# **VERBUND AG - Climate Change 2020**

## **C0. Introduction**

## **C0.1**

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

VERBUND is an Austrian utility company and one of the largest producers of hydroelectricity in Europe. Our most important energy generation technologies are hydro power and wind power – renewable resources that account for 95% of all energy produced by VERBUND.

95% of the annual power production in 2019 came from renewable energy. Our backbone, hydro power generation, is supplemented by wind. In 2019 VERBUND operated 131 hydro power plants (30,660 GWh generated incl. purchase rights), 153 wind power plants (929 GWh generated) and 2 thermal power plants (1,570 GWh generated).

Most of these assets are located in the core markets of Austria and Germany. Specific emissions in 2019 were 32 g CO2e/kWh (Scope 1 emissions relative to total electricity generated). VERBUND’s strategic mid-term goal is to reduce the VERBUND-specific direct greenhouse gas emissions (Scope 1) to below 10g CO2e/kWh and our long-term objective is for our electricity generation to be 100% CO2 free. VERBUND has already closed down several thermal power plants. VERBUND will discontinue coal-fired electricity generation and district heating in 2020. We continue to expand generation of renewable electricity. The medium-term corporate objective concerning new renewables generation is that 20–25% of the total electricity generated by 2030 will come from wind and solar power.

At over 99%, CO2 emissions from the use of fuels in thermal power plants made up the largest share of Scope 1 emissions, while the sector of renewables accounted for less than 1% of Scope 1 emissions. In 2019, the renewable power generation segment represented 73% of total EBITDA.

Austrian Power Grid AG (APG), VERBUND’s independent grid subsidiary, operates the national electricity transmission network in Austria. Its main task is continuous system balancing, i.e. ensuring that electricity supply is matched exactly to demand at all times. In 2019, APG transmitted around 46,731 GWh at grid level 1 (380-kV and 220-kV). The grid segment represented about 22% of total EBITDA in 2019.

The Sales segment combines all of VERBUND’s trading and sales activities (trading in electricity, gas, guarantees of origin, CO2 emission rights and transport capacity, innovative green electricity and flexibility products).

The core markets of VERBUND’s sales activities are Austria and Germany. In Austria, VERBUND supplies the household/agriculture and commercial segments with electricity generated exclusively from hydro power. In Germany, VERBUND delivers to industrial enterprises and resellers. Since 2014, VERBUND offers climate-neutral gas to its household customers (offset by CDMs). At the end of 2019, VERBUND counted 500,000 customers in the household/agriculture and commercial segment. A total of 1,083 GWh of climate neutral gas was sold in the reporting period. The sales segment represented about 5% of total EBITDA (2019).

The Energy services segment subsumes VERBUND’s new services for the electricity market of the future. The main function is the development and marketing of new energy services and developing business models with and for customers with a focus on solar power, storage and green hydrogen. B2B services such as demand response and the industrial IoT round out the portfolio.

VERBUND actively promotes electrification in other areas such as the mobility and industrial sectors through its interests in the electro mobility provider SMATRICS and the photovoltaic installation service provider SOLAVOLTA.

VERBUND is a leading player in the field of green hydrogen in Austria. VERBUND works on several projects such as H2FUTURE (steel industry), H2Zillertal (rail operations), HotFlex (focused on high-temperature electrolysis) and H2Pioneer (semiconductor industry) together with its cooperation partners. In the EU-funded SYNERG-E project, industrial-scale battery storage units were commissioned in 2019 at charging stations.

VERBUND’s updated investment plan for the period 2020–2022 provides for capital expenditure in the amount of €2,077m. Of that total, around €1,287m will be spent on growth CAPEX and around €790m on maintenance CAPEX. Most of the growth CAPEX (approximately €719m) will go towards expanding the regulated Austrian high-voltage grid. In addition, VERBUND will be investing mainly in selected hydropower plant projects as well as in increasing the efficiency of existing power plants.

In total 2,843 employees (as at 31 December 2019) work for VERBUND.

Within the scope of this questionnaire data given are for all fully consolidated subsidiaries of VERBUND and the shares of the generation companies. Joint ventures in the generation sector are within the scope of disclosure (due to their share of generation owned by VERBUND).

## **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** |
| Reporting year | January 1 2019 | December 31 2019 | No | <Not Applicable> |

## **C0.3**

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

Albania

Austria

Germany

Romania

## **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 chosen approach for consolidating your GHG inventory.**

Operational 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

### **Other divisions**

Smart grids / demand response

Battery storage

## **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** |
| Board-level committee | Please note: Some countries (e.g. Austria, where VERBUND is located) use a two-tiered board system where “board” refers to the “supervisory board” while “group executive board” refers to the “management board". According to Austrian corporate law the supervisory board (incl. all board-level committees) and the group executive board have to collaborate closely on all material strategic issues like climte change for instance. VERBUND’s Strategy Committee of the Supervisory Board has direct responsibility for all strategic issues impacting the business of VERBUND. It is comprised of four members of the Supervisory Board elected by the shareholders and two employee representatives. The Group Executive Board (CEO, Deputy-CEO, CFO, COO) prepares and attends all meetings of the Strategy Committee. The Strategy Committee is responsible for developing a corporate strategy in collaboration with the Group Executive Board and for the annual review of strategy and support of any adaptive measures. This includes especially the oversight of strategic climate-related issues as climate change is key to VERBUND’s strategy. Currently, the Chairman of the Supervisory Board also presides the Strategy Committee. In 2019 the Strategy Committee met three times. Example of a climate-related decision made by the Strategy committee: In 2018 the Strategy Committee has decided that from now on VERBUND will focus on expanding electricity generation from the new renewable energy sources of wind and solar power. In order to take full advantage of climate-related business opportunities, the Strategy Committee further decided to set up a new VERBUND subsidiary called “VERBUND Green Power” in 2019. The subsidiary’s goal is to build up an onshore wind and solar portfolio that will account for approx. 20–25% of VERBUND’s overall generation by 2030. Outlook for 2020: In addition to the Strategy Committee a newly established Sustainability Committee will closely review climate-related issues in the context of other sustainability-related issues, e.g. the Sustainable Development Goals of the United Nations. |

## **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** | **Scope of board-level oversight** | **Please explain** |
| Scheduled – some meetings | Reviewing and guiding strategy | <Not Applicable> | The Strategy Committee of the Supervisory Board in collaboration with the Group Executive Board (CEO, Deputy-CEO, CFO, COO) is responsible for developing the corporate strategy. For an electric utility like VERBUND, climate-related issues are directly linked to the core strategy, e.g. decisions on the generation portfolio. Strategy development is based on environmental analysis (demographic and technological trends, market developments and the strategic implications of regulatory measures) on the one hand and a company analysis (strategic competitive advantage and unique selling propositions) on the other. Strategic options are evaluated in terms of their economic impact as well as of their impact on environment and on climate change. VERBUND’s strategic decision to exit coal-fired electricity generation in 2020 highlights this principle. |
| Scheduled – some meetings | Reviewing and guiding major plans of action | <Not Applicable> | Two times a year the Group Executive Board, is reviewing the major plans on action using a strategy monitoring report provided by the Holding department Corporate Development. This includes the progress on climate-related goals, especially GHG emission reduction goals. Material results of the review process are reported to the Strategy Committee of the Supervisory Board. |
| Scheduled – some meetings | Reviewing and guiding risk management policies | <Not Applicable> | Risk management with regard to climate change is operated by the Holding department Group Controlling, Accounting and Risk Management. VERBUND holds an integrated risk management on different levels (more in C2.1b). Additionally, the Holding department Energy Economics and Business Management supports the risk management team with forecasts in different topics e.g. effects and consequences of climate change on VERBUND´s asset locations. Forecasts regarding climate change include time-frames of 100 years. Corporate risk management reports are sent to the Group Executive Board, the Supervisory Board and the internal audit department every 3 months. |
| Scheduled – some meetings | Reviewing and guiding annual budgets | <Not Applicable> | Budgets for strategic environmental and climate-related projects are controlled by the Holding department Corporate Responsibility. Budgets for operational environmental and climate-related projects are controlled by the business units. Deviations are reported to the Group Executive Board. |
| Scheduled – some meetings | Reviewing and guiding business plans | <Not Applicable> | The corporate business plan (VERBUND mid-term plan) is set up by the Group Executive Board and approved by the Supervisory Board. The single most important climate-related issue for business plans are investments in renewable energy generation and in the transmission grid. |
| Scheduled – some meetings | Setting performance objectives | <Not Applicable> | The main climate-related performance objective is the development of the KPI “specific emissions scope 1 (t CO2e/GWh)” in the current year and in the future and is linked to the approved corporate business plan. |
| Scheduled – some meetings | Overseeing major capital expenditures, acquisitions and divestitures | <Not Applicable> | The Group Executive Board oversees due diligence processes for all major capital expenditures, acquisitions and divestitures. This always includes an environmental due diligence considering climate-related issues. Findings are reported to the Supervisory Boards which takes the final investment decision |
| Scheduled – some meetings | Monitoring and overseeing progress against goals and targets for addressing climate-related issues | <Not Applicable> | The Group Executive Board monitors the progress on climate-related goals and targets based on quarterly reports of the Corporate Responsibility Committee. Major deviations are reported to the supervisory board. |

## **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)** | **Reporting line** | **Responsibility** | **Coverage of responsibility** | **Frequency of reporting to the board on climate-related issues** |
| Chief Executive Officer (CEO) | <Not Applicable> | Both assessing and managing climate-related risks and opportunities | <Not Applicable> | Quarterly |
| Other committee, please specify (Corporate Responsibility Committee) | <Not Applicable> | Both assessing and managing climate-related risks and opportunities | <Not Applicable> | 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).**

**i) Description of where in the organisational structure those positions or committees lie**

The executive order “Environment” has been issued to ensure compliance with the objective of ensuring environmental & climate change management in all actions and decisions taken by VERBUND. The executive order establishes the organizational policies and duties of the Corporate Responsibility Committee chaired by the CEO. The CEO’s management portfolio includes the responsibility for environmental and climate change issues. The members of the Corporate Responsibility Committee work interdisciplinary. The Corporate Responsibility committee consists of the CEO, the Group Environmental Officer, representatives of all major subsidiaries (e.g. VERBUND Hydro Power GmbH), assistants of executive board members, as well as experts from strategy, finance, sustainability, investor relations, risk management and other important business entities. Decisions made in this committee are mandatory for the whole group.

**ii) Rationale for why responsibilities lie with those positions and committee**

To ensure that climate related decisions taken on the highest level (Corporate Responsibility Committee headed by CEO) are implemented throughout the whole company, all business units of VERBUND are represented in the Corporate Responsibility Committee. The environmental executive order and additional environmental provisions define the framework for the systematic planning, execution and measurement of and reporting on the environmental achievements of VERBUND. Existing structures, processes and responsibilities in environmental management ensure compliance with legal requirements, nationally and internationally accepted regulations and the Group’s own standards that are more stringent.

**iii) Specific responsibilities of every position and the committee**

**CEO**: The CEO has the responsibility for sustainability, environment and climate change. He leads the Corporate Responsibility Committee and is responsible that the other members of the Group Executive Board are informed about the respective topics, and brings about a joint decision. Some major strategic decisions, e.g. the decommissioning of a coal power plant, are subject to Supervisory Board approval. Thus ultimate responsibility for material strategic environmental and climate issues lies within the Supervisory Board. The responsibilities of the CEO, the Group Executive Board and the Supervisory Board in material environmental and climate related issues are based on VERBUND’s articles of association and the rules of procedure for the board.

**The Corporate Responsibility Committee**: The Corporate Responsibility Committee meets twice a year and advises the CEO about environmental matters such as strategic targets for Key Performance Indicators, etc. The Group Environmental Officer prepares reports to the Corporate Responsibility Committee and is the linkage between the Corporate Responsibility Committee and the business units.

**The Group Environmental Officer** has the following roles:

• central contact person for all environmentally relevant issues,

• advises the CEO in this regard and reports to him in this function,

• heads the Environmental Team, which consists of the Environmental Officers of the business units.

The Group Environmental Officer is further responsible for coordinating VERBUND’s environmental agenda and developing Group-wide environmental regulations. International standards such as the GRI standard and the Greenhouse Gas Protocol form the basis for the group-wide collection of and reporting on VERBUND’s climate related and environmental data. Our environmental management systems include assessments of environmental aspects at regular intervals in order to establish the objectives of environmental programs for the individual power plant groups and sites. The steps necessary to reach these objectives are planned, implemented and evaluated annually. Reporting on GHG emissions is also integrated into the internal quarterly reports made to the Group Executive Board and the Supervisory Board. This KPI shows the current data for GHG emissions in the generation portfolio, and the underlying projections act as a forecast of the medium- to long-term trend. The main topics related to the environment and to measurement and development of green-house gases are portrayed in VERBUND’s Integrated Annual Report.

## **C1.3**

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

|  |  |  |
| --- | --- | --- |
|  | **Provide incentives for the management of climate-related issues** | **Comment** |
| Row 1 | Yes | The system of variable remuneration (top management level) was revised beginning with the current 2019 reporting period and a generally three-year Long Term Incentive Programme (LTIP) was agreed upon in addition to the short-term targets (one-year goals). For the one-year goals, the percentage rate for total achievement of the targets is a standard 70% of the relevant fixed remuneration. In the 2019 reporting period, 70% of the agreement on targets was based on the achievement of the group result and 30% on non-financial goals (including Health, Safety & Environment targets). With respect to the LTIP, a maximum of 55% of the respective fixed remuneration can be paid out as long-term remuneration on the basis of medium-term performance criteria; the actual amount depends not only on the achievement of individual targets, but also on the performance of VERBUND shares. The duration of the LTIP is three years. |

## **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).**

|  |  |  |  |
| --- | --- | --- | --- |
| **Entitled to incentive** | **Type of incentive** | **Activity inventivized** | **Comment** |
| Chief Executive Officer (CEO) | Monetary reward | Emissions reduction target | Success of implementing VERBUND’s 2030 strategy: VERBUND aims at a 100% carbon free energy production. This means efficient generation of electricity from hydropower, an expansion of electricity generation from renewable energy sources such as wind and solar power and a reduction of electricity generation from thermal power. The progress can be measured with the KPI “specific emissions scope 1 (t CO2e/GWh)”. Energy reduction targets and efficiency targets are related to this target. |
| Board/Executive board | Monetary reward | Emissions reduction target | As for the CEO also the Executive Board’s monetary incentive is related to performance indicators as for example emissions reduction targets as well as energy and efficiency targets. Other performance indicators that are also related to above mentioned performance indicators are: Amount of electricity generated from renewables; amount of electricity from renewable sources sold; progress in construction of renewable or low carbon production projects; progress in development of services or products in the field of e-mobility or energy management for our private/corporate users. |
| Business unit manager | Monetary reward | Efficiency project | Business unit managers’ performance indicators are related to the success of conducted projects in their business unit. Such are successfully implemented renewable energy installations, successfully completed energy efficiency measurements at existing power plants. |
| Environment/Sustainability manager | Monetary reward | Behavior change related indicator | Environment and Sustainability managers are responsible for the correct and successful implementation and operation of environmental systems; as well as for the execution of projects related to environmental and climate issues; raising awareness among all employees for sustainable behaviour at the work place (e.g. energy saving actions); contribution to national or international drafts for environmental laws from the company´s point of view; successful communication of company´s activities in environmental and sustainable matters (internet, intranet, media), correct communication of environmental data to central management and authorities. |
| Buyers/purchasers | Non-monetary reward | Supply chain engagement | VERBUND is engaging with its suppliers and partners based on sustainability criteria as laid down in VERBUND’s Supplier Code of Conduct, which needs to be acknowledged by all suppliers. Suppliers are asked to provide specific information about their sustainability effort. Further projects to improve VERBUND´s engagement with suppliers and partners are ongoing. |
| All employees | Non-monetary reward | Behavior change related indicator | Within the annual employee performance review between each employee and his supervisor, performance indicators are set and reviewed. Possible performance indicators are: the successful implementation and conduction of projects in the field of improving efficiency at power plants; improving internal processes regarding their efficiency and environmental parameters, etc. |

## **C2. Risks and opportunities**

## **C2.1**

### **(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?**

Yes

## **C2.1a**

### **(C2.1a) How does your organization define short-, medium- and long-term time horizons?**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **From (years)** | **To (years)** | **Comment** |
| Short-term | 0 | 1 | short-term horizon refers to the current business year. |
| Medium-term | 1 | 5 | mid-term horizon refers to 5 years ahead. |
| Long-term | 5 | 20 | long-term horizon refers to 20 years ahead However, for individual asset valuation, asset allocation and strategic risk the long-term horizon spans a considerable longer period up to 200 years as in the case of run of river plants and climatic change effects on water flow and asset value. |

## **C2.1b**

### **(C2.1b) How does your organization define substantive financial or strategic impact on your business?**

• A substantive financial or strategic impact refers to anything that will significantly affect the KPIs of VERBUND (which are EBITDA, group result, FCF before dividends, Equity, NetDebt) and the company’s sources of success and therefore the ability to generate sustainable earnings, cash flows and growth in the future. On an operational level, depending on the scrutinized time horizon, there are two approaches how the significance of the financial impact of all sorts of risks (also climate related ones) is defined at VERBUND.

• A short- to medium-term approach that looks at the risks financial impact on the consolidated group result and equity. VERBUND defined different categories of severity, where substantial financial impacts range from

- “significant” (€ 50 – 200m),

- “critical” (€ 200 – 2,000m) to

- “threat to existence” (more than € 2,000m).

• A strategic/long-term point of view, which additionally refers to VERBUND’s ability to maintain its desired rating (financial ratings, sustainability ratings) which looks at the risks’ impact on VERBUND’s financial rating metrics (FFO/NetDebt, NetDebt/EBITDA) or effects on sustainability ratings. The Management Board and Supervisory Board of VERBUND approved VERBUND’s defined risk-appetite (A-/BBB+) and risk-bearing capacity (BBB-). Therefore risks are seen as having a substantive financial impact if VERBUND’s defined ratings regarding risk-appetite or risk-bearing capacity are threatened. The above mentioned applied thresholds are derived from rating models of common rating agencies (e.g. S&P, Moody’s).

On a strategic level the identified strategic risks (also climate related ones) are also categorized according to their financial impact on the consolidated group result (VERBUND’s most important financial KPI). The defined categories for a substantial financial or strategic impact are as follows:

- “fundamental impact”: the identified risk shows a one-time impact of more than € 1,000m or a recurring yearly impact of more than € 100m

- „significant impact“: the identified risk shows a one-time impact between € 200m and € 1,000m or a recurring yearly impact between €20m and € 100m

Furthermore, risks/opportunities can also have a substantive strategic impact, even though their financial impact may not be of substantive value. In this case the strategic value can crystallize in other forms as for example risk diversification (e.g. investment in wind and photovoltaic energy generation in different regions in order to decrease the risk of fluctuations of the production volume).

## **C2.2**

### **(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.**

### **Value chain stage(s) covered**

Direct operations

### **Risk management process**

Integrated into multi-disciplinary company-wide risk management process

### **Frequency of assessment**

More than once a year

### **Time horizon(s) covered**

Short-term

Medium-term

Long-term

### **Description of process**

VERBUND‘s Enterprise Risk Management (ERM) framework comprises rules, responsibilities and defined processes concerning risk/opportunity-related issues (also climate-related ones). The defined process is built up of risk identification, assessment, response and reporting. This workflow is integrated into both the short- to medium-term periodic planning/reporting processes (current operations) and the long-term/strategic decision-making (strategic corporate development, project management). Covering different time horizons and intentions, the ERM incorporates both bottom-up and top-down processes. Identification : Short- to medium-term risks (risks arising from day-to-day business that are affected by developments within the next 5 years - e.g. unsteady revenues due to yearly fluctuations of hydro production volumes) are mostly identified on operational level at the different business units (bottom-up). Long-term risks (more strategic aspect), covering developments up to 20 years and more (e.g. long-term financial/strategic impacts due to climate change induced future changes of precipitation patterns and hydrology) are mostly identified and assessed on corporate level (top-down). • Bottom-up: climate related risks/opportunities are identified by operational staff during day-to-day business. Additionally, yearly company-wide “deep-dive“-risk-workshops with Risk-Controllers of the business unit, appointed subject matter experts and the Group Risk Department are conducted with all business units. This process is a systematic search for risk factors, aiming to analyse the risk profile and determine the risk catalog of the scrutinized business unit. • Top-down: Within yearly meetings of the strategy team and the Group Risk Department (incl. CRO) the potential strategic long-term risks are identified and categorized according to defined risk drivers. Main strategic topics are then discussed within meetings of the risk management committee at group level in which the Executive Board participates. This process at company level supplements the former bottom-up risk identification processes and captures the senior management’s overarching perspective across the group. Assessment: • Bottom-up: In coordination with subject matter experts, the Risk-Controllers of the individual business units quarterly assess the identified short- to medium-term risks by considering causes, consequences and probabilities. Most central assumptions include e.g. fluctuations in hydro production volumes, market price variations, legal issues and operational factors. The financial impacts of the risks are quantified as a deviation of defined KPIs. Depending on the quantified effects the risks are categorized as having a substantive financial impact as defined in C2.1b. • Top-down: Additionally, within yearly meetings of the strategy team (e.g. senior management, appointed subject matter experts and the Group Risk Department ) long term effects of strategic climate risks are evaluated according to qualitative and quantitative criteria. The participating members consider causes, financial/strategic consequences and likelihood of the risk factors in question. All agreed strategic risks of VERBUND are quantified (according to VERBUND’s KPIs) and categorized as defined in C2.1b. The risk assessment at company level supplements the bottom-up risk assessment processes and captures the senior management’s overarching perspective of long-term risks across the group. Response: Internal rules regulate decision-making for setting measures on company and asset level. Moreover, defined risk limit systems act as form of thresholds or supportive risk controlling mechanisms. Depending on the affected operational level, decisions regarding necessary actions are made within: 1) the organizational structure pursuant to ongoing business processes (regulated in internal directives) 2) Risk Management Committees (meetings of Group Risk Department and CRO, Risk-Owner and Risk-Controller of the business units held quarterly or on special occasions) 3) special purpose committees, e.g. committee of transfer prices (regular meetings) Case Study Physical risks: Situation: As VERBUND’s generation fleet is based on 90-95% hydropower production, our assets are mainly exposed to an increase in frequency and intensity of seasonal flooding due to climate change. This could cause unexpected costs arising from increased damages to our infrastructure or to damages to third parties which could lead to third party claims. E.g. in November 2019 heavy rain forecasts increased the risk of floods at our power plants along Drau river (several years ago VERBUNG experienced a “century” flood at river Drau causing high damages/costs). Task: In order to minimize damages to our infrastructure and third parties (e.g. the threatened city Lavamünd situated on Drau), a potential flood has to be identified at an early stage. This is a main task of our operating staff at run-of-river plants (VERBUND’s main production type). Action: Assets located in endangered zones regularly monitor regional weather forecasts from the national institution of meteorology, measure river-water levels (like at river Drau) and discuss all gathered information with their local plant manager and regional public authorities. Additionally to the short term identification at asset level, long term developments of extreme weather events are examined at group level. Result: Due to the above mentioned action-steps taken in advance, the potential flood at river Drau in 2019 was identified very early. Because of the measures taken and close cooperation and coordination between the different VERBUND power plants and the close communication with regional public authorities, damages to our infrastructure were minimized and water levels stayed below critical values. Case Study Transitional opportunities: Situation: The EU ETS is crucial for the success of the transition towards more renewable energy generation. Higher ETS-prices have a nearly 1:1 impact on electricity prices and any positive change on ETS-prices cause an increase of profit margins and profits of VERBUND. With its core business VERBUND is in an optimal position to profit from an increasing demand for energy and EU-ETS prices. Task: In order to profit from an increasing demand for energy and EU-ETS prices VERBUND has to identify possible investments and measures to increase its generation capacity from renewables. Action: Operational staff and subject matter experts at our business unit identified and analysed possible efficiency measures to increase generation at existing power plants. Result: VERBUND’s Management Board then decided and the Supervisory Board approved to invest a total of around €650m in the further expansion and maintenance of our hydropower facilities that will lead to additional 106 GWh over the next three years.

### **Value chain stage(s) covered**

Upstream

### **Risk management process**

Integrated into multi-disciplinary company-wide risk management process

### **Frequency of assessment**

More than once a year

### **Time horizon(s) covered**

Short-term

Medium-term

Long-term

### **Description of process**

Rationale for relevance: VERBUND is not significantly dependent upon suppliers to produce its main product, renewably generated electricity. Nevertheless, as there is an increased public preference and regulatory focus towards expansion of green energy, VERBUND is dependent on finding suitable sites to build new power plants and necessary infrastructure. Although the legal and public objectives towards green energy are an opportunity for VERBUND, they also come with some difficulties. An increase in extreme weather events (droughts, floods, storms) and changing regional and seasonal weather conditions (changes in water supply and wind volume) may lead to difficulties in finding suitable sites for building new sustainable long-term power plants in future. In addition, as climate change and environmental protection more and more get into awareness of legal authorities and the public, VERBUND may face constraints and risks when looking for new sites to build power plants and necessary grid infrastructure or when considering breaking into new markets. This can be in the form of legal requirements and regulations (e.g. increasing costs due to stricter and more demanding mandatory environmental impact assessments) as well as local civil movements (e.g. unforeseen costs and delayed revenues because of project delays due to protest actions against new power plants at rivers or against necessary forest clearing to build routes for high-voltage lines). • Risk Identification: Risk identification regarding climate/environmental related issues in the context of strategic long-term upstream investment projects is operated on corporate level by the Group Risk Department, which is in charge of gathering and assessing the necessary risk-related information and identifying possible risk factors. In order to do so, the projects in question are discussed in detail with project teams and related subject matter experts on operational level as well as in meetings of concerned risk management committees. • Risk Assessment: Based on the information gathered and in coordination with project owners and subject matter experts, the Group Risk Department evaluates the identified risks according to qualitative and quantitative criteria (following defined causes, financial consequences, likelihood and time-horizon). The financial impacts of the risks are quantified as a deviation of defined KPIs. Depending on the quantified effects on the consolidated group result and rating, the risks are categorized as having an substantive financial/strategic impact as defined in C2.1b. • Risk Response: The Group Risk Department prepares a risk report with a qualitative risk statement, a quantitative analysis of the risks financial impact on defined key performance indicators and a statement on inherent consequences for VERBUND’s risk appetite and risk-bearing capacity. This report, amongst other information material, serves as basis of decision-making for senior management and board members. Case Study Physical risks: Situation: VERBUND wants to increase its production capacity from renewable energy sources like wind. When investigating possible sites to build new wind farms the environmental conditions, especially forecasts in the long-run, have to be analyzed thoroughly as changing climate conditions (like lower and more volatile wind supply) can have substantial impact on production volumes and related KPIs (e.g. revenues) and the frequency of damages caused by extreme weather events (e.g. increasing unforeseen costs) in the future. Task: In order to avoid bad investment decisions in-depth analysis of current wind supply and possible long-term developments of environmental conditions have to be undertaken and the impacts on future production volumes and defined KPIs have to be evaluated. Action: Currently, different potential construction sites for wind farms in Austria and neighboring countries are investigated. VERBUND owns several wind measuring instruments which are placed at potential constructions sites for several weeks to determine quantity and volatility of wind supply at the designated area. In order to avoid future costs due to damages, simulation experiments of wind flow to identify critical regions were performed and maps which show critical regions threatened by endangering wind extremes were designed. Result: Via discussions with project owners and subject matter experts of the project teams the Group Risk Department gathers information like long-term forecasts for volume and volatility of wind supply. Based on the information collected, the Group Risk Department assesses and quantifies the identified risks and their financial impact on VERBUND’s KPIs, risk-appetite and risk-bearing-capacity for the investment horizon. This information, amongst others, serves as basis for decision-making for the senior management and board members, who then have to decide whether to invest into the project in question or not. Case Study Transitional opportunities: Situation: Europe is in the middle of the energy transition towards more renewable energy generation. The EU ETS is crucial for the success of this transition. VERBUND’s core business (low cost renewable electricity) is in an optimal position to take advantage of the increasing demand for electricity and EU-ETS prices – thus an increase in production volume would be profitable. VERBUND’s long-term goal is to profitably build up an onshore wind and solar portfolio that will account for approx. 20–25% of our overall generation by 2030. Task: To increase production volume of wind and solar power farms. Also, suitable investment targets and construction sites have to be found. Action: Project teams at our business units regularly identify and assess potential investment targets and construction sites. By discussions with project owners and subject matter experts of the project teams, the Group Risk Department gathers risk relevant information like long-term forecasts for volume and volatility of wind or solar supply. Based on the information collected the Group Risk Department assesses and quantifies the identified risks and their financial impact on VERBUND’s KPIs, risk-appetite and risk-bearing-capacity for the investment horizon. Result: Investment Example:Together with OMV, VERBUND is going to build Austria’s largest open-air photovoltaic installation. The collaboration focuses on the evaluation and implementation of electricity generation, storage and "Power-to-X"-plants to increase in-house supplies to OMV locations. The first joint project foresees to construct the biggest open-air photovoltaic installation in Austria with 16 MWp. On an OMV site of around 200,000 m² and with a total of around 60,000 PV modules, the plant should supply approx. 18 GWh of electricity.

### **Value chain stage(s) covered**

Downstream

### **Risk management process**

Integrated into multi-disciplinary company-wide risk management process

### **Frequency of assessment**

More than once a year

### **Time horizon(s) covered**

Short-term

Medium-term

Long-term

### **Description of process**

Rationale for relevance: Due to an increased public awareness of the impact of climate change, there is a growing demand for green energy. In order to meet changing customer requirements and the growing demand for renewable energy, energy providers must adapt both, the production volume of renewably generated energy and the services and product portfolio they offer to customers. Consumers are looking for a more sustainable use of energy and they do not only want to reduce and more efficiently manage their energy consumption but also increasingly want to produce their own green energy. VERBUND therefore offers its customers a range of products and services, for example photovoltaic systems for private homes, energy storage facilities and energy consulting, with the aim to meet the changing customer demands. Downstream climate related risks include accompanying risks/opportunities associated with the supply of energy, associated products and customer services as for example vulnerabilities in services and internal processes as well as reputational risk. • Risk Identification: Risks/opportunities regarding downstream business are identified on different levels. Operational staff finds vulnerabilities in services and internal processes during their day-to-day business. Regularly conducted customer satisfaction surveys as well as image and brand surveys help to find additional weaknesses in processes, offered services and products as well as problems with communication, reputation and issue management. Customer and market analyses are conducted to evaluate opportunities of new products and markets. Furthermore, discussions within meetings of relevant Risk Management Committees and the yearly conducted “deep-dive“-risk-workshops with all business units supplement the ongoing risk identification by searching systematically for risk/opportunity factors. • Risk Assessment: The Risk-Controllers of the individual business units quarterly assess the identified risks by considering causes, consequence and probabilities and quantify the financial impact as a deviation of defined key performance indicators. • Risk Response: Ongoing analysis and improvement of services and internal processes are conducted within day-to-day business and when special occasions arise. Various risk management committees (RMCs) manage the risk inherent in downstream-related risks. Risk-specific matters are decided quarterly or additionally in case of need. Physical Risks: Situation: Investment and possible maintenance costs may cause owners of private homes to hesitate investing into roof top solar power for their private family homes although they would like to produce part of their energy on their own. In May 2020 VERBUND launched a new product offering private customers the possibility to lease a roof top solar power station for their family homes for 12 years and buy it afterwards. During the period of rental, VERBUND remains owner of the solar power station and is responsible for ensuring full functionality of the station. As climate change my increases the frequency and severity of extreme weather events like thunderstorms, lightning and hail, VERBUND has to bear the increasing risk of additional costs due to weather induced damages. Task: Measures to minimize the overall risk position of VERBUND by transferring risk have to be defined and set. Action: Members of the project team at the business unit identified the potential risks arising from extreme weather events and contacted the Group Risk Management Department, which is also responsible for insurance management. Together different options for insurance coverage were discussed and the specifications for an all-risk-insurance were defined. Result: A master agreement for an all-risk-insurance for leased solar power stations for family homes was set up. Transitional opportunities: Situation: Due to an increased public awareness of the impacts of climate change, there is a growing demand for green energy and changes in customer behavior can be observed. In order to meet changed consumer preferences and demands VERBUND has to offer new services and products associated with the production, efficient use and storage of renewable energy. Task: Before introducing new products and services, the inherent risks (e.g. Reputation Risk, Legal Risk), especially in relation with internal processes, have to be identified and possible impacts and countermeasures have to be evaluated and set. Ongoing processes have to be regularly checked and revised in order to diminish deficiencies. Action: Customer and market analyses are conducted regularly to evaluate opportunities of new products and markets. Among other things, the project-team responsible for the development of the new product or service clearly defines internal processes and checks compliance with legal regulations and international security standards (e.g. information security). Cross-divisional issues are clarified and potential negative effects on group-level are discussed within related risk management committees if necessary. Result: VERBUND offers its customers a range of new products and services, for example photovoltaic systems for private homes, energy storage facilities and energy consulting.

## **C2.2a**

### **(C2.2a) Which risk types are considered in your organization's climate-related risk assessments?**

|  |  |  |
| --- | --- | --- |
|  | **Relevance & inclusion** | **Please explain** |
| Current regulation | Relevant, always included | 1) Relevance: Current and emerging regulations enforcing environmental protection as well as regulations targeting energy consumption and reduction of emissions build the market conditions VERBUND operates in. One of these regulations is the EU-Emissions Trading Scheme (EU ETS) which directly affects energy market prices and thus VERBUND’s price risk. Higher ETS-prices have a nearly 1:1 impact on electricity prices. Therefore, any positive/negative change on ETS-prices cause an increase/decrease of profit margins and profits of VERBUND. 2) Example: Considering VERBUND’s production portfolio - 90-95% hydro, 3-5% wind and PV, the difference is gas - we are especially exposed to any regulatory changes of the ETS-scheme. The ETS is an important input factor in electricity prices and any fluctuations in market energy prices are VERBUND’s most important risk. Therefore, VERBUND is especially affected by any changes of the European Union’s emissions trading system. The strengthening of the ETS by the European Union is opening up new possibilities, but also creating impediments. If measures for strengthening the European Emission Trading system don´t succeed and prices for carbon credits remain at levels, that do not support decarbonisation – or if the EU ETS is discarded, electricity wholesale prices will decline. The risk for VERBUND is a reduction of revenues due to the reduced price per kWh electricity sold. 3) Inclusion in climate-related risk assessment: Identification, assessment and management of climate risks related to current regulations are part of VERBUND’s ERM process described in C2.2. The day-to-day risk identification and assessment of operational staff is supplemented by the outcomes of yearly conducted workshops with subject matter experts and risk controllers of the various business units. Quantified risks are incorporated in the regular risk reporting. With regards to the above mentioned example, the EU ETS system is included in VERBUND’s pricing market model and forward curves. For example, a change in wholesale electricity prices of renewable energy generation from our hydro power plants by +/–1€/MWh results in a change of the Group result by €+/– 15-20m (pre-hedging level). Countermeasures set are, for example, increased collaboration with national and international interest groups, associations and authorities. |
| Emerging regulation | Relevant, always included | 1) Relevance: Current and emerging regulations enforcing environmental protection as well as regulations targeting energy consumption and reduction of emissions build the market conditions VERBUND operates in. Such regulations can be directly correlated to price risk and demand risk but can also have implications on planned infrastructure and investment projects. 2) Example: VERBUND anticipates that it will be affected by several emerging regulations related to climate-related topics due to decarbonisation. Examples are climate strategy and related regulations on EU and national level like the national energy and climate strategy or further plans for the development of the EU ETS. VERBUND´s generation portfolio is already 90-95% of renewables and the strategic objective for the future is a 100% CO2-free energy generation portfolio. An excellent legal surrounding, like national and/or international supporting schemes for investments in wind and solar power generation, is crucial for the expansion of renewables. Negative changes of a supportive legal environment could lead to 1) a reduction of expansion plans in renewables like wind and PV or 2) increasing costs of installation of wind and PV which causes in both cases lower revenues or profits (and therefore could make investments in the construction of wind or solar farms unprofitable and unattractive in the future). 3) Inclusion in climate-related risk assessment: Identification, assessment and management of climate risks related to emerging regulations are part of VERBUND’s ERM process described in C2.2. Within workshops with subject matter experts at operational level and Risk-Controllers of the respective business unit, climate related risks due to emerging regulations are identified and assessed. The quantified risks and opportunities are incorporated in the regular risk reporting. |
| Technology | Relevant, always included | 1) Relevance: Development of climate-related technologies (wind and solar power, energy storage, hydrogen, and e-mobility, etc.) has a direct impact on our core business and investment decisions. Technology/Investment risk consists of the following two parts: • Investments have been taken in technologies which fail over the next years • Investments have been taken in technologies at early development stage like electricity storage batteries – evolving technology improvements over the next years make former investments inefficient, expensive and unattractive. 2) Example: VERBUND as early mover in taking environmental friendly investments is currently investing heavily in electricity storage batteries in Austria and Germany (e.g. Project SYNERG-E which is engaged in investments in local stationary buffer storage). If the technology of battery storage improves faster than expected or a completely new technology is defined as new storage standard, the taken investments have to be depreciated completely (= technology/investment risk) 3) Inclusion in climate-related risk assessment: Identification, assessment and management of climate related technology risks are part of VERBUND’s ERM process described in C2.2. The day-to-day risk identification and assessment of operational staff is supplemented by the outcomes of yearly conducted workshops with subject matter experts and risk controllers of the various business units. Quantified risks are incorporated in the regular risk reporting. For example, the climate-related technology risks are included in our management process of strategic risks. Within its ERM process VERBUND regularly identifies its strategic risks. These cover potential risks over the next 30 years. The identified risks serve as decision making basis for VERBUND’s Innovation and R&D department. By incorporating the components of the identified strategic risks into investment decisions in innovations and R&D the impacts of future risks can be mitigated. |
| Legal | Relevant, always included | 1) Relevance: Climate-related legal risks are relevant because of the potential litigation risks due to non-compliant climate-relevant actions. Climate related legal uncertainty factors are incorporated in VERBUND’s risk reporting and management within the risk categories legal risk and operational risk. 2) Example: VERBUND’s main power generation fleet are run-of-river power plants which are a structural intervention in the natural environment and habitat of animals and plants. In order to protect fauna and flora along the rivers there are environmental protection standards ordered by the authorities that have to be followed (e.g. structural protection standards like fish bypasses). VERBUND is aware of its responsibility towards the environment and nature. For example, VERBUND already built numerous fish bypasses and is currently building a new one. Within the project LIFE Network Danube Plus VERBUND is investing € 5.5m to build a new fish bypass at the power plant Altenwörth at river Danube which will be 12.5 km long. However, the negative effects of climate change may force legal authorities to implement new/additional environmental protection standards or intensify and tighten existing ones which could lead to increasing costs for VERBUND to implement the necessary measures in order to comply with them. 3) Inclusion in climate-related risk assessment: Identification, assessment and management of climate related legal risks are part of VERBUND’s ERM process described in C2.2. The day-to-day risk identification and assessment of operational staff is supplemented by the outcomes of yearly conducted workshops with subject matter experts and risk controllers of the various business units. Quantified risks are incorporated in the regular risk reporting. In order to avoid fines for failing to comply with official standards legal and regulatory developments are regularly monitored. |
| Market | Relevant, always included | 1) Relevance: Climate-related market risks are included in our market model. Several key drivers of the market model are affected by climate-related risks. Amongst others, climate related market uncertainty factors are incorporated within the customer behaviour (having impact on volume risk, price risk and investment risk). 2) Example: A typical VERBUND customer is not only relying on attractive energy prices but also on sustainable energy production, which is granted by VERBUND due to 90-95% renewable energy production. An increased awareness of the negative effects of climate change affects customer behavior. Consumers are looking for a more sustainable use of energy and they do not only want to reduce and more efficiently manage their energy consumption but also increasingly want to produce their own green energy. The expected increase in decentralized power generation (e.g. roof top solar power for private family homes) may decrease the demand for electricity of private customers and thus could lead to declining revenues in future. 3) Inclusion in climate-related risk assessment: Identification, assessment and management of climate related market risks are part of VERBUND’s ERM process described in C2.2. The day-to-day risk identification and assessment of operational staff is supplemented by the outcomes of yearly conducted workshops with subject matter experts and risk controllers of the various business units. Quantified risks are incorporated in the regular risk reporting. Furthermore climate related market risks are included in VERBUND’s pricing market model and forward curves. This market model is a key tool in risk management. |
| Reputation | Relevant, always included | 1) Relevance: With a generation portfolio well over 90% renewable, and with an exit strategy for coal-fired generation, we do not view a significant reputational risk to VERBUND due to climate-related risk. However, possible impacts on VERBUND’s reputation with respect to climate change and environment protection are always scrutinized when new markets, products or infrastructure projects are evaluated. 2) Example: Despite a positive official notification for the construction of a 380 kV high-voltage line in Salzburg (which is owned by VERBUND’s 100% subsidiary APG AG) and its importance for electricity supply and grid stability (especially in view of the climate targets set by the government and accompanying expansion of wind and photovoltaic power plants) local civil movements and protest actions against necessary forest clearing not only delay the construction process but also lead to regular negative medial reporting. There is a regular assessment of VERBUND’s brand awareness, brand loyalty, brand factors by VERBUND’s most important stakeholders including customers. Therefore any deterioration of VERBUND’s reputation may cause additional communication/marketing costs in order to minimize reputational damage and loss of revenues due to reputational damage (may causes additional unforeseen costs as well as an delay of expected revenues). 3) Inclusion in climate-related risk assessment: Identification, assessment and management of climate related reputation risks are part of VERBUND’s ERM process described in C2.2. The day-to-day risk identification and assessment of operational staff is supplemented by the outcomes of yearly conducted workshops with subject matter experts and risk controllers of the various business units. Quantified risks are incorporated in the regular risk reporting. In order to mitigate impacts of climate-related reputation risks daily communication and media monitoring processes as well as necessary action plans are introduced. |
| Acute physical | Relevant, always included | 1) Relevance: Climate-related acute physical risks are considered in our operational risk assessment and environmental management System. Climate related uncertainty with respect to acute physical factors are incorporated in VERBUND’s risk reporting and management within the risk categories Volume Risk, Operational risk and Investment risk. 2) Example: Our generation fleet (mainly run-of-river, storage and wind power plants) and transmission grid are potentially exposed to an increase in frequency and intensity of seasonal flooding and storms due to climate change. This could cause an increase in damages and unscheduled outages of electricity generation or transmission facilities. For example, in November 2019 heavy rain forecasts increased the risk of floods and thus the risk of damages to our infrastructure at our power plants along the river Drau. The potential flood could have caused damages to our infrastructure and to third parties like the threatened neighboring city Lavamünd (situated by the river Drau) which could have led to unforeseen costs (reconstruction, third party claims). Besides, in November 2019 heavy rain, wind and snowfall lead to damages (unforeseen costs for reconstruction) and unscheduled outages (loss of revenues) of grid infrastructure (high-voltage lines in alpine regions) due to avalanches and snow breakage in the forests in several regions in Austria. 3) Inclusion in climate-related risk assessment: Identification, assessment and management of climate related acute physical risks are part of VERBUND’s ERM process described in C2.2. The day-to-day risk identification and assessment of operational staff is supplemented by the outcomes of yearly conducted workshops with subject matter experts and risk controllers of the various business units. Quantified risks are incorporated in the regular risk reporting. The potential financial impact is calculated by incorporating expected damage and reconstruction costs and possible income losses. |
| Chronic physical | Relevant, always included | 1) Relevance: Climate-related chronic physical risks are considered in our operational risk assessment, and long-term market models. Climate related uncertainty with respect to chronic physical factors are incorporated in VERBUND’s risk reporting and management within the risk categories Volume Risk, Operational risk and Investment risk. VERBUND regularly assesses long term developments of climate conditions (e.g. POWERCLIM – studies in the last years together with scientists from the University of Natural Resources and Life Sciences, Vienna) and their long term impact on VERBUND’s business (e.g. long term changes in precipitation patterns and water hydrology, wind and solar supply = chronic physical risk). One of the results of the studies is an expected increase of local natural events/disaster like local floods, landslides, avalanches. (=acute physical risks) 2) Example: VERBUND with its generation fleet of mainly hydro run-of-river an storage power plants experienced in the last years during summer time always extremely low hydrology resulting in a reduction of power generation and subsequently lower revenues and profits. According to the above mentioned POWERCLIM studies this could already be an indicator for chronic physical risks (long term changes of local and seasonal precipitation patterns) 3) Inclusion in climate-related risk assessment: Identification, assessment and management of climate related chronic physical risks are part of VERBUND’s ERM process described in C2.2. The day-to-day risk identification and assessment of operational staff is supplemented by the outcomes of yearly conducted workshops with subject matter experts and risk controllers of the various business units. In addition, main strategic relevant topics with respect to climate change and its implications for chronic physical risks are discussed within meetings of the strategy team and the risk management committee at group level. Quantified risks are incorporated in the regular risk reporting. Climate related chronic physical risks are included in VERBUND’s market model. A change of generation from our hydropower plants by +/–1% results in a change of the group result by €+/–6.8m. (Based on assumption and prices per 31th December 2019.) For example in case we experience a reduction of hydrology of 20% during the summer months, the result would be a negative effect on our profits of about € 30-35m. |

## **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 & Primary climate-related risk driver**

|  |  |
| --- | --- |
| Acute physical | Increased severity and frequency of extreme weather events such as cyclones and floods |

### **Primary potential financial impact**

Other, please specify (litigation, claims, increased costs (e.g. reconstruction costs for damages to facilities) and reduced revenues due to production outages)

### **Climate risk type mapped to traditional financial services industry risk classification**

<Not Applicable>

### **Company-specific description**

For VERBUND as a renewable energy producer, natural events such as floods, storms or avalanches may cause unscheduled outages of electricity generation, damages to our infrastructure or consequential litigation claims because of damages to third parties. In the following paragraph we focus only on the litigation risk: Climate models show that extreme weather events will increase in both severity and frequency, even more due to global warming. Our hydro power plants were exposed to several floods in last years and suffered damage. In 2013 VERBUND experienced a hundred-year flood event at the river Drau. Consequences of this flood at river Drau were damages not only to VERBUND’s infrastructure but also to Drau-river neighboring cities and buildings. Concerned third parties in Austria and Slovenia claimed their financial damages to VERBUND. Legal procedures are mostly still ongoing and final financial consequences for VERBUND are therefore still unknown. Financial provisions have been taken in VERBUND’s balance-sheet and the liability insurance company of VERBUND has been informed.

### **Time horizon**

Short-term

### **Likelihood**

Very unlikely

### **Magnitude of impact**

High

### **Are you able to provide a potential financial impact figure?**

Yes, an estimated range

### **Potential financial impact figure (currency)**

<Not Applicable>

### **Potential financial impact figure – minimum (currency)**

100000

### **Potential financial impact figure – maximum (currency)**

55000000

### **Explanation of financial impact figure**

The financial impact figure shown is EBITDA per year and is derived from historical data - third party claims (like public authorities, companies and private parties) arising from damages due to floods. Considering the flood events of the last 20 years and the experienced financial claims of damaged parties we defined the minimum and maximum potential financial impact figure. The maximum figure shows a possible impact of very unlikely extreme-weather events like hundred-year-floods (e.g. Drau 2013). On the other side the minimum potential impact figure is based on a typical annual year flood. The final damage figure depends on kind of flood (whether it is a hundred-year-flood, or a typical average annual flood, how long the flood lasts, implied mitigation measures (e.g. structural protection) VERBUND and local authorities have taken and how densely populated the threatened area is and which kind of buildings are exposed to the flood.

### **Cost of response to risk**

2250000

### **Description of response and explanation of cost calculation**

Responding strategy: 1. Structural protection (e.g. retention basins) for critical infrastructure threatened by extreme weather conditions (avalanches, floods) are built and constantly monitored and potential threats like log/driftwood jams or sedimentary depositions at our weir systems are regularly cleared up. 2. Internal rules, action plans, regular training sessions and courses and intensified cooperation with public authorities are implemented to ensure a fast and coordinated communication for the case of extreme weather events. 3. insurance policies in case of damages due to extreme weather events Cost of response to risk: The figure above shows the mean value for the set measures per year and includes insurance premiums, investment costs for structural protection measures, costs for lawyers and amounts paid in settlement. Based on a mean value of € 2,250,000 we assume costs for lawyers of € 500,000, investment costs for structural protection € 1,300,000, about € 350,000 for insurance premiums and € 100,000 for amounts paid in settlement. Case Study: Situation: In November 2019 heavy rain forecasts predicted an increased risk of floods at our power plants along the river Drau. Task: VERBUND had to set countermeasures in order to minimize the threat of potential damages and consequential costs for reconstruction or third party claims caused by the potential flood. Action: As a consequence to a flood in 2013 VERBUND set up structural protection measures together with local authorities. In addition to the built structural protection and according to defined internal operational rules and contingency plans, our power plants started to lower the water levels. This created intermediate buffers to absorb the additional water volumes. Furthermore VERBUND’s crisis team regularly communicated with the national institution of meteorology and coordinated the measures with the crisis committee of regional public authorities. Result: Because of the measures and the close cooperation and coordination between the power plants and the close communication with regional public authorities, damages to our infrastructure were minimized and damages to third parties were prevented (e.g. at the threatened neighboring city Lavamünd). Although the taken measures mitigated the damages to our infrastructure they did not prevent all damages, however, the costs for reconstruction are covered by insurance policies.

### **Comment**

### **Identifier**

Risk 2

### **Where in the value chain does the risk driver occur?**

Direct operations

### **Risk type & Primary climate-related risk driver**

|  |  |
| --- | --- |
| Chronic physical | Changes in precipitation patterns and extreme variability in weather patterns |

### **Primary potential financial impact**

Decreased revenues due to reduced production capacity

### **Climate risk type mapped to traditional financial services industry risk classification**

<Not Applicable>

### **Company-specific description**

Changing precipitation patterns, potentially higher temperatures and glacial melting could lead to a change in water availability and water temperature, affecting the output of VERBUND’s main generation source – the hydro run-of-river and storage power plants in Austria and Germany. Over the long term, climate change can affect both the seasonal and the annual water supply. Output from run-of-river plants is subject to seasonal fluctuations in the water supply of rivers and can be controlled only to a minor extent (hydro peaking). Owing to climate change there is a risk that the number of dry years or seasons will rise in the future and that the production capacity and thus revenues may decrease.

### **Time horizon**

Short-term

### **Likelihood**

Likely

### **Magnitude of impact**

High

### **Are you able to provide a potential financial impact figure?**

Yes, an estimated range

### **Potential financial impact figure (currency)**

<Not Applicable>

### **Potential financial impact figure – minimum (currency)**

6000000

### **Potential financial impact figure – maximum (currency)**

60000000

### **Explanation of financial impact figure**

Explanation of financial impact figure The maximum financial impact figure shown is EBITDA per year and is calculated based on a P5 scenario (risk scenario, that will materialize with 5% probability – “very unlikely”). This figure is derived from a hydropower production of VERBUND per year of approx. 25 TWh, an assumed long-term average market price for electricity of about 45 €/MWh and the assumption that the long-term decrease of precipitation is about 5% in the worst case. The assumed reduction of 5% is based on the project “POWERCLIM” which was carried out in 2019. Together with scientists from the University of Natural Resources and Life Sciences, a study was carried out with the aim to predict long term climate change induced developments in hydro production potential in areas relevant for VERBUND until 2100. The maximum figure (rounded up) is calculated by multiplication of VERBUND’s yearly hydropower production (25 TWh) with the estimated 5% reduction and the assumed market price (45 €/MWh). Formula Maximum = ~25,000,000\*5%\*45 ; The assumed minimum figure shows 10% of the maximum.

### **Cost of response to risk**

650000000

### **Description of response and explanation of cost calculation**

Together with scientists from the University of Natural Resources and Life Sciences VERBUND carried out the project “POWERCLIM” in order to find out which effects climate change may have on VERBUND’s business. The study showed mainly seasonal and regional fluctuations in precipitation patterns for the future. VERBUND’s generation fleet in Austria and Germany shows high regional diversification. According to the outcomes of the study it is likely that not the whole generation fleet of VERBUND will be affected by dry periods at the same time and thus VERBUND can profit from investing in maintenance and efficiency measures at existing facilities due to diversification effects. Case Study: Situation: Global climate change is changing long-term precipitation patterns and is leading to higher temperatures and consequential glacial melting in different regions of the world. Task: In order to weaken the effects of long term climate change VERBUND has to evaluate the possible effects on its generation fleet and find suitable measures to make up for the possible reductions of water supply. Action: The project "POWERCLIM" analyzed long term climate change induced development in hydro production potential in areas relevant for VERBUND until 2100. The project started in 2013 and was updated in 2019. The (temporal and spatial high resolution) scenario data stemming from POWERCLIM allow more precise analyses and improved strategic planning and investment. Results: In order to make up for possible future fluctuations in water supply of VERBUND’s existing power-plant fleet, VERBUND undertakes strong investments in increasing its renewable energy generation capacity by investing in additional hydro production capacities as well as rehabilitation measures in existing power plants (like power plant groups as Kaprun or Malta). Over the next three years, a total investment of around €650m in the further expansion and maintenance of our hydropower facilities will be implemented and with these investments the impact of future hydrology fluctuations will be reduced (due to additional and improved capacities). Furthermore VERBUND will focus on expanding electricity generation from the new renewable energy sources of wind and solar power in future. VERBUND’s strategy envisages that by 2030 around 20–25% of the electricity we generate will come from new renewable sources of energy. In this way, the dependence on hydrology will decrease over the next years.

### **Comment**

### **Identifier**

Risk 3

### **Where in the value chain does the risk driver occur?**

Direct operations

### **Risk type & Primary climate-related risk driver**

|  |  |
| --- | --- |
| Current regulation | Mandates on and regulation of existing products and services |

### **Primary potential financial impact**

Other, please specify (Decreased revenues due to reduced energy prices per kWh sold)

### **Climate risk type mapped to traditional financial services industry risk classification**

<Not Applicable>

### **Company-specific description**

Cap and trade schemes: About 90-95% of electricity produced by VERBUND is generated from renewables. Thus, this part of our generation (approx. 25 TWh per year) is produced without costs for carbon prices, as renewable generation is not burdened by the European Emission Trading system (ETS). Higher ETS-prices have a nearly 1:1 impact on electricity prices therefore any positive/negative change on ETS-prices cause an increase/decrease of profit margins and profits of VERBUND. In case measures for strengthening the European Emission Trading system don´t succeed and prices for carbon credits remain at low levels (lower than 20-25€/t), that do not support decarbonisation or if the European Trading System (ETS) is discarded, electricity wholesale prices will decline. Risk for VERBUND is a reduction of revenues due to the reduced price per kWh electricity sold.

### **Time horizon**

Medium-term

### **Likelihood**

About as likely as not

### **Magnitude of impact**

High

### **Are you able to provide a potential financial impact figure?**

Yes, an estimated range

### **Potential financial impact figure (currency)**

<Not Applicable>

### **Potential financial impact figure – minimum (currency)**

0

### **Potential financial impact figure – maximum (currency)**

150000000

### **Explanation of financial impact figure**

The maximum financial impact figure shown is EBITDA per year and is calculated based on a worst case scenario (which is a risk scenario, that will materialize with only 5% probability). The total financial impact of changes in electricity prices depends on the implemented hedging-level of a certain year. A decrease of electricity prices only affects energy volumes which have not been pre-sold yet. Formula for financial impact figure (maximum) ~ 25,000,000 MWh (VERBUND’s annual renewable production) \*€ 6 (based on a standard deviation of CO2 prices and an assumed correlation between CO2 prices and electricity prices of ~0.6). The figure shows the impact at pre-hedging level (assumption no energy volumes pre-sold).

### **Cost of response to risk**

700000

### **Description of response and explanation of cost calculation**

The mitigation measure on operational level concerning this risk is to hedge (=pre-sell) energy volumes planned to produce over the next period. VERBUND has a trading department which is responsible for pre-selling energy volumes. This trading department exists irrespective of any changes of carbon prices and thus our costs disclosed in “costs of management” is € 0 as no additional costs for mitigating this risk type arise. As a more strategic and long term mitigation measure, VERBUND runs the departments "Legal Affairs" and "Public Affairs" with employees that are partly engaged in the negotiation of new regulation on national/international level. One person of the Legal Affairs department is directly located in Brussels to improve the communication with European policy makers. The departments of Legal Affairs and Public Affairs are handling different regulatory topics and CO2 is one of the most important ones. Therefore, all related costs of these departments, like staff and rental costs, are the basis for the costs of response to risk. Case Study: Situation: In case measures for strengthening the European Emission Trading system don´t succeed and prices for carbon credits remain at low levels (lower than 20-25€/t), that do not support decarbonisation – or if the EU-ETS is discarded, electricity wholesale prices will decline. Risk for VERBUND is a reduction of revenues due to the reduced price per kWh electricity sold. Task: In order to strengthen the ETS VERBUND decided to communicate its position regarding CO2-prices and decarbonisation. Action: VERBUND composed a position paper regarding its position to climate and future energy policies and acted on national and EU-Level to support more ambitious EU climate targets. Result: VERBUND presented its requests - Europe-wide introduction of a CO2 price regime extended to current non-ETS sectors, - Successively increasing the minimum-price for CO2 in the ETS - Development of concepts for the introduction of CO2 duties (Carbon Border Tax)

### **Comment**

## **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 of new products or services through R&D and innovation

### **Primary potential financial impact**

Increased revenues resulting from increased demand for products and services

### **Company-specific description**

Climate change and the accompanying need to reduce carbon emission, energy consumption, find new sources of energy and possibilities of efficient energy storage underlines the need of augmented R&D and innovation. Changing customer demands and behavior lead to new products and services for private and business customers as well as to technological innovation, which allow to enter new markets and generate new business and exploit new sources of revenue. In addition to its core business (i.e. generation, transmission, trading & sales of electricity) VERBUND has decided to start a R&D program covering new business solutions outside the core business. This include for example E-Mobility, battery storage and green hydrogen technology. With its commitment in the areas of innovative technologies and business models VERBUND not only realizes the opportunity of generating additional revenues, but also contributes to the decarbonisation of various sectors. The focus of the following answers lies on hydrogen technology.

### **Time horizon**

Long-term

### **Likelihood**

Likely

### **Magnitude of impact**

Medium-low

### **Are you able to provide a potential financial impact figure?**

Yes, an estimated range

### **Potential financial impact figure (currency)**

<Not Applicable>

### **Potential financial impact figure – minimum (currency)**

50000

### **Potential financial impact figure – maximum (currency)**

40000000

### **Explanation of financial impact figure**

The expected range of the yearly financial impact (additional revenue) from € 50,000 - €40m - is based on a long-term investment plan and reflects VERBUND’s expected yearly revenues generated by innovative R&D projects regarding the generation of green hydrogen from electricity from renewable energy sources. The figures of the above mentioned financial impact range depends on the final extent of investments taken in green hydrogen during the time 2020 to 2030. Although this amount is not substantive according to our definition, it is of strategic value by contributing to decarbonisation.

### **Cost to realize opportunity**

100000000

### **Strategy to realize opportunity and explanation of cost calculation**

The above shown figure of cost to realize the opportunity reflects the sum of VERBUND’s expected investments into projects regarding green hydrogen from 2020 to 2030. The final figure however depends on the number of projects and extent of investments taken in green hydrogen during the time 2020 to 2030 Case Study: Situation: The global industrial sector is researching concrete options for reducing its CO2 emissions. Task: Changing customer demands and behavior are encouraging the development of new products, services and technological innovation, which allow to enter new markets and generate new business. In order to benefit from changing market and customer demands and to support the decarbonisation process, VERBUND has to invest into different projects and the development of new products regarding energy storage, alternative green energy sources and improvement of energy efficiency Action: During the last years VERBUND invested into R&D projects regarding the generation of green hydrogen from electricity from renewable energy sources like the project H2Zillertal (with the aim of using an electrolysis system at VERBUND hydro power plants to produce green hydrogen which is then used to fuel trains of local public transportation services in Zillertal) or the project H2FUTURE – a cooperative innovation project, where, under the coordination of VERBUND, six European partners (voestalpine, Siemens, APG, K1 MET und TNO) work together to install a large-scale (6 MW) proton exchange membrane (PEM) electrolysis system at the voestalpine Linz steel plant in Austria. The project is supported by the European Commission (Fuel Cell and Hydrogen Joint Undertaking). The plant began operating in 2019 and started to produce green hydrogen. Results: Major progress has been made to demonstrate the feasibility of producing hydrogen from renewable energy on a large scale supporting the decarbonisation of carbon intensive industrial processes like steel manufacturing (e.g. at voestalpine Linz). Additionally further potential fields of application in other industrial sectors like the chemical or fertilizer industry are investigated. The VERBUND clean hydrogen investments also conform with the European hydrogen strategy (Clean Hydrogen Alliance).

### **Comment**

### **Identifier**

Opp2

### **Where in the value chain does the opportunity occur?**

Direct operations

### **Opportunity type**

Resilience

### **Primary climate-related opportunity driver**

Resource substitutes/diversification

### **Primary potential financial impact**

Increased diversification of financial assets

### **Company-specific description**

Climate induced changes in precipitation could alter generation capabilities of VERBUND’s existing hydro run-of-river and storage power plants in Austria and Germany. In order to strengthen its resilience against fluctuations in hydro power generation and additionally to diversify its sources of risk, VERBUND wants to push the expansion of wind and photovoltaic energy generation. Objective of VERBUND is to increase its total production capacity by around 20-25% with wind and photovoltaic production capacities. This also supports the ambitious targets towards expansion of renewable generated energy at national (e.g. 100% renewable generated energy by 2030 in Austria) and EU-level (e.g. European Green Deal).

### **Time horizon**

Long-term

### **Likelihood**

Likely

### **Magnitude of impact**

High

### **Are you able to provide a potential financial impact figure?**

Yes, an estimated range

### **Potential financial impact figure (currency)**

<Not Applicable>

### **Potential financial impact figure – minimum (currency)**

30000000

### **Potential financial impact figure – maximum (currency)**

300000000

### **Explanation of financial impact figure**

The financial impact figure shown is additional revenue per year. VERBUND’s strategy envisages that by 2030 a total of 20–25% of the electricity generated will come from new renewable sources of energy. The expected range of the yearly financial impact (additional revenue) from € €30m-€300m - is based on a long-term investment plan and reflects VERBUND’s expected yearly revenues generated by additional energy generation capacity from wind and photovoltaic power plants. The figures of the above mentioned financial impact range depends on the final extent of investments taken in wind and PV during the time 2020 to 2030. Assumption maximum financial impact: = additional 5,000,000 MWh\*€ 60 (estimated mix from regulated tariffs and market prices)= € 300m Assumption minimum financial impact = 10% of maximum

### **Cost to realize opportunity**

4200000000

### **Strategy to realize opportunity and explanation of cost calculation**

Assumption: additional 3,500 MW\*€ 1,2m/MW (mix from PV and Wind Assets in European countries) = € 4,2bn Strategy: possible investment projects are regularly investigated. Situation: Global climate change is increasing environmental awareness of customers as well as of national and international authorities. There is a rising demand for renewable generated energy and ambitious targets towards expansion of renewable generated energy are set on both national and international level. Task: In order to meet the rising demand for renewable generated energy VERBUND wants to increase its generation capacity. However, climate induced changes in precipitation could alter generation capabilities of VERBUND’S run-of-river hydro power plants in Austria and Germany. With the purpose of increasing its overall energy output and to compensate for possible fluctuations in hydro power generation alternative investment possibilities have to be found. Therefore, a long-term investment strategy has to be determined and suitable investment projects have to be found. Action: VERBUND determined a long-term investment strategy that states that by 2030 a total of 20–25% of the electricity generated will come from new renewable sources of energy. Results: In 2019 VERBUND founded a new subsidiary (Verbund Green Power GmbH) with the main purpose of managing the existing wind farms and photovoltaic plants as well as exploring promising projects and subsequently acquire and/or build new wind and photovoltaic power plants.

### **Comment**

### **Identifier**

Opp3

### **Where in the value chain does the opportunity occur?**

Direct operations

### **Opportunity type**

Energy source

### **Primary climate-related opportunity driver**

Participation in carbon market

### **Primary potential financial impact**

Increased revenues resulting from increased demand for products and services

### **Company-specific description**

About 90-95% of electricity produced by VERBUND is generated from renewables. Thus, this part of our generation (approx. 25 TWh per year) is produced without costs for carbon prices, as renewable generation is not burdened by the European Emission Trading system (ETS). Higher ETS-prices have a nearly 1:1 impact on electricity prices therefore any positive/negative change on ETS-prices cause an increase/decrease of profit margins and profits of VERBUND. If negotiations on global and especially on EU level decide to strengthen emission reduction targets, carbon prices will rise. As carbon prices rise, electricity prices will further increase due to carbon prices being a main part of the energy wholesale prices and as VERBUND´s power generation is mainly of renewables, which are not burdened by the EU ETS, VERBUND would experience higher revenues.

### **Time horizon**

Medium-term

### **Likelihood**

About as likely as not

### **Magnitude of impact**

High

### **Are you able to provide a potential financial impact figure?**

Yes, an estimated range

### **Potential financial impact figure (currency)**

<Not Applicable>

### **Potential financial impact figure – minimum (currency)**

0

### **Potential financial impact figure – maximum (currency)**

150000000

### **Explanation of financial impact figure**

The maximum financial impact figure shown is EBITDA per year and is calculated based on a worst case scenario (which is a risk scenario, that will materialize with only 5% probability). The total financial impact of changes in electricity prices depends on the implemented hedging-level of a certain year. A decrease of electricity prices only affects energy volumes which have not been pre-sold yet. Formula for financial impact figure (maximum) ~ 25,000,000 MWh (= VERBUND’s annual renewable production) \*€ 6 (based on a standard deviation of CO2 prices and an assumed correlation between CO2 prices and electricity prices of ~0.6) The figure shows the impact at pre-hedging level (assumption no energy volumes pre-sold).

### **Cost to realize opportunity**

650700000

### **Strategy to realize opportunity and explanation of cost calculation**

In order to profit from an increasing demand for low emission energy and rising energy prices due to higher carbon prices VERBUND aims to increase its production capacity of renewable generation. We are planning to invest a total of around €650m in the further expansion and maintenance of our hydro power facilities. We will focus on expanding electricity generation from wind and solar power in future. VERBUND’s strategy envisages that by 2030 around 20–25% of our generation will come from new renewable sources. While this action may mitigate VERBUND’s risks related to long-term changes of climate conditions, the costs disclosed in “costs of management” should not be seen as comprehensive risk report of VERBUND’s cost of managing this risk type. As a strategic and long term measure VERBUND runs the departments "Legal Affairs" and "Public Affairs" with employees that are partly engaged in the negotiation of new regulation on national/international level. One person of the Legal Affairs department is directly located in Brussels to improve the communication with EU policy makers. The departments are handling different regulatory topics and CO2 is one of the most important ones. Therefore all related costs of these departments like staff and rental costs are the basis for the costs of response to risk (€ 700,000). Case Study: Situation: In case measures for strengthening the European Emission Trading system don´t succeed and prices for carbon credits remain at low levels (lower than 20-25€/t), that do not support decarbonisation – or if the EU-ETS is discarded, electricity wholesale prices will decline. Risk for VERBUND is a reduction of revenues due to the reduced price per kWh electricity sold. Task: In order to strengthen the ETS VERBUND decided to communicate its position regarding CO2-prices and decarbonisation. Action: VERBUND composed a position paper regarding its position to climate and future energy policies and acted on national and EU-Level to support more ambitious EU climate targets. Result: VERBUND presented its requests - Europe-wide introduction of a CO2 price regime extended to current non-ETS sectors, - Successively increasing the minimum-price for CO2 in the ETS - Development of concepts for the introduction of CO2 duties (Carbon Border Tax)

### **Comment**

## **C3. Business Strategy**

## **C3.1**

### **(C3.1) Have climate-related risks and opportunities influenced your organization’s strategy and/or financial planning?**

Yes, and we have developed a low-carbon transition plan

## **C3.1a**

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

Yes, qualitative and quantitative

## **C3.1b**

### **(C3.1b) Provide details of your organization’s use of climate-related scenario analysis.**

|  |  |
| --- | --- |
| **Climate-related scenarios and models applied** | **Details** |
| RCP 2.6  RCP 4.5  RCP 6  RCP 8.5 | VERBUND uses climate-related scenarios in strategic and financial planning, energy economics and risk management. The scenarios are based on the specific challenge to be addressed and aim to account for possible future developments and their repercussions. Physical climate scenarios: VERBUND uses physical climate scenarios on the impact of climate change to meteorology and hydrology in our core markets, especially the alpine region in Europe. (1) Boundaries and time horizons: The geographical focus is on our core markets in central Europe and the time horizon is up to 2100, covering the life time of new hydro power plants. As our profits derive mostly from hydropower plants, our focus has been on the impact of climate change on changes in the hydrology of our plants. (2) Selection of scenarios: VERBUND follows the TCFD recommendations on how to select and apply scenario analysis as published by TCFD in the Technical Supplement “The Use of Scenario Analysis in Disclosure of Climate-Related Risks and Opportunities”. VERBUND relies on the IPCC scenarios based on “Representative Concentration Pathways” (RCPs): RCP 2.6, RCP 4.5, RCP 6 and RCP 8.5. (3) Methodology used: The mentioned emission scenarios are the basis for Global Climate Models (GCM) which need to be combined with Regional Climate Models (RCM), e.g. for Central Europe, where VERBUNDS main assets are located. Therefore, we combine different Regional Climate Models (e.g. ICHC, MOHC, ALADIN, REMO, RegCM3) with a hydrological model (e.g. HBV). In 2012 VERBUND started a comprehensive hydrological research project together with the University of Natural Resources and Life Sciences Vienna (BOKU), which was updated in 2019. (4) Results and outcomes: The goal of the project was to analyse potential changes in the hydrology for hydropower plants in the alpine region until the end of this century using different emission scenarios (RCP 2.6, RCP 4.5, RCP 8.5). In most scenarios analysed, the Austrian glaciers will almost disappear until 2100. There will be most likely a decrease of water levels in summer and an increase in winter months. Some scenarios show a decrease of the average total runoff per year of around 5%, while other scenarios show an increase in the same range. The probability for very dry years will increase, especially in scenarios based on RCP 8.5. In the coming years, it is planned to conduct further research especially on the impact of climate change on the meteorology of wind power as VERBUND plans to increase the share of this generation technology. (5) Influence on organization´s strategy: The results are reported to the Group Executive Board and our climate-related scenarios influence decision making. Diversification in terms of renewable energy technology as well as geography is used to mitigate climate-related risks. For instance, no investments for hydro power plants are done in water stressed areas. Our climate-related scenario analysis reinforces the value of our focus on low-cost carbon-free electricity generation from hydro, wind and solar power and long-term objective to be a 100% CO2-free electricity producer. (6) Case Study: Situation: A reduction in water levels are expected and less generation output of our hydropower plants are the result. Task: In order to compensate this, VERBUND is already going through progressive efficiency programs. The modernization of our existing hydropower plants increases the generation output. Action: Currently VERBUND is modernizing the hydropower plant Ybbs-Persenbeug. Result: The generation output of the Ybbs-Persenbeug hydropower plant will increase by 77 GWh. Additional efficiency improvement projects for other VERBUND hydropower plants are in the pipeline. The total efficiency improvement program will increase the generation output of VERBUND by 183 GWh. |
| IEA Sustainable development scenario  IEA NPS  IEA CPS  Other, please specify (IHS Markit, PÖYRY) | Energy market scenarios: (1) Boundaries and time horizons: The energy market scenarios cover the European energy market and the time horizon is up to 2050 as VERBUND’s business heavily relies on the development of the European power market. 2050 is the year when the EU aims to be carbon neutral based on a fully decarbonized energy sector. (2) Selection of scenarios: Energy market scenarios are taking into account global developments as well as international agreements like the Paris Agreement and their impact on energy sources and commodity prices, e.g. power prices. VERBUND uses several internal and external energy market scenarios: IEA scenarios, IHS Markit, PÖYRY. (3) Methodology used: The identified scenarios have varying assumptions about for instance the likely timing of policy changes, technology adoption, changes in energy mix, and other factors to achieve a climate-friendly economy. The underlying VERBUND energy market model is updated annually. (4) Results and outcomes: The scenarios are used by VERBUND to develop and permanently update its own low-carbon transition plan. The main result of the scenario analysis are predictions of the price forward curve for power and other energy commodities. VERBUND concludes that higher CO2 prices will cause a steady rise in power prices supporting investments in renewable energy projects. Towards the end of the scenario horizion power prices will decrease again due to declining costs of wind, solar and other renewable energy technologies. (5) Influence on organization´s strategy: The results of the energy market scenario analysis performed by VERBUND’s energy economics department are reported to the Group Executive Board, Holding departments and business units once a year before the mid-term planning process. The results are used for strategic planning and investment appraisals, e.g. renewable energy projects. Part of the results are published in the Integrated Annual Report. (6) Case Study: Situation: The energy sector is in the middle of a complete transformation to achieve decarbonisation targets by shifting from fossil generation to renewable generation like wind and solar. Task: During the VERBUND 2030 strategy process in 2018, the Strategy Committee of the Supervisory board asked to perform a strategic analysis of the European market for solar and wind. Action: VERBUND’s energy economics department used its energy market model to forecast the market development for solar and wind using energy market scenarios. VERBUND’s controlling department then processed the results in their investment appraisal models. Result: Based on these calculations a business plan for solar and wind was built and approved by the Strategy Committee with growth targets until 2030. VERBUND substantially contributes to Austrian and European climate and renewable energy targets. |

## **C3.1d**

### **(C3.1d) Describe where and how climate-related risks and opportunities have influenced your strategy.**

|  |  |  |
| --- | --- | --- |
|  | **Have climate-related risks and opportunities influenced your strategy in this area?** | **Description of influence** |
| Products and services | Yes | - Time horizon: 10 years until 2030 - Substantial strategic decisions: VERBUND’s main product was electricity, a pure commodity. The strategic decision was to enlarge VERBUND’s offering by sustainable energy services and low-carbon customer services - for example consulting services. - Outcome of strategic decisions: Regulatory changes and rising public awareness have influenced our customers’ expectations and especially the need for low-carbon products and services. VERBUND is a partner to customers in the energy sector, developing innovative, sustainable solutions. Our electricity trading activities serve to optimize the marketing of our own generation, with innovative green electricity and flexible products enhancing the value of our product portfolio. However, we are also continuously expanding our portfolio with customer focused commercial products and new services. In the sales area, our customers are provided with clean electricity and climate-neutral gas, together with other energy-related products and innovative solutions to promote the efficient use of energy. Particularly in the case of cross-sectoral projects involving alternative energy sources and new storage technologies, we are positioning ourselves as a leading enterprise in the field of sector coupling together with our partners from business and society. - Case Study: "Hydro Consulting" Situation: On one hand, VERBUND has been seeking to build up sustainable energy services and low-carbon customer services in order to broaden its revenue base. On the other hand, international project developers need the knowledge how to make hydro power projects not only technically and economically sound but also sustainably. This yields an opportunity for marketing VERBUND´s hydro-power related expertise. Task: Definition and building up of a business model for know-how transfer from VERBUND to international project developers as business opportunity Action: VERBUND established a Hydro Consulting business in 2018 combining the long experience in hydro power and the expertise in engineering and environmental management. Result: Hydro Consulting has become a successful business of VERBUND with growing project volumes. Thereby, VERBUND found a way to let clients participate in its knowledge and to help renewable energy plants to be realized, while our revenue base could be broadened at the same time. |
| Supply chain and/or value chain | No |  |
| Investment in R&D | Yes | - Time horizon: 10 years until 2030 - substantial strategic decision: International trends show that an energy transition away from fossil fuels to renewable energy sources is underway. Research, development and innovation contribute to reducing emissions and limiting the impact of climate change. With its commitment in the areas of innovative technologies and business models, VERBUND contributes to the decarbonisation of various sectors. In addition to its core business (i.e. generation, transmission, trading & sales of electricity) VERBUND has decided to start a R&D program covering new business solutions outside the core business. - Outcome of strategic decisions: VERBUND is a forerunner in Austria regarding electromobility: Already in 2009 the platform Austrian Mobile Power was initiated, to which more than 35 members belong today: from leading companies from the energy sector to automotive engineering manufacturers and systems providers and on to advocacy groups. In 2012, along with Siemens, we founded the E-Mobility Provider Austria GmbH & Co KG, which adopted the brand name SMATRICS and offers attractive e-mobility packages to companies and private customers. Significant R&D investments are also made for instance in green hydrogen technology. - Case Study: H2FUTURE Situation: The global industrial sector is researching concrete options for reducing its CO2 emissions. For steel production, oil refining, chemical and food industries, this calls for completely new technologies. The prerequisite is an adequate supply of renewable energy. Task: The aim of H2FUTURE, a research project co-financed by the European Commission, is to construct a proton exchange membrane electrolyser with a capacity of 6 MW at the voestalpine site in Linz in cooperation with industrial and research partners in Europe. Action: Following preliminary construction and technical work, the plant began operating in 2019 and started to produce green hydrogen. In 2020 the focus of work will be on testing various applications to assess the performance of the plant. Green hydrogen is produced primarily for use in steel production. Result: Major progress has been made to demonstrate the feasibility of producing hydrogen from renewable energy on a large scale supporting the decarbonisation of carbon intensive industrial processes like steel manufacturing. |
| Operations | Yes | - Time horizon: 10 years until 2030 - substantial strategic decision: Efficient generation of electricity from hydropower is the core of our operations. Our strategy is twofold: maintaining the value of our 131 existing power plants while continuously improving our flexible generation facilities so that we can continue to ensure carbon-free base-load and peak-load energy generation in our core markets. By implementing new initiatives such as the Digital Hydro Power Plant pilot project, we are setting new standards in the digitalisation. To maintain value and optimize the existing generation portfolio, we focus on harnessing existing hydro-power potential. Complementing our hydropower activities, we will emphasize on the expansion of renewable energy sources from onshore wind power plants and photovoltaic systems in the coming years. Using different renewable energy sources like hydro, wind and solar reduces the risk of natural fluctuations in the generation output. Low hydro generation in dry summers may be balanced by higher wind and solar generation. - Outcome of strategic decisions: Our long-term goal is to profitably build up an onshore wind and solar portfolio that will account for approx. 20–25% of our overall generation by 2030. Combined with our flexible generation facilities in particular, this will enable us to make a major contribution to decarbonisation in Austria and Europe. - Case Study: Austria’s largest open-air photovoltaic installation Situation: VERBUND and its client OMV, which owns big brown field areas suitable for PV installations, are intensifying their strategic cooperation in the field of renewable energy. Task: The strategic collaboration focuses on the evaluation and implementation of electricity generation, storage and Power to X plants to increase in-house supplies to OMV locations, preferably with energy from renewable sources. Action: The first joint project forsees to construct the biggest open-air photovoltaics installation in Austria with 16 MWp. On an OMV site of around 200,000 m² and with a total of around 60,000 PV modules, the plant should supply approx. 18 GWh of electricity. Result: The plant’s output will be equal to the annual electricity consumption of 5,000 households and reduces CO2 emissions by around 12,000 tonnes per year. The plant is scheduled to be commissioned in the fourth quarter of 2020. |

## **C3.1e**

### **(C3.1e) Describe where and how climate-related risks and opportunities have influenced your financial planning.**

|  |  |  |
| --- | --- | --- |
|  | **Financial planning elements that have been influenced** | **Description of influence** |
| Row 1 | Access to capital | Time horizon: mid-term planning horizon, i.e. budget year plus 5 years (7 years for investments, 10 years for debts) The access to capital is crucial for VERBUND to implement its climate-friendly strategy and the related ambitious investment plan for renewable energy and grid projects. Green Finance plays a central role in achieving climate targets and the demand from investors for sustainable finance products is increasing significantly. VERBUND has already built up a long-term track record and advanced numerous innovative financial products in the area of Green Finance (see case study below). We anticipate that Green Finance will become a key factor in our capital structure and financing plans in the medium & long-term. Case Study: Greening the debt of VERBUND Situation: The “green” segment of the global debt market offers attractive financing opportunities for companies which pursue a trusted sustainability strategy. Task: In 2014 the Group Executive Board decided to develop a VERBUND Green Finance program based on its recognized sustainability strategy to become a CO2 free electricity generator. Action: The finance department prepared a stepwise action plan. One of the first milestones was the conversion of VERBUND’s long-term investments for pension and severance claims to sustainable criteria. Following this clear signal to sustainable investors a number of innovative green finance instruments were successfully placed on the debt market (see below). Result: In 2014, VERBUND was the first company in the German-speaking countries to issue a Green Bond (500 million euros), whose funds are used solely to finance certified projects in the area of hydropower and wind power, which make a lasting contribution to the avoidance of CO2 emissions. In 2018, VERBUND issued the world’s first digital green promissory note (100 million euros) via a digital finance platform, whose funds were used to finance the high-voltage network expansion in Austria in order to guarantee the inclusion of new, renewable energies. Also in 2018 VERBUND successfully placed the first ESG (Environmental Social Governance) linked syndicated loan in the amount of 500 million euros with 12 banks on 10 December 2018. This loan is the first in the world whose company-related premium on the base rate over the entire term is no longer determined according to the financial rating at the established financial rating agencies but purely according to the sustainability rating provided by a sustainability rating agency. Sustainalytics, a leading global provider of ESG research and ratings, assessed VERBUND and provided the firm with its ESG Risk Rating score, which was used for the syndicated loan. If the sustainability rating of VERBUND declines, the cost of the loan rises; if the sustainability rating of VERBUND improves, the cost of the loan falls. This means that there is an extensive decoupling from the established financial rating. VERBUND is taking this step with the aim of underscoring the credibility of its sustainability strategy and providing new, international impetus in the direction of Green Finance as a driver of innovation. |

## **C3.1f**

### **(C3.1f) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).**

**i) Climate related influence on business objectives and strategy:**

Our strategy considers standards like the EU emissions trading system (EU ETS), the energy efficiency directive, the water framework directive and international treaties on climate change. Our strategy is based on analysis regarding development of strategic parameters such as carbon prices or precipitation patterns (water availability for hydropower).

Based on the challenging market conditions and a strategic decision to focus exclusively on renewable power generation, VERBUND began restructuring its thermal power plant portfolio in 2014, selling and closing thermal power plants (exit of coal-fired electricity generation by 2020).

New business models were developed in the mobility sector: e-mobility with 100% renewables. SMATRICS, a joint venture of OMV, VERBUND and Siemens, was founded in 2012 and has positioned itself as a technology and service partner in large-scale customer projects.

**ii) Business strategy linkage to an emission reduction target**

Our objective is for our electricity generation to be 100% carbon-free and to discontinue coal-fired electricity generation by 2020.

VERBUND supports the national "Climate and Energy Strategy of Austria (#mission2030)" and takes an active role through sustainable energy projects. Our focus on renewable electricity generation is a crucial factor in both reducing & preventing emissions: Hydro power and wind power form the basis for positioning the VERBUND brand as a carbon-free, low-cost producer.

**iii) Substantial business decisions influenced by the climate change driven aspects of the strategy**

VERBUND´s objective is to expand renewable power production and to gain additional generation output by efficiency measures from existing plants:

- The Gries hydro power plant commenced operation in 2018. The plant will supply more than 10,000 households with clean electricity.

- Efficiency measurements at Ybbs-Persenbeug (hydropower): since 2012, once the measures to increase efficiency have been completed for all six generator sets, the plant will have an additional mean energy capability of 77 GWh and an additional maximum electrical capacity of 18 MW.

- Lower Tuxbach: planned measures will increase turbine capacity at the Stillup small-scale power plant by 1.7 MW and mean energy capability by 74 GWh (start in 2019)

**iv) Aspects of climate change that have influenced the strategy**

· Regulatory: Directives like EU ETS, Energy Efficiency Directive, the Kyoto Protocol, Paris agreement and EU regulations to promote low carbon technologies have influenced our investments strategy and today 95% of our power generation is of renewable energy (2005: 85%).

· Public awareness: People have become more conscious of climate change and prefer green energy to polluting sources. The number of VERBUND´s customers increases every year. We provide 100% renewable energy and since 2014 climate neutral gas to end customers.

· Physical changes in hydrology. Climate change will influence hydrological conditions in Europe, that are considered for new hydropower project feasibility studies.

**v) Influence of climate change on short term targets:**

· Reduce direct greenhouse gas emissions (Scope 1) to below 10 g CO2e/kWh of total electricity generated.

· Discontinue coal-fired electricity generation by 2020.

**vi) Influence of climate change on long term targets:**

· VERBUND aims to be carbon neutral well before 2050, reduction of GHG emissions by 99% (Base year: 2005).

· VERBUND concentrates on hydro & wind power generation, transmission grids and efficiency measures at existing renewable power plants.

· VERBUND invests into the development of energy management solutions like green hydrogen, e-mobility, smart home, rooftop PV, batteries, demand-response, and more.

**vii) Gaining a strategic advantage over our competitors**

· Our flexible, low-cost, renewable generation portfolio is optimally positioned to benefit from the energy transition.

· Rising costs for carbon emissions will provide a competitive advantage for VERBUND.

· Increasing demand from retail customers for green electricity products will ensure higher revenues for us.

· Demand-side management, e-mobility and green hydrogen are future markets and VERBUND is already well positioned.

**viii) Influence of Paris Agreement**

· In line with the Paris Agreement, VERBUND commits to reduce its emissions of greenhouse gases to a level intended to limit a rise in global temperatures to well below 2 degrees. (Emission targets of VERBUND are recognized by SBTi).

## **C4. Targets and performance**

## **C4.1**

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

Absolute target

## **C4.1a**

### **(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.**

### **Target reference number**

Abs 1

### **Year target was set**

2009

### **Target coverage**

Business activity

### **Scope(s) (or Scope 3 category)**

Scope 1+2 (market-based) +3 (upstream)

Scope 1+2 (market-based)+3 (emissions from fuel-and-energy related activities and business air travel)

### **Base year**

2005

### **Covered emissions in base year (metric tons CO2e)**

4900000

### **Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)**

95

### **Target year**

2050

### **Targeted reduction from base year (%)**

99

### **Covered emissions in target year (metric tons CO2e) [auto-calculated]**

49000

### **Covered emissions in reporting year (metric tons CO2e)**

1545000

### **% of target achieved [auto-calculated]**

69.1609977324263

### **Target status in reporting year**

Underway

### **Is this a science-based target?**

Yes, this target has been approved as science-based by the Science-Based Targets initiative

### **Please explain (including target coverage)**

Reduction of GHG emissions in Scope 1+2 (market-based)+3 (emissions from fuel-and-energy related activities ) will be achieved mainly in VERBUND's generation activities: - by the exit from coal power generation by 2020 (Scope 1) - by the switch of energy purchase for operation of power plants from energy of unknown origin to labelled green energy. (Scope 2 market based) - by the reduction of upstream emissions via reduction of fossil fuel purchase for combustion (coal and gas) (Scope 3 emissions from fuel-and-energy related activities) and reduction of GHG emissions in Scope 3 (emissions from business air travel) in VERBUND's administration: - by travel policies for employees, etc. (Scope 3 emissions from business air travel). In total approximately 99% of GHG emissions are going to be reduced by emission reduction activities listed above. About 1 % of GHG emissions are going to be offset by tools as Clean Development Mechanism CDM, Joint Implementation JI, etc.

### **Target reference number**

Abs 2

### **Year target was set**

2014

### **Target coverage**

Business activity

### **Scope(s) (or Scope 3 category)**

Scope 1+2 (market-based) +3 (upstream)

Scope 1+2 (market-based)+3 (emissions from fuel-and-energy related activities and business air travel)

### **Base year**

2011

### **Covered emissions in base year (metric tons CO2e)**

4997000

### **Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)**

95

### **Target year**

2021

### **Targeted reduction from base year (%)**

90

### **Covered emissions in target year (metric tons CO2e) [auto-calculated]**

499700

### **Covered emissions in reporting year (metric tons CO2e)**

1545000

### **% of target achieved [auto-calculated]**

76.7571654103573

### **Target status in reporting year**

Underway

### **Is this a science-based target?**

Yes, this target has been approved as science-based by the Science-Based Targets initiative

### **Please explain (including target coverage)**

Reduction of GHG emissions in Scope 1+2 (market-based)+3 (emissions from fuel-and-energy related activities) will be achieved mainly in VERBUND's generation activities - by the exit from coal fired electricity generation by 2020 (Scope 1) - by the switch of energy purchase for operation of power plants from energy of unknown origin to labelled green energy. (Scope 2 market based) - by the reduction of upstream emissions via reduction of fossil fuel purchase for combustion (coal and gas) (Scope 3 emissions from fuel-and-energy related activities)

## **C4.2**

### **(C4.2) Did you have any other climate-related targets that were active in the reporting year?**

No other climate-related targets

## **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 | 10 |  |
| To be implemented\* | 2 | 16421 |
| Implementation commenced\* | 16 | 1004354 |
| Implemented\* | 6 | 21002 |
| Not to be implemented |  |  |

## **C4.3b**

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

### **Initiative category & Initiative type**

|  |  |
| --- | --- |
| Energy efficiency in production processes | Fuel switch |

### **Estimated annual CO2e savings (metric tonnes CO2e)**

3280

### **Scope(s)**

Scope 1

### **Voluntary/Mandatory**

Voluntary

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

0

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

0

### **Payback period**

No payback

### **Estimated lifetime of the initiative**

>30 years

### **Comment**

Fuel switch at existing plants from coal to natural gas. VERBUND´s long-term objective is for our electricity generation to be 100% carbon-free. Since 2014 VERBUND is changing its thermal power park by closing down coal- and oil-fired power plants. In 2019 VERBUND reduced coal-fired electricity generation. A fuel switch is already ongoing (switch to gas combustion with lower emissions). The use of hard coal in the Mellach district heating plant decreased by 7% in 2019 to around 7.3 million GJ (2018: 7.9 million GJ) and will be reduced to zero by 2021. In addition, 6.9 million GJ of energy from natural gas was used, 9% more than in 2018 (2018: 6.3 million GJ). Taking into account multiple effects e.g. the use of natural gas at the Mellach district heating plant and the change in methodology this initiative has saved estimated 3,280 metric tons of Scope 1 CO2 emissions in 2019.

### **Initiative category & Initiative type**

|  |  |
| --- | --- |
| Transportation | Company fleet vehicle replacement |

### **Estimated annual CO2e savings (metric tonnes CO2e)**

4

### **Scope(s)**

Scope 1

### **Voluntary/Mandatory**

Voluntary

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

0

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

0

### **Payback period**

No payback

### **Estimated lifetime of the initiative**

11-15 years

### **Comment**

Vehicle fleet management: VERBUND aims to switch its vehicle fleet from conventional combustion motors to electric vehicles and hybrid motors. VERBUND regulates details for the purchase of vehicles within company internal regulations. This policy was revised in 2019 and criteria for a more efficient vehicle fleet included. In 2019 VERBUND purchased 2 e-bikes, 2 e-cars and five hybrid cars. Emissions avoided were calculated by assuming that cars will drive about 10,000 km a year. Direct emissions by conventional fossil fuel-driven cars were compared to direct emissions of e-vehicles and hybrids.

### **Initiative category & Initiative type**

|  |  |
| --- | --- |
| Energy efficiency in buildings | Heating, Ventilation and Air Conditioning (HVAC) |

### **Estimated annual CO2e savings (metric tonnes CO2e)**

2

### **Scope(s)**

Scope 2 (market-based)

### **Voluntary/Mandatory**

Voluntary

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

20000

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

300000

### **Payback period**

11-15 years

### **Estimated lifetime of the initiative**

11-15 years

### **Comment**

Due to energy efficiency measures at the headquarter building in Vienna city centre, energy consumption was reduced by 6% or 300 MWh. Energy management, a new lighting and air conditioning and heating management system result in reduction of energy use. Due to the high proportion of renewable energy - 100% electricity from renewables scope 2 emissions avoided by less energy purchase for offices in 2019 account for approx. 2 tonnes of CO2 for reduction in district heating.

### **Initiative category & Initiative type**

|  |  |
| --- | --- |
| Energy efficiency in production processes | Process optimization |

### **Estimated annual CO2e savings (metric tonnes CO2e)**

1524

### **Scope(s)**

Scope 3

### **Voluntary/Mandatory**

Voluntary

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

200000

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

80000

### **Payback period**

<1 year

### **Estimated lifetime of the initiative**

>30 years

### **Comment**

Wind power plants of VERBUND: Since 2016 VERBUND is drawing up a project to optimize the operation in cold climate. The project ICE-Control is partly funded by the Austrian Research Promotion Agency (FFG) and will last till 2019. By the installation of innovative ice detectors on the rotor blades VERBUND is able to optimize the rotor blade heating system. Consequently downtimes of wind turbines can be reduced and output of VERBUND's wind power plants increased. The project was successfully finished in Q2/2019. Calculation of emissions saved: It is assumed that power generated by renewable power plants substitutes fossil fuel power generation in Europe in general - effect outside our company emission boundaries. Source of emission factor is the ENTSO-E-Mix. Average emission factor for fossil power plants was calculated: 762 t CO2/GWh Annual monetary savings (in €): Assumption that VERBUND saves money by not buying energy from the stock exchange. Wholesale price: 40€/MWh (Spot market price 2019, Spot Base Austria)

### **Initiative category & Initiative type**

|  |  |
| --- | --- |
| Low-carbon energy generation | Hydropower |

### **Estimated annual CO2e savings (metric tonnes CO2e)**

15050

### **Scope(s)**

Scope 3

### **Voluntary/Mandatory**

Voluntary

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

790000

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

1000000

### **Payback period**

11-15 years

### **Estimated lifetime of the initiative**

>30 years

### **Comment**

Graz: At the end of 2019, alongside Energie Steiermark Green Power GmbH (75.0%), VERBUND Hydro Power GmbH and Energie Graz GmbH & Co KG each had a stake of 12.5% in the Graz power plant on the Mur River, with a maximum electrical capacity of 17.7 MW and a mean energy capability of 78.9 GWh. In December 2019, VERBUND Hydro Power GmbH increased its stake to 25.1% (effective from 2020). Since January 2017, Energie Steiermark Green Power GmbH has been executing the project on schedule, which allowed the power plant to be officially commissioned once trial operation had been completed in September 2019. VERBUND Hydro Power GmbH is responsible for the plant operation. The inauguration ceremony took place on 9 October 2019. The power plant will not only supply 100% hydropower for 20,000 households in Graz but will also deliver many improvements for the ecological conditions on the Mur. Yearly production will be 82 GWh with a share of 25.1% for VERBUND. Calculation of emissions saved: It is assumed that power generated by renewable power plants substitutes fossil fuel power generation in Europe in general - effect outside our company emission boundaries. Source of emission factor is the ENTSO-E-Mix. Average emission factor for fossil power plants was calculated: 762 t CO2/GWh Annual monetary savings (in €): Assumption that VERBUND saves money by not buying energy from the stock exchange. Wholesale price: 40€/MWh (Spot market price 2019, Spot Base Austria)

### **Initiative category & Initiative type**

|  |  |
| --- | --- |
| Low-carbon energy generation | Hydropower |

### **Estimated annual CO2e savings (metric tonnes CO2e)**

1143

### **Scope(s)**

Scope 3

### **Voluntary/Mandatory**

Voluntary

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

60000

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

450000

### **Payback period**

4-10 years

### **Estimated lifetime of the initiative**

>30 years

### **Comment**

Reißeck-Mühldorferseen: a 600 kW machine at the Reißeck hydro power plant put into operation in 2019. It has a mean energy capability of 1.5 GWh. Because of its own inflow it is seen as a separate hydro power plant. Calculation of emissions saved: It is assumed that power generated by renewable power plants substitutes fossil fuel power generation in Europe in general - effect outside our company emission boundaries. Source of emission factor is the ENTSO-E-Mix. Average emission factor for fossil power plants was calculated: 762 t CO2/GWh Annual monetary savings (in €): Assumption that VERBUND saves money by not buying energy from the stock exchange. Wholesale price: 40€/MWh (Spot market price 2019, Spot Base Austria)

## **C4.3c**

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

|  |  |
| --- | --- |
| **Method** | **Comment** |
| Dedicated budget for energy efficiency | Efficiency projects at existing power plants: E.g. exchange of turbines at our existing hydro power plants, improvements of technology at our thermal power plants or process optimization of the operation of our wind parks lead to an increase of generation by constant energy input. VERBUND’s updated investment plan for the period 2020–2022 provides for capital expenditure in the amount of €2,077m. Of that total, around €1,287m will be spent on growth CAPEX and around €790m on maintenance CAPEX. Most of the growth CAPEX (approximately €719m) will go towards expanding the regulated Austrian high-voltage grid. In addition, VERBUND will be investing in wind and photovoltaic plants and selected hydropower plant projects as well as in increasing the efficiency of existing power plants. In the ongoing rehabilitation projects in the power plants Ybbs and Häusling work continues. In other projects in Kaprun, Malta, Salza, Arnstein, Ottensheim-Wilhering and Ering-Frauenstein, planning and design work continued and initial orders for the main components were placed. These seven rehabilitation measures alone will increase turbine capacity by around 66 MW and mean energy capability by around 106 GWh at the run-of-river power plants over the next few years. Storage power plants will have around 130 MW of additional turbine capacity, approximately 314 MW of additional pump capacity and about 24 GWh of additional mean energy capability. The investments will involve VERBUND’s domestic markets of Austria and Germany. |
| Other (Green Finance) | VERBUND will continue to pursue green finance activities in the future. A number of innovative transactions in recent years such as the issuance of the first green bond in the German-speaking region, the world’s first “green Schuldschein” over a digital platform and the first green syndicated loan whose margin structure is linked exclusively to VERBUND’s ESG rating (sustainability rating of Sustainalytics) over the term of the loan. No new funds were raised in the capital market in 2019 due to VERBUND’s outstanding liquidity situation. |
| Partnering with governments on technology development | Together with its subsidiary SMATRICS and strategic partners from Europe, VERBUND is focusing on electrifying the transportation sector. The goal is a reduction of the still increasing emissions in this area. A high-performance charging network with output of up to 350 kW for electric cars is being built throughout Austria as part of innovation projects such as EVA+ and ultra-E (projects co-financed by the European Commission). Mobility services like the connection to international charging networks (roaming) are also being developed and implemented. This will make it possible to charge electric cars easily, conveniently and independently of national borders, making even long-distance mobility a reality. Research projects such as NeMo (also co-financed by the European Commission), involving partners from research institutes and universities, are developing platform solutions aimed at creating even more effective networks of charging services. |
| Compliance with regulatory requirements/standards | Regulatory requirements from outside VERBUND: e.g. the European Energy Efficiency Directive / the Austrian Energy Efficiency Act. As an energy supplier, VERBUND has an obligation to reduce its sales by 0.6% of its prior-year energy sales to its consumers each year. VERBUND significantly exceeded this target in 2019. VERBUND’s industrial customers transferred responsibility to VERBUND for industrial measures, the vast majority of which were implemented on site at the industrial or commercial companies, at an early stage. For the required household measures (at least 40% of all measures), VERBUND concluded several collaborative ventures with different partners. VERBUND provided financial support for customers seeking to switch to high-efficiency refrigerators/or and freezers, lighting and heating systems The relevant energy savings potential at VERBUND was determined in 2019 in Group-wide energy audits. These audits identified opportunities to increase energy efficiency in the conversion of energy in power plants and in electricity transmission. |
| Dedicated budget for low-carbon product R&D | Research, development and innovation contribute significantly to reducing climate-damaging emissions and limiting the impact of climate change. With its commitment in the areas of innovative technologies and business models, VERBUND contributes to the decarbonisation of various sectors. 80 innovation, research and development projects with a total project volume of €192.6m and a VERBUND share of €58.7m and annual expenses of €17.5m were ongoing in 2019. |
| Other (Partnering with other companies for Research and Development projects) | Collaborating with other companies for Research and Development projects: The aim of the H2FUTURE project, which was launched in 2017, is to construct a proton exchange membrane electrolyser with a capacity of 6 MW at the voestalpine site in Linz in cooperation with industrial and research partners in Europe. Following preliminary construction and technical work, the plant began operating in 2019 and started to produce green hydrogen. The focus of the work in 2020 will be on testing various applications to assess the performance of the plant. Green hydrogen is produced primarily for use in steel production. In the future, the plant will also be used for services to support the grid. H2FUTURE, a research project co-financed by the European Commission, is also looking into other options for using green hydrogen in sectors such as the chemical industry. |

## **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**

VERBUND’s sustainable business model revolves around the generation of electricity from hydro power and wind power. VERBUND’s hydro power plants had a capacity of 8,222 MW (maximum electrical capacity = maximum capacity for sustained operations) as of 31 December 2019. A total of 418 MW was installed at VERBUND’s wind farm installations as of 31 December 2019. VERBUND generated 31,589 GWh from renewable energy sources in financial year 2019. Generation from hydropower plants rose to 30,660 GWh. Wind power plants generated 929 GWh of electricity.

### **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 (Guarantees of Origin)

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

31.64

### **% of total portfolio value**

<Not Applicable>

### **Asset classes/ product types**

<Not Applicable>

### **Comment**

Hydro power and wind generation technologies are brought together under the renewable generation segment. Total revenue in the renewable generation segment of VERBUND was 1,232.5 mio. Euro in 2019. Calculation: [1,232.5 mio. Euro / 3,895 mio. Euro = 31.64 %]

### **Level of aggregation**

Group of products

### **Description of product/Group of products**

Electricity to be used directly for own consumption – based on this concept, approximately 15 MWp are already being implemented. Austria’s largest open-air photovoltaic installation is being constructed in an energy collaboration with OMV. In parallel, PV operator model contracts are being entered into with several industrial customers. A massive expansion is planned for subsequent years. SOLAVOLTA, a VERBUND subsidiary (50%) and the leading full-service provider for own-use photovoltaic installations boosted its revenue in 2019 by approximately 60% compared with total revenue in 2018. The sales figures for storage systems rose by around 125% in the reporting period compared with the prior year.

### **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 (Source of generation: new renewables (solar power))

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

4

### **% of total portfolio value**

<Not Applicable>

### **Asset classes/ product types**

<Not Applicable>

### **Comment**

% revenue refers to revenue generated in the segment „all other segments”

### **Level of aggregation**

Group of products

### **Description of product/Group of products**

E-mobility provider SMATRICS, a joint venture of OMV, VERBUND and Siemens, has positioned itself as a technology and service partner in EU projects, in large-scale customer projects and as a pacesetter for electro mobility and the related digital business models. SMATRICS expanded its portfolio in the field of managed infrastructure in 2019 by adding renowned customers such as ERSTE BANK, UNIQA and Hornbach. Additional sites “powered by SMATRICS” were established in collaboration with the petrol station operators Genol and Turmöl (Turmstrom brand). Throughout Austria, 45 ÖBB park and ride sites were equipped with charging infrastructure. The German market was cultivated in 2019 with a focus on municipal utilities, and VERBUND’S customer base was expanded to include the municipal utilities of Uelzen and Bühl. In 2019, four high-power charging stations (Vienna, Graz, Salzburg, and Innsbruck) with output of up to 350 kW were added to the public charging network as part of the EU-funded ultra-E project.

### **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 (Avoided emissions from fossil fuels)

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

2

### **% of total portfolio value**

<Not Applicable>

### **Asset classes/ product types**

<Not Applicable>

### **Comment**

% revenue refers to revenue generated in the segment „all other segments”

## **C-EU4.6**

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

Direct CH4 emissions are not that relevant in our company´s activities. VERBUND was running the CCGT power plant Mellach (run by gas) and the combined heat and power plant (CHP) Mellach (run by coal) in 2019. In general, the emissions of CH4 play almost no role in modern combustion technologies.

According to the environmental declaration 2019 for the CHP Mellach estimated CH4-emissions were about 100 t CO2e per year (estimated by IPCC-factor 21), equal to 0.012% of total direct GHG emissions of the power plant. This power plant discontinued coal-fired electricity generation on 31th of March 2020. For verification of these CH4-emissions of VERBUND's thermal power plants look up environmental declaration 2019 – CHP see page 6:<https://www.verbund.com/-/media/verbund/ueber-verbund/verantwortung/umwelt/umweltzertifizierungen/mellach-umwelterklaerung-2019.ashx?ori=1&la=de>)

At the CCGT power plant Mellach no verifiable CH4-emissions occur. VERBUND doesn't own gas storage tanks. Gas leakage could only occur at VERBUND's gas tubes at the power plant site due to an accident (very unlikely) but there are no regular emissions expected out of this source. For verification of CH4-emissions of VERBUND's thermal power plants, look up environmental declaration 2019:<https://www.verbund.com/-/media/verbund/ueber-verbund/verantwortung/umwelt/umweltzertifizierungen/mellach-umwelterklaerung-2019.ashx?ori=1&la=de> (GDK Line 10 see Page 9, Line 20 see page 11)

CH4-emissions at our two thermal power plants are thus very low and coal-fired electricity generation stopped by the end of March 2020. Therefore, no emissions reduction activities will be set. (Please look up strategy of VERBUND C3 and emission reduction activities C4.3).

## **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 2011

### **Base year end**

December 31 2011

### **Base year emissions (metric tons CO2e)**

3662466

### **Comment**

### **Scope 2 (location-based)**

### **Base year start**

January 1 2011

### **Base year end**

December 31 2011

### **Base year emissions (metric tons CO2e)**

845583

### **Comment**

### **Scope 2 (market-based)**

### **Base year start**

January 1 2011

### **Base year end**

December 31 2011

### **Base year emissions (metric tons CO2e)**

757003

### **Comment**

## **C5.2**

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

European Union Emission Trading System (EU ETS): The Monitoring and Reporting Regulation (MMR) – General guidance for installations

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

The Greenhouse Gas Protocol: Scope 2 Guidance

## **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)**

1072351

### **Start date**

<Not Applicable>

### **End date**

<Not Applicable>

### **Comment**

At over 99%, CO2 emissions from the use of fuels in thermal power plants (1,067 kt direct emissions) made up the largest share of Scope 1 emissions. These direct CO2 emissions from VERBUND’s thermal power plants are subject to European emissions trading (EU ETS). Combined, emissions from the use of fuels by the VERBUND vehicle fleet and SF6 emissions at grid facilities accounted for less than 1%. Number given above differs slightly from the number in our annual report (1,073 kt), as numbers (335 Tonnes more) in our annual report are preliminary data prior to ETS audit. 1,072,351 is the exact number of Scope 1 emissions according to the official verification through the ETS-Audit and additional Scope 1 emissions according to Independent Assurance on Non-financial Reporting.

## **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**

VERBUND reports both Scope 2 emissions indicators (market-based and location-based). For our Scope 1-3 emissions and other key performance indicators as emission intensity (t CO2e/GWh) we refer to Scope 2 market-based emissions as energy purchased from the grid is based on contractual instruments for more than 70% (mainly certified green energy or 100% hydropower energy).

## **C6.3**

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

### **Reporting year**

### **Scope 2, location-based**

392000

### **Scope 2, market-based (if applicable)**

312000

### **Start date**

<Not Applicable>

### **End date**

<Not Applicable>

### **Comment**

Sources of VERBUND´s Scope 2 emissions are: - Energy purchase for the operation of our power plants - mainly for pump storage hydropower plants and thermal power plants - Energy purchase for the grid loss of the transmission lines - Energy purchase for office sites - Purchase of district heat at office sites

## **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?**

Yes

## **C6.4a**

### **(C6.4a) Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure.**

### **Source**

Emissions of own coal dumps

### **Relevance of Scope 1 emissions from this source**

Emissions are not relevant

### **Relevance of location-based Scope 2 emissions from this source**

No emissions from this source

### **Relevance of market-based Scope 2 emissions from this source (if applicable)**

No emissions from this source

### **Explain why this source is excluded**

VERBUND has one coal dump. Emissions for this dump are not included in Scope 1 emissions as the emissions source is not significant for VERBUND. A study conducted at the Austrian coal power plant Dürnrohr showed that emissions out of coal dumps only account for 0.66% of total emissions within Scope 1-emissions of the power plant. By the end of March 2020 VERBUND stopped coal-fired power generation. For this reason, emissions out of coal dumps will completely disappear.

### **Source**

CH4 and N2O emissions out of combustion of fossil resources

### **Relevance of Scope 1 emissions from this source**

Emissions are not relevant

### **Relevance of location-based Scope 2 emissions from this source**

No emissions from this source

### **Relevance of market-based Scope 2 emissions from this source (if applicable)**

No emissions from this source

### **Explain why this source is excluded**

VERBUND estimates the N2O and CH4 emissions generated by the combustion of fossil fuels at the thermal power plants in the yearly environmental declaration, but does not include them in the GHG inventory, as they are not relevant. A study conducted at the Austrian coal power plant Dürnrohr showed that CH4- and N2O-emissions only account for 0.13% of all the GHG-emissions generated by the power plant. An estimation of CH4 and N2O-emissions is given in the environmental statement of the thermal power plants in Mellach - for the CHP Mellach (the power plant stopped generation from coal by the end of march 2020) it is assumed that around 4.8t CH4 = 100t CO2e out of CH4 and around 3.2t N2O = 1,000 t CO2e out of N2O occur each year. This corresponds to a share of 0.1% of the total Scope 1 emissions - at the other sites only gas is used for energy generation and no detectable emissions out of N2O and CH4 are registered. For verification, see https://www.verbund.com/-/media/verbund/ueber-verbund/verantwortung/umwelt/umweltzertifizierungen/mellach-umwelterklaerung-2019.ashx?ori=1&la=de

### **Source**

Fugitive CH4 emissions out of gas infrastructure

### **Relevance of Scope 1 emissions from this source**

Emissions are not relevant

### **Relevance of location-based Scope 2 emissions from this source**

No emissions from this source

### **Relevance of market-based Scope 2 emissions from this source (if applicable)**

No emissions from this source

### **Explain why this source is excluded**

At the end of 2019, VERBUND operated two thermal power plants (one gas-fired CCGT power plant, one until March 2020 coal-fired CHP) and one boiler unit at the Mellach/Werndorf site in Styria. VERBUND doesn't own gas storage tanks. Gas leakage could only occur at VERBUND's gas tubes at the power plant site due to an accident (very unlikely) but there are no regular emissions expected out of this source.

## **C6.5**

### **(C6.5) Account for your organization’s gross global Scope 3 emissions, disclosing and explaining any exclusions.**

### **Purchased goods and services**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

2208

### **Emissions calculation methodology**

Emissions accounted for in this category are 1) emissions from purchase of operating and auxiliary means and office material 2) emissions from purchase of IT-equipment ad1) activity data are measured values accounted for in our internal material data management: ammoniac, hydrogen, powdered limestone, magnesium oxide, use of concentrated sodium hydroxide, SF6, oil and greases, etc. emission factors-source: Ecoinvent v3.6 [cut-off] European or global factor ad 2) activity data: source of activity data is the internal material data management (e.g. IT equipment purchased in reporting period - as screens, notebooks, cell phones etc.) emission factors- source: Product Environmental Reports for Apple-Products and Ecoinvent v3.6 [cut-off] global factor

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

3

### **Please explain**

### **Capital goods**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

922

### **Emissions calculation methodology**

Emissions accounted for include: 1) purchase of vehicles ad 1) activity data: number of purchased cars, vans and trucks (source: internal vehicle fleet management) emission factor-source: Ecoinvent v3.6 [cut-off] global factor

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

0

### **Please explain**

Emissions from construction of power plants are not included yet in the disclosure. VERBUND evaluated the calculation method for emissions from construction material. The position will be disclosed in next years.

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

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

158288

### **Emissions calculation methodology**

Emissions accounted for include: 1) purchase of fossil fuels for fleet of VERBUND or fuel used for rented cars by our employees 2) purchase of natural gas for thermal power plants 3) purchase of hard coal for thermal power plant ad 1) activity data: amount of diesel and gasoline used by own fleet and by rental cars (source: internal data base (tank cards, purchase) emission factors-source: GaBi-database ad 2) activity data: amount of natural gas purchased in reporting period for operation of our thermal power plants (exact values) emission factor-source: GaBi-database ad 3) activity data: amount of hard coal purchased for operation of CHP plant Mellach (exact values) emission factor-source: GaBi-database

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

0

### **Please explain**

### **Upstream transportation and distribution**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

<Not Applicable>

### **Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

### **Please explain**

There are no significant upstream transportation and distribution activities excluding transport of fuels (natural gas, coal, oil). These emissions are included in category 3 "fuel-and-energy-related activities". Likewise, emissions related to the transport of consumed electricity are reported in Scope 2 (VERBUND owns and operates the high voltage transmission system and 100% of transmission losses are compensated by purchased electricity).

### **Waste generated in operations**

### **Evaluation status**

Not relevant, calculated

### **Metric tonnes CO2e**

286

### **Emissions calculation methodology**

Emissions accounted for in this category are out of waste treatment of following waste types: 1) incineration of residual waste 2) Treatment of waste water Ad 1) Activity data: measured amount of residual waste at our office sites (billing from municipality) Emission factor-source: Ecoinvent v3.6 [cut-off] for Austria Ad 2) Activity data: measured amount of waste water accrued Emission factor-Source: Ecoinvent v3.6 [cut-off] for Europe without Switzerland

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

0

### **Please explain**

### **Business travel**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

1780

### **Emissions calculation methodology**

Emissions from business travels by 1) train 2) plane 3) private car were attributed in this category. ad 1) activity data: amount of € spent on train tickets (conversion factor: 0.17€/km) emission factor-source: yearly published emission factors for Austrian traffic (different vehicles) - Environmental Agency Austria ad2) activity data: amount of flight miles out of a B2B database emission factor-source: yearly published emission factors for Austrian traffic (different vehicles) - Environmental Agency Austria ad 3) activity data: amount of km driven by private car emission factor-source: yearly published emission factors for Austrian traffic (different vehicles) - Environmental Agency Austria

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

72

### **Please explain**

Emissions from business travel by company owned vehicles are included in Scope 1 and Scope 3 Fuel-and-energy-related activities

### **Employee commuting**

### **Evaluation status**

Not relevant, calculated

### **Metric tonnes CO2e**

3794

### **Emissions calculation methodology**

Emissions from employee commuting of all VERBUND employees were attributed in this category. Within an survey about mobility VERBUND´s employees were asked how far and how they commute to work. Results of this survey were extrapolated to all VERBUND employees. VERBUND´s employees commute to work by car or motorcycle or metro, tram or bus or train or e-car or bike or walking. emission factor-source: yearly published emission factors for Austrian Public Transport (different types) - Environmental Agency Austria

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

0

### **Please explain**

### **Upstream leased assets**

### **Evaluation status**

Not relevant, calculated

### **Metric tonnes CO2e**

159

### **Emissions calculation methodology**

Emissions from leased office space were attributed in this category activity data: leased office space in m² (source: internal estate management/facility management) emission factor-source: GaBi-database

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

0

### **Please explain**

### **Downstream transportation and distribution**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

<Not Applicable>

### **Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

### **Please explain**

VERBUND´s main product is electricity that is transported by the grid network. Emission out of energy used for transportation of energy in the grid network is already assessed within Scope 2 emissions (emissions of energy used for transmission). Since 2014, VERBUND also sells climate neutral gas to its household customers. VERBUND owns no gas pipes. Emissions that occur at transportation and distribution of natural gas are currently under evaluation.

### **Processing of sold products**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

<Not Applicable>

### **Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

### **Please explain**

Processing of produced electricity and natural gas are not performed.

### **Use of sold products**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

198000

### **Emissions calculation methodology**

VERBUND added climate-neutral gas to its household customer portfolio back in 2014. In doing so, VERBUND became one of the first energy service providers in Austria to offer its household customers climate-neutral natural gas and electricity generated exclusively from Austrian hydropower from a single source. In the case of climate-neutral natural gas products, the emissions resulting from the use of natural gas are offset by the subsidisation and expansion of renewable energy at the Ashta hydropower plant in Albania. TÜV NORD, an independent technical inspection authority in Germany, has officially confirmed this. A total of 1,083 GWh of natural gas was sold in the reporting period. Carbon offsets for these sales amounted to 198 kt CO2e.

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

100

### **Please explain**

The calculation was conducted in accordance to specifications of TÜV NORD and has been officially confirmed by TÜV NORD

### **End of life treatment of sold products**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

<Not Applicable>

### **Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

### **Please explain**

There is no end-of-life treatment for produced electricity, natural gas or heat. No waste is caused by consuming electricity, natural gas or heat.

### **Downstream leased assets**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

<Not Applicable>

### **Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

### **Please explain**

Our products – electricity, heat and gas– are sold and not leased to our customers. We do not lease assets to customers or partners.

### **Franchises**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

<Not Applicable>

### **Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

### **Please explain**

No franchises within VERBUND

### **Investments**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

<Not Applicable>

### **Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

### **Please explain**

VERBUND had no significant equity investments in other companies.

### **Other (upstream)**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

<Not Applicable>

### **Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

### **Please explain**

There are no other relevant upstream emissions for VERBUND.

### **Other (downstream)**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

<Not Applicable>

### **Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

### **Please explain**

There are no other relevant downstream emissions for VERBUND.

## **C6.7**

### **(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?**

Yes

## **C6.7a**

### **(C6.7a) Provide the emissions from biogenic carbon relevant to your organization in metric tons CO2.**

|  |  |  |
| --- | --- | --- |
|  | **CO2 emissions from biogenic carbon (metric tons CO2)** | **Comment** |
| Row 1 | 1433 | These are direct CO2 emissions from the combustion of biomass (sewage sludge) at the CHP power plant Mellach of VERBUND. The amount of total fuels from renewable sources (Biomass input) was 5,615 GJ in 2019. Emissions from biologically sequestered carbon are surveyed within the yearly ETS-emissions survey of VERBUND. |

## **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**

0.042

### **Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)**

1385000

### **Metric denominator**

megawatt hour generated (MWh)

### **Metric denominator: Unit total**

33158000

### **Scope 2 figure used**

Market-based

### **% change from previous year**

2

### **Direction of change**

Decreased

### **Reason for change**

Reasons for change: Scope 1+2 emissions intensity relative to total electricity generated decreased by 2% since 2018 2018: 0.043 t/MWh 2019: 0.042 t/MWh Scope 1+2 emissions in 2019 increased by about 1.9% since 2018 2018: 1,354,000 t CO2 2019: 1,385,000 t CO2 Total generation increased compared to previous year by 7% Total energy generated 2018: 31,130 GWh (95% share of renewables) Total energy generated 2019: 33,158 GWh (95% share of renewables) Decrease of generation at thermal power plants, fuel switching at existing plants from coal to natural gas Increase of generation at hydro power (new power plants, revitalisation, efficiency measures) and wind power plants (optimisation project).

### **Intensity figure**

0.000356

### **Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)**

1385000

### **Metric denominator**

unit total revenue

### **Metric denominator: Unit total**

3895022000

### **Scope 2 figure used**

Market-based

### **% change from previous year**

30

### **Direction of change**

Decreased

### **Reason for change**

Scope 1+2 emissions intensity per Revenue decreased by 30% since 2018 2018: 0.000507 t/€ 2019: 0.000356 t/€ Scope 1+2 emissions in 2019 increased by about 1.9% since 2018 2018: 1,354,000 t CO2 2019: 1,385,000 t CO2 Total revenue increased from 2018 to 2019 by 45.8%: 2018: 2,671,066,000 € 2019: 3,895,022,000 € Increase is mainly due to a sharp rise in average sales prices attributable to higher price levels for wholesale electricity. The average sales price for our own generation from hydropower increased by €9.7/MWh to €39.0/MWh. Generation from hydropower was also up year-on-year.

## **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 | 1072071 | IPCC Fifth Assessment Report (AR5 – 100 year) |
| SF6 | 280 | IPCC Fifth Assessment Report (AR5 – 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)** | **Total gross Scope 1 emissions (metric tons CO2e)** | **Comment** |
| Fugitives | 0 | 0 | 0.012 | 280 | Fugitive Emissions SF6 GWP potential: 23,500 t CO2e/t SF6 (IPCC Fifth Assessment Report (AR5 - 100 year) |
| Combustion (Electric utilities) | 1065354 | 0 | 0 | 1065354 | CO2 emissions at thermal power plants reported and verified emissions according to the European Trading System. CH4 and N2O emissions are not relevant at our power plant sites. |
| Combustion (Gas utilities) | 0 | 0 | 0 | 0 | VERBUND is no gas utility, therefore no emissions occur |
| Combustion (Other) | 4882 | 0 | 0 | 4882 | Vehicle fleet |
| Emissions not elsewhere classified | 1835 | 0 | 0 | 1835 | Process emissions out of flue gas separation. These CO2 emissions are also reported and verified within the European Trading System. |

## **C7.2**

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

|  |  |
| --- | --- |
| **Country/Region** | **Scope 1 emissions (metric tons CO2e)** |
| Austria | 1072126 |
| Germany | 225 |
| Romania | 0 |
| Albania | 0 |

## **C7.3**

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

By facility

## **C7.3b**

### **(C7.3b) Break down your total gross global Scope 1 emissions by business facility.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Facility** | **Scope 1 emissions (metric tons CO2e)** | **Latitude** | **Longitude** |
| CCGT power plant Mellach | 337222 | 46.9 | 15.5 |
| Combined heat and power plant Mellach | 706836 | 46.9 | 15.5 |
| Combined heat and power station Neudorf-Werndorf II | 187 | 46.9 | 15.5 |
| High Voltage Grid | 280 |  |  |
| Administration sites | 4882 |  |  |
| Gas boiler for district heat power supply Werndorf | 22944 | 46.9 | 15.5 |

## **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** | **Net Scope 1 emissions , metric tons CO2e** | **Comment** |
| Cement production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Chemicals production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Coal production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Electric utility activities | 1072351 | <Not Applicable> | Scope 1 emissions out of generation activities come to 99% from the operation (direct CO2-emissions) of the thermal power plants in Mellach/Styria (ETS) and 1% from the vehicle fleet and the Transmission Network. |
| Metals and mining production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (upstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (midstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (downstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Steel production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Transport OEM activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Transport services activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |

## **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?**

Increased

## **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 | 0 | No change | 0 | In 2019 energy consumption has been reduced in total by 15,700 MWh from non-renewable and renewable energy sources. Renewable energy consumption is stable at 28% renewables out of total energy consumption. There was no relevant impact on the change in emissions. |
| Other emissions reduction activities | 3286 | Decreased | 0.24 | Emission reduction summarise activities at office sites, vehicle fleet and fuel switch. Taking into account multiple effects at our plants e.g. the use of natural gas at the Mellach district heating plant and the change in methodology CO2 emissions decreased by 3,286 metric tons. Change in emissions calculated 3,286 / 1,354,125 x 100 = 0.24 % |
| Divestment | 0 | No change | 0 | No change within the reporting year |
| Acquisitions | 0 | No change | 0 | No change within the reporting year |
| Mergers | 0 | No change | 0 | No change within the reporting year |
| Change in output | 0 | No change | 0 | VERBUND’s electricity generation rose by 2,029 GWh to a total of 33,159 GWh in 2019 (95% renewables). Generation from thermal power was only 41 GWh lower than in 2018. Generation from Renewables on the other hand rose by 2.071 GWh in 2019. This change had no relevant impact on the emissions. |
| Change in methodology | 5540 | Increased | 0.41 | Factors for combustion of Natural Gas that have to be used as standard factors for the emission reports pursuant to § 9 EZG 2011 changed - the standard calorific value and standard emission factor for natural gas of the Austrian Air Pollution Inventory: Lower heating value: Hu = 36.8 GJ/1,000 Nm3 (old value: 36.4 GJ/1,000 Nm3) Emission factor for natural gas: EF = 55.6 t CO2/TJ (old value: 55.4 t CO2/TJ) Scope 1 CO2 emissions increased by 5,540 metric tons or 0.41% Change in emissions calculated 5,540 / 1,354,125 x 100 = 0.41 % |
| Change in boundary | 0 | No change | 0 |  |
| Change in physical operating conditions | 0 | No change | 0 |  |
| Unidentified | 0 | No change | 0 | No change within the reporting year |
| Other | 28015 | Increased | 2.07 | During the transport of electric power through an electricity grid, power is lost due to physical reasons, i.e. less energy is received than was fed into the grid. The difference is called energy grid losses. These are referred to as electricity to cover grid losses. Electricity purchase for the grid loss of the transmission lines increased in 2019. Purchase for Transmission losses are regulated: According to the rules of Austrian federal and provincial electricity law grid operators are obliged to procure energy required for covering the grid losses in a transparent, market-oriented and non-discriminatory manner. Change in emissions calculated: 28,015 / 1,354,125 x 100 = 2.07 % |

## **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?**

Market-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 undertook this energy-related activity in the reporting year** |
| 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 (renewable and non-renewable) MWh** |
| Consumption of fuel (excluding feedstock) | LHV (lower heating value) | 1560 | 3947652 | 3949212 |
| Consumption of purchased or acquired electricity | <Not Applicable> | 1933388 | 828595 | 2761983 |
| Consumption of purchased or acquired heat | <Not Applicable> | 0 | 1754 | 1754 |
| Consumption of purchased or acquired steam | <Not Applicable> | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Consumption of purchased or acquired cooling | <Not Applicable> | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Consumption of self-generated non-fuel renewable energy | <Not Applicable> | 0 | <Not Applicable> | 0 |
| Total energy consumption | <Not Applicable> | 1934948 | 4778001 | 6712949 |

## **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 | Yes |

## **C8.2c**

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

### **Fuels (excluding feedstocks)**

Natural Gas

### **Heating value**

LHV (lower heating value)

### **Total fuel MWh consumed by the organization**

1918417

### **MWh fuel consumed for self-generation of electricity**

1684735

### **MWh fuel consumed for self-generation of heat**

114626

### **MWh fuel consumed for self-generation of steam**

<Not Applicable>

### **MWh fuel consumed for self-generation of cooling**

<Not Applicable>

### **MWh fuel consumed for self-cogeneration or self-trigeneration**

119056

### **Emission factor**

0.0556

### **Unit**

metric tons CO2 per GJ

### **Emissions factor source**

Verordnung über die Überwachung von und die Berichterstattung über Treibhausgasemissionen gemäß der Richtlinie 2003/87/EG (MVO, Durchführungsverordnung (EU) 2018/2066) Standard factors for Austria published on the website of BMNT (https://www.bmnt.gv.at/umwelt/klimaschutz/eu-emissionshandel/info-anlagen.html) Changes 2019: LHV new 36.8 GJ/1000 Nm³; Emission factor 55.6 t CO2/TJ

### **Comment**

In 2019 natural gas was mainly used for combustion at our CCGT power plant Mellach. Operation of the new gas boiler in Werndorf for district heat was started in 2018 (low natural gas input). The CHP Mellach was mainly operated with hard coal, natural gas was only used for starting processes.

### **Fuels (excluding feedstocks)**

Bituminous Coal

### **Heating value**

LHV (lower heating value)

### **Total fuel MWh consumed by the organization**

2029235

### **MWh fuel consumed for self-generation of electricity**

0

### **MWh fuel consumed for self-generation of heat**

0

### **MWh fuel consumed for self-generation of steam**

<Not Applicable>

### **MWh fuel consumed for self-generation of cooling**

<Not Applicable>

### **MWh fuel consumed for self-cogeneration or self-trigeneration**

2029235

### **Emission factor**

0.0933

### **Unit**

metric tons CO2 per GJ

### **Emissions factor source**

Intercompany monitoring

### **Comment**

Emission factor is based on lab values (accredited status) from hard coal used for combustion. (value 2019) Bituminous coal was only combusted in our CHP plant Mellach in 2019. In April 2020 the coal-fired electricity generation stopped.

### **Fuels (excluding feedstocks)**

Solid Biomass Waste

### **Heating value**

Unable to confirm heating value

### **Total fuel MWh consumed by the organization**

1560

### **MWh fuel consumed for self-generation of electricity**

0

### **MWh fuel consumed for self-generation of heat**

0

### **MWh fuel consumed for self-generation of steam**

<Not Applicable>

### **MWh fuel consumed for self-generation of cooling**

<Not Applicable>

### **MWh fuel consumed for self-cogeneration or self-trigeneration**

1560

### **Emission factor**

0.2552

### **Unit**

metric tons CO2 per GJ

### **Emissions factor source**

Verordnung über die Überwachung von und die Berichterstattung über Treibhausgasemissionen gemäß der Richtlinie 2003/87/EG (MVO, EU/601/2012); published on the website https://www.ris.bka.gv.at/Dokumente/BgblAuth/BGBLA\_2007\_II\_339/BGBLA\_2007\_II\_339.pdf Fixed by internal sampling and analysis. (value 2018)

### **Comment**

Solid biomass as sewage sludge is co-fired at the CHP plant Mellach.

## **C-EU8.2d**

### **(C-EU8.2d) 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)**

246

### **Gross electricity generation (GWh)**

### **Net electricity generation (GWh)**

644

### **Absolute scope 1 emissions (metric tons CO2e)**

681701

### **Scope 1 emissions intensity (metric tons CO2e per GWh)**

1099

### **Comment**

The CHP plant Mellach is mainly operated with hard coal (but also co-fired with natural gas and sewage sludge. Total plant capacity was given above as it makes no sense to divide by fuel input. (About 99% of total fuel input is of coal.) Sewage sludge included in net generation )

### **Lignite**

### **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**

VERBUND does not have operations using that power source

### **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**

VERBUND does not have operations using that power source

### **Gas**

### **Nameplate capacity (MW)**

848

### **Gross electricity generation (GWh)**

### **Net electricity generation (GWh)**

925

### **Absolute scope 1 emissions (metric tons CO2e)**

360166

### **Scope 1 emissions intensity (metric tons CO2e per GWh)**

389

### **Comment**

CCGT power plant in Mellach is run by gas. Additionally, VERBUND operates a gas boiler since late 2018 but it is only producing heat (will be used to fulfil the district heating supply agreement for the city Graz); Substitution of the coal-fired power plant and its discontinuation). The plant started full operation in 2019 and had CO2 Emissions of 22944 t – see ETS report. Included in Emissions figures, but no electricity generation.

### **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**

Sewage sludge is co-fired at the CHP Mellach. It is not separately reported as only 0.1% of power generation output is generated by biomass.

### **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**

VERBUND does not have operations using that power source

### **Nuclear**

### **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**

VERBUND does not have operations using that power source

### **Fossil-fuel plants fitted with CCS**

### **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**

VERBUND does not have operations using that power source

### **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**

VERBUND does not have operations using that power source

### **Hydropower**

### **Nameplate capacity (MW)**

8206

### **Gross electricity generation (GWh)**

### **Net electricity generation (GWh)**

30660

### **Absolute scope 1 emissions (metric tons CO2e)**

0

### **Scope 1 emissions intensity (metric tons CO2e per GWh)**

0

### **Comment**

At the moment VERBUND operates 131 hydro power plants in total (all of them are located in Austria and Bavaria). Capacity and generation include all run-of-river power plants and also generation of our pump storage hydro power plants (according to reported data in our annual integrated report).

### **Wind**

### **Nameplate capacity (MW)**

418

### **Gross electricity generation (GWh)**

### **Net electricity generation (GWh)**

929

### **Absolute scope 1 emissions (metric tons CO2e)**

0

### **Scope 1 emissions intensity (metric tons CO2e per GWh)**

0

### **Comment**

VERBUND runs 11 wind power farms in total in Austria, Germany and Romania.

### **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**

VERBUND does not have operations using that power source

### **Marine**

### **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**

VERBUND does not have operations using that power source

### **Other renewable**

### **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**

VERBUND does not have operations using that power source

### **Other non-renewable**

### **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**

VERBUND does not have operations using that power source

### **Total**

### **Nameplate capacity (MW)**

9718

### **Gross electricity generation (GWh)**

### **Net electricity generation (GWh)**

33158

### **Absolute scope 1 emissions (metric tons CO2e)**

1067

### **Scope 1 emissions intensity (metric tons CO2e per GWh)**

32

### **Comment**

Scope 1 emissions reported above for each fuel type refer to direct emissions reported under the European Trading System (ETS emissions make up 99.5% of total Scope 1 emissions of VERBUND) . Other sources as e.g. direct emission of vehicle fleet are not included, as it isn´t possible to divide these emissions per power plant

## **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**

Austria

### **Voltage level**

Transmission (high voltage)

### **Annual load (GWh)**

46731

### **Annual energy losses (% of annual load)**

1.6

### **Scope where emissions from energy losses are accounted for**

Scope 2 (location-based)

### **Emissions from energy losses (metric tons CO2e)**

127000

### **Length of network (km)**

3432

### **Number of connections**

64

### **Area covered (km2)**

83879

### **Comment**

Austrian Power Grid AG is VERBUND´s independent grid subsidiary and operates the supraregional electricity transmission network in Austria.

## **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** |
| Hydropower | 646000000 | 67 | 2022 | VERBUND will be investing mainly in selected hydropower plant projects as well as in increasing the efficiency of existing power plants. The investments will involve VERBUND’s domestic markets of Austria and Germany. Main power plant projects are: Lower Tuxbach: In September 2016, it was decided to undertake an expansion project at the Lower Tuxbach. The planned measures, which will increase turbine capacity at the Stillup small-scale power plant by 1.7 MW and mean energy capability by 74 GWh, represent an energy upgrade of the Group’s power plant portfolio in the Zillertal Valley. The geological situation will lead to an extension of the construction phase, with commissioning now scheduled for summer 2020. Töging: The run-of-river power plant with an output of around 85 MW will be expanded and modernised. Following an investment period lasting around four years and with projected total capital expenditure of approximately €250m. According to the current schedule, it is expected to increase total generation by 139 GWh to 696 GWh and installed capacity to 117.7 MW on completion. About 32 MW of additional capacity will be available from 2023 onwards. Ybbs-Persenbeug efficiency improvement project: Austria’s oldest Danube power plant at Ybbs-Persenbeug has been undergoing progressive modernisation since 2012. Once the measures to increase efficiency have been completed for all six generator sets, the plant will have an additional mean energy capability of 77 GWh and an additional maximum electrical capacity of 18 MW. The necessity of making technical improvements to generators and/or machines that are approaching the end of their useful lives has been taken as an opportunity to carry out various additional measures aimed at increasing efficiency. As a result, rehabilitation measures alone will increase turbine capacity by around 66 MW and mean energy capability by around 106 GWh at the run-of-river power plants over the next few years. Storage power plants will have around 130 MW of additional turbine capacity, approximately 314 MW of additional pump capacity and about 24 GWh of additional mean energy capability. |
| Wind | 313800000 | 32 | 2022 | Investments are planned for the expansion of the electricity generated from onshore wind power plants and photovoltaic systems to advance decarbonisation. |
| Gas | 7200000 | 1 | 2022 | Investments are focused on improving existing assets and on decommissioning process of already closed thermal power plants. |

## **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** |
| Energy management services | Investments regarding the development of new energy services and innovative products for our customers are set. Some of them are listed here: - European innovation project SYNERG-E: Local battery storage units at high-power charging stations and the smart local management system make it possible to balance out load peaks and provide a uniform level of service to the electro mobility operators of the charging station. In addition, local storage batteries are bundled virtually in order to provide grid services. Three local storage batteries with capacity from 0.3 to 0.5 MW were set up in 2019, and seven others are in the planning stage for Austria and Germany. - Green Hydrogen: The aim of the H2FUTURE project that was launched in 2017 is to construct a proton exchange membrane electrolyser with a capacity of 6 MW at the voestalpine site in Linz in cooperation with industrial and research partners in Europe. Following preliminary construction and technical work, the plant began operating in 2019 and started to produce green hydrogen. The main focus of the work in 2020 will be on testing various applications to assess the performance of the plant. Green hydrogen is produced primarily for use in steel production. In the future, the plant will also be used for services to support the grid. - Battery storage: The Blue Battery project is a research project with the purpose of integrating an industrial-scale battery storage unit at an existing hydropower plant. The goal of this combination is to be able to create a Frequency Containment Reserve (FCR) which is available within a matter of seconds. The efficiency and availability of the power plant will be significantly improved by the corresponding longer useful life of the turbines. Construction at the Wallsee-Mitterkirchen site began in 2019. Austria’s largest battery storage unit with 8 MW of FCR capacity and a storage capacity of 14.2 MWh will be built and operated at this power plant site. - Solar power: Austria’s largest open-air photovoltaic installation is being constructed in an energy collaboration with OMV. In parallel, PV operator model contracts are being entered into with several industrial customers. An expansion is planned for subsequent years. | 49700000 | 6.5 | 2022 |
| Other, please specify (Sales management) | Our subsidiary VERBUND Sales is responsible for the customer services and sale of VERBUND´s products. CAPEX planned is used for supporting customer management tools. | 1600000 | 0.2 | 2022 |
| Smart grid | Expansion of grid network: Extensive investment in the Austrian transmission grid is required and will be secured through the implementation of the network development plan. Since 2011, APG has been legally required to prepare a Network Development Plan each year. This plan provides information on which important transmission infrastructures will have to be built or expanded in the next ten years (in accordance with Section 37 of the Austrian Electricity Industry and Organisation Act (Elektrizitätswirtschafts- und -organisationsgesetz, ElWOG) of 2010). However, the long implementation periods for line construction projects, the growing challenges arising from the large scale expansion of renewable energy sources and changes in the European electricity market necessitate comprehensive planning. This sustainable expansion of the transmission grid is pivotal to the achievement of Austria’s climate targets. | 719000000 | 93.3 | 2022 |

## **C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6**

### **(C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?**

|  |  |  |
| --- | --- | --- |
|  | **Investment in low-carbon R&D** | **Comment** |
| Row 1 | Yes |  |

## **C-CO9.6a/C-EU9.6a/C-OG9.6a**

### **(C-CO9.6a/C-EU9.6a/C-OG9.6a) Provide details of your organization's investments in low-carbon R&D for your sector activities over the last three years.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Technology area** | **Stage of development in the reporting year** | **Average % of total R&D investment over the last 3 years** | **R&D investment figure in the reporting year (optional)** | **Comment** |
| Renewable energy | Pilot demonstration | ≤20% | 646000 | Green hydrogen - Renewable Energy to decarbonise Steel production, Sector Coupling example: H2FUTURE: In the H2FUTURE project, VERBUND together with voestalpine, Siemens and three more partners are taking important first steps to decarbonise large-scale industrial processes in the steel sector. To this end, a proton exchange membrane electrolyser with a capacity of 6 MW is being constructed at the voestalpine site in Linz. |
| Other, please specify (infrastructure) | Pilot demonstration | ≤20% | 79000 | Infrastructure for e-Mobility – example: ULTRA-E: This project enables green mobility and sets a milestone in long distance e-mobility by erecting high power charging stations up to 350 kW. ULTRA-E is co-financed by "Connecting Europe Facility" the European Union and will connect The Netherlands, Belgium, Germany and Austria by 25 ultra-fast charging stations with charging power up to 350 kW in the TEN-V-core corridors, enabling routes from Amsterdam and Brussels via Munich to Vienna and Graz with a distance of more than 1000 km. |
| Energy storage | Applied research and development | 21-40% | 4560000 | Energy Storage & Services - example BlueBattery: Alongside pumped storage power plants, the new storage technologies are designed to support VERBUND in balancing volatile renewable energy generation. Such technologies are being tested in the context of project BlueBattery, for example, in which an industrial-scale battery storage unit is being integrated into the existing Wallsee-Mitterkirchen run-of-river hydropower plant. |

## **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 emissions, and attach the relevant statements.**

### **Verification or assurance cycle in place**

Annual process

### **Status in the current reporting year**

Complete

### **Type of verification or assurance**

Limited assurance

### **Attach the statement**

[Independent verification Deloitte 2019\_VERBUND AG.PDF](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/Jvy5z18WJEOesea3cyDpZQ/IndependentverificationDeloitte2019VERBUNDAG.PDF)

### **Page/ section reference**

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### **Relevant standard**

ISAE3000

### **Proportion of reported emissions verified (%)**

100

### **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**

[200228\_Prüfbericht2019\_Gaskesselanlage Werndorf.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/9d6PKCfgdUGwD_wJMJCodw/200228Pr%C3%BCfbericht2019GaskesselanlageWerndorf.pdf)

[200228\_Prüfbericht2019\_GDK Mellach.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/DWQ-LOPhLUSzDd3KEkj1yw/200228Pr%C3%BCfbericht2019GDKMellach.pdf)

[200228\_Prüfbericht2019\_FHKW Mellach.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/htlBJAZaL0iBb_yzEcBz5A/200228Pr%C3%BCfbericht2019FHKWMellach.pdf)

[200228\_Prüfbericht2019\_Werndorf 2.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/DzdCbdR44Emykr7hZ74auA/200228Pr%C3%BCfbericht2019Werndorf2.pdf)

### **Page/ section reference**

all pages

### **Relevant standard**

European Union Emissions Trading System (EU ETS)

### **Proportion of reported emissions verified (%)**

99

## **C10.1b**

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

### **Scope 2 approach**

Scope 2 market-based

### **Verification or assurance cycle in place**

Annual process

### **Status in the current reporting year**

Complete

### **Type of verification or assurance**

Limited assurance

### **Attach the statement**

[Independent verification Deloitte 2019\_VERBUND AG.PDF](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/Jvy5z18WJEOesea3cyDpZQ/IndependentverificationDeloitte2019VERBUNDAG.PDF)

### **Page/ section reference**

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### **Relevant standard**

ISAE3000

### **Proportion of reported emissions verified (%)**

100

### **Scope 2 approach**

Scope 2 location-based

### **Verification or assurance cycle in place**

Annual process

### **Status in the current reporting year**

Complete

### **Type of verification or assurance**

Limited assurance

### **Attach the statement**

[Independent verification Deloitte 2019\_VERBUND AG.PDF](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/Jvy5z18WJEOesea3cyDpZQ/IndependentverificationDeloitte2019VERBUNDAG.PDF)

### **Page/ section reference**

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### **Relevant standard**

ISAE3000

### **Proportion of reported emissions verified (%)**

100

## **C10.1c**

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

### **Scope 3 category**

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)

### **Verification or assurance cycle in place**

Annual process

### **Status in the current reporting year**

Complete

### **Type of verification or assurance**

Limited assurance

### **Attach the statement**

[Independent verification Deloitte 2019\_VERBUND AG.PDF](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/Jvy5z18WJEOesea3cyDpZQ/IndependentverificationDeloitte2019VERBUNDAG.PDF)

### **Page/section reference**

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### **Relevant standard**

ISAE3000

### **Proportion of reported emissions verified (%)**

100

### **Scope 3 category**

Scope 3: Business travel

### **Verification or assurance cycle in place**

Annual process

### **Status in the current reporting year**

Complete

### **Type of verification or assurance**

Please select

### **Attach the statement**

[Independent verification Deloitte 2019\_VERBUND AG.PDF](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/Jvy5z18WJEOesea3cyDpZQ/IndependentverificationDeloitte2019VERBUNDAG.PDF)

### **Page/section reference**

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### **Relevant standard**

ISAE3000

### **Proportion of reported emissions verified (%)**

100

### **Scope 3 category**

Scope 3: Use of sold products

### **Verification or assurance cycle in place**

Annual process

### **Status in the current reporting year**

Complete

### **Type of verification or assurance**

Limited assurance

### **Attach the statement**

[Independent verification Deloitte 2019\_VERBUND AG.PDF](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/Jvy5z18WJEOesea3cyDpZQ/IndependentverificationDeloitte2019VERBUNDAG.PDF)

### **Page/section reference**

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### **Relevant standard**

ISAE3000

### **Proportion of reported emissions verified (%)**

100

## **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** |
| C8. Energy | Renewable energy products | TÜV SÜD's guarantee of origin certification | In 1999, VERBUND became the first Austrian utility to have all hydroelectricity it generates certified by the TÜV SÜD inspection authority. As a neutral institution, TÜV SÜD issues a seal of approval certifying that the green electricity from VERBUND hydropower plants is generated and fed into the grid in the appropriate quantities and in the quality required by consumers and resellers. TÜV SÜD’s guarantee of origin certification refers to specific generation sources. It provides a guarantee to customers that their electricity comes from renewable sources. A total of 128 hydropower plants in Austria and Bavaria meet “EE” and “EE+” criteria. The “Generation EE” standard comprises ‘general requirements’ concerning the organisation to be certified, ‘special requirements’ addressing the generation and the recording of the generation of the individual plants and ‘optional requirements’. Optional requirements are defined for electrical work and power guarantees (“Generation EE+” module) and for furnishing acceptance as new plants (“Generation EEnew” module). |

## **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 schemes you are regulated by.**

### **EU ETS**

### **% of Scope 1 emissions covered by the ETS**

99.5

### **% of Scope 2 emissions covered by the ETS**

0

### **Period start date**

January 1 2019

### **Period end date**

December 31 2019

### **Allowances allocated**

53000

### **Allowances purchased**

1012354

### **Verified Scope 1 emissions in metric tons CO2e**

1065354

### **Verified Scope 2 emissions in metric tons CO2e**

0

### **Details of ownership**

Facilities we own and operate

### **Comment**

Please note that final verification of emissions reported under the EU ETS is complete by end of march each year. ETS emissions are also reported within our annual report and data are estimated as the report is released by beginning of march. So the values can differ. EU ETS does not cover Scope 2 Emissions.

## **C11.1d**

### **(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?**

VERBUND's strategy is effective compliance with the EU ETS and hedging of price risks

Case Study: Situation: VERBUND's emissions related operations are covered under the EU ETS. In 2019 VERBUND operated two thermal power plants (Combined heat and power CHP plant Mellach and the CCGT power plant Mellach). Coal fired generation at the CHP plant has been stopped in April 2020 in accordance with VERBUND’s decarbonisation strategy.

Task: VERBUND's task is effective compliance with the EU ETS. During Phase III of the EU ETS, VERBUND, as well as all utilities within the EU, are required to purchase its emissions allowances.

Action: Therefore, VERBUND currently participates in the purchase and trade of emissions certificates within its subsidiary VERBUND Energy4Business GmbH, the international trading company of VERBUND. VERBUND procures the required allowances on the primary and the secondary market. VERBUND aims to hedge price risks by purchasing certificates synchronously to the power sold.

Example: VERBUND Energy4Business GmbH buys in consultation with VERBUND Thermal Power GmbH (Operator of CCGT Mellach) the volumes of emission certificates needed regarding to generation output and direct emissions.

Result: Our share of renewable generation already includes a 95% (2019) share by generation from hydro and wind power - hence compliance with the EU ETS does not cover these parts of our businesses, only direct emissions of the thermal power generation. VERBUND didn´t face any fees for non-compliance of EU ETS requirements. We are in compliance with all requirements by the EU ETS.

## **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 origination

### **Project type**

Hydro

### **Project identification**

Hydro power plant Ashta (Albania): capacity of 52.9 MW and a mean energy capability of 244 GWh - CDM project. 50% of carbon credits generated belong to VERBUND. 73,848 CERs to be issued in 2020 relating to electricity production period 1.1.2019 until 29.2.2020. 69,394 CERs issued in 2019 relating to electricity production 2018 were cancelled for use in 2019. General information - Project 5662 - HPP Ashta Authorized Participants: Energji Ashta Shpk ; VERBUND Hydro Power AG ; EVN AG Sectoral scope: Energy industries Activity Scale: large Methodologies Used: ACM0002 ver. 12 - Consolidated baseline methodology for grid-connected electricity generation from renewable sources Amount of Reductions: 78,989 metric tonnes CO2 equivalent per annum (Source "http://cdm.unfccc.int/Projects/DB/TUEV-SUED1326203994.54/view")

### **Verified to which standard**

CDM (Clean Development Mechanism)

### **Number of credits (metric tonnes CO2e)**

73848

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

73848

### **Credits cancelled**

Yes

### **Purpose, e.g. compliance**

Voluntary Offsetting

### **Credit origination or credit purchase**

Credit purchase

### **Project type**

Hydro

### **Project identification**

Different hydro power projects purchased from the market (CER, VER) 80,000 VCS Hydro + 20,915 VCS Hydro

### **Verified to which standard**

VCS (Verified Carbon Standard)

### **Number of credits (metric tonnes CO2e)**

100915

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

100915

### **Credits cancelled**

Yes

### **Purpose, e.g. compliance**

Voluntary Offsetting

### **Credit origination or credit purchase**

Credit purchase

### **Project type**

Wind

### **Project identification**

wind power projects purchased from the market (CER, VER) 19,085 GS Wind

### **Verified to which standard**

Gold Standard

### **Number of credits (metric tonnes CO2e)**

19085

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

19085

### **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**

Drive energy efficiency

Drive low-carbon investment

Identify and seize low-carbon opportunities

### **GHG Scope**

Scope 1

### **Application**

Integrated into business-decision process for new renewable power plant projects (hydropower and wind power): VERBUND´s subsidiary VERBUND Hydro Power GmbH is responsible for the development and execution of hydro power plant projects. In order to emphasize the significance of wind and solar power plants VERBUND founded the subsidiary VERBUND Green Power (VGP) in 2019. VGP is responsible for wind and solar power plants. Part of VERBUND’s strategy is a 20 % to 25 % share of wind and solar power of total generation of VERBUND in 2030. Projects and investments are evaluated on corporate level on basis of several parameters, amongst others carbon price is one of the parameters. The Carbon price used is equivalent to the carbon prices of the European Trading System (EU ETS). The internal carbon price (a calculated future carbon price) is especially used for business modelling and investment decisions. Parameters are i.e. Carbon price and its influence on wholesale prices of electricity.

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

25

### **Variance of price(s) used**

Uniform pricing: VERBUND´s business activities are mainly concentrated in Austria and Germany, so all activities of VERBUND are related to the Carbon price of the European Emission Trading System. VERBUND runs a fundamental market model in order to forecast electricity prices, carbon price is one input parameter. In accordance with official surveys predictions for the cost of a ton of CO2 vary a lot. The most reasonable assumption for VERBUND reflects a market price for CO2 EUA Futures of around €25/t which represents the price level before the corona crisis. The CO2 price fluctuates due to political decisions on EU level and reforms of the EU ETS. Prices on the emissions trading market benefited from the agreement on reforming the emissions trading regime reached at the start of 2018 by the Council of the European Union and the European Parliament (stricter climate targets in the power sector, lower emissions allowances, pollution allowances are taken off the market to lower supply). CO2 prices nearly tripled in 2018 as a result. Whereas the 2017 average was just below €6/t, the figure changed to €16/t in 2018. Prices on the emissions trading market in 2019 continued to benefit from the reform of the emissions trading regime initiated in 2018. In 2019, CO2 prices, which averaged €25/t, then rose again by 56% on the 2018 figure (futures market front year).

### **Type of internal carbon price**

Implicit price

### **Impact & implication**

The CO2 price is part of the assumption set for the VERBUND energy market model (VEMM). The result of VEMM is input for e.g. the budget planning and the impairment tests for VERBUND’s power plants. The CO2 price used is based on the carbon price under the EU Emissions Trading System (EU ETS). For the period after certificates are traded and when no liquid market for certificates exists the price is based on VERBUND’s own assumptions as well as external information. There is no other internal CO2 price that is used within VERBUND. Whenever a CO2 price is used it is based on the carbon price under the EU ETS as long as prices are available. On business strategy: The strategy is based on business scenario models for the future and the carbon price is one parameter used for setting up these scenarios (e.g. development of energy market within Europe and impact on performance of VERBUND´s power plants) On new investments: For the evaluation of new planned investments, VERBUND collects several financial and non-financial parameters (as e.g. expected generation output and revenue by new power plant; etc. ) and carbon price forms part of these parameters.

## **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 (climate change and environment policy)

### **% of suppliers by number**

80

### **% total procurement spend (direct and indirect)**

31

### **% of supplier-related Scope 3 emissions as reported in C6.5**

### **Rationale for the coverage of your engagement**

One main objective of VERBUND’s sustainable procurement policy is to reduce environmental impact caused by greenhouse gas emissions or toxic substances and to minimize waste and reduce transport times. Therefore we have implemented a supplier assessment process. The number of suppliers commissioned by VERBUND amounted to around 4,700 in 2019. Around 80% of them have been registered with main data in our “Supplier Portal” and were invited (personally and via electronic information) to finalize their registration via answering our supplier rating. The remaining 20% of suppliers are very small and mainly local companies. This rating also includes detailed questions (see attached) regarding sustainability issues. Participation in our call for tenders is only possible for fully registered suppliers. Additionally VERBUND conducts personal interviews with a set of suppliers (with highest procurement spends) each year (in 2019: 1.2% of total suppliers; 2,1% of total procurement spend).

### **Impact of engagement, including measures of success**

Measure of success: - number of questionnaires that are completed by our suppliers Impact: - better understanding of supplier´s business (awareness for topics such as sustainability and environmental matters increases) Example: VERBUND’s data centre service provider committed to reduce its carbon footprint by at least 5% until 2020 by increasing energy efficiency of its data centres. The main efficiency measure is to improve the cooling system of the data centres and to implement an energy management system.

### **Comment**

With our suppliers and partners VERBUND has already implemented environmental criteria for the supply chain into its internal regulatory framework years ago. The possible suppliers are regularly (mostly yearly) and due to their size and co-operation with VERBUND screened for example regarding their environmental performance (e.g. environmental management systems, life-cycle-costs). The regulation was implemented in 1997. Suppliers can download our terms and conditions of order here: https://www.verbund.com/en-at/about-verbund/company/purchase-procurement. In January 2020 a Supplier Code of Conduct has been published. Besides, the B2B-ordering system of VERBUND focuses on eco-friendly products with eco-labels.

## **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**

100

### **% of customer - related Scope 3 emissions as reported in C6.5**

0

### **Portfolio coverage (total or outstanding)**

<Not Applicable>

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

Customers of the household/agriculture and commercial segment: All customers receive electricity generated exclusively from Austrian Hydropower (certified by TÜV SÜD 100% hydropower). As of end of December 2019 VERBUND recorded over about 424,000 electricity customers. As part of the VERBUND brand communication and customer loyalty program customers are actively informed about the renewable and climate-friendly nature of the energy they receive from VERBUND (by above the line communication – e.g. commercials and image campaigns as well as a wide range of below the line communication from information on energy bills about how CO2-emissions are being avoided to sustainability oriented newsletters – therefore no Scope 3 Emissions). Reason for choosing this group of customers: VERBUND aims to strengthen and raise customer retention by positioning itself as environmentally responsible energy provider. Its high quality products from sustainable sources are the backbone of this strategy.

### **Impact of engagement, including measures of success**

Impact achieved: - Our customers are aware of the quality of our products and the positive impact of renewables regarding climate change and sustainability. Our electricity customers reduce their carbon footprint (Scope 2) by using our products. Due to the success of our product in terms of customers growth and electricity sold, VERBUND is able to invest in further renewable projects (Improvement of our Scope 1 emissions) How we measure outcomes: - VERBUND is able to grow its customer base year by year. (+19% between Jan 2017 and Dec 2019). Due to a specified segmentation strategy especially climate and environment conscious customers are being attracted.

### **Type of engagement**

Collaboration & innovation

### **Details of engagement**

Other, please specify (Run an engagement campaign to convince customers to switch to the electronic bill)

### **% of customers by number**

30

### **% of customer - related Scope 3 emissions as reported in C6.5**

0

### **Portfolio coverage (total or outstanding)**

<Not Applicable>

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

Customers of the household/agriculture and commercial segment: As part of its digitalisation strategy VERBUND aims to reduce the production and delivery of paper based service invoices. Roughly 50% of customers have already switched to the electronic bill and thus help to save tons of paper every year. Under this scheme the invoice is sent via email and available in the download area of the self-service platform. The electronic invoice thus is not only helping in preserving resources but also a convenient and safe way for customers to manage their energy expenses. The campaign aimed to push the share of the electronic bill in the customer base beyond 50%.

### **Impact of engagement, including measures of success**

Impact achieved: The campaign was executed in two major waves in June and September 2019. 9k customers switched to the electronic bill. Activities are being continued in 2020 and beyond. How we measure outcomes: growth of the share of electronic bill in the customer base is a designated KPI for the CRM team and thus monitored on a current basis.

## **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 | VERBUND advocates an ambitious reform of the EU ETS and related policies concerning climate change. | VERBUND supports a strong EU ETS as instrument to cost-effectively reduce CO2-emissions, combined with a price-floor, preferably at an European level. Additionally, VERBUND advocates the extension of a CO2-pricing system to other sectors, in particular mobility and building. |
| Clean energy generation | Support | In order to reach the EU 2030 RES-target, new renewable generation capacity will have to be installed in Austria. Given the current market situation and price levels, there is currently no incentive to invest in new generation capacity. Therefore, VERBUND is engaged in a long-term dialog with relevant stakeholders on how to incentivize new renewable generation in Austria. VERBUND has been following closely the transposition of the RED II into national law – the so called Renewable Development Act will lay out the rules for renewable energy support in Austria in the years to come. Position papers formulated by VERBUND can be found on our website: https://www.verbund.com/en-at/about-verbund/company/advocacy-of-interests | VERBUND believes that renewable energy support should contribute to market integration. Therefore, it should fundamentally be market-based (i.e. in the form of market premiums) – exceptions from the rule have to be well reasoned (i.e. too little competition). Support should be granted via technology-specific competitive tendering. RES-producers should sell their generation directly to the market and assume balancing responsibility. The different RES-technologies should compete on a level playing field, a certain differentiation according to specific features, like flexibility, should be possible however. |
| Other, please specify (Electrification)  Electrification | Support | VERBUND believes that renewable electricity can contribute to the decarbonisation of the energy system. The substitution of fossil fuels with renewable electricity can make a significant contribution to the decarbonisation efforts of sectors such as transport, heating & cooling as well as certain industrial applications. In this context VERBUND supports both direct electrification (e.g. E-mobility) as well as sectoral integration via renewable gases based on renewable electricity. | Regulatory measures which allow for sectorial integration and accelerated electrification should play a key role in the implementation of the national climate and energy strategy. Examples are regulatory measures (at European, national and regional level) to push the broad roll out of e-mobility, the promotion of green hydrogen generated via electrolysis with renewable electricity as well as the market-driven support of renewable generation in general to allow for enough renewable generation to implement fossil fuel substitution. |
| Other, please specify (Climate and Energy strategy) | Support | After the agreement on climate change in Paris (2015) and given the EU’s energy and climate targets for 2030, the Austrian government started a broad-based strategy-process and presented a new Integrated Austrian Climate and Energy Strategy in June 2018. One of the goals is a net renewable electricity production of 100% by 2030. This goal was adopted by Austria’s present conservative-green coalition government and builds a pivotal pillar in its climate and energy strategy. . VERBUND is actively involved in the advancement and implementation of the Austrian Climate and Energy Strategy, i.e. in the development of an Austrian Strategy for Renewable Hydrogen and a Green Finance Agenda. VERBUND also advocated for various climate and energy regulations in the context of the election of the Austrian Parliament in September 2019 and in the negotiations for a new government until the end of 2019. | Main issues: • CO2-Price-Regime for all sectors (also for traffic and buildings) • Price-floor for the CO2-price in the EU-ETS • Technology-specific and continuous incentives for RES. RES-technologies should compete on a level playing field, a certain differentiation according to specific features, like flexibility, should be possible however. • An efficient energy-efficiency regulation • Appropriate regulatory framework for Green hydrogen • Better framework conditions for Green Finance |
| Climate finance | Support | Due to article 2.1.c of the Paris Agreement financial flows have to be decarbonized. The EU Commission therefore proposed a Sustainable Finance package, part of which is the elaboration of an European taxonomy on sustainable technologies that is under negotiation currently. Having experience with sustainable finance instruments VERBUND supports standardized, transparent and measurable criteria for sustainable finance products. | VERBUND is in favour of standardized, transparent and measurable criteria. Hydro power is an important technology with the renewable power system and therefore VERBUND advocates that hydro power stations incl. pumped storage hydro power stations are fully comprised by the criteria defined. |

## **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**

German Association of Energy and Water Industries (BDEW)

### **Is your position on climate change consistent with theirs?**

Consistent

### **Please explain the trade association’s position**

BDEW represents 1,800 companies from the natural gas, electricity and district heating, water and wastewater sector. Its members are of all sizes and forms of organizations. These sectors are the largest investors in the German industry. The common keynote „Energy. Water. Life“ defines both the Association’s sphere of activity and its objectives: The Association’s members contribute with their products and services to safeguarding people’s quality of life today and in future. BDEW supports sustainable energy and water supply as well as wastewater disposal. BDEW on Climate Change: BDEW supports initiatives undertaken by the German government to lower CO2 emissions. In cooperation with other industry associations, the BDEW has advocated for active and preventive climate policies for many years. BDEW is convinced that the ETS system implemented by the European Union is a key tool to lower CO2 emissions. Therefore, BDEW calls for a reform of the ETS system currently in place combined with the determination of ambitious and specific EU-goals for lowering CO2 emissions until 2030. BDEW supports the energy transition and welcomes the final report of the coal commission in Germany.

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

Nomination of representatives participating in working groups - Formulate strategic positions and other relevant documents and data

### **Trade association**

respACT – Austrian business council for sustainable development

### **Is your position on climate change consistent with theirs?**

Consistent

### **Please explain the trade association’s position**

respACT - Austrian business council for sustainable development is Austria‘s leading platform for Corporate Social Responsibility (CSR) and Sustainable Development. respACT stands for "responsible action“ and supports its member companies on their way to implementing socially responsible actions into their daily business. respACT responds to businesses of all sizes based in Austria, from small companies to major corporations. The council’s most important activities are thought leadership on CSR and sustainability, exchange of best practices, knowledge transfer and education as well as the establishment and administration of a national CSR network. The association supports its members along their path to ecological and social sustainability. In public respACT - Austrian business council for sustainable development presents itself as the first port of call for all questions regarding Corporate Social Responsibility (CSR) and Sustainable Development. Energy Efficiency and Climate protection are urgent issues. If we succeed in stabilising greenhouse gas emissions at a significantly lower level than today, a global climate catastrophe can be averted. Companies that look to the future are proactive rather than reactive. They push ahead on raising awareness about climate protection and developing innovative ideas. This can give them a technological, market and brand advantage. Responsible businesses • reduce the amount of energy needed to produce and use their products and services, particularly the use of fossil fuels and energy derived from them • increase the energy efficiency of their office buildings, plants and production processes • avoid direct and indirect greenhouse gas emissions • support awareness of climate protection issues and the development of new technologies.

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

Nomination of representatives participating in working groups - Formulate strategic positions and other relevant documents and data

### **Trade association**

OESTERREICHS ENERGIE

### **Is your position on climate change consistent with theirs?**

Mixed

### **Please explain the trade association’s position**

Oesterreichs Energie (OE), is an independent advocacy group for the Austrian electricity industry. Position on Climate Change: The Austrian electricity industry supports cutting CO2 emissions by 40 % from 1990 levels. In the electricity sector, a predictable and sustainable long-term framework is essential. Greenhouse gas (GHG) emission reductions must not result in the transfer of production to other countries of highly-efficient, energy-intensive industry, or have negative effects on employment and growth. The strong position of Austria and Europe as a business location for global investors must be preserved. • OE sees the Green Deal of the European Commission as the central package of measures at the European level to achieve the climate targets. It is essential that the European Union creates framework conditions to achieve the goal of a climate-neutral economy by 2050 so that electricity companies can enter the implementation stage. “The Clean Energy Package” has already provided the cornerstones in the electricity sector. • OE welcomes the ambitious plan of the new EU Commission to be the first continent to achieve climate neutrality by 2050 and sees this ambitious pioneering role of the EU as an option in winning global partners in the fight against climate change. • OE advocates for higher pricing of CO2 emissions at European level in those sectors that are not subject to the EU ETS and have so far contributed disproportionately less to the achievement of the target. Therefore, a CO2-oriented tax system should be implemented for all energy sources (level playing field of energy sources based on absolute emissions). • The Austrian electricity industry is committed to the national energy and climate plans (NECP) of generating electricity from 100% renewable energy sources by 2030 and achieving climate neutrality by 2040. To achieve climate neutrality across the EU in 2050, increased efforts are required from all sectors and member states. • Considerable investments are needed to achieve the goals of the European Green Deal. According to rough estimates, the Austrian electricity industry needs to invest around EUR 50 billion, with this amount being distributed approximately equally between the expansion of electricity generation from renewable energies, storage facilities including pumped storage and necessary grid investments at all grid levels.

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

Nomination of representatives participating in working groups - Formulate strategic positions and other relevant documents and data - Participation in scientific study projects

### **Trade association**

VGB Power Tech e.V.

### **Is your position on climate change consistent with theirs?**

Mixed

### **Please explain the trade association’s position**

VGB as a technical association for power and heat generation is a non-profit organisation and a voluntary association of companies of power plant operators and manufacturers.

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

Nomination of representatives participating in working groups - Formulate strategic positions and other relevant documents and data

### **Trade association**

EURELECTRIC

### **Is your position on climate change consistent with theirs?**

Mixed

### **Please explain the trade association’s position**

The Union of the Electricity Industry - EURELECTRIC is the sector association which represents the common interests of the electricity industry at pan-European level, plus its affiliates and associates on several other continents. Currently, EURELECTRIC has 35 full members which represent the electricity industry in 32 European countries. Currently, EURELECTRIC's three major objectives are: • Achieving a carbon-neutral electricity mix in Europe well before mid-century • Ensuring a cost-efficient, reliable supply through an integrated market • Developing energy efficiency and the electrification of the demand-side to mitigate climate change.

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

Nomination of representatives participating in working groups - Formulate strategic positions and other relevant documents and data

### **Trade association**

The Federation of Austrian Industries

### **Is your position on climate change consistent with theirs?**

Mixed

### **Please explain the trade association’s position**

The Federation of Austrian Industries (IV) is a voluntary body representing the interests of the Austrian industry and currently comprises about 4,400 members. The Federation of Austrian Industries is making every effort to represent the interests of its members both in Austria and at a European level and to contribute towards strengthening Austria and Europe as attractive locations for business and industry. Through innovative concepts and expertise the Federation strives to make Austria fit for the future at the interface between business and politics. At the European level, the Federation of Austrian Industries, one of Europe’s most modern and powerful employers’ associations, is the voice of Austria’s industry in the industry and employers’ association BusinessEurope. The Federation of Austrian Industries is committed to the fact that the provision and use of material and energetic resources is directly related to the ecological dimension of their use. Issues of resource and energy efficiency are increasingly gaining importance, not least against the background of climate problems, and they also have a socio-political dimension. The industry proactively addresses these challenges and increasingly sees itself as part of the problem solution.

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

Nomination of representatives participating in working groups - Formulate strategic positions and other relevant documents and data

### **Trade association**

Hydrogen Europe

### **Is your position on climate change consistent with theirs?**

Unknown

### **Please explain the trade association’s position**

Hydrogen Europe is the European industry association representing more than 100 companies, working to make hydrogen energy an everyday reality. Hydrogen Europe partners with the European Commission and the research community to accelerate the market introduction of these clean technologies in the energy and transport sectors. Hydrogen Europe brings together diverse industry players, large companies and SMEs, who support the delivery of hydrogen and fuel cells technologies, to enable the adoption of an abundant and reliable energy which efficiently fuels Europe’s low carbon economy.

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

Representation in the Advocacy Task Force of Hydrogen Europe by VERBUND’s head of Brussels Office. General support for Hydrogen Europe's activities. - Co-phrasing of strategic positions and other relevant documents

## **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.**

● VERBUND is actively encouraging climate change mitigation and adaptation via the following actions:

● Topic of engagement: Regulation on EU level on climate change, cap and trade, climate and energy targets.

Method of engagement: Formulate strategic positions and other relevant documents and data (for additional information look up position papers attached in further information); Office in Brussels: since 2008 with one employee

Nature of engagement: VERBUND supports ambitious climate goals at global, European and national level and advocates for effective instruments to reduce greenhouse gases. VERBUND delivers this message alone or in alliance with like-minded actors in discussions with stakeholders at national and international level. This is exemplified by a public letter to the Commission initiated together with 6 leading European utilities, calling for ambitious climate action for 2050 and 2030. Office in Brussels´ activities are monitoring EU-developments and to actively participate in shaping energy policy trends, improve information exchange between business/enterprise and EU policy-makers, and being available to decision-makers for information.

● Topic of engagement: Value of hydropower; Improving situation of renewable energy investments; improvements and best practice implementation of EU regulations on climate change, etc.

Method of engagement: “One day at VERBUND”: stakeholder-event with briefing- and discussion-sessions; Power Breakfast (since 2012): 3 times a year; Energie-Club München (started 2015): 3-4 times a year; discussion with relevant stakeholders about energy- and climate-relevant topics, studies, etc. in Munich, organized by VERBUND and partner organizations; Regular dialogue with NGOs/environmental groups

Nature of engagement: Supporting the realization of important projects (e.g. cooperation with local authorities incl. citizens); Discussion with relevant stakeholders about energy- and climate-relevant topics, studies; Commissioning energy-related studies, reports, statements and fact sheets, e.g. input for discussion about the future of the energy market, participation in the European working group “strengthening the power of hydro energy".

● Topic of engagement: Information about current energy topics and market circumstances in energy sector for VERBUND’s stakeholders

Method of engagement: Newsletter (“Power Facts”): several times a year for external decision makers about relevant energy-related topics and developments;

Nature of engagement: Presentations of VERBUND for optimizing communication between external stakeholders and VERBUND.

● Topic of engagement: Informal discussion events (“EU Energieforum”): Discussion of current energy policy topics with various stakeholders

Method of engagement: One speaker is invited to speak on a current topic of interest, subsequently informal stakeholder discussion. Takes place approx. 10 times per year

Nature of engagement: Information exchange of opinions, knowledge generation.

● Topic of engagement: ”Future energy market place”

Method of engagement: VERBUND Energy Symposium: every 2 years https://www.verbund.com/en-at/about-verbund/responsibility/energy2050;

Nature of engagement: for interdisciplinary exchange of ideas between international energy experts and representatives of business, research and politics, focusing on long-term energy supply perspectives, especially on the globally increasing energy requirements and its (climate) challenges, asking decision-makers to design concepts/realize their visions.

VERBUND energyLAB: is an interactive event format as a workshop, where suggestions for solutions to specific energy policy questions are developed. The participants are representatives of federal ministries and institutions, companies, the energy industry, start-ups, research organizations as well as students and regional stakeholders. The participants are supported by experts from the energy industry. Innovative ideas for the future of energy are generated.

● More information on VERBUND´s public policy engagement and engagement with our stakeholders can be found on our website: https://www.verbund.com/en-de/about-verbund/company/advocacy-of-interests

## **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?**

● Based on our issue-/stakeholder-management we regularly present information to political decision-makers (politicians, governments, institutes, NGOs, etc.), taking a clear stance on important issues on national/EU level.

• Implementation: Our commonly headed teams “Public Affairs” (HK-P) and “Corporate Affairs” (HSL) coordinate the group’s lobbying activities. HK-P is responsible for stakeholder-management, focusing in particular on strategic energy and environment/climate policy measures in Germany and the development and organisation of stakeholder events. HSL focuses on the analysis of legal developments in Austria and the EU and assesses the impact of legislative proposals on the energy market and VERBUND; it develops positions and regulatory proposals respectively coordinates the necessary internal position making process in order to position our interests in legislative processes. For this reason, we have also an office in Brussels. Both divisions work in close coordination with the board management offices.

HK-P & HSL teams report on their lobbying activities to the Management Board.

On this basis, the Management Board gives feedback to both teams.

This process guarantees that interactions and dialogue with stakeholders are consistent with all aspects of the company´s strategy and vision.

● Decision process: In addition to our stakeholder management, a group-wide issue management process has been established. It ensures the proactive supervision of relevant (energy-)political topics in order to avert/minimize negative influences on the company and generate opportunities because of thematic developments. The identification and evaluation of relevant topics is the basis of the definition/implementation of customized lobbying-/communication-strategies. Central pillar of our activities is the development of corporate positions and their implementation, especially in the field of climate change, which is linked to our value chain.

Most of the subsidiaries have a contact person in charge of lobbying-issues. In order to align the positions of the different entities of the group on a certain topic (if several entities are concerned), the HSL und HK-P teams coordinate/cooperate with them. Furthermore, we present our positions through our representatives in national/international committees.

(In 2012 VERBUND has implemented a rule for responsible lobbying, which is approved by the Management Board of VERBUND. The purpose of this rule is primarily to strengthen transparency and the aspect of responsibility in the field of lobbying. An important aspect of this rule is the definition of general principles for responsible lobbying on both the national and international level. This should strengthen a responsible and sustainable behaviour when dealing with decision-makers in society and the political domain.) VERBUND is listed in the Austrian lobbying register (Ministry of Justice) as well as the Brussels transparency register.

• 2 group-wide information meetings per year: Information and exchange on lobbying activities (group-wide); participants: team members of the holding departments HSL and HK-P, and all lobbying contact persons of the subsidiaries.

## **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**

[VERBUND-Integrated-Annual-Report-2019-Englisch.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/gYSN6m-kBki8DQPVJrKnGQ/VERBUNDIntegratedAnnualReport2019Englisch.pdf)

### **Page/Section reference**

page 18-19: Strategy page 20: Strategy, Emission targets, New renewable generation, Climate protection page 26-44: Corporate governance page 102-108: Risks and Opportunities page 127: TCFD page 140-143: Emission figures

### **Content elements**

Governance

Strategy

Risks & opportunities

### **Comment**

VERBUND publishes an annual integrated report according to the Global Reporting Initiative framework (requirements of TCFD and GHG Protocol are included) and according to the EU directive 214/95/EU for the disclosure on non-financial information.

### **Publication**

In other regulatory filings

### **Status**

Complete

### **Attach the document**

[2019\_European Transaction Log-EUTL\_VERBUND.xlsx](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/pG9aBBiRskSZS602g8dSig/2019EuropeanTransactionLogEUTLVERBUND.xlsx)

### **Page/Section reference**

whole chart refers to Scope 1 emissions covered by the European Trading System

### **Content elements**

Emissions figures

### **Comment**

The European Transaction Log (EUTL) publishes direct emissions of all our thermal power plants (on a yearly basis). Information is also available on: http://ec.europa.eu/environment/ets/oha.do?languageCode=en

### **Publication**

In voluntary communications

### **Status**

Complete

### **Attach the document**

[mellach-umwelterklaerung-2019.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/N381AreKZEWEwjzrKV99-g/mellachumwelterklaerung2019.pdf)

### **Page/Section reference**

Emission figures about CHP Mellach: page 6, 7, 8 Emission figures about CCGT Mellach: page 9, 10, 11, 12

### **Content elements**

Emissions figures

### **Comment**

All power plants of VERBUND are certified by an environmental management system. The thermal power plant park in Mellach is certified according to the EMAS directive(EG) Nr. 1221/2009). Environmental declaration in german only.

### **Publication**

In voluntary sustainability report

### **Status**

Complete

### **Attach the document**

[verbund-sustainability-indicators-2019.xlsx](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/QWoNE5voUUukXWsfkoTGCQ/verbundsustainabilityindicators2019.xlsx)

### **Page/Section reference**

whole chart contains emission figures

### **Content elements**

Emissions figures

### **Comment**

In addition to the annual integrated report VERBUND publishes a huge list of non-financial KPIs (part of them are not reported within the annual report). Download is also possible here: https://www.verbund.com/en-at/about-verbund/responsibility/environment/environmental-performance

### **Publication**

In mainstream reports, incorporating the TCFD recommendations

### **Status**

Complete

### **Attach the document**

[DMA\_Management Approach\_2019\_en.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/kKWsKAX0DUqHW5JCdl4MVw/DMAManagementApproach2019en.pdf)

### **Page/Section reference**

Governance: page 8-11, 51,52 Strategy: page 7 Risks & Opportunities: page 56-60 Energy and Energy Efficiency: page: 34, 35 Emissions and Climate Protection: page 35, 36

### **Content elements**

Governance

Strategy

Risks & opportunities

Other, please specify (Energy and Energy efficiency and Emissions and Climate Protection)

### **Comment**

In addition to the annual integrated report, VERBUND publishes an extra document about the Management approaches within VERBUND according to the GRI-Standard. The so called DMA gives background information about management procedures and internal structures about governance, strategy, risks & opportunities, environment and internal management systems.

## **C15. 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.**

## **C15.1**

### **(C15.1) Provide details for the person that has signed off (approved) your CDP climate change response.**

|  |  |  |
| --- | --- | --- |
|  | **Job title** | **Corresponding job category** |
| Row 1 | Chairman of the Managing Board of VERBUND AG: Chief Executive Officer (CEO): Wolfgang Anzengruber | Chief Executive Officer (CEO) |