs - Electricity generated from hydropower protects the climate. At the same time, the use of hydropower also encroaches on nature. Therefore, EnBW is committed to harmonising hydropower with ecology. If power plants cause changes to the natural landscape, we compensate for These effects through ecological enhancement measures. For example, we ensure or improve the continuity of watercourses by constructing or optimising fish passes and fish ladders for fish to ascend or descend the river, such as at the small hydroelectric power plant in Maulburg. By constructing weir turbines, we guarantee that there is a sufficient level of residual water and also</p>

		<p>ensure that this water is used for climate-friendly Energy generation such as at the hydropower plants in Wyhlen and Ladenburg. Such costs must be taken into account in the financial planning process.</p> <p>- Magnitude of Impact: Magnitude of Impact is medium. Activities and initiatives in the area of environmental protection generate Costs. The construction of hydropower plants is accompanied by compensatory or replacement measures. In this way, we are actively contributing to the renaturation of river courses. Our facilities are usually equipped with a fish pass. This enables the fish to migrate upstream to their spawning grounds and also to search for food above the power station. In addition to modernising our power plants, a major focus of our activities in the coming years will be on improving consistency. This not only enhances the ecological value of our facilities but also improves the living conditions for fish and micro-organisms in regulated rivers.</p>
<p>Capital expenditures / capital allocation</p>	<p>Impacted</p>	<p>EnBW regularly develops long-term premises, strategic long-term planning and medium-term planning. Risks/opportunities are included in the analyses and taken into account.</p> <p>- Impact of financial planning process: In order to continue to play an active role in shaping the Energiewende (transformation Energy System), total investment of €6.4 billion is planned for the 2019 to 2021 period. This represents on average €2.1 billion per year. Some €1.4 billion (22%) of this investment will be on existing projects and €5.0 billion (78%) on growth projects. The majority of the total investment will be made in the regulated business (Renewable Energies and Grids).</p> <p>- Magnitude of Impact: Magnitude of Impact is high. Around 58% of the investment will flow into the Grids segment, of which around 42% will be for growth projects and 16% for existing projects. In order to make the transport of renewable energies from the north to the south of Germany possible, funds have been allocated to the transmission grid for the realisation of two HVDC projects ULTRANET and SuedLink that involve our subsidiary TransnetBW and are part of the Network Development Plan. In addition, extensive investment in the expansion and upgrading of the existing grids is planned. Around 28% of the total investment will be attributable to the Renewable Energies segment – of which 27% will be for growth</p>

		investment. This includes funds for the realisation of the offshore wind farms EnBW Hohe See and EnBW Albatros with a total output of 609 MW, which should be placed into Operation in 2019. In addition, funds have been allocated for the construction of onshore wind farms to achieve the 1,000 MW target by 2020 and for solar parks from our comprehensive project pipeline.
Acquisitions and divestments	Impacted	<p>EnBW regularly develops long-term premises, strategic long-term planning and medium-term planning. Risks/opportunities are included in the analyses and taken into account.</p> <p>- Impact of financial planning process: EnBW runs activities in Acquisitions and divestments. These activities should support the positioning as a sustainable and innovative infrastructure partner. Planned projects are included in the financial planning process. For example: In order to finance the entire investment volume of around €6.4 Billion (2019-2021), divestitures amounting to almost €1 billion are planned in the years 2019 to 2021. This includes divestitures in the onshore sector, which will build on our already realised participation models. The remaining divestitures will involve the receipt of construction cost subsidies and the disposal of the remaining minority share in EWE.</p> <p>- Magnitude of Impact: Magnitude of Impact is medium. Selected examples of acquisitions: a) 2018: With the solar solution EnBW solar+, customers themselves can become energy producers. A solar power plant including a storage system enables customers to produce their own solar electricity and then store it for use later on. We are working together closely with our subsidiary SENEK in this area. The acquisition of SENEK GmbH in the reporting year represented a major step towards EnBW becoming a full-service provider for home energy solutions. SENEK has sold more than 20,000 electricity storage systems with energy management functions and is one of the most important suppliers on the home storage market in Germany. b) 2018: Further expansion of the onshore portfolio: Through the acquisition and construction of 14 wind farms with total output of 178 MW in Germany and Sweden, EnBW has expanded the total output from onshore wind power to 718 MW.</p>
Access to capital	Impacted	EnBW regularly develops long-term premises, strategic long-term planning and medium-term planning. Risks/opportunities are included in the analyses and taken into account.

		<p>- Impact of financial planning process: Climate protection also plays an important role in financing and is taken into account in the financial planning process.</p> <p>Example - Green bond issued by EnBW : EnBW published its Green Financing Framework on 17 October 2018 and issued its first green bond with a volume of €500 million on 31 October 2018. The bond has a coupon of 1.875% and a term of 15 years. In contrast to conventional corporate bonds, the proceeds from a green bond must be used exclusively to finance climate-friendly projects. 93% of the proceeds from the first green bond issued by EnBW will be allocated to wind power projects, while 5% will be used for photovoltaic projects and 2% for electromobility projects. This form of financing is thus in line with the corporate strategy of repositioning the business portfolio with a focus on renewable energies and smart infrastructure solutions.</p> <p>- Magnitude of Impact: Magnitude of Impact is medium. Through sustainable finance, companies support the stability and future viability of financial markets and make an important contribution to financing global transformation processes. The activities of EnBW in the area of sustainable finance underline the fact that the company takes into account the social and ecological impacts of its business activities in the development of business models and specifically examines the medium and long-term opportunities and risks involved. As well as financial performance indicators, the company thus also uses sustainability indicators as a basis for taking capital expenditure and investment decisions.</p> <p>Development of the sustainability Rating: EnBW strives to continuously improve its ratings from recognised agencies in the area of sustainability. It thus aims to strengthen its position as a responsible and sustainable company and also wants to be seen as an attractive investment opportunity for financial Investors whose investment decisions are based wholly or partially on sustainability criteria. In 2018, EnBW was able to solidify its leading position in terms of important sustainability ratings for the energy sector (CDP, ISS-Oekom, Sustainalytics).</p>
Assets	Impacted	<p>EnBW regularly develops long-term premises, strategic long-term planning and medium-term planning. Risks/opportunities are included in the analyses and taken into account.</p> <p>- Impact of financial planning process:</p>

		<p>In particular, the expansion of renewable energies and electricity grids is having a positive effect on the asset base. The value of conventional power plants is declining steadily (stranded assets).</p> <p>- Magnitude of Impact: Magnitude of Impact is high.</p> <p>Renewable Energies: The focal points are the significant expansion of renewable energies and the development of suitable models for other investors, such as local authorities and citizens, to participate in projects.</p> <p>Grids: The expansion of our grids business at all voltage levels as part of the Energiewende will help to guarantee a reliable supply of energy. Another main focus is the expansion of municipal data networks using the latest broadband technology.</p>
Liabilities	Impacted	<p>Risks/opportunities are included in the analyses and taken into account.</p> <p>- Impact of financial planning process: EnBW Performance Management System - The key performance indicator internal financing capability describes the adjusted retained cash flow in relation to the cash-relevant net investment and is the most significant Performance indicator for the Group's ability to finance its activities internally. After covering ongoing costs and dividend payments, the adjusted retained cash flow is available to the company for net investment without the need to raise additional debt.</p> <p>- Magnitude of Impact: Magnitude of Impact is medium.</p> <p>Assessment of the robustness of our business model in terms of Climate protection: EnBW has analysed the robustness of its business model based on the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). The EnBW strategy takes into account the demands of the Energiewende and climate protection. Accordingly, an evaluation of the way the Energiewende could possibly develop over the coming years, including the opportunities and risks for the business of EnBW, constitutes a decisive component of our market analyses.</p> <p>The future development of the German and European electricity markets is particularly important in this context. As part of the analysis, we initially create scenarios for the main Input parameters – such as the development of demand, changes to the power plant</p>

		<p>portfolio or assumptions about price-relevant fuels. Using these as a basis, possible paths for the long-term development of electricity prices – one of the most important market factors for the business of EnBW – can be derived. The scenarios are geared towards achieving the international climate protection targets (such as limiting greenhouse gas concentrations to 450 ppm [parts per million]) and the resulting targets and measures derived by the German government (a reduction of at least 80% of the CO2 emissions by 2050 in comparison to 1990). The results obtained from applying this model not only provide information on electricity prices but also on other relevant market trends in areas such as renewable energies or electromobility. Overall, these results enable us to assess the robustness of our strategic planning with consideration to developments caused by climate change.</p>
Other		

C3. Business Strategy

C3.1

(C3.1) Are climate-related issues integrated into your business strategy?

Yes

C3.1a

(C3.1a) Does your organization use climate-related scenario analysis to inform your business strategy?

Yes, qualitative and quantitative

C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b

(C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b) Indicate whether your organization has developed a low-carbon transition plan to support the long-term business strategy.

Yes

C3.1c

(C3.1c) Explain how climate-related issues are integrated into your business objectives and strategy.

As an integrated energy company, EnBW operates along the entire energy industry value chain in four segments: Sales, Grids, Renewable Energies, and Generation and Trading. The development of strategy at EnBW is governed by a uniform and structured process. This begins with our vision which is guided by the principle “Energiewende. Safe. Hands on.” Sustainability is an integral component of our Group strategy so that we can guarantee the creation of economic, ecological and social value for our stakeholders. We associate the concept of sustainable economic development with our aspiration to conduct our business activities in a responsible way. The EnBW Group strategy developed in accordance with our guiding principle encompasses two operating models that complement each other: Customer proximity and “Engine room“ of the Energiewende. The Strategy2020, which was adopted in 2013, initiated the decarbonisation process of the company and the transformation of the company into a sustainable infrastructure operator. EnBW aims to more than double the share of its generation capacity accounted for by renewable energies from 19% (based on the reference year of 2012) to more than 40% in 2020. The capacities of our onshore wind farms will be increased significantly in Germany and selected foreign markets. Offshore wind power represents a further opportunity for growth. 2018 EnBW invested more than 470 Mio. EURs in the expansion of renewable energies. We also want to provide our customers with carbon-neutral gaseous energy sources in the long term. EnBW started a Group project in 2018 to identify the necessary steps towards a gas supply that will reduce CO₂ emissions from fossil fuels by 2030 and assess the technological possibilities for the period afterwards. The experience gained from various pilot and demonstration projects will help us to achieve this. The expansion of the HVDC connections as part of the SuedLink and ULTRANET projects will accompany us over the next few years. New, powerful transmission grids will form the backbone of the Energiewende, especially for transporting energy that has been sustainably generated in northern Germany to the main consumption areas in southern Germany. In order to satisfy the increasing demand for gas capacity in BadenWürttemberg, our transmission system operator terranets bw is expanding its own infrastructure accordingly. This will include the construction of the so-called “Neckar-Enz Valley line” and the expansion of the Scharenstetten compressor station. EnBW focuses on the customer and his requirements and offers energy-related services. Intelligent solutions are designed to help save energy or use it more efficiently. This includes offers for private customers (e.g. PV+storage solutions) as well as solutions for public spaces, e.g. the development of neighbourhoods or the construction of charging infrastructure for electric vehicles. EnBW participates in the development of the SAFE electrical store network in Baden Württemberg. Netze BW - a subsidiary of EnBW- is investing around 500 million euros in the expansion of its electricity distribution grid up to 2025 so that it can cope with the increased demand. Climate protection is also becoming a more significant issue for EnBW. For example, EnBW and its CEO, Dr. Frank Mastiaux, have been members of the Foundation 2° since May 2018. The Foundation 2° is an initiative started by German businesses. It is committed to climate protection and limiting global warming to significantly below two degrees Celsius. EnBW is also advocating the introduction of a carbon price floor for CO₂ in order to help steer investment towards climatefriendly technologies. A carbon price floor could be introduced in Germany but this measure should cover as many European countries as possible. In October 2018, EnBW published its first Green Financing Framework and issued its first green bond with a volume of €500 million and a term to maturity of 15 years on the capital market. It was thus one of the first German companies to issue a green bond of this magnitude. Green bonds are issued exclusively to finance climate-friendly projects. The

proceeds from the bond will flow into wind power, photovoltaic and electromobility projects i) In order to make the success of the strategy measurable, EnBW has developed top performance indicators for the environmental target dimension and set target values for 2020. One measure of the company's progressive decarbonisation is the increase in the share of renewable energies in the generation mix. This is also linked to the top performance indicators for CO2 intensity (CO2 emissions associated with electricity generation). The goal for 2020 is to double the installed capacity: from 2012 to 2030, the share of renewable energies is to be increased from 19% to 40%. The share of renewables in the generation mix was 27.9% in 2018. This was an increase by more than 8% compared to 2017. The coming years will be marked by a further increase in the share of renewables, above all wind offshore, onshore and free-field PV. The CO2 intensity of electricity generated by EnBW decreased slightly by 0.5% between 2017 and 2018 to 553 g CO2/kWh (excluding nuclear generation) compared to the previous year. This decrease is based on a higher generation from renewable energies compared to the previous year. The target value for 2020 is a reduction of 15-20% compared with the baseline value of 2015 (606 g CO2/kWh). ii) A key element of the EnBW strategy is to further increase the share of renewable energies. In 2018, two focal points were set for this purpose: firstly, selective internationalisation in the offshore and onshore wind sectors, and secondly, the establishment of PV as a third pillar in the growth of renewable energies, alongside offshore and onshore wind. With the market entry in Sweden via the Swedish national company EnBW Sverige and the first activities in France, Taiwan and the USA, we are focused on selective internationalisation in the field of renewable energies in 2018. In 2018, EnBW decided to build Germany's largest solar park in Brandenburg with an output of 175 MV without state subsidies. This can supply up to 50,000 households with renewable electricity. EnBW will expand PV to become a third pillar of renewables alongside wind offshore and wind onshore. In the last 10 years, prices for solar panels have fallen by 90 percent. EnBW wants to grow further in the area of renewable energies, particularly as wind power and hydropower did not perform very well – mainly because of the weather - as it happened, for example, in 2018.

C3.1d

(C3.1d) Provide details of your organization's use of climate-related scenario analysis.

Climate-related scenarios	Details
Other, please specify Own electricity market model, with which different climate scenarios are modelled.	The EnBW strategy takes into account the demands of the Energiewende and climate protection. For EnBW and its business model the future development of the German and European electricity markets under the conditions of compliance with the climate targets is particularly important in this context. As part of the analysis, we initially create scenarios for the main input parameters – such as the development of demand, changes to the power plant portfolio or assumptions about price-relevant fuels. In addition, developments in the transport sector and in the type of heat generation are considered. Using these as a basis, possible paths for the long-term development of electricity prices – one of the most important market factors for the business of EnBW – can be derived. The scenarios are geared towards achieving the international climate protection targets

(such as limiting greenhouse gas concentrations to 450 ppm [parts per million]) and the county-specific targets and measures derived by the German government (a reduction of at least 80% in CO₂ emissions by 2050 in comparison to 1990). Data from external studies, e.g. for the 450 ppm scenario of the IEA, are compared with own assumptions, e.g. on the expansion of renewables. Various scenarios including a scenario derived from a 450 ppm target are modelled in a dedicated electricity market model.

In our model we consider the period up to 2050. The consideration of such a long time horizon is necessary in order to value our long-lived capital goods. At the same time, it is helpful to evaluate the achievement of the targets for 2050.

The modelling covers the German and neighbouring European electricity markets. The results obtained from applying this model not only provide information on electricity prices but also on other relevant market trends in areas such as renewable energies or electromobility. Overall, these results enable us to assess the robustness of our strategic planning with consideration to developments caused by climate change.

In order to evaluate the robustness of our business model against the backdrop of social efforts to limit climate change and achieve the two-degree target, the following scenarios are used:

- The Energiewende continues to progress on its current path with a focus on the expansion of renewable energies in the electricity sector
- Rigorous alignment towards climate protection in the context of the efforts being made worldwide to achieve the ambitious climate protection targets
- Slower reorganisation of the energy system against the background of weaker economic growth below the long-term potential
- The Energiewende is confined in an international environment that is oriented toward strong economic growth, also in conventional industrial sectors

The results of the used scenarios vary, e.g. with regard to the expansion of renewable energies. In an ambitious climate protection scenario, the installed renewables capacity in the German electricity market will more than double until 2050. Gas-fired power plants will play the role of back up capacity. Nuclear and coal-fired power plants are fully replaced in this scenario. The scenario results of the climate protection scenario indicate that here, EnBW's strategy expanding its renewable portfolio is in line with the general market environment.

The long-term price developments for electricity and gas within the scenarios analysed form the basis for the economic evaluation of projects, e.g. for the realisation or purchase of renewable energy plants. In 2018,

	for example, a decision was made to invest in the construction of an onshore wind farm in Sweden and the purchase of a PV open space project in Brandenburg.
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C-AC3.1e/C-CE3.1e/C-CH3.1e/C-CO3.1e/C-EU3.1e/C-FB3.1e/C-MM3.1e/C-OG3.1e/C-PF3.1e/C-ST3.1e/C-TO3.1e/C-TS3.1e

(C-AC3.1e/C-CE3.1e/C-CH3.1e/C-CO3.1e/C-EU3.1e/C-FB3.1e/C-MM3.1e/C-OG3.1e/C-PF3.1e/C-ST3.1e/C-TO3.1e/C-TS3.1e) Disclose details of your organization's low-carbon transition plan.

There are six key trends that are most relevant to the further development of the EnBW strategy: - The goal of decarbonising the economy, which is shared by almost all countries in the world, is setting the political and regulatory agenda. - New competitors and technological advances are fundamentally changing the value-added chain – every business is increasingly dependent on its own success factors. - Renewable energies and smart grids continue to be the focus of future decentralised energy systems. - The cross-sector networking of electricity generation and digitalisation are shaping industrial development. As a result, energy and infrastructure themes are converging across sector boundaries. - The demand for smart and reliable infrastructure is increasing due to factors such as demographic trends and urbanisation. The infrastructure market in Germany will grow from a volume of €100 billion in 2015 to an anticipated €150 billion in 2025 (source: PwC/Oxford Economics, own calculations). - Individualisation, digitalisation and networking are massively changing customer behaviour and making it more difficult to predict. The further development of EnBW's strategy after 2020 picks up on these key trends and continues the Group's realignment. Beyond the energy sector, EnBW is increasingly positioning itself as a competent partner for infrastructure. One of the company's strengths is its ability to reliably and safely operate complex things such as power plants, regional and supra-regional power grids and large wind farms. EnBW is increasingly transferring these core competencies from the energy sector to new business areas, such as intelligent security solutions, sustainable neighbourhood development or urban mobility infrastructure. Mastering complexity in a networked environment is one of the challenges. It is important not only to deliver good technologies, but also to pay just as much attention to the social aspects closely associated with some of these new activities. In addition, the restructuring of the generation portfolio will be continued. The phase-out of nuclear power will be completed by the end of 2022. In the period 2013 to 2017, coal-fired power plant units with a capacity of more than 2.5 GW were already sold or transferred to the grid reserve, as the Federal Network Agency did not consider shutting them down for reasons of maintaining security of supply. The "Growth, Structural Change and Employment" Commission drew up a proposal for phasing out coal-fired power generation in Germany by 2038. The exact phase-out path will be determined by the Federal Government's further implementation of the Commission's proposal. On this basis, EnBW will gradually reduce its share of electricity generation from coal by 2038 in accordance with the Federal Government. Where possible and necessary, investments will be made to realise a Fuel Switch, e.g. to maintain district heating generation. In return for the reduction of coal-fired power plants, new

gas-fired power plants are to be built to maintain security of supply. EnBW has already started this conversion. In 2018, the new Stuttgart-Gaisburg gas cogeneration plant was completed after the fuel switch from coal to gas was completed. Between 2021 and 2025 EnBW will invest EUR 12 billion, of which 80% will be in areas that are currently growing. 50% of the sum will be invested in the maintenance and development of the system-critical infrastructure. This is mainly the construction of the HVDC lines SuedLink and ULTRANET to transport RES-E from the north of Germany to the south. In addition, investments will also be made in the electricity distribution network to meet the requirements arising from the electrification of the transport and heating sectors. More than EUR 4 billion will be invested in the expansion of sustainable generation infrastructure. Thereby, the main focus is the expansion of renewable energies, both offshore, onshore and PV. In addition the investment in Germany, e.g. the completion of the two offshore wind farms “Hohe See” and “Albatros” with a total renewable generation capacity of 609 MW. Moreover, selective internationalisation is also taking place with the expansion of renewable energies. Investments are planned in France, Sweden, the USA and Taiwan. 15% of the investments will be used to build intelligent infrastructure for customers. The focus here will be on expanding the charging infrastructure for emobility, developing neighbourhoods and investments in the expansion of broadband infrastructure.

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?

Intensity target

C4.1b

(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).

Target reference number

Int 1

Scope

Scope 1

% emissions in Scope

99

Targeted % reduction from base year

15

Metric

Metric tons CO₂e per megawatt hour (MWh)*

Base year

2015

Start year

2015

Normalized base year emissions covered by target (metric tons CO2e)

606

Target year

2020

Is this a science-based target?

No, but we anticipate setting one in the next 2 years

% of target achieved

58

Target status

Underway

Please explain

The key performance indicators in the environment goal dimension have been supplemented by CO2 intensity in 2016. Alongside a focus on increasing the proportion of renewable energies, which has already been a key performance indicator in the environment goal dimension for managing the company for many years, the inclusion of the new key performance indicator CO2 intensity reflects the special importance of climate change as a social, political and also economic challenge for EnBW.

The calculation basis for the key performance indicator CO2 intensity is the amount of CO2 emissions from own generation of electricity for the Group, as well as the volume of electricity generated by the Group without the contribution made by the nuclear power plants. This performance indicator is calculated as the ratio between the emissions and the generated volume of electricity and thus specifically describes the amount of CO2 released per kilowatt hour. By discounting the electricity generated by nuclear power plants, the performance indicator will not be influenced by the phasing out of nuclear energy in the coming years.

The goal of EnBW is to contribute actively to climate protection by successively reducing the CO2 intensity of its own generation of electricity (excluding nuclear power) by 15 to 20% by 2020 compared to 606 g/kWh in the reference year 2015. In 2018 the CO2 intensity of own generation of electricity excluding nuclear power fell in comparison to the previous year by 0.5% to 553 g/kWh. The target relates only to Scope 1 emissions and covers nearly 99% of the Scope 1 emissions. Thus the reduction target of -15% corresponds to a reduction of -15% of the Scope 1 emissions. The target covers nearly 98% of the Scope 1+2 emissions. Thus the reduction target of -15% corresponds to a reduction of nearly-15% of the Scope 1+2 emissions.

EnBW reported this target to CDP in 2018 and are reporting progress against the same target in 2019. The reference number in 2018 was "Int1".

% change anticipated in absolute Scope 1+2 emissions

-15

% change anticipated in absolute Scope 3 emissions

0

C4.2

(C4.2) Provide details of other key climate-related targets not already reported in question C4.1/a/b.

Target

Renewable electricity production

KPI – Metric numerator

Own generation of the EnBW Group by renewable energies.

KPI – Metric denominator (intensity targets only)

Absolut target, no intensity target.

Base year

2013

Start year

2013

Target year

2020

KPI in baseline year

2,640

KPI in target year

5,000

% achieved in reporting year

46

Target Status

Underway

Please explain

The EnBW business model is aligned to the national and international goals for climate protection, such as those defined in the Paris Agreement. Thus we focus on expanding our renewable energies. To measure this expansion we defined the installed capacity of renewable energies as the top performance indicator. It represents the installed output of the plants using renewable energies rather than the volume of electricity produced by these facilities. Among other factors, electricity production depends on the wind and the sun and can fluctuate strongly. The advantage of the ratio we have selected is that it is measurable and doesn't depend on the aforementioned influences. Based on the portfolio streamlining envisaged, we intend to have realised a total of 5 GW in installed

renewable energy capacity in our own electricity generation by 2020. The installed capacity of renewable energies in the base year 2013 was 2.6GW. In the reporting year 2018 the installed capacity of renewable energies was 3.7GW. This corresponds to 46% achieved target in 2018.

Part of emissions target

Is this target part of an overarching initiative?

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes

C4.3a

(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	229	
To be implemented*	3	82,476
Implementation commenced*	4	1,694,548
Implemented*	14	94,064
Not to be implemented	0	

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Initiative type

Low-carbon energy installation

Description of initiative

Wind

Estimated annual CO2e savings (metric tonnes CO2e)

81,731

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

1,343,652

Investment required (unit currency – as specified in C0.4)

222,048,756

Payback period

Estimated lifetime of the initiative

21-30 years

Comment

Annual monetary savings calculated by estimated annual CO₂e savings * annual average EU-Emission Allowances (EUA 2018);
Investment required estimated by capacity installed * average specific investment costs for wind (onshore) (IEA Cost of Wind Energy Report 2019);
Estimated lifetime is considered project specific and may be influenced by permitting, technical and energy market conditions

Initiative type

Low-carbon energy installation

Description of initiative

Solar PV

Estimated annual CO₂e savings (metric tonnes CO₂e)

12,253

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

201,438

Investment required (unit currency – as specified in C0.4)

11,550,000

Payback period

Estimated lifetime of the initiative

21-30 years

Comment

Annual monetary savings calculated by estimated annual CO₂e savings * annual average EU-CO₂ emission certificate price;
Investment required estimated by capacity installed * average specific investment costs for solar PV (ITRPV Roadmap report 2019);
Estimated lifetime is considered project specific and may be influenced by permitting, technical and energy market conditions

Initiative type

Energy efficiency: Building services

Description of initiative

Other, please specify

Installation of speed controllers in the fans of recirculation cooling units, reduction of speed of fans to 50% (Serverstation)

Estimated annual CO₂e savings (metric tonnes CO₂e)

13

Scope

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

10,440

Investment required (unit currency – as specified in C0.4)

120

Payback period

<1 year

Estimated lifetime of the initiative

11-15 years

Comment

Savings 58.000 kWh/a

Initiative type

Energy efficiency: Building services

Description of initiative

Other, please specify

Change of lightsystems from conventional to LED (in EnBW City)

Estimated annual CO2e savings (metric tonnes CO2e)

60

Scope

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

32,000

Investment required (unit currency – as specified in C0.4)

68,000

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

Savings 270.000 kWh/a

Initiative type

Energy efficiency: Building services

Description of initiative

Other, please specify

Change of lightsystems from conventional to LED (in archive Tuttlingen)

Estimated annual CO2e savings (metric tonnes CO2e)

1

Scope

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

1,000

Investment required (unit currency – as specified in C0.4)

5,000

Payback period

4 - 10 years

Estimated lifetime of the initiative

11-15 years

Comment

Savings 4.000 kWh/a

Initiative type

Energy efficiency: Building services

Description of initiative

Other, please specify

Natural Gas: Installation of a heatpump for warmwater instead of heating with gas heating system (Kirchheim)

Estimated annual CO2e savings (metric tonnes CO2e)

6

Scope

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

1,720

Investment required (unit currency – as specified in C0.4)

2,700

Payback period

1-3 years

Estimated lifetime of the initiative

11-15 years

Comment

Savings 26.500 kWh/a Gas

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Dedicated budget for low-	The EnBW Group spent €40.6 million (previous year: €39.8 million) on research, development and innovation in the 2018 financial year (Innovation Management, Smart energy world and storage, Generation from

<p>carbon product R&D</p>	<p>renewables, Grids...) . In contrast, the income generated by innovation management stood at €6.4 million. The Group received government research grants of €2.3 million (previous year: €2.9 million). There were 63 employees (previous year: 61) in the areas of research, development and innovation in 2018. 169 employees (previous year: 193 employees) were involved in research and development projects as part of their operational work. A further 110 employees (previous year: 105) were involved in innovation projects.</p> <p>For example: Expenditure on research, development and Innovation (2018) for "Smart energy world and storage" (includes e.g. electromobility and hydrogen mobility): € 4,0 million.</p> <p>Further Information - Innovation management: EnBW develops new business models outside of its core Business through central innovation management in order to quickly identify new sources of revenue for the Group and bring them to the market. The innovation strategy focuses on two main approaches: the internal generation and scaling up of new business models in internal projects and investments in external start-ups by EnBW New Ventures GmbH. Following the successful development of new business models, the EnBW start-up teams then face new challenges in the growth and scaling up phase. In order to efficiently support teams during this phase, innovation management has established the Company Builder: It provides start-ups with additional skills in the form of controlling, sales and marketing experts so that the start-ups can optimise their products and position them on the market. For the refinement of existing sales channels or the development of new ones, support is also given in the areas of process Automation and cost optimisation.</p>
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C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.

.....

Level of aggregation

Group of products

Description of product/Group of products

SENEC is a wholly owned subsidiary of EnBW AG. The products , SENECSolar, SENECHome, SENECloud and SENECloud to go enable customers to generate their own solar energy, store it and sell it to the energy community. Our customers are also able to integrate heating solutions into SENECSolar and to charge their electric cars at home using selfgenerated electricity. The SENECSolar product are accessible in Germany, Italy and Australia.

Are these low-carbon product(s) or do they enable avoided emissions?

Low-carbon product

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Other, please specify

The products avoids emissions wich would be caused by using non-renewable energies.

% revenue from low carbon product(s) in the reporting year

1

Comment

% revenue from low carbon product(s) in the reporting year: 0-1 %

Further information:

<https://www.senec.com/>

<https://www.senec.it/>

<https://www.senec.com.au/>

Level of aggregation

Group of products

Description of product/Group of products

We offer climate-friendly and affordable green electricity for everyone who cares about nature. We are your reliable green electricity supplier from Baden-Württemberg and supply you with sustainable and clean electricity from solar and bioenergy, hydropower and wind energy.

Products - EnBW Privatstrom Natur Max 12; EnBW Privatstrom Natur Max 24:

- 100 % green electricity
- With price guarantee
- Mainly from regional hydropower

As a sustainable energy supplier, we operate the energy mix on a regional, consistent and future-oriented basis. The most important factor in the renewable energy mix is the ecological generation of electricity from hydropower. EnBW also relies on this

inexhaustible source and supplies you mainly with green electricity from its own hydropower plants in southern Germany.

Are these low-carbon product(s) or do they enable avoided emissions?

Low-carbon product

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Other, please specify

The products avoid emissions which would be caused by using non-renewable energies. It includes different steps of the energy value chain such as generation and distribution.

% revenue from low carbon product(s) in the reporting year

1

Comment

% revenue from low carbon product(s) in the reporting year: 0-1%

Further information:

<https://www.enbw.com/strom/produkte/oekostrom>

Level of aggregation

Product

Description of product/Group of products

Municipal energy Management:

Kommunale Energiemanagement (KEM) is a cloud-based energy management system that enables the recording, visualization, analysis and controlling of energy consumption data.

In addition, KEM serves as a central control element for energy efficiency measures, i.e. individual measures are transparently documented, evaluated and prioritised. KEM is suitable both for complex properties (e.g. complete school centres) and for individual sections of buildings or facilities (e.g. street lighting). KEM also enables the creation of individual energy reports. We currently advise more than 70 municipalities in Baden-Württemberg on municipal energy management. Since 1993 we have prepared over 4,000 energy reports for cities, municipalities and districts.

Are these low-carbon product(s) or do they enable avoided emissions?

Avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Other, please specify

The product shows those responsible the CO2 emissions of the municipalities in black and white. This enables them to take appropriate steps to reduce it and to track in the EKM how the emissions are reduced by the measures taken.

% revenue from low carbon product(s) in the reporting year

1

Comment

% revenue from low carbon product(s) in the reporting year: 0-1%

Further Information:

<https://www.enbw.com/geschaeftskunden/kommunen/produkte/kommunales-energiemanagement/>

Level of aggregation

Product

Description of product/Group of products

Transformers for efficiency, environmental protection and safety - Transformers convert the medium voltage required for energy transmission into a voltage of 400 or 230 volts usable by end users and industry. Every transformer user has different requirements. Our three transformer lines ensure that you always receive a mature solution that optimally meets your requirements.

Outstanding in economy and ecology - The Eco-Line:

- All power classes up to 1,600 kVA
- Loss class A0-Ak
- Insulating medium either mineral oil or natural ester

Are these low-carbon product(s) or do they enable avoided emissions?

Avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Other, please specify

The eco-transformer (loss class A0-Ak) is particularly efficient and low-loss, that means less energy is wasted and less CO2 emissions are emitted. Eco-transformer saves up to 200 tons of CO2 during its life cycle compared to a standard transformer.

% revenue from low carbon product(s) in the reporting year

1

Comment

% revenue from low carbon product(s) in the reporting year: 0-1%

The eco-transformer (loss class A0-Ak) is particularly efficient and low-loss, which means less energy is wasted and less CO₂ emissions are emitted. The eco-transformer saves up to 200 tons of CO₂ during its life cycle compared to a standard transformer. The low losses also avoid costs, as additional generation and transmission capacities are no longer required. The eco-transformer pays for itself particularly quickly and is therefore very economical.

<https://www.netze-bw.de/dienstleistungskunden/strom/TrafoLinien>

Level of aggregation

Product

Description of product/Group of products

In the electromobility sector, EnBW has become a fullservice provider and together with its subsidiaries covers the complete spectrum of services for the development and expansion of electromobility from the supply of electricity and the operation of a comprehensive charging infrastructure through to digital services for the consumer. EnBW entered into various collaborations with renowned partners in 2018 that promote, above all, the expansion of the quick-charging infrastructure in urban areas across Germany. At the same time, EnBW almost tripled the number of charging stations available via the EnBW mobility+ app. The number of publicly accessible charging stations in Germany, Austria and Switzerland covered by the app increased from 8,000 to more than 22,000 in 2018. In addition, drivers can use the app directly to pay for the electricity used to charge their e-cars at these stations. The EnBW mobility+ Wallbox enables safe and easy charging at home with a charging capacity of up to 11 kW.

Are these low-carbon product(s) or do they enable avoided emissions?

Avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Other, please specify

This product avoid emissions which would be caused by using combustion engines.

% revenue from low carbon product(s) in the reporting year

1

Comment

% revenue from low carbon product(s) in the reporting year: 0-1%

Further information: <https://www.enbw.com/elektromobilitaet>

C-EU4.6

(C-EU4.6) Describe your organization's efforts to reduce methane emissions from your activities.

Specific description of methane emissions reduction efforts:

- As a grid operator, we operate high-pressure gas pipelines over 1 bar in the supply area of Netze BW.
- During repairs or conversions, the affected line sections must be depressurized.
- For this purpose, the natural gas is discharged into the environment via blowers.
- If possible, the pressure in the pipelines is lowered as far as possible via suitable pipelines before it is released into the atmosphere.
- This reduces natural gas emissions (over 90% of natural gas consists of methane).

Example/case study of methane emissions reduction efforts (Town Möglingen):

The reason for a change was a leaky condensate collector in the town of Möglingen - determined by gas leak detection.

Procedure of our technical department:

- Slide valves close from the blocked section.
- The gas in the high-pressure pipeline was drawn off from 18 bar to 4 bar via the Gas pressure regulator and measuring station of the town Ludwigsburg.
- The barrier section has a diameter of 500 mm and a length of 3000m.
- Quantity expired: 10603 m³ (quantity of gas not released into the environment)
- Blown out quantity: 2356 m³

C5. Emissions methodology

C5.1

(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).

Scope 1

Base year start

January 1, 2015

Base year end

December 31, 2015

Base year emissions (metric tons CO₂e)

16,529,000

Comment

As we supplemented the environment goal dimension by the new key performance indicator CO2 intensity in 2016 with 2015 as the reference year for this goal, we set 2015 in C5.1 as the base year with the corresponding CO2 emissions for 2015.

Scope 2 (location-based)

Base year start

January 1, 2015

Base year end

December 31, 2015

Base year emissions (metric tons CO2e)

1,098,000

Comment

The location-based Scope 2 emissions are the greenhouse gas emissions through electricity grid losses. The grid losses are compensated by power purchased from the Energy Exchange. So the related Scope 2 emissions were calculated using average power generation emission factors for Germany. The market-based Scope 2 emissions includes greenhouse gas emissions mainly through electricity consumption of plants in the gas and electricity grid, water supplies and buildings. These emissions were calculated using CO2 intensity of the generators from which we purchases electricity.

Scope 2 (market-based)

Base year start

January 1, 2015

Base year end

December 31, 2015

Base year emissions (metric tons CO2e)

61,000

Comment

As we supplemented the environment goal dimension by the new key performance indicator CO2 intensity in 2016 with 2015 as the reference year for this goal, we set 2015 in C5.1 as the base year with the corresponding CO2 emissions for 2015. The location-based Scope 2 emissions are the greenhouse gas emissions through electricity grid losses. The grid losses are compensated by power purchased from the Energy Exchange. So the related Scope 2 emissions were calculated using average power generation emission factors for Germany. The market-based Scope 2 emissions includes greenhouse gas emissions mainly through electricity consumption of plants in the gas and electricity grid, water supplies and buildings. These emissions were calculated using CO2 intensity of the generators from which we purchases electricity.

C5.2

(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions.

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

C6. Emissions data

C6.1

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO₂e?

Reporting year

Gross global Scope 1 emissions (metric tons CO₂e)

16,618,800

Start date

January 1, 2018

End date

December 31, 2018

Comment

Past year 1

Gross global Scope 1 emissions (metric tons CO₂e)

Start date

End date

Comment

Past year 2

Gross global Scope 1 emissions (metric tons CO₂e)

Start date

End date

Comment

Past year 3

Gross global Scope 1 emissions (metric tons CO₂e)

Start date

End date

Comment

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We are reporting a Scope 2, market-based figure

Comment

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO₂e?

Reporting year

Scope 2, location-based

920,800

Scope 2, market-based (if applicable)

43,500

Start date

January 1, 2018

End date

December 31, 2018

Comment

The location-based Scope 2 emissions are the greenhouse gas emissions through electricity grid losses. The grid losses are compensated by power purchased from the Energy Exchange. So the related Scope 2 emissions were calculated using average power generation emission factors for Germany. The market-based Scope 2 emissions includes greenhouse gas emissions mainly through electricity consumption of plants in the gas and electricity grid, water supplies and buildings. These emissions were calculated using CO2 intensity of the generators from which we purchases electricity.

Past year 1

Scope 2, location-based

Scope 2, market-based (if applicable)

Start date

End date

Comment

Past year 2

Scope 2, location-based

Scope 2, market-based (if applicable)

Start date

End date

Comment

Past year 3

Scope 2, location-based

Scope 2, market-based (if applicable)

Start date

End date

Comment

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

No

C6.5

(C6.5) Account for your organization's Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status

Not relevant, explanation provided

Explanation

Our main purchased goods that contribute to our Scope 3 emissions are the purchased fuels for the energy generation in our power plants (coal, nuclear, gas, oil) and gas for sales to customers. This Scope 3 emissions (extraction, production, and transportation) we report in the categories "Fuel-and-energy-related activities (not included in Scope 1 or 2)" and "Upstream transportation and distribution" respectively.

Capital goods

Evaluation status

Not relevant, explanation provided

Explanation

In 2018 EnBW did not purchase relevant capital goods that would exceed more than 1% of our scope 3 emissions.

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status

Relevant, calculated

Metric tonnes CO2e

1,293,800

Emissions calculation methodology

Amount of transported coal, gas and nuclear fuel for the energy generation in our power plants. Emission factors from Ecoinvent database and Gemis database.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Explanation

Scope 3 emissions for upstream transportation of the purchased fuels for the energy generation in our power plants (coal, nuclear, gas, oil).

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO2e

6,454,000

Emissions calculation methodology

Amount of transported gas. Emission factor from Gemis database.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Explanation

Here we report the Scope 3 emissions related to the upstream transportation of gas for sales to customers. The Scope 3 emissions for the upstream transportation of our gas for the energy generation in our gas power plants is reported in the category "Fuel-and-energy-related activities (not included in Scope 1 or 2)".

Waste generated in operations

Evaluation status

Not relevant, explanation provided

Explanation

EnBW calculated that CO2 emissions from waste generated in operations are accounting for less than 1% of EnBW Scope 3 emissions.

Business travel

Evaluation status

Relevant, calculated

Metric tonnes CO2e

6,200

Emissions calculation methodology

CO2 emission from travelling by plane, train and rented cars. Data is gained directly from suppliers or other partners.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Explanation

Employee commuting

Evaluation status

Not relevant, explanation provided

Explanation

EnBW calculated that CO2 emissions from employee commuting are accounting for less than 1% of EnBW Scope 3 emissions.

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Explanation

EnBW calculated that CO2 emissions from upstream leased assets are accounting for less than 1% of EnBW Scope 3 emissions.

Downstream transportation and distribution

Evaluation status

Not relevant, explanation provided

Explanation

At EnBW the transport of our products (electricity and gas) is the focus of the analysis. The related CO2 emissions are already included in scope 1+2 emissions. Concerning electricity, CO2 emissions are already included in the grid losses reflected in the Scope 2 analysis. Concerning gas, CO2 emissions are already included in the operation of gas pipelines and systems reflected in the Scope 1 analysis.

Processing of sold products

Evaluation status

Not relevant, explanation provided

Explanation

According to the GHG Protocol Scope 3 Standard, here the end user emissions that occur from the processing of products that directly or indirectly consume energy should be disclosed. Our main product is the consumed energy. The related emissions are already accounted for our Scope 1 emissions. So this category is not relevant for our organization.

Use of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

32,297,700

Emissions calculation methodology

CO₂-Emissions calculated from group gas sales with CO₂-emission factor for combustion of gas..

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Explanation

According to the GHG Protocol Scope 3 Standard, here the end user emissions that occur from the use of products that directly or indirectly consume energy should be disclosed. Our main products are the consumed electricity and gas. The related emissions for the electricity are already accounted for our Scope 1 emissions. So here only the emissions related to the consumption (namely the combustion) of gas by the consumer is reported.

End of life treatment of sold products

Evaluation status

Not relevant, explanation provided

Explanation

Our product is energy. The product energy itself has no relevant end of life treatment.

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Explanation

EnBW calculated that CO₂ emissions from downstream leased assets are accounting for less than 1% of EnBW Scope 3 emissions.

Franchises

Evaluation status

Not relevant, explanation provided

Explanation

We don't conduct franchises.

Investments

Evaluation status

Not relevant, explanation provided

Explanation

We calculate and report our CO2 emissions (Scope 1, 2 and 3) for the group of consolidated companies of EnBW, including all important equity investments, subsidiaries and associate companies. Thus the related emissions are already accounted for our Scope 1 and/or Scope 2 emissions or are captured in the other disclosed sources of scope 3 emissions. So this category is not relevant for our organization.

Other (upstream)

Evaluation status

Explanation

Other (downstream)

Evaluation status

Explanation

C6.7

(C6.7) Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

Yes

C6.7a

(C6.7a) Provide the emissions from biologically sequestered carbon relevant to your organization in metric tons CO2.

Row 1

Emissions from biologically sequestered carbon (metric tons CO2)

7,600

Comment

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO₂e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

0.00085

Metric numerator (Gross global combined Scope 1 and 2 emissions)

17,583,100

Metric denominator

unit total revenue

Metric denominator: Unit total

20,617,500,000

Scope 2 figure used

Location-based

% change from previous year

4.9

Direction of change

Increased

Reason for change

As a result of our emissions reduction activities in power generation and distribution, mainly the expansion of renewable energies and efficiency activities in the grid, the gross global combined Scope 1 and 2 emissions decreased in comparison to the previous year by 1.6%. On the other hand revenue was 6.2.% lower than the level in the previous year, which was mainly attributable to the application of IFRS 15 and the resulting net disclosure of revenues. So despite our emissions reduction activities the intensity figure increased by 4.9%.

Intensity figure

0.588

Metric numerator (Gross global combined Scope 1 and 2 emissions)

17,583,100

Metric denominator

megawatt hour generated (MWh)

Metric denominator: Unit total

29,899,200

Scope 2 figure used

Location-based

% change from previous year

1.2

Direction of change

Decreased

Reason for change

As a result of our emissions reduction activities in power generation and distribution, mainly the expansion of renewable energies and efficiency activities in the grid, the gross global combined Scope 1 and 2 emissions decreased in comparison to the previous year by 1.6%. On the other hand the power generation related to this emissions decreased vom 30,014,100 MWh to 29,899,200 MWh. This led to a decrease of the related emission intensity by 1.2%.

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

Yes

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	16,535,400	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	60,200	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	2,500	IPCC Fourth Assessment Report (AR4 - 100 year)
SF6	20,700	IPCC Fourth Assessment Report (AR4 - 100 year)

C-EU7.1b

(C-EU7.1b) Break down your total gross global Scope 1 emissions from electric utilities value chain activities by greenhouse gas type.

	Gross Scope 1 CO2 emissions (metric tons CO2)	Gross Scope 1 methane emissions (metric tons CH4)	Gross Scope 1 SF6 emissions (metric tons SF6)	Gross Scope 1 emissions (metric tons CO2e)	Comment
Fugitives	40	5,500	1	161,200	
Combustion (Electric utilities)	16,306,750	101	0	1,636,945	The total gross Scope 1 GHG emissions (metric tons CO2e) contains additional 60,200 tons CO2eq from N2O emissions.
Combustion (Gas utilities)	54,050	0	0	54,050	
Combustion (Other)	34,100	0	0	34,100	CO2-Emissions from fossile heating of buildings and vehicles.
Emissions not elsewhere classified	0	0	0	0	

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/region.

Country/Region	Scope 1 emissions (metric tons CO2e)
Germany	16,617,200
Eastern Europe	1,600

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By activity

C7.3c

(C7.3c) Break down your total gross global Scope 1 emissions by business activity.

Activity	Scope 1 emissions (metric tons CO2e)
Fossile energy generation	16,369,400
CO2-Emissions from operation of gas pipelines and gas assets, of fossile heating of buildings and vehicles.	249,400

C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

	Gross Scope 1 emissions, metric tons CO2e	Comment
Electric utility generation activities	16,369,400	Includes direct CO2 emissions of our fossil fired power plants and the CO2eq from the CH4 and N2O emissions of our fossile fired power plants.

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/region.

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
Germany	874,800	40,300	2,223,600	197,000
Eastern Europe	46,000	3,200	94,000	1,200

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By activity

C7.6c

(C7.6c) Break down your total gross global Scope 2 emissions by business activity.

Activity	Scope 2, location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
Transmission and distribution losses electricity grid	920,800	0
CO2-Emissions from electricity usage in the gas and electricity grid, of water supply and of buildings.	0	43,500

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Decreased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined) and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	100,000	Decreased	0.6	The CO2-Emissions from grid losses were reduced from 1,088,600 tons in 2017 to 920,800 tones in 2018 by 167,000 tons overall. One part of this reductions is a result of our emissions reduction activities. Another part of the reduction of CO2-Emissions ist due to higher renewable energy consumption. The higher renewable energy consumption in the naimed area reduced in 2018 the corresponding CO2-Emissions by 100,000 tons. Our total Scope 1+2 emissions for the previous year were 17,872,000 tons. Thus the reduction of 100,000 tons CO2 corresponds to 0.6% reduction of our previous year CO2 emissions ($100,000/17,872,000 \cdot 100 = 0.006$).
Other emissions	67,800	Decreased	0.4	The CO2-Emissions from grid losses were reduced from 1,088,600 tons in 2017 to 920,800 tones in 2018 by 167,000 tons

reduction activities				overall. One part of this reductions is a result of our emissions reduction activities. Another part of the reduction of CO2-Emissions ist due to higher renewable energy consumption. The emission reduction activities in the named area reduced in 2018 the corresponding CO2-Emissions by 67,800 tons. Our total Scope 1+2 emissions for the previous year were 17,872,000 tons. Thus the reduction of 67,800 tons CO2 corresponds to 0.4% reduction of our previous year CO2 emissions ($67,800/17,872,000 \times 100 = 0.004$).
Divestment				
Acquisitions				
Mergers				
Change in output	103,300	Decreased	0.6	On the one hand the generation based on renewable energy sources mainly increased due to the expansion of onshore wind power from 8,290 GWh in 2017 to 8,414 GWh in 2018. On the other hand in 2018 we managed to generate our non-renewable energy from our more efficient fossil fuel-fired power plants. As a result our Scope 1 emissions from our fossil fuel-fired power plants reduced from 16,410,000 in 2017 to 16,307,000 in 2018. This is equal to a reduction of 103,300. Our total Scope 1+2 emissions for the previous year were 17,872,000 tons. Thus the reduction of 103,300 tons CO2 corresponds to 0.6% reduction of our previous year CO2 emissions ($103,300/17,872,000 \times 100 = 0.006$).
Change in methodology				
Change in boundary				
Change in physical operating conditions				

Unidentified				
Other				

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Location-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 0% but less than or equal to 5%

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertakes this energy-related activity
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	Yes
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	5,400	670,100	675,500
Consumption of purchased or acquired electricity		1,644,000	875,900	2,519,900
Consumption of purchased or acquired heat		7,500	29,900	37,400
Consumption of self-generated non-fuel renewable energy		18,900		18,900
Total energy consumption		1,675,800	1,575,900	3,251,700

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Yes
Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	No
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Fuels (excluding feedstocks)

Coal

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

675,500

MWh fuel consumed for self-generation of electricity

514,400

MWh fuel consumed for self-generation of heat

53,700

Comment

C8.2d

(C8.2d) List the average emission factors of the fuels reported in C8.2c.

Coal

Emission factor

815

Unit

kg CO2 per MWh

Emission factor source

Own calculation based on coal consume and generated energy.

Comment

C8.2e

(C8.2e) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	53,492,000	587,000	8,414,000	18,890
Heat	0	0	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

C-EU8.2e

(C-EU8.2e) For your electric utility activities, provide a breakdown of your total power plant capacity, generation, and related emissions during the reporting year by source.

Coal – hard

Nameplate capacity (MW)

3,491

Gross electricity generation (GWh)

12,868

Net electricity generation (GWh)

12,868

Absolute scope 1 emissions (metric tons CO2e)

10,487,400

Scope 1 emissions intensity (metric tons CO2e per GWh)

815

Comment

Due to confidential matters we report the gross electricity generation equal to the net electricity Generation. We calculate with an EnBW-specific average Scope 1 emissions intensity for hard coal of 815 metric tons CO2 per GWh.

Lignite

Nameplate capacity (MW)

875

Gross electricity generation (GWh)

6,048

Net electricity generation (GWh)

6,048

Absolute scope 1 emissions (metric tons CO2e)

5,654,900

Scope 1 emissions intensity (metric tons CO2e per GWh)

935

Comment

Due to confidential matters we report the gross electricity generation equal to the net electricity Generation. We calculate with an EnBW-specific average Scope 1 emissions intensity for lignite of 935 metric tons CO2 per GWh.

Oil

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO₂e)

0

Scope 1 emissions intensity (metric tons CO₂e per GWh)

0

Comment

The data is included in the data reported under "Other non-renewable".

Gas

Nameplate capacity (MW)

1,468

Gross electricity generation (GWh)

3,518

Net electricity generation (GWh)

3,518

Absolute scope 1 emissions (metric tons CO₂e)

1,234,800

Scope 1 emissions intensity (metric tons CO₂e per GWh)

351

Comment

Due to confidential matters we report the gross electricity generation equal to the net electricity Generation. According to common Scope 1 emission factors for power plants , we calculate with an average Scope 1 emissions intensity for hard coal of 351 metric tons CO₂ per GWh.

Biomass

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO₂e)

0

Scope 1 emissions intensity (metric tons CO₂e per GWh)

0

Comment

The data is included in the data reported under "Other renewable".

Waste (non-biomass)

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

The data is included in the data reported under "Other non-renewable".

Nuclear

Nameplate capacity (MW)

2,933

Gross electricity generation (GWh)

20,656

Net electricity generation (GWh)

20,656

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Due to confidential matters we report the gross electricity generation equal to the net electricity generation.

Geothermal

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO₂e)

0

Scope 1 emissions intensity (metric tons CO₂e per GWh)

0

Comment

The data is included in the data reported under "Other renewable".

Hydroelectric

Nameplate capacity (MW)

2,513

Gross electricity generation (GWh)

5,876

Net electricity generation (GWh)

5,876

Absolute scope 1 emissions (metric tons CO₂e)

0

Scope 1 emissions intensity (metric tons CO₂e per GWh)

0

Comment

Due to confidential matters we report the gross electricity generation equal to the net electricity generation.

Wind

Nameplate capacity (MW)

1,054

Gross electricity generation (GWh)

2,229

Net electricity generation (GWh)

2,229

Absolute scope 1 emissions (metric tons CO₂e)

0

Scope 1 emissions intensity (metric tons CO₂e per GWh)

0

Comment

Due to confidential matters we report the gross electricity generation equal to the net electricity generation.

Solar

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO₂e)

0

Scope 1 emissions intensity (metric tons CO₂e per GWh)

0

Comment

The data is included in the data reported under "Other renewable".

Other renewable

Nameplate capacity (MW)

171

Gross electricity generation (GWh)

309

Net electricity generation (GWh)

309

Absolute scope 1 emissions (metric tons CO₂e)

0

Scope 1 emissions intensity (metric tons CO₂e per GWh)

0

Comment

Due to confidential matters we report the gross electricity generation equal to the net electricity generation. The other renewables include biomass, geothermal and solar.

Other non-renewable

Nameplate capacity (MW)

894

Gross electricity generation (GWh)

1,988

Net electricity generation (GWh)

1,988

Absolute scope 1 emissions (metric tons CO2e)

785,300

Scope 1 emissions intensity (metric tons CO2e per GWh)

Comment

Due to confidential matters we report the gross electricity generation equal to the net electricity generation. According to common Scope 1 emission factors for power plants, we calculate with an average Scope 1 emissions intensity for hard the other non-renewables of 395 metric tons CO2 per GWh. The other non-renewables include oil and waste (non-biomass).

Total

Nameplate capacity (MW)

13,399

Gross electricity generation (GWh)

53,492

Net electricity generation (GWh)

53,492

Absolute scope 1 emissions (metric tons CO2e)

18,162,400

Scope 1 emissions intensity (metric tons CO2e per GWh)

400

Comment

Due to confidential matters we report the gross electricity generation equal to the net electricity generation.

C8.2f

(C8.2f) Provide details on the electricity, heat, steam and/or cooling amounts that were accounted for at a low-carbon emission factor in the market-based Scope 2 figure reported in C6.3.

Basis for applying a low-carbon emission factor

Contract with suppliers or utilities (e.g. green tariff), supported by energy attribute certificates

Low-carbon technology type

Wind
Hydropower

Region of consumption of low-carbon electricity, heat, steam or cooling

Europe

MWh consumed associated with low-carbon electricity, heat, steam or cooling

27,000

Emission factor (in units of metric tons CO₂e per MWh)

0

Comment

Contains energy consumption of grid installations (electricity, natural gas, water) and building heating conducted with green energy tariff. Grid losses are not included. The pump energy of the pumped storage power plants and the operating consumption of power plants is balanced as internal consumption. Thus they do not contribute to Scope 2 emissions and are not included here.

Basis for applying a low-carbon emission factor

Grid mix of renewable electricity

Low-carbon technology type

Solar PV
Wind
Hydropower
Nuclear
Biomass (including biogas)

Region of consumption of low-carbon electricity, heat, steam or cooling

Europe

MWh consumed associated with low-carbon electricity, heat, steam or cooling

170,000

Emission factor (in units of metric tons CO₂e per MWh)

250

Comment

Contains energy consumption of grid installations (electricity, natural gas, water) and building heating conducted with low-carbon energy tariff. Grid losses are not included. The pump energy of the pumped storage power plants and the operating consumption of power plants is balanced as internal consumption. Thus they do not contribute to Scope 2 emissions and are not included here.

C-EU8.4

(C-EU8.4) Does your electric utility organization have a transmission and distribution business?

Yes

C-EU8.4a

(C-EU8.4a) Disclose the following information about your transmission and distribution business.

Country/Region

Germany

Voltage level

Transmission (high voltage)

Annual load (GWh)

42,540

Scope 2 emissions (basis)

Location-based

Scope 2 emissions (metric tons CO2e)

339,100

Annual energy losses (% of annual load)

1.8

Length of network (km)

3,200

Number of connections

Area covered (km²)

Comment

Country/Region

Germany

Voltage level

Distribution (low voltage)

Annual load (GWh)

57,990

Scope 2 emissions (basis)

Location-based

Scope 2 emissions (metric tons CO2e)

514,800

Annual energy losses (% of annual load)

2

Length of network (km)

147,900

Number of connections

Area covered (km2)

Comment

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

C-EU9.5a

(C-EU9.5a) Break down, by source, your total planned CAPEX in your current CAPEX plan for power generation.

Primary power generation source	CAPEX planned for power generation from this source	Percentage of total CAPEX planned for power generation	End year of CAPEX plan	Comment
Other renewable	1,773,000,000	27.7	2021	Capex for renewable energies (2019-2021), especially realisation of the offshore wind farms EnBW Hohe See and EnBW Albatros with a total output of 609 MW, which should be placed into operation in 2019 as well as for the construction of onshore wind farms and for solar parks from our comprehensive project pipeline.

C-EU9.5b

(C-EU9.5b) Break down your total planned CAPEX in your current CAPEX plan for products and services (e.g. smart grids, digitalization, etc.).

Products and services	Description of product/service	CAPEX planned for product/service	Percentage of total CAPEX planned products and services	End of year CAPEX plan
Other, please specify	CAPEX (2019-2021) especially for the expansion of electromobility, as well as for the development of energy solutions.	422,000,000	6.6	2021

C-CO9.6/C-EU9.6/C-OG9.6

(C-CO9.6/C-EU9.6/C-OG9.6) Disclose your investments in low-carbon research and development (R&D), equipment, products, and services.

Investment start date

January 1, 2018

Investment end date

December 31, 2018

Investment area

R&D

Technology area

Other, please specify

Smart energy world and storage (Includes e.g. electromobility and hydrogen mobility)

Investment maturity

Full/commercial-scale demonstration

Investment figure

4,000,000

Low-carbon investment percentage

0-20%

Please explain

Expenditure on research, development and Innovation (EnBW Report 2018, page 68):

The EnBW Group spent €40.6 million (previous year: €39.8 million) on research, development and innovation in the 2018 financial year. In contrast, the income generated by innovation management stood at €6.4 million. The Group received government research grants of €2.3 million (previous year: €2.9 million). There were 63 employees (previous year: 61) in the areas of research, development and innovation in 2018. 169 employees (previous year: 193 employees) were involved in research and development projects as part of their operational work. A further 110 employees (previous year: 105) were involved in innovation projects.

Investment start date

January 1, 2018

Investment end date

December 31, 2018

Investment area

R&D

Technology area

Renewable energy

Investment maturity

Full/commercial-scale demonstration

Investment figure

4,300,000

Low-carbon investment percentage

0-20%

Please explain

Expenditure on research, development and Innovation (EnBW Report 2018, page 68):

The EnBW Group spent €40.6 million (previous year: €39.8 million) on research, development and innovation in the 2018 financial year. In contrast, the income generated by innovation management stood at €6.4 million. The Group received government research grants of €2.3 million (previous year: €2.9 million). There were 63 employees (previous year: 61) in the areas of research, development and innovation in 2018. 169 employees (previous year: 193 employees) were involved in research and development projects as part of their operational work. A further 110 employees (previous year: 105) were involved in innovation projects.

Investment start date

January 1, 2018

Investment end date

December 31, 2018

Investment area

R&D

Technology area

Smart grids

Investment maturity

Full/commercial-scale demonstration

Investment figure

5,800,000

Low-carbon investment percentage

0-20%

Please explain

Expenditure on research, development and Innovation (EnBW Report 2018, page 68):

The EnBW Group spent €40.6 million (previous year: €39.8 million) on research, development and innovation in the 2018 financial year. In contrast, the income generated by innovation management stood at €6.4 million. The Group received government research grants of €2.3 million (previous year: €2.9 million). There were 63 employees (previous year: 61) in the areas of research, development and innovation in 2018. 169 employees (previous year: 193 employees) were involved in research and development projects as part of their operational work. A further 110 employees (previous year: 105) were involved in innovation projects.

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	Third-party verification or assurance process in place

C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 and/or Scope 2 emissions and attach the relevant statements.

Scope

Scope 1

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Reasonable assurance

Attach the statement

 CDP_Letter_EnBW_2018.pdf

Page/ section reference

Complete Document.

Relevant standard

Other, please specify

KPMG issued an unqualified auditor's report (uneingeschränkter Bestätigungsvermerk) in accordance with German GAAS, in particular § 322 German Commercial Code (Handelsgesetzbuch)

Proportion of reported emissions verified (%)

100

 CDP_Letter_EnBW_2018.pdf

Scope

Scope 2 location-based

Verification or assurance cycle in place

Annual process


Status in the current reporting year

Complete

Type of verification or assurance

Reasonable assurance

Attach the statement

 CDP_Letter_EnBW_2018.pdf

Page/ section reference

Complete Document.


Relevant standard

Other, please specify

KPMG issued an unqualified auditor's report (uneingeschränkter Bestätigungsvermerk) in accordance with German GAAS, in particular § 322 German Commercial Code (Handelsgesetzbuch)

Proportion of reported emissions verified (%)

100

 CDP_Letter_EnBW_2018.pdf

Scope

Scope 2 market-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Reasonable assurance

Attach the statement

 CDP_Letter_EnBW_2018.pdf

Page/ section reference

Complete Document.

Relevant standard

Other, please specify

KPMG issued an unqualified auditor's report (uneingeschränkter Bestätigungsvermerk) in accordance with German GAAS, in particular § 322 German Commercial Code (Handelsgesetzbuch)

Proportion of reported emissions verified (%)

100

 CDP_Letter_EnBW_2018.pdf

C10.1b

(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

Scope

Scope 3- all relevant categories

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Attach the statement

 CDP_Letter_EnBW_2018.pdf

Page/section reference

Complete Document.

Relevant standard

Other, please specify

KPMG issued an unqualified auditor's report (uneingeschränkter Bestätigungsvermerk) in accordance with German GAAS, in particular § 322 German Commercial Code (Handelsgesetzbuch)

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

Yes

C10.2a

(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C0. Introduction	Other, please specify About this report (p. 33-35)	Independent auditing and Evaluation (KPMG): We underline the high level of integration in the whole reporting process with this first audit of the complete	The condensed financial statements for the 2018 financial year that form part of the Integrated Annual Report do not include the notes to the consolidated financial statements and the declaration of corporate management 2018 of the EnBW Group and EnBW AG including the corporate governance report 2018. The full set of consolidated financial statements – including the notes to the

		<p>Integrated Annual Report 2018 with reasonable assurance.</p>	<p>consolidated financial statements – and the combined management report for the company and the Group, both for the 2018 financial year, were audited by KPMG AG Wirtschaftsprüfungsgesellschaft as the auditor and Group auditor elected by the Annual General Meeting of EnBW Energie Baden-Württemberg AG on 8 May 2018. Based on its audit, KPMG AG Wirtschaftsprüfungsgesellschaft arrived at the Overall conclusion that the audit did not lead to any reservations and issued an unqualified audit opinion. The full set of consolidated financial statements and the combined management report for the company and the Group, both for the 2018 financial year, as well as the unqualified audit opinion issued by the auditor, can be accessed on the website of EnBW Energie Baden-Württemberg AG. EnBW Report 2018 (page 143).</p>
C1. Governance	Other, please specify Corporate Governance (p. 56-58)	<p>Independent auditing and Evaluation (KPMG): We underline the high level of integration in the whole reporting process with this first audit of the complete Integrated Annual Report 2018 with reasonable assurance.</p>	<p>The condensed financial statements for the 2018 financial year that form part of the Integrated Annual Report do not include the notes to the consolidated financial statements and the declaration of corporate management 2018 of the EnBW Group and EnBW AG including the corporate governance report 2018. The full set of consolidated financial statements – including the notes to the consolidated financial statements – and the combined management report for the company and the Group, both for the 2018 financial year, were audited by KPMG AG</p>

			<p>Wirtschaftsprüfungsgesellschaft as the auditor and Group auditor elected by the Annual General Meeting of EnBW Energie Baden-Württemberg AG on 8 May 2018. Based on its audit, KPMG AG Wirtschaftsprüfungsgesellschaft arrived at the overall conclusion that the audit did not lead to any reservations and issued an unqualified audit opinion. The full set of consolidated financial statements and the combined management report for the company and the Group, both for the 2018 financial year, as well as the unqualified audit opinion issued by the auditor, can be accessed on the website of EnBW Energie Baden-Württemberg AG. EnBW Report 2018 (page 143).</p>
<p>C2. Risks and opportunities</p>	<p>Other, please specify Report on opportunities and risks (p. 114-124)</p>	<p>Independent auditing and Evaluation (KPMG): We underline the high level of integration in the whole reporting process with this first audit of the complete Integrated Annual Report 2018 with reasonable assurance.</p>	<p>The condensed financial statements for the 2018 financial year that form part of the Integrated Annual Report do not include the notes to the consolidated financial statements and the declaration of corporate management 2018 of the EnBW Group and EnBW AG including the corporate governance report 2018. The full set of consolidated financial statements – including the notes to the consolidated financial statements – and the combined management report for the company and the Group, both for the 2018 financial year, were audited by KPMG AG Wirtschaftsprüfungsgesellschaft as the auditor and Group auditor elected by the Annual General Meeting of EnBW Energie Baden-Württemberg AG on 8 May 2018. Based on its audit, KPMG AG Wirtschaftsprüfungsgesellschaft arrived at</p>

			<p>the Overall conclusion that the audit did not lead to any reservations and issued an unqualified audit opinion. The full set of consolidated financial statements and the combined management report for the company and the Group, both for the 2018 financial year, as well as the unqualified audit opinion issued by the auditor, can be accessed on the website of EnBW Energie Baden-Württemberg AG. EnBW Report 2018 (page 143).</p>
C3. Business strategy	Other, please specify Strategy (p. 48-51)	<p>Independent auditing and Evaluation (KPMG): We underline the high level of integration in the whole reporting process with this first audit of the complete Integrated Annual Report 2018 with reasonable assurance.</p>	<p>The condensed financial statements for the 2018 financial year that form part of the Integrated Annual Report do not include the notes to the consolidated financial statements and the declaration of corporate management 2018 of the EnBW Group and EnBW AG including the corporate governance report 2018. The full set of consolidated financial statements – including the notes to the consolidated financial statements – and the combined management report for the company and the Group, both for the 2018 financial year, were audited by KPMG AG Wirtschaftsprüfungsgesellschaft as the auditor and Group auditor elected by the Annual General Meeting of EnBW Energie Baden-Württemberg AG on 8 May 2018. Based on its audit, KPMG AG Wirtschaftsprüfungsgesellschaft arrived at the Overall conclusion that the audit did not lead to any reservations and issued an unqualified audit opinion. The full set of consolidated financial statements and the combined management report for the company and the Group, both for the 2018 financial year, as</p>

			<p>well as the unqualified audit opinion issued by the auditor, can be accessed on the website of EnBW Energie Baden-Württemberg AG. EnBW Report 2018 (page 143).</p>
C4. Targets and performance	Other, please specify Goals and performance management (p. 51-55)	<p>Independent auditing and Evaluation (KPMG): We underline the high level of integration in the whole reporting process with this first audit of the complete Integrated Annual Report 2018 with reasonable assurance.</p>	<p>The condensed financial statements for the 2018 financial year that form part of the Integrated Annual Report do not include the notes to the consolidated financial statements and the declaration of corporate management 2018 of the EnBW Group and EnBW AG including the corporate governance report 2018. The full set of consolidated financial statements – including the notes to the consolidated financial statements – and the combined management report for the company and the Group, both for the 2018 financial year, were audited by KPMG AG Wirtschaftsprüfungsgesellschaft as the auditor and Group auditor elected by the Annual General Meeting of EnBW Energie Baden-Württemberg AG on 8 May 2018. Based on its audit, KPMG AG Wirtschaftsprüfungsgesellschaft arrived at the Overall conclusion that the audit did not lead to any reservations and issued an unqualified audit opinion. The full set of consolidated financial statements and the combined management report for the company and the Group, both for the 2018 financial year, as well as the unqualified audit opinion issued by the auditor, can be accessed on the website of EnBW Energie Baden-Württemberg AG. EnBW Report 2018 (page 143).</p>

<p>C5. Emissions performance</p>	<p>Other, please specify Other performance indicators (p. 101-104)</p>	<p>Independent auditing and Evaluation (KPMG): We underline the high level of integration in the whole reporting process with this first audit of the complete Integrated Annual Report 2018 with reasonable assurance.</p>	<p>The condensed financial statements for the 2018 financial year that form part of the Integrated Annual Report do not include the notes to the consolidated financial statements and the declaration of corporate management 2018 of the EnBW Group and EnBW AG including the corporate governance report 2018. The full set of consolidated financial statements – including the notes to the consolidated financial statements – and the combined management report for the company and the Group, both for the 2018 financial year, were audited by KPMG AG Wirtschaftsprüfungsgesellschaft as the auditor and Group auditor elected by the Annual General Meeting of EnBW Energie Baden-Württemberg AG on 8 May 2018. Based on its audit, KPMG AG Wirtschaftsprüfungsgesellschaft arrived at the Overall conclusion that the audit did not lead to any reservations and issued an unqualified audit opinion. The full set of consolidated financial statements and the combined management report for the company and the Group, both for the 2018 financial year, as well as the unqualified audit opinion issued by the auditor, can be accessed on the website of EnBW Energie Baden-Württemberg AG. EnBW Report 2018 (page 143).</p>
<p>C6. Emissions data</p>	<p>Other, please specify Other performance indicators (p. 101-104)</p>	<p>Independent auditing and Evaluation (KPMG): We underline the high level of integration in the</p>	<p>The condensed financial statements for the 2018 financial year that form part of the Integrated Annual Report do not include the notes to the consolidated financial statements and the declaration of corporate management 2018 of the EnBW Group and EnBW AG including the corporate governance report</p>

		<p>whole reporting process with this first audit of the complete Integrated Annual Report 2018 with reasonable assurance.</p>	<p>2018. The full set of consolidated financial statements – including the notes to the consolidated financial statements – and the combined management report for the company and the Group, both for the 2018 financial year, were audited by KPMG AG Wirtschaftsprüfungsgesellschaft as the auditor and Group auditor elected by the Annual General Meeting of EnBW Energie Baden-Württemberg AG on 8 May 2018. Based on its audit, KPMG AG Wirtschaftsprüfungsgesellschaft arrived at the Overall conclusion that the audit did not lead to any reservations and issued an unqualified audit opinion. The full set of consolidated financial statements and the combined management report for the company and the Group, both for the 2018 financial year, as well as the unqualified audit opinion issued by the auditor, can be accessed on the website of EnBW Energie Baden-Württemberg AG. EnBW Report 2018 (page 143).</p>
<p>C7. Emissions breakdown</p>	<p>Other, please specify Other performance indicators (p. 101-104)</p>	<p>Independent auditing and Evaluation (KPMG): We underline the high level of integration in the whole reporting process with this first audit of the complete Integrated Annual Report 2018 with</p>	<p>The condensed financial statements for the 2018 financial year that form part of the Integrated Annual Report do not include the notes to the consolidated financial statements and the declaration of corporate management 2018 of the EnBW Group and EnBW AG including the corporate governance report 2018. The full set of consolidated financial statements – including the notes to the consolidated financial statements – and the combined management report for the company and the Group, both for the 2018 financial year, were audited by KPMG AG</p>

		reasonable assurance.	<p>Wirtschaftsprüfungsgesellschaft as the auditor and Group auditor elected by the Annual General Meeting of EnBW Energie Baden-Württemberg AG on 8 May 2018. Based on its audit, KPMG AG Wirtschaftsprüfungsgesellschaft arrived at the Overall conclusion that the audit did not lead to any reservations and issued an unqualified audit opinion. The full set of consolidated financial statements and the combined management report for the company and the Group, both for the 2018 financial year, as well as the unqualified audit opinion issued by the auditor, can be accessed on the website of EnBW Energie Baden-Württemberg AG. EnBW Report 2018 (page 143).</p>
C8. Energy	Other, please specify Other performance indicators (p. 101-104)	<p>Independent auditing and Evaluation (KPMG): We underline the high level of integration in the whole reporting process with this first audit of the complete Integrated Annual Report 2018 with reasonable assurance.</p>	<p>The condensed financial statements for the 2018 financial year that form part of the Integrated Annual Report do not include the notes to the consolidated financial statements and the declaration of corporate management 2018 of the EnBW Group and EnBW AG including the corporate governance report 2018.</p> <p>The full set of consolidated financial statements – including the notes to the consolidated financial statements – and the combined management report for the company and the Group, both for the 2018 financial year, were audited by KPMG AG Wirtschaftsprüfungsgesellschaft as the auditor and Group auditor elected by the Annual General Meeting of EnBW Energie Baden-Württemberg AG on 8 May 2018. Based on its audit, KPMG AG Wirtschaftsprüfungsgesellschaft arrived at the Overall conclusion that the audit did not lead to any reservations and</p>

			<p>issued an unqualified audit opinion. The full set of consolidated financial statements and the combined management report for the company and the Group, both for the 2018 financial year, as well as the unqualified audit opinion issued by the auditor, can be accessed on the website of EnBW Energie Baden-Württemberg AG. EnBW Report 2018 (page 143).</p>
<p>C9. Additional metrics</p>	<p>Other, please specify Total investments 2019-20121 (p. 110)</p>	<p>Independent auditing and Evaluation (KPMG): We underline the high level of integration in the whole reporting process with this first audit of the complete Integrated Annual Report 2018 with reasonable assurance.</p>	<p>The condensed financial statements for the 2018 financial year that form part of the Integrated Annual Report do not include the notes to the consolidated financial statements and the declaration of corporate management 2018 of the EnBW Group and EnBW AG including the corporate governance report 2018. The full set of consolidated financial statements – including the notes to the consolidated financial statements – and the combined management report for the company and the Group, both for the 2018 financial year, were audited by KPMG AG Wirtschaftsprüfungsgesellschaft as the auditor and Group auditor elected by the Annual General Meeting of EnBW Energie Baden-Württemberg AG on 8 May 2018. Based on its audit, KPMG AG Wirtschaftsprüfungsgesellschaft arrived at the Overall conclusion that the audit did not lead to any reservations and issued an unqualified audit opinion. The full set of consolidated financial statements and the combined management report for the company and the Group, both for the 2018 financial year, as well as the unqualified audit opinion issued by the auditor, can</p>

			<p>be accessed on the website of EnBW Energie Baden-Württemberg AG. EnBW Report 2018 (page 143).</p>
C10. Verification	Other, please specify About this report (p. 33-35)	<p>Independent auditing and Evaluation (KPMG): We underline the high level of integration in the whole reporting process with this first audit of the complete Integrated Annual Report 2018 with reasonable assurance.</p>	<p>The condensed financial statements for the 2018 financial year that form part of the Integrated Annual Report do not include the notes to the consolidated financial statements and the declaration of corporate management 2018 of the EnBW Group and EnBW AG including the corporate governance report 2018. The full set of consolidated financial statements – including the notes to the consolidated financial statements – and the combined management report for the company and the Group, both for the 2018 financial year, were audited by KPMG AG Wirtschaftsprüfungsgesellschaft as the auditor and Group auditor elected by the Annual General Meeting of EnBW Energie Baden-Württemberg AG on 8 May 2018. Based on its audit, KPMG AG Wirtschaftsprüfungsgesellschaft arrived at the Overall conclusion that the audit did not lead to any reservations and issued an unqualified audit opinion. The full set of consolidated financial statements and the combined management report for the company and the Group, both for the 2018 financial year, as well as the unqualified audit opinion issued by the auditor, can be accessed on the website of EnBW Energie Baden-Württemberg AG. EnBW Report 2018 (page 143).</p>
C11. Carbon pricing	Other, please specify	"ETS Verification"	The relevant data were verified according to the ETS Standard.

<p>C12. Engagement</p>	<p>Other, please specify Customers and society goal dimension (p. 94-96); In dialogue with our stakeholders (p. 59-63)</p>	<p>Independent auditing and Evaluation (KPMG): We underline the high level of integration in the whole reporting process with this first audit of the complete Integrated Annual Report 2018 with reasonable assurance.</p>	<p>The condensed financial statements for the 2018 financial year that form part of the Integrated Annual Report do not include the notes to the consolidated financial statements and the declaration of corporate management 2018 of the EnBW Group and EnBW AG including the corporate governance report 2018. The full set of consolidated financial statements – including the notes to the consolidated financial statements – and the combined management report for the company and the Group, both for the 2018 financial year, were audited by KPMG AG Wirtschaftsprüfungsgesellschaft as the auditor and Group auditor elected by the Annual General Meeting of EnBW Energie Baden-Württemberg AG on 8 May 2018. Based on its audit, KPMG AG Wirtschaftsprüfungsgesellschaft arrived at the Overall conclusion that the audit did not lead to any reservations and issued an unqualified audit opinion. The full set of consolidated financial statements and the combined management report for the company and the Group, both for the 2018 financial year, as well as the unqualified audit opinion issued by the auditor, can be accessed on the website of EnBW Energie Baden-Württemberg AG. EnBW Report 2018 (page 143).</p>
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C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

Yes

C11.1a

(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.

EU ETS

C11.1b

(C11.1b) Complete the following table for each of the emissions trading systems in which you participate.

EU ETS

% of Scope 1 emissions covered by the ETS

96

Period start date

January 1, 2018

Period end date

December 31, 2018

Allowances allocated

189,783

Allowances purchased

17,913,000

Verified emissions in metric tons CO₂e

18,102,783

Details of ownership

Facilities we own and operate

Comment

CO₂ certificates are used to offset the emissions generated during the production process (electricity generation).

C11.1d

(C11.1d) What is your strategy for complying with the systems in which you participate or anticipate participating?

EnBW is a member of the European Emissions Trading System (EU-ETS). Within the EU-ETS it is defined that every ton of emitted CO₂ must be balanced out by a CO₂ certificate. The EU-ETS is following the principle of "cap and trade". The cap (upper limit) is defining the maximum CO₂ amount allowed to be emitted into the system. This upper limit is reduced by time, and will be 21% below the amount of 2005 by 2020. Following, the reduction in the amount of certificates in the EU-ETS over time, leads to a total decrease of the emissions of all participating businesses. The preliminary determined decrease in the amount of certificates is harmonized with the European goal to reduce greenhouse gas emissions. EnBW is obliged to

balance the amount of CO2 emitted by power generation with emission certificates. The certificates needed are bought at the stock exchange. Since January 2013 there are no more certificates allocated at no charge. Consequently, the market price of CO2 certificates has direct influence on the profitability of power plants and is one point of influence for the power plant deployment planning. Following the concept of close consultation between the sold amount of electricity and the trading activity in the EU-ETS it is made sure that there are sufficient amounts of certificates bought at the market at all times to fulfill compliance requirements.

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?

Yes

C11.2a

(C11.2a) Provide details of the project-based carbon credits originated or purchased by your organization in the reporting period.

Credit origination or credit purchase

Credit purchase

Project type

Hydro

Project identification

EnBW uses CERs for various purposes. Certificates from the Qinghai Maqin Gequ Level 2 Hydropower Station (CN 7507) project are used as part of a green gas product. This is a hydropower project in China. The electricity generated by the hydroelectric power plant is substituted by fossil fuels, and the electricity generated by coal-fired power plants. As a result, annual emissions of 177.166 t CO2e can be saved.

Verified to which standard

CDM (Clean Development Mechanism)

Number of credits (metric tonnes CO2e)

32,000

Number of credits (metric tonnes CO2e): Risk adjusted volume

32,000

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Forests

Project identification

In addition, CO₂ emissions are offset by events organised by the Energie&Klimaschutz foundation. Certificates from a reforestation project in Ethiopia are used for this purpose. Local communities have developed the reforestation project in Soddo about 300 kilometres southwest of the capital Addis Ababa together with the non-governmental organisation World Vision. The members of the five communities that live here in the high mountain region of Southern Ethiopia in the vicinity of Mount Damota are directly responsible for project implementation. The aim is to protect the severely degraded forest on the slopes of Mount Damota and to plant new trees, thus contributing to the long-term regeneration of the ecosystem in the region. The project is not only an outstanding example of local co-determination, but also achieves numerous positive effects for biodiversity, climate protection and regional development.

Verified to which standard

Gold Standard

Number of credits (metric tonnes CO₂e)

26

Number of credits (metric tonnes CO₂e): Risk adjusted volume

26

Credits cancelled

Yes

Purpose, e.g. compliance

Voluntary Offsetting

C11.3

(C11.3) Does your organization use an internal price on carbon?

Yes

C11.3a

(C11.3a) Provide details of how your organization uses an internal price on carbon.

Objective for implementing an internal carbon price

Navigate GHG regulations

Stakeholder expectations
Drive low-carbon investment
Stress test investments
Identify and seize low-carbon opportunities

GHG Scope

Scope 1

Application

The CO₂ price is applied throughout the Group in the departments concerned. The price is particularly important in the trading department and in the dispatching, in the strategy department, as well as in all commercial departments. The CO₂ price also plays an important role in the department of M&A. The development of the CO₂ price in relation to political activities is of importance. EnBW is publicly committed to a carbon price floor. This makes the switch from coal to gas more attractive and supports the expansion of renewable energies.

Actual price(s) used (Currency /metric ton)

Variance of price(s) used

For time period beyond liquid market quotations EnBW uses assumptions regarding market prices for CO₂-certificates that our part of EnBW's Scenarios. These assumed market prices form the Basis for Evaluation for Long term assets such as power plants and contracts as well as Investments. Given the considerable uncertainty on the effectiveness of climate regulation there are big differences between the CO₂-prices in EnBW's Scenarios. Scenarios with rising CO₂-prices have a higher importance amongst EnBW's Scenarios than assumptions of low CO₂-prices.

Under the European emissions trading system, proof must be provided of CO₂ allowances for CO₂ emissions from power plants. In 2018, the price of EU allowances (EUA) increased strongly from about 8 € to more than 20 €.

Type of internal carbon price

Other, please specify
Own price forecast

Impact & implication

The internalisation of the EU-ETS carbon price on business activities impacts the full range of company activities from the dispatch decisions of power plants that incorporate the carbon price as a part of the operational costs to the valuation of assets where the future earnings are calculated based on quantitative premises on market prices and prices for carbon to the strategic assessment of risks and chances of the portfolio and its planned expansion with renewable energies under different scenarios with associated carbon prices.

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers

Yes, our customers

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement

Information collection (understanding supplier behavior)

Details of engagement

Other, please specify

Pre-qualification process: Suppliers are required to provide a self-assessment via the EnBW supplier portal on whether they practise sustainable measures e.g. in the area of environmental management. The information is checked every three years.

% of suppliers by number

% total procurement spend (direct and indirect)

90

% Scope 3 emissions as reported in C6.5

Rationale for the coverage of your engagement

Sustainable procurement begins with the careful selection of business partners. Central purchasing at EnBW AG uses a standardised pre-qualification process for this purpose. Different thresholds are set depending on the product Group and internal risk classification. Suppliers are required to provide a self-assessment via the EnBW supplier portal on whether they practise sustainable measures in the areas of data protection, quality management, environmental management, the respect for human rights, the fight against corruption and occupational health and safety. This self-assessment was completed by 90% of our suppliers by the end of 2018 (measured by procurement volume). Centralised documenting of certificates enables us to ensure that all the necessary prerequisites for awarding a contract are fulfilled. In general, the information is checked every three years on the basis of a renewed self-assessment. In the General Terms of Purchase of the EnBW Group, the supplier undertakes to observe the regulations on work safety, to pay a minimum wage and to observe the compliance and environmental principles of EnBW. In addition, the supplier undertakes

to observe the regulations in the German Occupational Safety Act, the legal regulations for technical equipment, accident prevention regulations, the regulations on hazardous materials and any regulations on technical safety and occupational medicine in the “Additional Work Safety Terms of Purchase”.

Impact of engagement, including measures of success

EnBW Procurement: As part of the recertification audit according to ISO 14001:2015, it was confirmed that issues that must be handled by the environmental management system are firmly integrated into the processes in central purchasing and that the traceability of relevant goods is ensured over their entire life cycles. Purchasing has firmly anchored sustainability and the protection of the environment into the General Terms of Purchase. In the section on environmental management, suppliers undertake to support the environmental principles of EnBW – especially those relating to environmental and energy management, climate protection and energy efficiency, emissions protection, biodiversity, water and soil protection and the use of resources.

Comment

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement

Education/information sharing

Details of engagement

Run an engagement campaign to educate customers about the climate change impacts of (using) your products, goods, and/or services

% of customers by number

1

% Scope 3 emissions as reported in C6.5

1

Please explain the rationale for selecting this group of customers and scope of engagement

BW Network Energy Efficiency 4.0 - Sharing knowledge and networking know-how with companies:

- Benefits for companies:
- Identify energy saving potentials
 - Determine concrete measures
 - Exchange of experience with others

Range of EnBW services:

- Regarding to customers: Establishment of a local, learning network of about 15 companies. There are currently 7 active networks in which around 90 companies are involved. Since the beginning of the programme, more than 500 network meetings moderated by EnBW have taken place
- Organisation of quarterly network meetings, which are geared to the time and content of the participants' needs
- Moderation and support by your EnBW energy experts
- Information on new technical developments and current energy policy and economic conditions
- EnBW is the initiator and moderator of the network, bringing the companies together and offering a platform for the creation of efficiencies in the companies

Reagarding to Emissions:

25 million kWh per year and per network can be saved on average, that contributes to CO2-emission- savings.

Impact of engagement, including measures of success

Further benefits for companies: Climate protection, Lower costs in determining energy saving measures, Information on innovative topics allows own assessment, Possible side effect: higher productivity and Quality, Up-to-date information on the energy regulatory Framework, Fulfillment of building blocks of ISO 50001 (energy management systems), Image improvement through accompanying measures in the media and press.

C12.3

(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?

- Direct engagement with policy makers
- Trade associations
- Funding research organizations
- Other

C12.3a

(C12.3a) On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Cap and trade	Support	EnBW considers the EU ETS cap and trade system as the cornerstone of EU climate policy. Since 2013, we continued to engage in discussions at EU level on how to fix the ETS to stimulate the necessary investments for the	Focus on the introduction of a carbon price floor in the ETS – if not at EU level, at least in a coalition of willing Member States. EnBW suggests a general, consistent target price for

	<p>foreseen carbon emissions reduction path. An essential focus was still on the further strengthening of the ETS Directive. In the reform for phase 4 EnBW advocated for strengthening the ETS substantially as quick as possible and supported the doubling of the MSR intake rate (24%) per year until 2023, as well as the cancelling of the surplus from 2023 onwards, and advocated for the increase of the annual reduction factor to at least 2.4% (instead of the now 2.2% from 2021 onwards). Recently EnBW put the emphasis on the introduction of a price floor at EU- or national level. We had exchanges with other stakeholder, commissioned together with 10 other companies a European Study on the effects of a carbon price floor, organized subsequent conferences in Berlin and Brussels. In addition, in the light of the finally endorsed higher renewables and energy efficiency targets as initially proposed by the European Commission in the framework of the Clean Energy legislative package, EnBW advocated for at least an upwards adaptation of the 2030 climate target and thus of the linear reduction factor in the ETS. We maintained the exchange on these topics with representatives of the European institutions, German ministry officials, politicians, and NGO's. EnBW participated actively in the positioning of different associations (BDEW/EURELECTRIC, WindEurope, BDI etc.) on</p>	<p>fossil CO2 of 25 €/ton (2020) and 30 €/ton (2025) across all sectors. In the context of the Follow-up of the Commissions 2050 pathways communication, adaptation of the 2030 target and thus the linear reduction factor.</p>
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		investment frameworks to underline the need of an adequate CO2-pricing and a robust ETS (including the adaptation of the 2030 target) and continued the exchange in networks at EU level and cooperated closely with NGOs like German Watch and Stiftung 2° (exchange of information, lobbying activities like e.g. open letter etc.).	
Carbon tax	Support	<p>Although the price of allowances (EUA) has increased after the adoption of the EU ETS directive, it does not create investment security for market participants. Also, the heavy charges and levies on the electricity prices prevent for more sector coupling/electrification of other sectors.</p> <p>Therefore, EnBW supports not only the carbon floor price on top of the ETS but also a restructuring of the energy taxation system – to start at national level but preferentially also on EU level- to be CO2 based.</p> <p>Also, through a rearrangement of the taxation system, additional burdens for consumers are to be avoided, i. e. additional costs ought to be covered by the polluters. Through a fixed carbon price the avoidance of carbon emissions would become economically relevant, leading to increasing hours of operation for plants that are more climate friendly.</p> <p>EnBW asks for a reform of the energy taxation at least at national level towards a CO2 oriented wholistic system, also in view to</p>	<p>EnBW suggests a general, consistent target price for fossil CO2 of 25 €/ton (2020) and 30 €/ton (2025) across all sectors, (ETS and Non-ETS). For operators/plants under the ETS-the annual difference between the average ETS price and the target price will be covered by the polluter. For consumers, energy taxes (esp. for natural gas and heating oil, gasoline and diesel) are to be changed to a new assessment basis linking the tax to the given CO2 content. Through the introduction of the carbon price the electricity tax in Germany will eventually become redundant which relieves the consumers. Additionally, the welfare increase through the carbon tax should be used for the purchase and decommissioning of ETS certificates.</p>

		<p>the facilitation of sector coupling. At EU level, EnBW welcomes the suggestion of the European Commission to change the rules for decisions in taxation issues, especially concerning energy taxation, from unanimity to qualified majority. EnBW participated actively in the positioning of different associations (BDEW / BEE, BDI etc.) but also in the exchange in networks with other companies and cooperated closely with NGOs like German Watch and Stiftung 2°.</p>	
Clean energy generation	Support with minor exceptions	<p>In 2017/2018, 89% of the subsidized wind turbines in Germany were located North of the Main river. This concentration in the expansion exacerbates the existing grid congestion in Germany and has a negative impact on the acceptance of the Energiewende. Therefore, EnBW advocated in favour of a regional control management in order to reach additional wind turbine capacities south of the Main river. Regarding German offshore wind energy in the Baltic sea and North Sea, we aim to install at least 20 GW until 2030, respectively 30 GW until 2035. In doing so, we want to tackle the expected thread breakage in the offshore sector between 2020 and 2025. On the PV side, we aim to remove the cap of 52 GW. Keeping the cap, would most likely lead to job cuts within the company since we expect to reach a capacity of 52 GW in 2020. Additional to the short-term special tenders for wind and PV within the EEG we</p>	<p>In Germany, EnBW supports a minimum capacity of 25 % of the allowances within the EEG (wind onshore) to be assigned to locations south of the Main river. If the government prefers a bonus system, this bonus should at least amount to 0,5 ct/kWh to reach an incentive effect. Regarding offshore wind energy, we plead for an additional short term tender, to use free converter capacities. Additionally, we advocate in favour of a minimum target of 20 GW until 2030. In the sector of PV we support the cancellation of the 52 GW cap. For both sectors, wind onshore and PV, we want a massive increase of tender amounts within the EEG.</p> <p>At EU level, in the context of the Clean Energy Package EnBW supported a positive</p>

		<p>advocate for a concrete trajectory for renewables in Germany for the years after 2022. This is essential for reaching the goal of 65% renewables within the power sector in Germany.</p> <p>At EU level EnBW followed closely the legislative process of the Clean Energy for all Europeans Package on the Electricity Market Design directive and regulation, as well as reform the Renewables directive, Energy Efficiency and the Governance regulation. Our focus was on an ambitious Renewables target for 2030 (35%) the pursued market integration of renewables, the right balance between making renewables fit for the market and the market fit for renewables while securing a continuous extension of renewables deployment is key. We engaged in a continuous dialogue with representatives of the European Commission, European Parliament and Council on working as well as on political level, EnBW was also very active in the positioning of the different stakeholder groups and associations EnBW is a member of (BDEW, EURELECTRIC, WindEurope, EDSO, EASE, BDI etc.).</p> <p>Currently, we are following the implementation process very carefully.</p> <p>As well as the preparation of the gas package which should also promote the decarbonization of the gas sector.</p>	<p>framework towards further development of renewables while integrating them subsequently into the market. Therefore, EnBW supported the market oriented approach of the Commissions' proposals in the Clean Energy Package on market design as well as the renewables directive while adapting the market rules to the needs/specificities of renewables (enhancing short term markets/ access of RES to all markets, demand response and customers engagement/self-consumption etc.). In the absence of national targets for renewables, EnBW advocated for a strong governance system to allow for more investor certainty. EnBW sees the outcome of the package overall rather positive. Key is the effective implementation. EnBW also supports the decarbonisation of the gas sector and is running /planning pilot projects to detect challenges and potentials (grid integration etc.) for the gas grid infrastructure.</p>
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Energy efficiency	Support with minor exceptions	<p>EnBW fully supports the energy efficiency objective and supporting policies. However, we are against obligation schemes in this context as they are not stimulating the most (cost) efficient solutions. EnBW is very actively following the legislative and regulatory developments on EU as well on national and regional level. In 2018, the focus was still on the legislative process of the reform of the EU energy efficiency directive and the energy efficient buildings directive as well as the Governance regulation, and now on their implementation. EnBW engaged with the representatives of the European Commission, European Parliament and the Council. EnBW was also very active in the positioning of the different stakeholder groups and associations EnBW is a member (BDEW, EURELECTRIC, WindEurope, EDSO, EASE, BDI etc.) On regional level there have been and still continue to be many discussions specifically in the context of the integrated climate and energy concept.</p>	<p>Focus on the reform of the Energy Efficiency Directive and the Energy Efficient Buildings directive and Governance regulation, currently on their implementation and accompanying implementing acts or guidance on EU and national level. On the reform of the Energy Efficiency Directive, EnBW favors further efforts towards more energy efficiency, however advocates for the need to maintain alternative options to an obligation scheme as chosen in Germany. More push towards the use of renewables in the heating and cooling, as well as the transport sector as decided are welcome.</p>
Other, please specify Decarbonising Transport Sector: Support of E-Mobility	Support	<p>EnBW is very active in the roll out of e-mobility infrastructure in Germany as we see e-mobility as a very important mean of decarbonizing the transport sector. Specifically, we aim to install 1.000 fast-charging stations (DC) at motorway service stations and traffic junctions until the end of 2020. We are very much engaged in a close dialogue with policy makers, communes and stakeholders to favor the further up-take of e-mobility.</p>	<p>EnBW supports ambitious rules and limits for CO2 emissions of passenger cars and light duty vehicles at EU level. We also call for an expansion of the funding of charging infrastructure and additional measures at national level.</p>

		At European level EnBW was following closely the legislative process of the clean mobility packages at EU level, specifically the regulation on CO2 emissions of passenger cars and light duty vehicles. It engaged with the representatives of the European Commission, European Parliament and Council as well as in the working groups /in the positioning of different Associations (BDEW, EURELECTRIC) in view to ambitious targets.	
Other, please specify Sustainable Financing: Support for the EU Sustainable Finance Action Plan and climate related non financial disclosure with minor exceptions	Support	<p>EnBW (on the level of the CFO) participated to the G20 TF CFD on non-financial disclosure and is implementing the recommendations in our own reporting.</p> <p>At EU level, EnBW was and still is actively involved in the implementation of the EU Action Plan on Sustainable Finance by being member of the Commission's Expert Group, with a focus on non-financial reporting/carbon disclosure rules. Thus, EnBW is following very closely the legislative procedures, especially on the Taxonomy regulation via exchanges with representatives of the European Parliament, the Commission and the Council (German Permanent Representation/ Ministry for Finance) and other Stakeholders, also by participating in the working groups and in the positioning of different Associations (BDEW, EURELECTRIC).</p>	<p>EnBW supports carbon disclosure rules in non financial reporting obligations at international and EU level and is fully in line with the recommendation of the respective TEG Subgroup.</p> <p>EnBW also fully supports the principles of the draft Taxonomy regulation. However, EnBW would prefer definitions where the quick and subsequent uptake of the market for sustainable financial products is fostered and therefore advocates for a broader approach. Especially the investments in the urgently needed transition activities should be recognized.</p>
Other, please specify	Support	The German Government resolved the German Climate	EnBW advocates for high ambitions but puts a strong

<p>Klimaschutzplan 2050/EU Decarbonisation Pathways 2050</p>		<p>Action Plan 2050 at the end of 2016. The Plan sets national objectives for a CO2 reduction for the target years 2030 and 2040 and defines quantitative sectoral targets for the year 2030 to lay down a timetable for the step-by-step decarbonisation of all sectors. As a next step (2019 ff.), the government is to define concrete measures and actions for reducing GHG-emissions in all sectors. As targeted by the coalition agreement from 2018, the German Government has set up the Commission on Growth, Structural Change and Employment with all relevant stakeholders and regions to develop a program of action to reduce GHG emissions in the energy sector. Its goals include: Measures to close the gap for reaching the 40% reduction goals of emissions until 2020, measures to certainly reach the goals of 2030, a proposal for the phasing out of coal-fired generation, and a financial plan for the structural change for regions that are affected by this structural change. Within the year 2019, the Government aims on adopting a contract/commitment that ensures the implementation of these goals on a legal basis. At EU level, the Commission presented the reviewed 2050 decarbonisation pathways. EnBW contributed intensively in the BDI analyses on 2050 pathways for Germany, and followed the electrification/2050 pathways of EURELECTRIC and co-signed the EURELECTRIC 2050 declaration committing to decarbonize the</p>	<p>emphasis on not only declaring targets but urgently putting the enabling regulatory framework in place allowing for substantial progress in all sectors. EnBW promotes, in addition to further alignment of the ETS towards the Paris goal and the stronger electrification and decarbonization of the heating and transport sectors. A stringent CO2 pricing system should be the starting point.</p>
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		electricity sector before 2050 (2045) as well as to the positioning of the associations (BDEW, EURELECTRIC) on the different pathways.	
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C12.3b

(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?

Yes

C12.3c

(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.

Trade association

BDEW (Bundesverband der Energie- und Wasserwirtschaft)

Is your position on climate change consistent with theirs?

Mixed

Please explain the trade association's position

The BDEW is committed to the decarbonisation of the energy sector until 2050. BDEW is in favor of an ambitious binding CO₂-target for 2030 and also of strengthening the ETS via structural reforms. BDEW was also in favor for an ambitious binding renewables target including its break-down in national targets. Besides that, BDEW rejects a carbon price floor within the EU-ETS. Regarding the financing of new projects of renewables within the German EEG, the BDEW calls for a contract for difference model instead of the existing sliding market premium.

How have you influenced, or are you attempting to influence their position?

EnBW actively participates in the different committees and Task Force (participation to meetings/discussions, commenting on draft position paper, bilateral exchange with other member companies, efforts to find viable but strong compromises). We have focused our engagement on issues concerning the positioning on strengthening the ETS but also on the general 2030-Framework. Contrary to the position of the BDEW, EnBW is committed to a carbon price floor within the ETS. Additionally EnBW pleads on keeping the sliding market premium that has been successful within the German market so far.

Trade association

BWE (German Wind Energy Association)

Is your position on climate change consistent with theirs?

Mixed

Please explain the trade association's position

BWE the German wind energy association is lobbying for good investment and planning conditions for wind energy projects in Germany and Europe.

How have you influenced, or are you attempting to influence their position?

EnBW actively participates in the associations working group.

Trade association

BDI (Bundesverband der deutschen Industrie)

Is your position on climate change consistent with theirs?

Inconsistent

Please explain the trade association's position

The BDI provides political support for the opening up of international markets and provides information and economic policy advice on all topics relevant to industry including energy and climate policy. Concerning climate policy issue, like for example a quicker fix of the ETS and more ambitious targets for 2020 and 2030, BDI's position is much more reluctant than EnBW's position. Following the BDI, the ambitions of the EU climate agenda should depend on the international climate negotiations and further burden for energy intensive industry /carbon leakage sectors have to be avoided. They were in favor of the introduction of the MSR, but always linked to a strong protection against carbon leakage, a 2030 target depending on the outcome of the international negotiations.

How have you influenced, or are you attempting to influence their position?

EnBW actively participates in relevant committees, focusing on the positioning on ETS-Reform/MSR and 2030 Framework.

Trade association

WindEurope (European Wind Energy Association)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

A strong Climate agenda (strong 2030 target – especially on GHG and renewables-, strong ETS) helps to make wind a competitive energy source.

How have you influenced, or are you attempting to influence their position?

EnBW actively participates in the working groups of the association. It contributes with information and participates in the exchange on the positioning and lobbying strategies.

Trade association

BNE - Energy efficiency and metering

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Bundesverband Neue Energiewirtschaft e.V. (bne / Association of Energy Market Innovators) represents the interests of grid-independent energy suppliers and energy service companies in Germany. The main focus of the association lies on fair conditions for all electricity and gas suppliers, new and innovative business models and demands a competitive and modern metering and energy efficiency market in the context of the German „Energiewende“. Therefore, different measures are taken and promoted in a political context.

How have you influenced, or are you attempting to influence their position?

Yello Strom (subsidiary of EnBW) is heavily engaged in the BNE.

C12.3d

(C12.3d) Do you publicly disclose a list of all research organizations that you fund?

No

C12.3e

(C12.3e) Provide details of the other engagement activities that you undertake.

In general, EnBW is engaged in a continuous dialogue also with stakeholders and clients regarding all aspects of energy and climate policy - at the local, regional, national and European level. The engagement also encompasses advice for the development of national and regional climate mitigation and adaptation strategies. EnBW also looks actively in options and challenges for the greening of the gas sector and follows actively the preparation of the gas package at EU Level. On the European level, as already mentioned, EnBW continued to take actively part in Associations, especially WindEurope and EURELECTRIC (via BDEW) and in cross-sectoral stakeholder networks (e.g. Friends of ETS, 2030 Network), to organize an united voice from industry and NGOs towards politicians. This also allows for the exchange of positions between stakeholders in favour of an ambitious regulatory framework, specifically in the context of legislative process on the ETS reforms as well as the 2030 implementation legislation including the governance framework. On the national level, EnBW has also initialized a "Network Energy Efficiency", to foster exchange of ideas and innovative solutions in the field of energy efficiency, accompanied by the yearly attribution of innovation award. By organizing energy policy related events (such as EnBW Event formats in Berlin: Energie- und Wirtschaftsclub, Mitarbeiterfrühstück/ Employee Breakfasts) EnBW discusses with parliamentary representatives and assistants, representatives of various associations, civil society and other corporations, about current legislative proposals and present EnBW's positions and views. In 2018 we started supporting the "Foundation 2° - German Companies

for Climate Protection (“Stiftung 2° - Deutsche Unternehmen für Klimaschutz”). The organization is named after its major aim: To keep the average global temperature increase well below 2 degrees celsius. It supports long term entrepreneurial engagement for climate protection as well as the sustainable use of natural resources and the ecosystem. Looking for tangible and ambitious solutions, the foundation works together with scientific, societal and political stakeholders. Companies ought to work actively together to find solutions for cross-sector climate protection. One of its features is the so-called CEO-Initiative, i. e. the personal commitment of CEO’s to climate protection. Having the direct support of the companies’ boards, the foundation is provided with sufficient political leverage in order to implement goals, activities and projects. A specific project that EnBW plans on evolving together with ALDI SÜD and Deutsche Telekom is the “park²charge” project. . In its early development stage, the concept aims to provide charging infrastructure by EnBW for electric vehicles at ALDI SÜD customer parking that are unoccupied at night. Deutsche Telekom is supposed to be in charge of the payment and access system. Major problems of inner cities could be tackled through a cross-sector solution by bringing together the qualifications of the three companies: Missing parking spaces and the difficult access to sufficient private charging infrastructure as a market entry barrier for electric vehicles. On the regional level, we support the Foundation Energy & Climate Protection (Stiftung Energie & Klimaschutz). The Foundation, established by EnBW in 2007, is recognized as a non-profit entity and aims to promote environmental and climate protection. By stimulating an open and broad discussion with all stakeholders, it wants to contribute to a better understanding of the interaction between the energy industry and climate protection, as well as to safeguard Baden-Württemberg as a research location. Therefore, the Foundation organizes conferences and debate evenings to current items like how to finance the energy system transition (“Finanzierung der Energiewende”), storage solutions for renewable energy (“Speicher“), the acceptance of infrastructure projects to establish power plants for renewable energies (“Akzeptanz“), mobility concepts for financially less powerful middle-sized cities (“Mobilität in meiner Stadt“) or how to succeed in withdrawing from coal-based power generation (“Wie gelingt der Kohleausstieg“, accompanying this year’s German commission for growth, structural change and employment). The discussions are free of ideological restraints and take place between speakers who stand for different viewpoints, coming from organizations like a trust foundation association or a mobility blogger, scientists from institutions like FORSA survey institute, with members of ministries or parliaments on regional or federal level, journalists from different national media, representatives from local or federal agencies, citizen energy cooperatives and industrial companies , as well as NGOs like Agora Energiewende or Deutsche Umwelthilfe.

C12.3f

(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

One central working group on climate issues (“working-group climate management“), encompassing representatives from all relevant sections of the company, meeting every 3 to 4 months to discuss current topics and prepare positions. Their activities include the preparation of concrete positioning with regard to relevant climate change issues in smaller drafting working

groups as well as the Coordinating of engagement activities regularly in weekly meetings of the policy and sustainability team, thus ensuring consistency in all activities that influence policy.

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).


Publication

In mainstream reports, incorporating the TCFD recommendations

Status

Complete

Attach the document

 EnBW_integrated-annual-report-2018_CDP.pdf

Page/Section reference

For example: Environment goal Dimension (page 101-104)

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

In this Integrated Annual Report 2018 – as in previous years – EnBW also takes ecological and social aspects of the company's activities into account as well as economic aspects. We have published an Integrated Annual Report based on the recommendations of the International Integrated Reporting Council (IIRC) since the 2014 financial year, with the aim of achieving a holistic representation of the performance of the company. EnBW has been an active supporter of integrated reporting and the IIRC from the very beginning. We participate in the ongoing development of integrated reporting in various bodies such as the IIRC Business Network and IIRC Framework

Panel. Thomas Kusterer, member of the Board of Management of EnBW, represents EnBW as a member of the IIRC and has also been a member of the EU Technical Expert Group on Sustainable Finance (TEG) (Glossary, p. 155) since July 2018. Using the EnBW 2020 strategy as a basis, EnBW applies the concepts behind integrated reporting to strive for the comprehensive integrated management of the company. By presenting financial and non-financial corporate goals – the achievement of which is

measured using key performance indicators – we are seeking to promote integrated thinking within the Company and underline the importance of being comprehensively oriented towards performance and our stakeholders. The corporate performance of EnBW is thus not only measured by financial results, as the short to long-term success of the company is also dependent on the decisions EnBW takes in response to the constantly changing economic, ecological and social conditions. More about integrated reporting at EnBW can be found at www.enbw.com/integrated-reporting.

Publication

In voluntary communications

Status

Complete

Attach the document

 EnBW factbook-2018_CDP.pdf

Page/Section reference

For example: Non financial KPIs and Targets (page 141).

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

C14. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

Our stakeholders:

Continuous and systematic dialogue with our internal and external stakeholders is an important element for determining key issues as part of our business activities. The most important stakeholder groups include shareholders and the capital market, employees, customers, local authorities and municipal utilities, society and environment, suppliers, business partners, the political community and the media. A fundamental aspect of our dialogue with stakeholders is

the identification and prioritisation of stakeholder groups relevant to strategically significant and current issues, particularly with regards to the Energiewende. This dialogue is conducted using a variety of communication channels ranging from conferences to social media platforms. In direct dialogue with our stakeholders, we listen to their interests and their expectations of EnBW and take these into account in the strategic positioning of our company and in our business decisions. At the same time, we inform all important stakeholders about the company's needs and the prerequisites for providing an efficient, reliable and sustainable supply of energy. As part of this dialogue, it is also important for us to listen to critical opinions such as those expressed at events held by our Energy & Climate Protection Foundation. In this context, the phasing out of coal power and brown coal extraction in Germany were, for example, the focus of heated debate in blog posts and at events in 2018. Mutual understanding, social acceptance and trust are increased further through this purposeful exchange of insights and perspectives. In addition, it also helps us to identify central developments and key topics at an early stage.

TEG and TCFD:

Sustainable economic development: We endeavour to conduct all of our activities in a sustainable way, from the responsible procurement of raw materials through to the provision of smart energy solutions for our customers. In addition, we are actively involved in the area of sustainable finance, which is exemplified by, amongst other things, by the membership of the EnBW Chief Financial Officer, Thomas Kusterer, on the Technical Expert Group on Sustainable Finance (TEG) that was newly founded in June 2018 and as one of the founding members of the Task Force on Climate-related Financial Disclosures (TCFD). As part of his work in the climate protection initiatives named above, he regularly reported to internal bodies on the climate-related opportunities and risks.

Green bond issued by EnBW:

EnBW published its Green Financing Framework on 17 October 2018 and issued its first green bond (Glossary, p. 153) with a volume of €500 million on 31 October 2018. The bond has a coupon of 1.875% and a term of 15 years. In contrast to conventional corporate bonds, the proceeds from a green bond must be used exclusively to finance climate-friendly projects. 93% of the proceeds from the first green bond issued by EnBW will be allocated to wind power projects, while 5% will be used for photovoltaic projects and 2% for electromobility projects. This form of financing is thus in line with the corporate strategy of repositioning the business portfolio with a focus on renewable energies and smart infrastructure solutions. Through sustainable finance, companies support the stability and future viability of financial markets and make an important contribution to financing global transformation processes. The activities of EnBW in the area of sustainable finance underline the fact that the company takes into account the social and ecological impacts of its business activities in the development of business models and specifically examines the medium and long-term opportunities and risks involved. As well as financial performance indicators, the company thus also uses sustainability indicators as a basis for taking capital expenditure and investment decisions. Further information on the green bond, including its contribution to the non-financial key performance indicators of EnBW and to the selected sustainability goals of the United Nations (United Nations Sustainable Development Goals (SDGs) – SDG 7 (affordable and clean energy), SDG

9 (industry, innovation and infrastructure), SDG 11 (sustainable cities and communities), SDG 13 (climate action), can be found at www.enbw.com/green-bond.

C14.1

(C14.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Member of the Board of Management of EnBW Energie Baden-Württemberg AG / Chief Financial Officer.	Chief Financial Officer (CFO)

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	Public or Non-Public Submission	I am submitting to
I am submitting my response	Public	Investors

Please confirm below

I have read and accept the applicable Terms