

## 1.1 Strategy

**Last year saw the launch of the new RWE: our asset swap with E.ON has turned us into one of the world's leading renewable energy companies. We are now an all-rounder in electricity generation and are leading the field in the creation of a sustainable energy system. For as long as necessary, we will ensure security of supply with our flexible power plants. Sustainable power production must be carbon neutral. We intend to meet this ambition as early as 2040. To this end, every year, we will invest billions in wind and solar power as well as in energy storage. And, we will play our part by exiting from coal-based electricity generation early in a socially acceptable manner.**

**The new RWE: focus on sustainable power generation and energy trading.** Our company has repositioned itself fundamentally over the last few years. At the beginning of this transformation process, RWE was still an integrated utility, which was active along the entire energy value chain. Now, we are a company specialising in power production and energy trading that wants to make a contribution to the substantial transformation of the energy sector on the strength of almost carbon-free electricity generation that is both secure and affordable.

The road to the new RWE began in 2016 when we pooled the Renewables, Grid & Infrastructure and Retail divisions in a new subsidiary called innogy and took it to the stock market. One-and-a-half years later, in early 2018, we agreed an extensive asset swap with E.ON, which has since largely been completed. As part of the transaction, we sold our 76.8% investment in innogy in September 2019 and received in return E.ON's renewable energy business, a 16.67% stake in E.ON, and the minority interests in our nuclear power stations Gundremmigen (25%) and Emsland (12.5%) held by the E.ON subsidiary PreussenElektra. The final step will be the legal transfer of certain innogy operations back to RWE: the renewable energy business, the German and Czech gas storage facilities, and a 37.9% stake in the Austrian energy utility Kelag. They have been recognised in the item 'innogy – continuing operations' in the consolidated financial statements. We provide detailed commentary on the asset swap with E.ON on page 45.

**Outstanding starting position in renewable energy.** The renewable energy operations of E.ON and innogy under the RWE umbrella have turned us into a world leading producer of electricity from renewable sources. At the end of 2019, we had a renewable energy portfolio with a total capacity of 9.9 GW. This is the generation capacity allocable to us on a prorated basis, i.e. in accordance with the stakes that we hold. Onshore and offshore wind farms account for the largest share of this: 8.6 GW. We are the world No. 2 in

offshore wind. In addition to existing assets, we have acquired a large number of growth projects in various stages of development. Here again, the focus is on wind, followed by photovoltaics. Electricity production from renewables will clearly be our strongest income generator. It will account for more than half of our adjusted EBITDA as early as 2020.

**Our goal by 2040: RWE will become carbon neutral.** We continued to develop our strategy concurrently to the implementation of the asset swap with E.ON and set ourselves ambitious goals in terms of lowering our greenhouse gas emissions. RWE reduced its annual carbon dioxide emissions by 51% from 2012 to 2019. By 2030, we plan to have lowered them by 75%. The phaseout of electricity generation from coal will play a central role. By 2040, we want to have converted enough of our power plant portfolio to achieve our goal of being carbon neutral. To this end, we will rapidly expand renewable energy, make more use of storage technologies and use CO<sub>2</sub>-neutral fuel to produce electricity. This strategic alignment is also reflected in RWE's brand. Our purpose, 'Our energy for a sustainable life', is an expression of the determination of the RWE Group and its approximately 20,000 employees to ensure a sustainable energy system.

**Fast growth in wind and solar power.** The most important element of our strategy is shifting our focus to make increased use of renewable energy sources. The asset swap with E.ON gives us an excellent starting position, which we will strengthen rapidly. We want to increase our wind and solar capacity, which totalled 8.7 GW (pro-rata) at the end of 2019, to over 13 GW by the end of 2022. We plan to invest a net €1.5 billion to €2.0 billion on this every year. Reinvesting proceeds from the sale of stakes in projects could actually cause the gross expenditure to be much higher. Our technological focus rests on wind energy and photovoltaics. Geographically, we will concentrate on markets in Europe, the Americas and the Asia-Pacific region.

At present, our largest construction project is the 860 MW Triton Knoll offshore wind farm off the eastern coast of England, for which innogy secured a guaranteed payment of £74.75/MWh. We are also building huge onshore wind farms, e.g. Big Raymond and Cranell in the US state of Texas, which will have total capacities of 440 MW and 220 MW, respectively. In 2020, we want to commission our Limondale solar farm in New South Wales, Australia. With an installed capacity of 349 MWp, it will be the most powerful installation of its kind in the country. We will maintain the integrated business model pursued by innogy and E.ON to date, meaning that our new projects will cover the entire value chain from development to construction and operation wherever possible.

**High-capacity storage: prerequisite for 100% electricity generation from renewables.** Expanding renewable energy is not enough. Electricity generated by wind and solar power greatly depends on the weather, time of day and season. Sometimes, power produced from renewable sources only covers a fraction of demand, and at other times, it exceeds local needs to such an extent that it actually has to be throttled. Consequently, storage technologies are increasingly coming to the fore as renewable energy continues to be expanded. They do not yet meet the technical and economic requirements for large-scale use to secure supply. But we are working on changing the situation. In several research and development projects, we are dedicating ourselves to Power-to-Gas technologies, which convert green electricity to hydrogen and then use this gas as a carbon-neutral commodity. For example, we joined forces with gas network operators and industrial enterprises in the Get H<sub>2</sub> initiative to put the production, storage, transport and use of hydrogen to the test on an industrial scale at our power plant site in Lingen (see page 36). In addition to Power-to-Gas and thermal or mechanical storage concepts, batteries can also help to mitigate fluctuations in renewable energy. RWE is already involved in the development and construction of battery storage facilities, which is a business we are expanding.

**Conventional electricity generation: growing significance of gas as a source of energy.** Building the storage infrastructure required for a nationwide supply of green electricity is a task that will take decades, not years to accomplish. Therefore, power stations capable of offsetting fluctuating wind and solar power feed-ins will remain necessary for the foreseeable future. With our conventional generation capacity, we are making an indispensable contribution to the reliable and tailored supply of electricity in our core markets in Germany, the United Kingdom and the Benelux region. Our gas-fired power stations, most of which are state-of-the-art, are especially well suited to partner with renewable energy because they emit little carbon dioxide and their output can be adapted to load fluctuations in the grid very quickly. In terms of generation capacity, gas is already our major conventional source of energy, and its share of our power plant portfolio is expected to increase further. However, we believe the greatest potential for growth is currently harboured by the acquisition of existing stations. New builds are usually unprofitable at present, unless the assets receive guaranteed payments under the German Combined Heat and Power Act or as a result of invitations to tender from the network operators.

Conversely, coal and nuclear power stations will increasingly lose importance within our generation portfolio. In Germany, nuclear energy is subject to a phaseout roadmap, which stipulates a latest possible shutdown date for every single plant. Two RWE nuclear power stations are still online: Gundremmingen C and Emsland. We can operate these assets until the end of 2021 and the end of 2022, respectively, after which they must be closed. Thereafter, our nuclear operations will largely be limited to safe and efficient dismantling. In addition, we are exploring how to continue to make use of the locations of our power plants in the energy business.

Permission to use coal as a source of energy is also likely to end in the foreseeable future. All three countries in which RWE has coal-fired power stations already have concrete phaseout roadmaps. The United Kingdom has set its sights on the earliest exit year, which is 2024. Aberthaw B, the last RWE hard coal-fired power plant in operation there, was taken offline in December 2019 so that it can be decommissioned early.

The Netherlands intend to phase out coal by the end of 2029. This has been enshrined in law since last year. We currently have two hard coal-fired power plants there, Amer 9 and Eemshaven, which will have to be converted to run on alternative fuels or shut down after 2024 and 2029, respectively. Thanks to state subsidies, we have begun to co-fire biomass in both these stations. Moreover, we will explore whether we can run them solely on this energy fuel in the long run.

At the beginning of 2020, the German government presented a draft law on the country's exit from coal, which orients itself towards the recommendations of the Growth, Structural Change and Employment Commission. The roadmap envisages the country gradually reducing the number of coal power plants to zero by 2038. The draft law also mandates the early closure of lignite-fired power stations in the Rhenish coal mining region, on which we reached an agreement with the government following lengthy negotiations. Detailed information can be found on pages 42 et seqq. The exit roadmap makes it possible to have a reliable regulatory framework, within which we can work towards carbon-neutral electricity generation by 2040. However, it also poses major social and operational challenges, mainly relating to our lignite business in the Rhineland. For example, we have to end our opencast mining activities in Hambach early, which will be extremely expensive as this will involve maintaining Hambach Forest. Furthermore, we are forced to implement major layoffs and redundancy programmes for the affected employees. We managed to negotiate a total of €2.6 billion in compensation with the government, but we will have to cover some of the additional costs ourselves.

Germany's coal phaseout will accelerate structural change in the Rhenish lignite mining region substantially. We intend to play an active role in shaping this change and help to ensure that the energy industry continues to prosper in the region. Some recultivation land is very well suited for the expansion of renewable energy. Three innogy onshore wind farms are already located there. We also intend to continue developing our power plant sites. For example, there are plans to build an innovation, technology and commercial park in Frimmersdorf and the surrounding area. We will perform test drillings at the Weisweiler site within the scope of an EU project in order to determine whether the location's geothermal activity is suitable for generating district heat (see pages 34 et seq.). In addition, we will thoroughly explore Power-to-Gas technology at the Niederaussem Innovation Centre, where we have been operating an electrolyser for producing hydrogen since 2013.

#### **Supply & Trading – commercial hub for the generation business.**

Energy trading is part of RWE's core business. It forms the economic link between the elements of our value chain, the regional markets and the various energy commodities. It is overseen by the Group company RWE Supply & Trading, which focuses on trading electricity, gas, coal, oil, biomass, and CO<sub>2</sub> certificates. RWE Supply & Trading mainly conducts these activities from Europe as well as via subsidiaries in New York, Singapore and Beijing. Another of the Group company's activities consists of marketing the electricity from RWE power stations and procuring the fuel and emission allowances required to produce it. The objective here is to limit price risks. On top of that, RWE Supply & Trading is in charge of the commercial optimisation of our power plant dispatch. However, the generation segments are entitled to the resulting earnings, which is why we report them in those segments. Companies outside of the RWE Group can also benefit from the expertise of our trading business. They are offered a wide range of products and services, running the gamut from traditional energy supply contracts and comprehensive energy management solutions to sophisticated risk management concepts. In addition, RWE Supply & Trading makes minor investments in energy assets or energy companies, for which value-enhancing measures can be taken in order to realise high returns upon resale (referred to as principal investments). At the end of 2019, RWE Supply & Trading had a portfolio of seven principal investments, four of which are in the USA.

#### **Intermediary trading and storage of gas harbour additional earnings potential.**

Another string to RWE Supply & Trading's bow is the gas business. This is an area in which the company aims to establish itself as a leading European intermediary. The company already supplies gas to numerous companies inside and outside of the RWE Group. To this end, it enters into long-term supply agreements with producers, organises gas transportation by booking pipelines and optimises the timing of deliveries using leased gas storage facilities. The greater the size and diversification of the procurement and supply portfolios, the greater the chances to commercially optimise them. RWE Supply & Trading also concludes transactions involving liquefied natural gas (LNG). The main objective is to take advantage of differences in price between regional gas markets which are not connected via pipelines.

The asset swap with E.ON further expands our gas business. We will receive eleven gas storage facilities from our former subsidiary innogy: five in Germany with a total capacity of 1.6 billion cubic metres and six in the Czech Republic with a total capacity of 2.7 billion cubic metres. In 2020, we will start reporting income from the management of these assets in the Supply & Trading segment. Due to regulatory restrictions these storage facilities will not be owned by RWE Supply & Trading, but by legally independent Group companies, which lease them to companies such as RWE Supply & Trading. The lessees use the storage facilities for timing arbitrage transactions. They are filled in the warm months, when little gas is needed to heat buildings, and gradually emptied in the cold season, when demand is high. The income achieved through such arbitrage transactions and, in turn, storage capacity auctions depends on the seasonal differences in gas prices. The differences in price between summer and winter gas are much smaller today than they have been in the past. This applies above all to the German market, which currently has an oversupply of storage capacity. A recovery of margins is not in sight. However, we believe that periods of scarcity and price spikes will become more frequent again in the long run, in part due to rising demand for gas used to generate electricity. This is something from which we would benefit two-fold, both as user and as owner of the storage facilities.

**Attractive investment portfolio increases financial strength.** RWE's business operations are supplemented by a portfolio of financial investments in energy companies, which we believe will be a reliable source of substantial income. The largest position is the stake in E.ON, which we received as part of the asset swap. It amounted to 16.7 % when it was acquired in September 2019. We reduced it to 15 % shortly thereafter. Our investment portfolio also includes a 25.1 % share of the German transmission system operator Amprion and the 37.9 % interest in the Austrian utility Kelag mentioned earlier, which is part of the continuing innogy operations. Kelag's strong position in hydroelectric power makes the company a perfect fit for our renewable energy strategy.

**New Group structure: coal and nuclear pooled in single segment.** We will present the RWE Group in a new structure from 2020 onwards. One major change compared to 2019 is that we will dissolve the interim 'innogy – continuing operations' and 'acquired E.ON operations' segments and break down the generation business solely by energy source. We have pooled our German lignite, hard coal and nuclear power stations in a single segment. As these technologies are subject to exit roadmaps mandated by the state, plant dismantling and opencast mine recultivation will gain importance relative to electricity generation. Additional information on the new segment breakdown can be found on pages 94 et seq. The old structure, which forms the basis for our financial reporting on fiscal 2019, is set out on pages 49 et seq.

**RWE AG's management system.** Ensuring sustainable growth in shareholder value is at the heart of our business policy. To manage the Group's activities, RWE AG deploys a groupwide planning and controlling system, which ensures that resources are used efficiently, and provides timely, detailed insight into the current and prospective development of the company's assets, financial position and net worth. Based on the targets set by the Executive Board and management's expectations regarding the development of the business, once a year we formulate our medium-term plan, in which we forecast the development of key financial indicators. This plan contains the budget figures for the following fiscal year and planned figures for the years thereafter. The Executive Board submits the plan to the Supervisory Board, which reviews and approves it. The Supervisory Board occasionally requests adjustments to be made prior to giving its approval. During the fiscal year, we produce internal forecasts linked to the budget. The Executive Boards of RWE AG and the main operating units meet regularly to analyse the interim and annual financial statements and update the forecasts. In the event that the updated forecast figures deviate significantly from the budget figures, the underlying reasons are analysed and countermeasures are taken if necessary. We also immediately notify the capital market if published forecasts need to be modified.

Important key performance indicators used in managing our business are adjusted EBITDA, adjusted EBIT, adjusted net income, and net debt. EBITDA is defined as earnings before interest, taxes, depreciation and amortisation. In order to improve its explanatory power in relation to the development of ordinary activities, we remove non-operating or aperiodic effects: capital gains or losses, temporary effects from the fair valuation of derivatives, impairments and other material special items are shown in the non-operating result. Subtracting operating depreciation and amortisation from adjusted EBITDA yields adjusted EBIT. Net income corrected to exclude all major special items (adjusted net income), is another key operating indicator.

Until 2019, for management purposes, we also used key figures reflecting innogy as a purely financial investment in accounting terms. innogy was considered on the income statement only with the dividend due RWE. This approach, which deviates from IFRS consolidation principles, is explained in further detail on page 69. It enabled us to present innogy's role adequately. Another advantage of the greater independence of accounting regulations was that we did not have to make any methodological adjustments when implementing the asset swap with E.ON. Therefore, this approach was also applied to determine the key earnings figures forming the basis of the Executive Board's variable remuneration.

We primarily use the internal rate of return for evaluating the attractiveness of investment projects. The Group's financial position is analysed using cash flows from operating activities, amongst other things. We also attach special importance to the development of free cash flow. It is the result of deducting capital expenditure from cash flows from operating activities and adding to them proceeds from divestments and asset disposals. Net debt is another indicator of RWE's financial strength. The starting point for calculating it is RWE's net financial position, to which provisions for pensions and similar obligations, for nuclear waste management, for mining damage (e.g. the reclamation of opencast mining sites) and for the dismantling of wind farms are added. However, we will stop

including provisions for mining damage and the financial assets used to cover them in net debt from fiscal 2020 onwards. In managing our indebtedness, we orientate ourselves towards the leverage factor, the ratio of net debt to adjusted EBITDA. In the future, we will calculate this ratio solely based on income achieved in our core business, the definition of which is provided on pages 94 et seq.

**Sustainable management – more than just reducing emissions.** We can only succeed over the long term if we ensure society's acceptance by embracing our corporate responsibility (CR). Today, CR is a top priority. It relates to multifaceted environmental, economic and social matters and therefore goes far beyond the reduction of greenhouse gas emissions. To optimise our assessment of the expectations which society has of us, we constantly seek to engage in dialogue with stakeholder groups. These are primarily shareholders, employees, politicians, associations, non-government organisations and civic initiatives. The stimulus we receive by interacting with our stakeholders helps us to determine the focal points of our CR activities. In addition to reducing our emissions, we take a number of further matters very seriously. These include the health of our staff, biodiversity at our sites, the diversity of our workforce and the attractiveness of RWE as an employer. We have set ourselves specific goals in respect of numerous CR issues and measure the degree to which we achieve them using KPIs. In so doing, we create transparency while making our sustainability strategy more binding. This is also achieved by the fact that the degree to which CR targets are met has a direct effect on the remuneration of the Executive Board of RWE AG (see page 80).

Further information on our goals and measures in relation to CR can be found in our separate consolidated non-financial report in accordance with Section 315b, Paragraph 3 of the German Commercial Code, which will be published separately from the combined review of operations as part of our CR Report in April 2020. The CR Report is entitled 'Our responsibility' and can be accessed on the internet at [www.rwe.com/cr-report](http://www.rwe.com/cr-report).

## 1.2 Innovation

**Few other industrial sectors are in the throes of as great a transformation as that affecting the energy industry. Armed with innovative spirit, curiosity and drive, we are helping to shape this change, prompting us to have launched or helped progress 190 innovation projects this past year alone. A total of 370 employees and numerous industrial and research partners were involved in these projects. And as varied as they may be, they have one goal in common: overcoming the technical and economic challenges of the energy transition.**

**With around 290 inventions, we are amongst the pioneers of European utilities.** RWE is innovative in many ways. We are motivated both by a desire to remain competitive in an ever-changing environment as well as a passion to be a driving force propelling this transition. With the help of our innovation projects, we are looking to develop solutions that help us advance power generation from renewable sources and harness the potential of our conventional power plants in order to facilitate a successful energy transition.

With 1,070 patents and patent applications, based on close to 290 inventions, we are in the leading pack of European utilities. Last year, we worked on approximately 190 projects in the field of research and development (R & D). About 370 of our staff were solely dedicated to these activities or contributed to them in addition to performing their normal tasks. In most R & D projects, we co-operate with other companies or research institutions, meaning we generally only bear a portion of the project costs. In 2019, the RWE Group's operating R & D spending amounted to €21 million (previous year: €18 million). innogy is only included in all of these figures based on the operations we are continuing.

In the following we present a small selection of current innovation projects. They illustrate the range of challenges we are facing in light of the energy transition and signify the creativity with which we are tackling these issues.

**The floating TetraSpar turbine: new solution for offshore wind expansion.** RWE is the world No. 2 in offshore wind power production. Traditional offshore wind turbines have one thing in common: they are firmly secured to the seabed and therefore located in waters with a maximum depth of 50 metres, with 70 metres likely to be possible in the medium term. The reason for this limitation is that the need for building materials increases in tandem with the need to make stronger structures which can withstand wind and waves in much deeper waters. The associated construction costs would be considerable, rendering the wind farms uneconomical. However, in order to harness the potential of wind power more effectively, companies are currently

working on concepts for floating wind turbines, which can be secured to the seabed using anchor chains. This opens up the possibility of utilising deeper waters as sites for turbines, making completely new regions available for wind power, such as the Mediterranean and steeply sloping coasts in Asia and America in particular. According to WindEurope, the European wind industry association, in about 80% of all areas where wind speeds are suitable for electricity generation, the sea is simply too deep for conventional forms of offshore wind.

Floating technology is still in its infancy. Commercially available turbines are usually used, but the floating foundations are custom-made and expensive. Together with oil company Shell and Danish company Stiesdal Offshore Technologies (SOT), innogy is currently testing a modular concept called TetraSpar, which the project partners believe will enable considerable cost savings. SOT has developed a tubular steel support structure which is kept stable in the water by a keel. As it has a modular design, the individual parts of the support structure can be prefabricated at different locations. One advantage this technology holds over other floating concepts is that it is possible to construct the floating base and mount a turbine to it – all within the harbour.

The project team's model-scale tests on a floating installation, conducted in wind and wave tunnels, have largely been completed and production of individual test installation components is already under way. In 2020, the first TetraSpar base is due to be assembled and launched in the Danish port of Grenaa, before a 3.6 MW wind turbine is mounted upon it. Tugboats will then take the entire installation to the test site ten kilometres off the Norwegian coast near Stavanger, where it will be attached to the seabed 200 metres below with three anchor chains, before finally being connected to the power grid via a cable. The floating turbine will be equipped with a large number of sensors to measure whether its behaviour in real life conditions is in line with our predictions based on calculations and tests. In TetraSpar, we hope to have found a concept that will allow us to venture into entirely new wind power territories using floating technology.

**Weatherproofing wind farms: lower repair costs thanks to rotor blade coating.** Wind turbine blades are constantly exposed to the elements. This applies in particular to the leading edge of the blades where dust, water droplets and, at offshore sites, even sea salt strike the coating and, over time, permeate to the layers below. The damage caused by the erosion must regularly be repaired at great expense. This is precisely where we want to make a change, true to the saying "Prevention is better than cure."

For some time now, manufacturers have been making materials that can be applied to the edges of the blades to protect them from erosion. Three types of material are available for this purpose: special paints, adhesive strips and precast foams – all of which have already been tested in our laboratory, using products from ten manufacturers. At the offshore wind farms Gwynt y Môr off the coast of Wales and Rødsand 2 near Lolland in Denmark, these investigations are being continued under real life conditions. In offshore locations, the number, size and salt content of water droplets in the air is particularly high, making these material tests even more crucial. The main objective is to establish how easily these materials can be applied under marine weather conditions and how they might affect the aerodynamics of the turbines.

Testing is expected to continue until 2021, by which time we want to have identified the material with the best cost-benefit ratio. We could then apply it to rotor blades during regular maintenance, avoiding unnecessary downtime. In addition, when building wind farms, we will make sure that the blades are precoated with the ideal protective layer.

**Wind turbines under observation: condition monitoring systems.** Once a wind turbine has been installed, it must be regularly serviced and maintained. Damage should be detected, assessed and repaired as quickly as possible to prevent turbine downtime. In order to ensure a safe and ideally seamless operation of a given wind farm, we use condition monitoring systems. The systems use sensors to record rotation speeds, vibrations, ambient temperatures and much more. Measurements are taken around the clock, and that information is stored, so that software can evaluate the data later.

As part of our R&D activities, we are working on improving the interaction between the sensors (hardware) and the analysis methods (software). We are exploring which hardware is particularly well suited for data acquisition, for example. We improve the software using machine learning approaches, among other things. Engineers and IT

specialists teach the software to work autonomously and distinguish between normal and irregular wind turbine behaviour based on existing data sets. The ideal combination of hardware and software will then be installed in individual turbine models or even entire onshore and offshore fleets. With the help of our condition monitoring systems, we have already been able to considerably reduce the number of unplanned maintenance outages.

**Heat from under the ground: new tasks for our Weisweiler site.** One regenerative energy source simply brimming with promise is deep geothermal energy. Not only does it offer promising prospects for energy supply, but possibly also for the future of the Rhenish lignite mining region. As part of an R&D initiative under the umbrella of EU funding project INTERREG, we are currently researching whether and how we can extract geothermal energy, stored deep in the ground under our Weisweiler power station to the east of Aachen. In concrete terms, the objective is to pump hot water from deep underneath the earth's crust to the surface. The heat could then be captured by a heat exchanger and fed into the Aachen district heating network, while the thermal water would be pumped back into the ground via a second borehole. This would make it possible to supply Greater Aachen with green energy from the Rhenish coal mining region and Weisweiler to maintain its place as a key location for the energy industry. It would also offer the workforce secure prospects, even once the planned phaseout of lignite-fired electricity generation is complete.

Ten partners have come together as part of our DGE Rollout NWE project (development of deep geothermal energy in north-western Europe) under the direction of North Rhine-Westphalia's Geological Service. RWE Power is contributing the on-site energy infrastructure at Weisweiler, and the know-how of its employees to the project. District heating pipelines already run from our power plant to Aachen, some 20 kilometres away. The first project phase will be dedicated to the underground exploration of the conditions in Weisweiler. In the second half of 2020, we want to use a test well to reach a depth of more than 1,000 metres. If it then transpires that the use of geothermal energy is economically viable, this would mark the birth of a Weisweiler geothermal energy site. The state of North Rhine-Westphalia has set itself the goal of ensuring that a 2038 phaseout of coal-fired electricity generation coincides with a massive expansion of renewable energy capacity. It is envisaged that the Rhenish region will serve as a model for how a region in Europe can best transform its energy system into a modern, innovative and climate-friendly one.



Geothermal energy is of particular interest in this regard because it is available around the clock, regardless of weather conditions. With its mining traditions and its high professional and technical standards, North Rhine-Westphalia ticks all the necessary boxes to create a successful geothermal energy hub. In Belgium and the Netherlands, district heating networks, greenhouses, industrial plants and thermal baths already benefit from this environmentally friendly energy stored below the earth's crust.

**StoreToPower: converting coal-fired power stations into thermal storage power plants.** StoreToPower is another project aimed at tackling the impending structural change in the Rhenish lignite mining region whilst also securing the area as a key location for the energy industry. As the name implies, the focus is on electricity storage. One of the major challenges of the energy transition is that wind turbines and solar panels are not reliable sources of electricity. The more these systems replace conventional power plants, the more urgently we need storage solutions that make it possible to reconcile the considerable fluctuations of electricity generated from renewable sources with demand profiles.

How we transition from phasing out coal to phasing in energy storage solutions is the key question when it comes to StoreToPower. As part of this initiative, we are looking to use a lignite-fired power station as a thermal storage power plant. This will not involve a complete redesign of the plant: in coal-fired power stations, heat is generated by burning coal. This heat is used to produce steam. Under high pressure, the steam drives a turbine, which produces electricity via a generator. In a coal-fired power station which has been converted into a heat storage power plant, the heat needed for steam generation can be produced with alternatives to coal, namely wind and solar power. Whenever excess amounts of green electricity are available, they could be used to heat a thermal storage tank. Later, when wind and solar power is in short supply, the stored heat can be used to generate steam to drive the turbine. The modules of the thermal storage system can be gradually built next to existing power plant units. In this way, the steam generated in the green storage plant can progressively be used to replace large portions of the steam otherwise generated using lignite. This continues until the power station operates exclusively as a thermal storage power plant using renewable energy sources once the phaseout of coal-fired power generation has been completed.

As part of the StoreToPower project, RWE has joined forces with the German Aerospace Centre and the Aachen University of Applied Sciences. Together, the partners are seeking to retrofit a thermal storage module as a test facility on the premises of a large lignite-fired power plant unit in the Rhenish region, thus proving the technical viability of the concept. The state of North Rhine-Westphalia is already backing the planning work financially and has included StoreToPower as a key project in its programme of urgent operations called 'The Rhenish region of the future'. In July 2019, the project cleared an important hurdle: the Federal Ministry of Economics and Energy listed it as one of 20 projects that are eligible to apply for funding within the scope of the ideas competition entitled 'Real Laboratories of the Energy Transition'. The contest is aimed at ensuring that sustainable energy technologies can be tested under real life conditions and on an industrial scale.

**Innovative CO<sub>2</sub> application: synthetic fuel from carbon dioxide.** For some time now, we have been working on various processes that allow us to separate carbon dioxide from power plant flue gases (CO<sub>2</sub> scrubbing). At our innovation centre in Niederaussem in the Rhenish lignite mining region, we have developed one of the world's pioneering technologies in this field together with BASF and Linde. Our CO<sub>2</sub> scrubbing pilot plant has already proven its capabilities over years of extensive testing. Since 2009, it has completed more than 80,000 operating hours, achieving CO<sub>2</sub> scrubbing efficiencies of 90 %. We use carbon dioxide from the pilot plant to produce synthetic fuel and feedstock for the chemical industry, which can be used to replace fossil fuels such as crude oil and natural gas. To this end, we have initiated five projects, all of which qualify for EU funding. Two examples are presented below.

As part of the first project, MeFCO<sub>2</sub> (Methanol from CO<sub>2</sub>), which has already been completed, we produced methanol from carbon dioxide and hydrogen. The hydrogen in turn was produced by electrolysis using water and electricity. A wide variety of chemical products are based on methanol, one of the most commonly manufactured chemicals in the world. It is also suitable as a long-term storage medium for renewable energy, provided the hydrogen used to generate it is produced using green electricity and the methanol itself is subsequently used to generate electricity.



A second project, ALIGN-CCUS, has been under way at Niederaussem since 2017. Backing is provided by both the EU and the German Ministry for Economic Affairs and Energy. A total of 30 industrial enterprises and research institutions from five European countries are involved in the project. They are looking to show that it is possible to create an entire value chain, from carbon capture to its use and storage. The project involves converting carbon dioxide and hydrogen into dimethyl ether (DME), which can be used as a low-carbon, low-nitrogen-oxide diesel substitute. Our pilot plant in Niederaussem became operational in early 2020. Every day, we produce up to 50 kilogrammes of DME from carbon dioxide and hydrogen, which is used as a fuel for the production of peak-load electricity in a stationary diesel generator at Niederaussem. ALIGN-CCUS is another example of how generation shortages from renewable energy could be cushioned moving forward. All CO<sub>2</sub> conversion projects serve to further our understanding of new technologies and products whilst gaining experience with new partners, thus laying the groundwork for the next step: the construction and operation of a demonstration plant where the processes can be tested on an industrial scale.

#### **GET H<sub>2</sub>: blueprint for entry into the hydrogen business.**

As demonstrated by the MefCO<sub>2</sub> and ALIGN-CCUS projects, hydrogen plays a key role in using carbon dioxide. However, its importance for the energy industry goes far beyond this application. After all, hydrogen (H<sub>2</sub>) can be used in a myriad of ways, for instance to generate electricity and heat, as a fuel to power cars, or as a commodity for industry. Another advantage of hydrogen is that it can be obtained by electrolysis from electricity and water and is therefore a candidate for renewable energy storage. Producing, transporting and using hydrogen take centre stage in the GET H<sub>2</sub> initiative, for which we joined forces with numerous industrial and research partners. The objective of GET H<sub>2</sub> is to build a nationwide hydrogen infrastructure in Germany. This initiative will kick off with a project at our power plant site in Lingen, where we intend to produce green hydrogen for industrial processes on a large scale. Furthermore, there are plans to repurpose an existing gas pipeline from Lingen to the Ruhr region to transport hydrogen. This undertaking is still in the planning stage and is subject to economic feasibility.

#### **Lignite-fired power plants: lower mercury emissions thanks to rotary hearth furnace coke.**

In our efforts to generate electricity with ever lower emissions, we are not only targeting the greenhouse gas carbon dioxide but also pollutants such as mercury. We are already able to successfully separate and extract most of the mercury contained within flue gases, meaning our plants are already well below the current legal emission thresholds. However, new EU regulations will impose much stricter limits on our lignite-fired power plants from summer 2021 onwards. So, the fact that we have been working intensively for years now on ways to further reduce mercury emissions cost-effectively very much works in our favour. We have specifically been giving much consideration to a process which makes use of furnace coke extracted from lignite. We are already using this substance to extract mercury at our refining plants, where we process lignite into briquettes or lignite dust for the cement and lime industry. Tests carried out in 2018 at a pilot plant at the Niederaussem Innovation Centre demonstrated that furnace coke can also be used to reduce emissions from power plants. In Niederaussem, we injected furnace coke into the smokestack of a lignite block. The result showed that the mercury attached itself to the fine furnace coke particles so that both materials could be extracted by the electrostatic precipitator and subsequently disposed of. The experiments led to a significant reduction in mercury emissions, which encouraged us to apply the method on a large scale and under real life conditions. To this end, we built a demonstration plant, which is also connected to one of the power station units at Niederaussem. During an extensive series of tests between February and July 2019, the method proved its value and effectiveness once again. We now plan to install it in further lignite units, which would otherwise not be able to comply with the impending new limitations. In the meantime, we are using the demonstration plant to explore ways in which we can further perfect the technology.

Detailed information on these projects and our other R&D ventures can be found at [www.rwe.com/innovation](http://www.rwe.com/innovation) and at [www.innogy.com/innovation](http://www.innogy.com/innovation) > Renewable Energy.

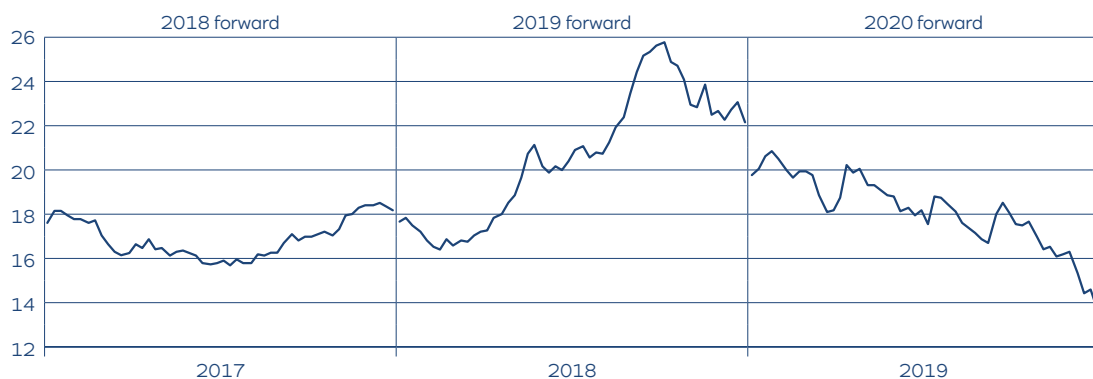
## 1.3 Economic environment

**World economic growth slowed in 2019.** Initial estimates have German GDP posting a marginal rise, with industrial output on the decline, resulting in a drop in electricity consumption. Following a multi-year upturn, prices of thermal coal and natural gas dropped on international markets. Despite this, average electricity forward prices in Germany and the Netherlands were higher than in 2018. A major factor was the rise in the price of CO<sub>2</sub> emission allowances witnessed since 2017. This was also a major reason why the margins of low-emission gas power plants improved, whereas those of hard coal-fired power stations worsened.

**Eurozone posts only slight growth.** The economy experienced a tangible cool-down in the past fiscal year. Based on preliminary estimates, global economic output rose by 2.5%, which was less than in 2018 (3.3%). The Eurozone may well have posted just over 1% economic growth, with Germany recording a gain of merely 0.6%. Due to its dependency on exports, the country, which is the largest economy in the currency area, is significantly affected by international trade conflicts. By contrast, the Netherlands, recording an estimated increase of 1.7%, occupied one of the top spots among Eurozone countries. In the United Kingdom, our most important market outside of the currency union, the economy displayed robust development, despite the UK's exit from the EU with effect from 31 January 2020. Based on the latest figures, the country's GDP rose by more than 1%. Since the acquisition of E.ON's renewables business, the USA has also become one of RWE's core markets. Economic research institutes estimate that the US economy expanded by more than 2%.

**Decrease in demand for electricity in Germany.** Electricity consumption trends largely depend on the economic cycle, which weakened significantly in our European markets. Furthermore, less electricity was needed for heating due to the weather. Preliminary data from the German Association of Energy and Water Industries (BDEW) indicate that electricity consumption in Germany was down 2% in 2019. Expert estimates for the UK have the country recording a decline of a similar order, whereas there was apparently no major change versus 2018 in the Netherlands. Power usage in the USA is likely to have dropped by more than 2%, despite the country's robust economy. This was in part because the summer temperatures were below the unusually high level recorded in the preceding year, resulting in a commensurate decline in electricity consumption for air conditioning.

**One-year forward prices of gas on the TTF wholesale market**  
€/MWh (average weekly figures)



Source: Bloomberg.

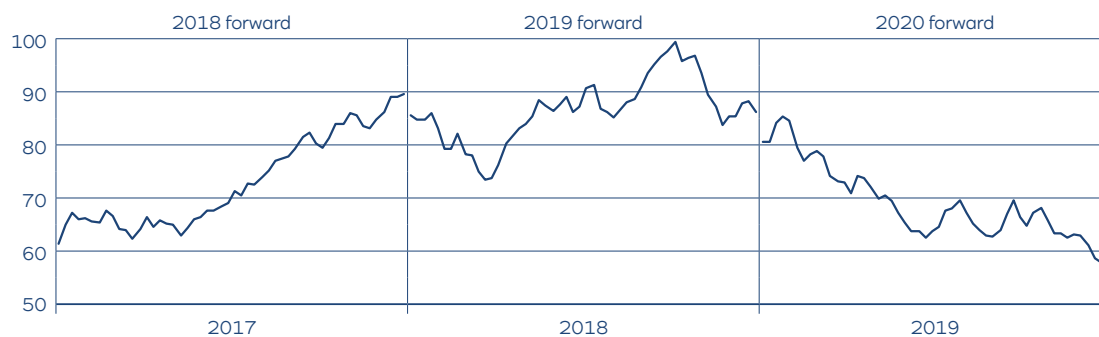
**Mild weather causes natural gas spot prices to collapse.**

The utilisation and earnings of our power plants are heavily dependent on how fuel and emission allowance prices develop. Natural gas, our most important tradable energy source, was characterised by extremely low spot prices in 2019. Quotations at the Title Transfer Facility (TTF) – the Continental European trading hub – averaged €14/MWh, €9 less than a year before. Unusually low demand for heating gas caused by the mild 2018/2019 winter played an important role. Moreover, the European market was flooded with liquefied natural gas (LNG), putting even more pressure on prices. Increased gas consumption due to the improved capacity utilisation of gas-fired power stations was unable to offset this. Gas forward prices also dropped, although not to the same extent. In the year under review, the 2020 TTF forward cost €18/MWh compared to the €21/MWh paid for the 2019 forward in 2018.

**Declining demand curbs hard coal prices.** Spot prices paid for hard coal used in power plants (steam coal) also declined substantially. Deliveries to the ARA ports (ARA = Amsterdam, Rotterdam, Antwerp) including freight and insurance were settled for an average of US\$61/metric ton (€54), US\$31 less than in the previous year. The background to this is that little use was made of coal-fired power stations in Europe, leading to a corresponding reduction of steam coal consumption. Furthermore, import restrictions in China and the reactivation of Japanese nuclear power plants curtailed demand from Asia. Quotations on the forward market also dropped owing to the aforementioned factors. In 2019, the one-year forward (API 2 Index) cost an average of US\$70/metric ton (€62), US\$17 less than in the preceding year.

**One-year forward prices of hard coal deliveries to Amsterdam/Rotterdam/Antwerp**

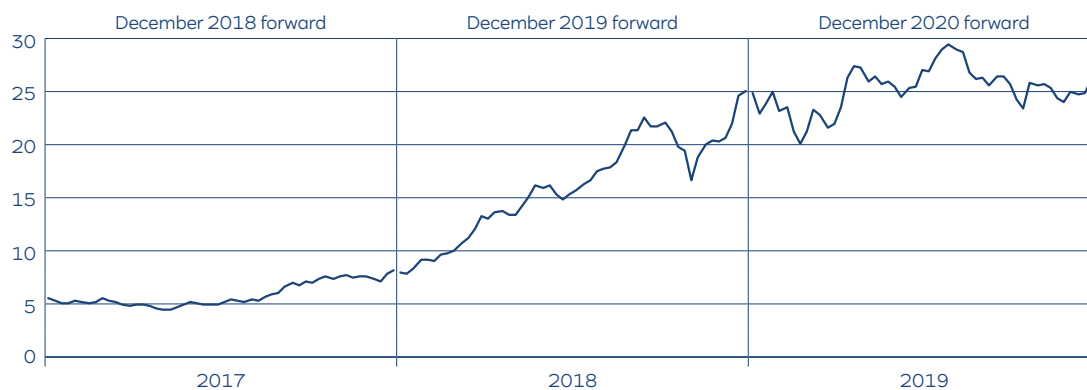
US\$/metric ton (average weekly figures)



Source: RWE Supply & Trading.

### Forward prices of CO<sub>2</sub> emission allowances (European Union Allowances)

€/metric ton of CO<sub>2</sub> (average weekly figures)



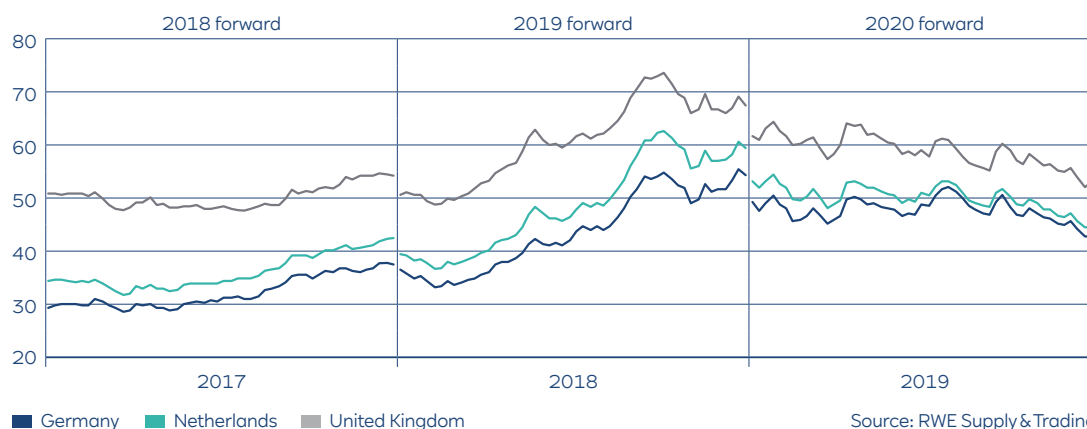
Source: RWE Supply & Trading.

**Reform of European Emissions Trading System causes rapid increase in CO<sub>2</sub> certificate prices.** An important cost factor of electricity generation from fossil fuel-fired power stations is the procurement of CO<sub>2</sub> emission allowances, which have increased substantially in price since the middle of 2017. An EU Allowance (EUA), which confers the right to emit one metric ton of carbon dioxide, cost €25 on average, €9 more than in 2018. These figures relate to contracts for delivery that mature in December of

the following year. The considerable rise in price is due to the fundamental reform of the EU Emissions Trading System. The new regulations, some of which have started having an impact at the beginning of 2019, should result in a gradual reduction of the oversupply of emission allowances on the market. Many participants in emissions trading therefore expect a shortage of available EUAs and made early purchases. This resulted in a massive surge in prices even before the reform package was implemented.

### One-year forward prices of base-load electricity on the wholesale market

€/MWh (average weekly figures)



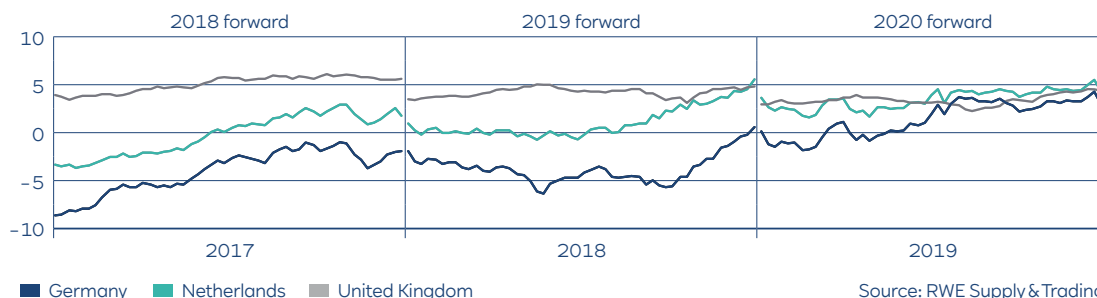
Source: RWE Supply & Trading.

**Significant decline in electricity spot prices.** The drop in the price of coal and gas weighed on quotations on wholesale electricity markets, whereas the rise in the price of emission allowances had a counteracting effect. Base-load power traded for an average of €38/MWh on the German spot market, €6 less than in the previous year. Spot prices declined by £14 to £43/MWh (€49) in the UK and by €12 to €41/MWh in the Netherlands. The situation on forward markets was as follows: the German 2020 base-load forward cost an average of €48/MWh, €4 more than what was paid for the 2019 forward in the previous year. The Netherlands recorded a slight increase in the price of the one-year forward of €1 to €50/MWh, with the UK recording a decrease of £2 to £52/MWh (€59).

**Rise in price of CO<sub>2</sub> emission allowances puts coal power plant margins under pressure.** Power plant margins are calculated by taking the price per unit of electricity generated and deducting the costs of the fuel and CO<sub>2</sub> emission allowances required for said electricity generation. As a rule, we procure the fuel for our hard coal and gas-fired power stations in liquid markets at prevailing conditions. The generation costs of the plants can therefore fluctuate considerably. In the case of gas-fired power stations, margins are known as clean spark spreads and when it comes to hard coal-fired plants, they are referred to as clean dark spreads.

#### Clean spark spreads<sup>1</sup> forward trading

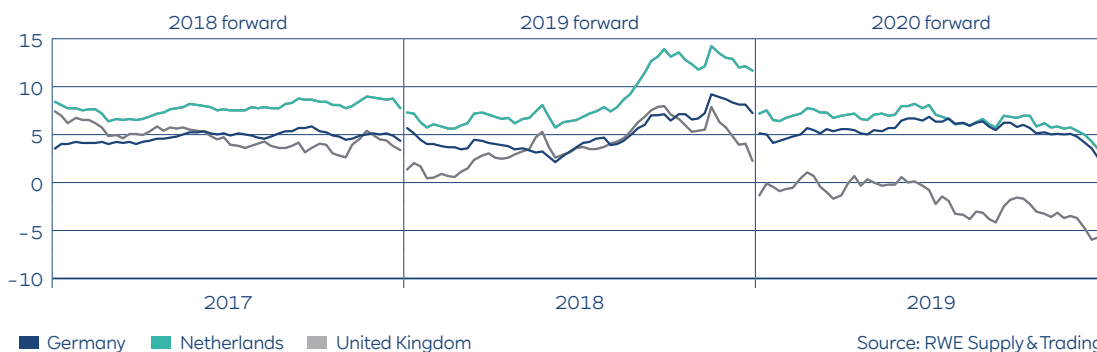
€/MWh (average weekly figures)



1 Price of base-load electricity minus the cost of gas and CO<sub>2</sub> emission allowances based on a power plant efficiency of 50%; including CO<sub>2</sub> tax in the UK.

#### Clean dark spreads<sup>1</sup> forward trading

€/MWh (average weekly figures)



1 Price of base-load electricity minus the cost of hard coal and CO<sub>2</sub> emission allowances based on a power plant efficiency of 40%; including CO<sub>2</sub> tax in the UK.

The graphs on page 40 illustrate the development of the aforementioned spreads in our main generation markets since 2017, based on the respective year-forward transactions. In 2019, clean spark spreads in Germany and the Netherlands were above the previous year's average, whereas they remained slightly below it in the UK. The UK and the Netherlands saw significant declines in clean dark spreads versus 2018, with Germany recording a slight increase.

Fuel costs for lignite-fired and nuclear power stations are generally more stable as we obtain lignite from our own opencast mines and source uranium via long-term contracts at firm conditions. The rise in German wholesale electricity prices caused realisable nuclear energy margins to improve. As regards lignite-fired power stations, the positive price effect was contrasted by substantial additional costs resulting from more expensive CO<sub>2</sub> emission allowances.

**RWE: slightly higher margins of base-load forward contracts for 2019.** We sell forward most of the output of our power stations and secure the prices of the required fuel and emission allowances in order to reduce short-term volume and price risks. Therefore, our generation margins in the year under review strongly depended on the conditions at which we concluded forward contracts for 2019 in earlier years. For electricity from lignite and nuclear power stations, we realised marginally higher prices with such transactions. In sum, this led to slightly better margins than with the transactions for 2018. Forward sales of electricity from gas and hard coal-fired power stations are typically concluded with less lead time. Therefore, the electricity prices realised for 2019 were higher, but there were also cost increases due to the notable fuel price hike which had an affect until 2018. In addition, the rise in the price of emission allowances also left its mark. The margins on electricity sales for 2019 of our gas-fired power stations in Germany, the UK and the Netherlands improved year on year despite these burdens. By contrast, our hard coal-fired power plants recorded declining margins in all the markets mentioned.

**Wind conditions better than in 2018.** The availability and profitability of plants that produce electricity from renewable energy sources greatly depend on weather conditions. This is why wind speeds are extremely important to us. In 2019, they occasionally exceeded the long-term average at our production sites in Poland, Spain and Italy, whereas they remained below it at most of our UK and some of our US locations. Wind speeds in the other regions in which we are active were largely normal. Compared to 2018, by and large, wind speeds measured at our locations in 2019 were similar or higher. Only in parts of the USA and Sweden was a decline recorded. The utilisation of run-of-river power stations strongly depends on precipitation and melt water volumes. In Germany, where most of our run-of-river power plants are located, these volumes were slightly below the long-term average. However, they were marginally higher than in 2018.

## 1.4 Political environment

**Climate protection remains at the top of the political agenda. The European Commission presented the 'Green Deal', a package of measures aiming for a significant reduction of greenhouse gas emissions across all sectors. The ultimate goal is to make the EU climate neutral by 2050. Policymakers in our home market, Germany, are also spurring climate protection. In January 2020, the federal government submitted a draft law on the exit from coal, which envisages gradually phasing out electricity generation from coal by 2038. The draft requires our lignite power stations and opencast mines to be closed ahead of schedule. The compensation that we would receive in exchange would clearly fall short of offsetting the actual burden. However, we welcome the fact that the framework conditions for our power plants will become more reliable and that the necessary redundancies will be mitigated in a socially acceptable manner.**

**EU Commission presents 'Green Deal': Europe to become carbon neutral by 2050.** The new European Commission under President Ursula von der Leyen put forward its 'European Green Deal' on 11 December 2019. The programme contains a list of measures to lower greenhouse gas emissions across various sectors. The Commission is pursuing two goals with the Green Deal: the first sees Europe becoming carbon neutral by 2050. The second goal focuses on 2030, the deadline by which the EU should have decreased its greenhouse gas emissions by 50–55% compared to 1990. Previously, the aim was to reduce emissions by 40%. The new targets are set to be achieved through far-reaching reforms to industry, energy supply, transport and agriculture. The EU Commission is planning comprehensive legislative changes and a number of different programmes in order to provide for the accelerated expansion of renewable energy, a new strategy for the industrial sector, import barriers for goods produced using processes that are harmful to the climate as well as a strategy for clean transport, among other things. Regions which are most affected by these measures will be supported by way of a 'Just Transition Fund'. The EU wants to enshrine the goal of becoming carbon neutral by 2050 in law. This will be followed by the legislative process to increase the target for 2030, which will most likely begin this summer. Depending on the outcome, the rules of the European Emissions Trading System would then have to be revised and the number of certificates placed on the market would have to be reduced.

**EU limits participation of coal-fired power plants in capacity mechanisms.** The European Parliament and the Council of Ministers passed a reform of EU electricity market legislation in March and May 2019, respectively. Some of the new rules took effect from 1 January 2020 (Electricity Market Regulation). Other provisions (Electricity Market Directive) will have to be transposed into national law by the member states by the end of 2020. One core component of the reform is guidelines on designing capacity market mechanisms. The new Electricity Market Regulation envisages that power stations with CO<sub>2</sub> emissions of more than 550 g/kWh will only be allowed to

participate in such mechanisms to a very limited degree. One prerequisite for this is that they do not emit more than 350 kg of CO<sub>2</sub> per kilowatt of installed capacity per year. Consequently, coal-fired power plants can no longer participate in a general capacity market with full utilisation, but can participate in reserve schemes which only involve a low number of operating hours. The emission caps for new power stations entered into effect on 1 January 2020. Transitional regulations apply to existing generation facilities until the middle of 2025. Existing capacity agreements will remain unaffected by the threshold values.

**German coal phaseout plan: RWE to shoulder the lion's share of initial burdens in exchange for €2.6 billion in compensation.** In Germany, our main electricity generation market, the stage is now set for an early phaseout of coal-fired power production. In January 2019, the Growth, Structural Change and Employment Commission (Structural Change Commission), which was appointed by the federal government, made a concrete proposal to achieve climate protection goals within the energy sector. The panel, made up of representatives from industry, trade unions, science, associations, citizen groups and environmental organisations, called for a coal phaseout by no later than 2038. In addition, the Commission presented a roadmap for plant closures and voted in favour of power plant operators being allocated appropriate compensation. The amount of compensation is either to be determined by auction (hard coal) or via negotiations (lignite). Redundancies for operational reasons as well as inappropriate social and economic disadvantages to employees are to be avoided as much as possible. The Commission also requested that the Hambach Forest be preserved. We published a detailed overview of the panel's recommendations on page 33 of our 2018 Annual Report.

The suggestions of the Structural Change Commission were predominantly well-received by politicians and other stakeholders. After they were published, the government, the affected federal states and the power plant and opencast mine operators started negotiating the implementation of the recommendations in the lignite



industry. These talks led to a consensus in early 2020. On this basis, the Federal Cabinet published a draft Coal Phaseout Act on 29 January 2020, thus launching the parliamentary procedure. Once it has been completed, the government will be authorised to conclude public-law contracts with operators of lignite assets which protect their legitimate interests.

According to the draft law, RWE will shoulder the lion's share of the initial burdens of the lignite phaseout. It envisages an additional 3 GW of lignite-fired generation capacity being taken off the market by 2022, with around 2.8 GW of this total figure being allocable to us. According to the draft law, the first 300 MW block will be decommissioned in the Rhenish lignite mining area as early as the end of 2020, followed closely by three additional 300 MW units in the following year, and another 300 MW facility as well as two 600 MW blocks in 2022. The power stations in Neurath and Niederaussem will be most heavily affected by these plans, along with Weisweiler, albeit to a lesser extent. We will also be ceasing production of lignite briquettes at the Frechen site, thus decommissioning 120 MW of electricity generation capacity.

We will gradually reduce our lignite-fired generation capacity even further until the end of the decade, by which time it will have dropped considerably. In 2025, a 300 MW block will be taken off the grid in Weisweiler. The two on-site 600 MW units will then follow suit in 2028 and 2029, respectively. The Inden opencast mine, which exclusively supplies Weisweiler with coal, will then also be decommissioned. One of the two remaining 600 MW blocks is set to be shut down at the end of 2029, with the other being placed on security standby for four years starting on 1 January 2030. From 2030 onwards, this will only leave our three most modern lignite units at 1,000 MW apiece on the market. They will most likely remain operational until the end of 2038.

The closures will have considerable consequences for the opencast mines. More than half of the lignite reserves, i.e. 1.1 billion metric tons, which had been approved for mining, will now remain underground. In addition, at the behest of the Structural Change Commission and politicians, Hambach Forest will be preserved. Of our three opencast mines in the Rhenish lignite mining region – Inden, Hambach and Garzweiler – only the latter will remain operational from 2030 onwards to supply the remaining assets with fuel. This will mean a complete overhaul of our opencast mining operations and recultivation activities, especially in Hambach. We will initiate the necessary steps as agreed with the North Rhine-Westphalian state government. The energy

industry's need for the Garzweiler opencast mine to remain operational should be reflected in the Coal Phaseout Act.

The lignite phaseout will place a considerable financial burden on our company. The draft law envisages RWE receiving €2.6 billion compensation over the next 15 years. We recognised the entire amount as an asset in the 2019 consolidated financial statements. The federal government is of the opinion that this satisfies all our claims. However, the damage we will actually incur will clearly exceed €2.6 billion. A large part of the expected burden is reflected in the consolidated financial statements. We have transferred €2,022 million to our mining provisions to cover the additional operating costs and the earlier recultivation (including interest effects). Impairments of our lignite power stations and opencast mines have resulted in burdens totalling €527 million. Moreover, we have set aside €347 million for socially acceptable redundancy schemes. Future outlays ensuring the continued operation of our power plants and opencast mines under these new conditions are only partially considered in our consolidated financial statements.

Intended recipients of state compensation in addition to RWE include the affected workforce. According to current figures, over 3,000 of the 10,000 jobs in our lignite business will be cut in the short term; by 2030, this figure could increase to around 6,000. Among other things, the proposed legislation provides for an adjustment allowance and compensation for any disadvantages concerning statutory pensions. It is envisaged that these be paid by the state.

The draft legislation also regulates the details of the hard coal phaseout. The federal government is of the opinion that auctions should decide which hard coal capacities are taken off the grid and how much their operators receive in compensation. The draft law envisages annual tender procedures from 2020 to 2026. However, operator bids will be subject to specific caps which are set to be lowered from €165,000/MW to €49,000/MW during the aforementioned period. Thereafter, the proposed legislation provides for closures without compensation. If the tenders do not result in enough capacity being decommissioned, starting in 2024, power plant operators could be ordered to shut down stations without compensation. Company representatives, trade unions and numerous federal states have levelled criticism at this draft legislation and demand that it be amended, in particular with regard to combined heat and power generation.

The legislative process for the coal phaseout is expected to last until mid-2020. Furthermore, we will be concluding a

public-law contract with the German government on the basis of the Act, which will protect our interests with regard to the regulations made. Thereafter, the compensation has to be approved by the European Commission under state aid law.

**German government seeks to provide coal regions with up to €40 billion in subsidies.** In August 2019, the Federal Cabinet adopted a draft law to strengthen the coal regions structurally. However, the Lower House and the Upper House postponed their consultation in order to discuss the planned legislation in conjunction with the Coal Phaseout Act. The draft of the Structural Reinforcement Act envisages the federal government providing up to €14 billion in financial support to the lignite mining regions for investments of particular importance through to 2038, with 37 % going to the Rhenish coal mining region. The funds can be used by the states, e.g. to invest in industrial infrastructure and public transport. The government intends to flank this by supporting the regions through its own measures. A total of €26 billion has been budgeted for this and earmarked for measures such as the expansion of the rail and road networks and the creation of research hubs.

**German government presents Climate Protection Programme 2030 and adopts Climate Protection Act.**

October saw the Federal Cabinet adopt the Climate Protection Programme 2030. In the same month, it passed the draft of a nationwide climate protection law, which was adopted by the Lower House and Upper House in December following several amendments. The objective of the Climate Protection Programme and the Climate Protection Act is to ensure that the national emission reduction goals for 2030 are achieved. These targets will be enshrined in law for the first time in the Climate Protection Act. The Climate Protection Programme 2030 describes the tools and measures with which these goals should be achieved. For example, the government plans to introduce CO<sub>2</sub> pricing in sectors which are not covered by the European Emissions Trading System (e.g. transportation and heating). This will first be introduced at the national level starting in 2021. Going forward, the government wants to push for the introduction of an EU-wide, cross-sector emissions trading scheme with a moderate price floor. The idea is to offset CO<sub>2</sub> surcharges paid by consumers on petrol, diesel and other combustibles by providing relief in other areas through measures such as the increase in commuter allowances, which will come into effect in 2021. The Climate Protection Programme contains a number of measures in the areas of building, transportation, agriculture, forestry, industry and

energy. Measures in the energy sector involve the accelerated expansion of offshore wind power: the federal government is now aiming for a total capacity of 20 GW by 2030 instead of the 15 GW targeted originally. The Programme envisages that municipalities in which wind turbines are built receive additional financial benefits. In addition, there are plans to abolish the subsidy cap on new photovoltaic installations. Based on the current rules, such assets will stop receiving feed-in payments once the country has built 52 GW in solar capacity.

**Netherlands wants to phase out coal-fired electricity generation by 2030.**

In 2019, the Dutch Lower and Upper House passed a law envisaging the end of the country's electricity production from coal in this decade. According to the law, by 2025 at the latest, coal may no longer be used as fuel in power stations built in the 1990s. For plants constructed later than this, the ban would come into effect in 2030. Compensation payments for the power utilities affected are not foreseen in the law. At present, there are five hard coal-fired power stations still operating in the Netherlands. Two of these belong to us: Amer 9 and Eemshaven, which have a net installed capacity of 631 MW and 1,554 MW. They would have to stop firing coal at the end of 2024 and 2029 according to the law. After that, these stations could only be operated with other fuels. After taking the first retrofitting measures, we have started co-firing with biomass in both plants. We are receiving subsidies for this to finance the capital expenditure and additional costs incurred to purchase fuel. Conversion to 100% biomass-firing would involve significant additional expenses. However, the government refuses to provide further subsidies. We believe that our ownership rights are being violated by the Dutch coal phaseout due to the lack of compensation. Therefore, we are considering taking legal action.

## 1.5 Major events

**The past fiscal year took us a major step closer to the 'new' RWE. In mid-September, the EU gave us the go-ahead for our asset swap with E.ON. Major parts of the transaction were executed soon thereafter. Further highlights in 2019 were the tender won for the subsidisation of the Sofia offshore wind project in the UK and the European Commission's reapproval of the British capacity market. In this chapter, we present the major events that occurred in 2019 and the beginning of 2020. We focus on events that have not been commented on in detail elsewhere in this report.**

### Events in the fiscal year

**Asset swap with E.ON largely executed: RWE transfers stake in innogy and receives renewables business from E.ON.** In September 2019, RWE and E.ON completed major parts of the asset swap agreed in March 2018. The prerequisite for this was the final approval of the transaction by the European Commission, which was granted on 17 September. E.ON received our 76.8% interest in innogy on the following day and conducted a capital increase in exchange for contributions in kind immediately thereafter. The approximately 440 million newly created shares were issued to RWE. This gave us a 16.7% stake in E.ON, but by late September/early October we reduced it to 15.0% by selling off shares. In addition, as of the end of 30 September, E.ON transferred its renewable energy activities and minority interests in the RWE nuclear power plants Gundremmingen (25%) and Emsland (12.5%) from its subsidiary PreussenElektra to us. We paid E.ON €1.5 billion as financial consideration also at the end of September. The transaction will be fully implemented once E.ON transfers back to us parts of the innogy portfolio which are already assigned to our operations commercially and are recognised in our Group figures: the renewable energy business, the German and Czech gas storage facilities, and a 37.9% stake in the Austrian energy utility Kelag. This transfer shall take place as soon as possible in the current year.

The asset swap also envisaged RWE acquiring the majority stake in the Czech gas network operator innogy Grid Holding (IGH) from innogy and transferring it to E.ON thereafter. We acquired the 50.04% shareholding in February 2019. However, the co-owner of IGH, the consortium managed by the Australian financial service

provider and infrastructure investor Macquarie, MIRA, exercised its right of first refusal. We therefore transferred the shares in IGH to MIRA and not to E.ON. This sale was completed with effect from 30 September. The price totalled about €1.8 billion and therefore matched the conditions at which we had purchased the stake from innogy. Therefore, on the whole, the IGH transaction was neutral for us in financial terms.

Also as part of the asset swap, in August 2019, RWE acquired innogy's 49% stake in VSE, the energy utility based in Košice, Slovakia. We plan to transfer the shareholding to E.ON at the conditions at which we acquired it. The purchase price payable by E.ON was considered when netting the payment claims from the asset swap in September. The stake in VSE is still included in our Group figures: we state it as a 'discontinued operation'.

When settling the financial receivables and liabilities from the asset swap, a loan was considered, which we had granted innogy in the run-up to the IPO in October 2016. It amounted to €700 million and would have come due in October 2020. By netting it against other payment claims, E.ON refunded us the principal with accrued interest early.

The asset swap with E.ON had substantial effects on our financial position, net worth and earnings in the past fiscal year, which we present on pages 51 et seqq. In addition, the acquisition of E.ON's renewable energy business changed the structure of our financial reporting. Details on this can be found on pages 49 et seq.

#### European Commission gives go-ahead to reinstate

**British capacity market.** After a thorough investigation, in October 2019 the European Commission reapproved the British capacity market. This established the prerequisite for payments to be resumed following a lengthy suspension and for postponed capacity auctions to be held. The Commission holds the view that the capacity market rules comply with EU state aid regulations. It had originally reached this conclusion in July 2014, but the Court of the European Union found that the review conducted at the time had not been extensive enough. Therefore, the judges had declared the first approval invalid in November 2018. Thereafter, the British capacity market was suspended, with the participating power generators not receiving any payments. This caused RWE to temporarily forego contractually secured capacity payments of around €50 million for 2018 and about €180 million for 2019. We were paid these amounts retrospectively in January 2020 and recognised them in our earnings for the 2019 fiscal year.

In mid-2019, i.e. whilst the capacity market was still on hold, British grid operator National Grid held a capacity auction for the delivery period from 1 October 2019 to 30 September 2020. Power plants with a total capacity of 3.6 GW qualified for a very low payment of £0.77/kW. An invitation to tender for the same delivery period had already taken place at the end of 2015. At this auction, stations with a combined 46.4 GW, including 8.0 GW belonging to RWE, won a contract for a payment of £18/kW. The second auction was held to close remaining capacity gaps. Two small RWE power plants submitted bids, but will not receive any payments.

#### Large-scale project in the UK North Sea: innogy secures

**contract for Sofia wind farm.** Our offshore wind growth prospects continued to improve in 2019. innogy was awarded a remuneration contract for the Sofia project in an auction in September. This venture involves building wind turbines in the UK North Sea with a total capacity of 1.4 GW. The investment volume is an estimated £3 billion, including the grid connection. The state will guarantee £39.65/MWh plus adjustments for inflation. The contract period extends over 15 years. Sofia's location on Dogger Bank nearly

200 kilometres from the English coast has very good wind conditions and moderate water depths. All of the approvals required for the wind farm have been obtained and the final investment decision is expected to be reached in 2020. Based on current planning, the first wind turbines could be commissioned in 2024/2025. The wind farm would then be fully operational in 2026.

In the United Kingdom, renewable energy has been supported via contracts for difference (CfDs) since April 2015. If the price realised by the plant operators on the wholesale market is below the feed-in tariff, they are paid the difference. If it exceeds the tariff, the operators are obliged to make a payment. Projects receiving CfDs are selected as follows: if the budget set aside for a certain generation technology is big enough, all applicants receive a CfD. If it is too small, a tender process decides which bidders win a contract. The September 2019 auction was the third since the introduction of the CfD scheme in the United Kingdom.

**Entry into the Polish offshore wind business.** In the future, we will also invest in Polish offshore wind farms. Our subsidiary RWE Renewables International purchased a project pipeline with a total capacity of over 1.5 GW from several private owners and developers. The four projects are set to be implemented on the Słupsk Sandbank in the Baltic Sea. We already operate several onshore wind farms in Poland.

**Neurath C lignite unit placed on security standby.** At the end of September, we took the 300 MW Unit C of the Neurath lignite-fired power plant offline, placing it on legally mandated security standby. This was mainly for environmental reasons. The German Electricity Market Act obliged the country's energy sector to take a total of eight lignite units with a combined capacity of 2.7 GW off the system between 2016 and 2019. However, these blocks are to serve as the last resort to ensure security of supply for four years each, after which they will be shut down for good. RWE is participating in the lignite security standby scheme with five 300 MW units. By the end of September 2017, we had already shut down units P and Q of the Frimmersdorf power plant, with Niederaussem E and F following suit a year later.

**Decision on Hambach Forest: Cologne Administrative Court rejects lawsuit by BUND.**

On 12 March 2019, the Cologne Administrative Court ruled that Hambach Forest is not a potential special area of conservation according to the EU Directive on the conservation of natural habitats and of wild fauna and flora. Consequently, the lawsuit filed by the environmental activist group Bund für Umwelt und Naturschutz Deutschland e.V. (BUND) was rejected. In the opinion of the judges, the approval of the 2018–2020 main operational plan for the Hambach opencast mine by the Arnsberg District Council was legal. This plan includes the clearance of Hambach Forest. However, its admissibility must be confirmed by the Münster Higher Administrative Court, which in October 2018 had ordered that clearance be suspended. Meanwhile, it looks likely that Hambach Forest will be preserved. As explained on pages 42 et seqq., we agreed with the German government on an accelerated phaseout of electricity generation from lignite and an early closure of the Hambach opencast mine.

**RWE ends hard coal firing in Bergkamen, Werne and Aberthaw.**

Last year, we discontinued a number of hard coal operations. Firstly, we sold our 51% shareholding in the Bergkamen power station to Essen-based energy utility STEAG. The buyer previously owned 49% of the plant and exercised a contractual purchase option. The transaction entered into effect on 1 January 2019. The Bergkamen hard coal-fired power station has been in operation since 1981, with a net capacity of 720 MW. RWE was responsible for the commercial management of this plant, while STEAG handled technical operations. The disposal of the stake goes hand in hand with the termination of a contract that obliged us to purchase electricity produced by the station.

At the end of March 2019, we decommissioned the hard coal-fired part of the combined Unit K at the Gersteinwerk station in Werne (Westphalia). The shutdown was motivated by upcoming maintenance work, which would not have been cost-effective. Unit K consists of a topping gas turbine (K1) with a net capacity of 112 MW and the (now decommissioned) steam turbine (K2), which ran on steam generated by firing hard coal and had a capacity of 620 MW. Electricity is still being produced at Gersteinwerk, albeit only from gas. The station's current available capacity amounts to 965 MW.

In July 2019, we decided to decommission the Aberthaw B hard coal-fired power plant in Wales early. The station, which has a net installed capacity of 1,560 MW, was taken offline in December. Its obligations from the British capacity market through to the end of September 2021 were transferred to third parties with a small proportion being transferred to other units within RWE's power plant fleet. Aberthaw B was commissioned in 1971 and has thus contributed to security of supply in the United Kingdom for nearly half a century. The closure will bring RWE's electricity generation from coal in the United Kingdom to an end.

**RWE sells Belgian CHP station.** At the end of February 2019, we sold the Inesco CHP station in Belgium to the UK chemicals group INEOS. This gas-fired power plant is located in a chemical park operated by INEOS near Antwerp and has a generation capacity of 133 MW. In addition to electricity, it also supplies steam and demineralised water to the companies in the chemical park. One of the reasons for our decision to sell the station was its tight integration in the business activities of INEOS.

**German government takes over interim storage for highly radioactive waste from RWE.**

As of 1 January 2019, our interim storage facilities for highly radioactive waste on the sites of our Emsland, Biblis and Gundremmingen nuclear power plants were transferred to BGZ, the state-owned company responsible for interim storage. A year later, with effect from 1 January 2020, BGZ took over another two interim storage facilities for low- and intermediate-level radioactive waste in Biblis. The legal basis for this is the law on the reassignment of responsibility for nuclear waste disposal, which was passed at the end of 2016, pursuant to which the government took charge of processing and financing interim and final nuclear waste storage. In exchange, German power plant operators gave the government €24.1 billion in 2017, which was paid into a public-law fund for financing nuclear waste disposal. Responsibility for shutting down and safely dismantling the stations remains with the companies. They are also accountable for packing the radioactive waste properly before it is handed over to BGZ.

## Events after the close of the fiscal year

**German cabinet submits draft coal phaseout law.** In late January 2020, the German cabinet adopted a draft law on the reduction and end of electricity generation from coal. In this document, the government specifies how it intends to implement the recommendations of the Growth, Structural Change and Employment Commission regarding the German coal phaseout. As proposed by the Commission, it is envisaged that Germany gradually stop generating electricity from coal by 2038. The draft law contains a timeline for this. There is also a roadmap for shutting down lignite-fired power stations, which the government agreed with the affected states and energy companies beforehand. We have been awarded €2.6 billion in compensation for the early closure of power plants and opencast mines in the Rhenish lignite mining region. However, we estimate that our actual financial burdens will be much higher. The draft law stipulates that hard coal power plants participate in calls for tenders in which their operators can apply for compensation for early closures of their stations. Detailed information on this topic can be found on pages 42 et seq.

**RWE acquires state-of-the-art gas-fired power plant in the east of England.** We cemented our position as a leading generator of electricity from gas in the UK. In mid-February 2020, we bought the King's Lynn gas-fired power station in Norfolk (eastern England) from the British energy utility Centrica for £101 million. The station has a net installed capacity of 382 MW and boasts a high efficiency of 57%. Its operating mode can be adapted flexibly in response to demand. A remuneration contract secures fixed capacity payments for King's Lynn from October 2020 to September 2035. Recently, the power plant was modernised extensively and equipped with a new gas turbine.

### **British capacity market auction for 2022/2023: RWE secures payments for 6.5 GW in generation capacity.**

Early 2020 saw several auctions for the British capacity market. The first round of bids, which took place at the end of January, related to the delivery period from 1 October 2022 to 30 September 2023. With the exception of some small generation assets, all RWE power stations represented in the auction qualified for a capacity payment. Together, they have a secured capacity of 6.5 GW. However, at £6.44/kW (before being adjusted for inflation), the capacity payment established in the auction lagged behind the market's expectations.

At the beginning of February, a second auction was held, which related to the delivery period from 1 October 2020 to 30 September 2021. An earlier auction for this delivery period had already taken place in December 2016, at which RWE stations with a total capacity of 8.0 GW (including Aberthaw) qualified for a payment of £22.50/kW. Contracts for an additional 1.0 GW in generation capacity for a payment of £1.00/kW were won at the recent auction. RWE entered a small asset, which did not submit a successful bid.

The British government has scheduled a further auction for early March 2020, in order to secure the generation capacity needed for the period from 1 October 2023 to 30 September 2024. The results were not known when the review of operations was prepared.

## 1.6 Notes on reporting

**We executed major parts of our asset swap with E.ON in September 2019. This affected both our key financials as well as our financial reporting. The renewable energy business we received from E.ON has been included in our consolidated financial statements as a new segment. Therefore, the presentation of our business performance in 2019 is based on a Group structure with five segments, which we describe in detail in this chapter.**

**Effects of the asset swap with E.ON on our financial reporting.** In September 2019, we executed a large part of our asset swap with E.ON, on which we provide detailed information on page 45. We present how the transaction is reflected in our financial reporting on the past fiscal year below:

- innogy's grid and retail businesses remaining with E.ON for good and the 50.04 % stake in the Czech gas network operator IGH sold to the MIRA consortium were deconsolidated as of 18 and 30 September, respectively. These activities were recognised in the items 'discontinued operations' in the income statement and 'assets/liabilities held for sale' on the balance sheet. As such, our figures also include the 49 % interest in the Slovak energy utility VSE, which we intend to transfer to E.ON.
- The innogy operations we are continuing – encompassing the renewable energy business, the German and Czech gas storage facilities and the 37.9 % shareholding in the Austrian energy utility Kelag – legally belong to E.ON for the time being, but are assigned to us in our financial reporting. Therefore, they continue to contribute to RWE's earnings, cash flows and debt. We will receive these activities from E.ON in 2020 as soon as the formal requirements for this have been met.
- We present the renewable energy business received from E.ON at the end of September in the newly established segment 'Operations acquired from E.ON'. We started including it in our Group figures on 18 September 2019 although it was legally transferred on a different date. We started recognising the stakes in the Gundremmingen and Emsland nuclear power plants we received from the E.ON subsidiary PreussenElektra in the Lignite & Nuclear segment with effect from 30 September 2019.

### **Fiscal 2019: Group structure featuring five segments.**

In our 2019 financial reporting, we divide the RWE Group into the following five segments: (1) Lignite & Nuclear, (2) European Power, (3) Supply & Trading, (4) innogy – continuing operations, and (5) Operations acquired from E.ON. The individual segments are as follows:

- **Lignite & Nuclear:** This segment encompasses our German electricity generation from lignite and nuclear power as well as our lignite production in the Rhineland. Operating responsibility for these activities lies with RWE Power. The segment also includes our investments in the Dutch nuclear power plant operator EPZ (30 %) and the German company URANIT (50 %), which holds a 33 % stake in Urenco, a uranium enrichment specialist.
- **European Power:** This is where we report on our electricity production from gas, hard coal and biomass, which focuses on Germany, the United Kingdom and the Benelux region. The segment also includes our 70 % stake in the Turkish gas-fired power station Denizli, some hydroelectric power plants in Germany and Luxembourg, and RWE Technology International, which specialises in project management and engineering services. All of these activities are overseen by RWE Generation.
- **Supply & Trading:** This division encompasses the operations of RWE Supply & Trading, the business activities of which are presented on pages 30 et seq. The company specialises in independent commodity trading, acts as an intermediary for gas, and supplies large industrial and corporate customers with energy. Furthermore, it markets the electricity of our generation companies and optimises the Group's power plant dispatch commercially; however, earnings achieved through the latter activities are reported in the Lignite & Nuclear and European Power segments.



- **innogy – continuing operations:** The main element in this segment is innogy's renewable energy business. The company ranks among the leading producers of electricity from renewable sources, with a strong focus on Europe – in particular Germany and the United Kingdom – and with footholds in North America and Australia. The focus in terms of energy sources rests on wind, followed by hydro and solar. This segment also includes the German and Czech gas storage facilities as well as the 37.9% interest in the Austria-based energy utility Kelag.
- **Operations acquired from E.ON:** This is where we present the renewable energy operations we received from E.ON. Its geographical focus is on North America and Europe. By far its main source of energy is wind, supplemented by smaller solar and energy storage activities. After their acquisition in September 2019, we pooled these operations in RWE Renewables GmbH, which was founded in 2018.

Group companies with cross-segment tasks like the Group holding company RWE AG are stated under 'other, consolidation'. This item also includes our 25.1% stake in the German transmission system operator Amprion and consolidation effects.

#### **Adoption of IFRS 16: higher net debt, higher**

**depreciation.** We began applying the new accounting standard IFRS 16 Leases in fiscal 2019. Consequently, leases are now reported on the balance sheet, unless they are short-term (up to twelve months) or relate to low-value assets. The lessee must recognise a right-of-use asset and a corresponding lease liability in the amount of the present value of the future lease payments. Further details on this can be found on page 115 in the Notes. This methodological change leads to an increase in the balance-sheet total and net debt. On the income statement, depreciation increases and the financial result declines, but these effects are offset by fairly similar changes in adjusted EBITDA, leaving net income almost unchanged. Prior-year figures were not adjusted.

**Forward-looking statements.** This annual report contains forward-looking statements regarding the future development of the RWE Group and its companies as well as of the economic and political environment. These statements are assessments that we have made based on information available to us at the time this document was prepared. In the event that the underlying assumptions do not materialise or unforeseen risks arise, actual developments can deviate from the developments expected at present. Therefore, we cannot assume responsibility for the correctness of these statements.

**References to the internet.** The contents of pages on the internet and publications to which we refer in the review of operations are not part of the review of operations and are merely intended to provide additional information. The corporate governance declaration in accordance with Section 289f as well as Section 315d of the German Commercial Code is an exception.

## 1.7 Business performance

**Business in 2019 was so successful that we made substantial upward corrections to our earnings forecast during the year. We closed the year with an adjusted EBITDA of €2.5 billion, far above the previous year's level. The main driver was our exceptionally strong trading performance. In addition, we benefited from the acquisition of E.ON's renewable energy business and the resumption of the capacity payments for our British power stations. Besides recording a substantial increase in our earnings position, we saw a significant decrease in our carbon footprint, which shrank by one quarter compared to 2018.**

### Business performance in 2019: what we forecast and what we accomplished

Outlook vs. actual € million	2018 actual	Original forecast for 2019 <sup>1</sup>	Adjusted forecast for 2019 <sup>1</sup>	2019 actual	Forecast fulfilled?
Adjusted EBITDA	1,538	1,400 – 1,700	2,200 – 2,500	2,489	✓
Lignite & Nuclear	356	300 – 400	300 – 400	374	✓
European Power	334	250 – 350	450 – 550	453	✓
Supply & Trading	183	100 – 300	Significantly above 300	702	✓
innogy – continuing operations	699	800 – 900	800 – 900	833	✓
Operations acquired from E.ON	–	–	200 – 300	253	✓

<sup>1</sup> We announced our original forecast for 2019 on pages 83 et seq. of the 2018 Annual Report, which was published on 14 March 2019. The forecast was updated twice thereafter. The column 'Adjusted forecast for 2019' reflects the latest update; see page 16 of the interim statement on the first three quarters of 2019, which was published on 14 November 2019.

**Electricity generation 13 % down on previous year.** In the financial year that just came to a close, the RWE Group produced 153.2 billion kWh of electricity, of which 33 % was from gas, 32 % from lignite, 9 % from hard coal, 14 % from nuclear, and 11 % from renewables. Our electricity production was 13 % lower than in the previous year. We recorded the steepest decrease at our lignite-fired power stations (– 18.9 billion kWh). Market conditions and overhauls played a role in the reduction in operating hours of stations, as did the preliminary halt to the clearance of Hambach Forest, which limited our lignite production. Moreover, we switched off Niederaussem Units E and F at the end of September 2018 (295 MW and 299 MW, respectively) followed by Neurath's Unit C (292 MW) a year later, and put them into the statutory security standby scheme. Furthermore, the Hungary-based power producer Mátra stopped contributing to our generation, because we sold our 51 % stake in the company in 2018. Electricity generation from hard coal also experienced a substantial drop (– 13.2 billion kWh), with unfavourable market conditions and power plant outages for overhauls also coming to bear here. Further declines in volume resulted from the sale of our majority interest in the Bergkamen

power station and the end of production from coal at Gersteinwerk in Werne (see page 47). Downtime caused by overhauls led to a drop in nuclear energy generation (– 0.6 billion kWh). By contrast, gas-fired power plants produced more electricity (+ 3.6 billion kWh), benefiting from improved market conditions. We posted an even bigger gain in renewable energy (+ 6.5 billion kWh), which was primarily attributable to the E.ON operations we acquired in September 2019. They produced 4.5 billion kWh of electricity in the three-and-half months during which they belonged to the RWE Group. In addition, we started biomass co-firing at our Dutch Amer 9 and Eemshaven hard coal power stations. At innogy, the commissioning of new wind turbines had a positive effect, while more favourable weather conditions improved the use of existing capacity.

In addition to our in-house generation, we procure electricity from suppliers outside of the Group. In the year being reviewed, these purchases totalled 46.4 billion kWh (previous year: 49.0 billion kWh). In-house generation and power purchases combined for 199.6 billion kWh (previous year: 225.0 billion kWh).

<b>Power generation</b>	Renewables		Pumped storage, batteries		Gas		Lignite		Hard coal		Nuclear		Total <sup>1</sup>	
Billion kWh	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
Lignite & Nuclear	-	-	-	-	0.2	-	48.3	67.2	-	-	21.2	21.8	70.1	89.2
European Power	2.2	1.1	1.8	2.1	50.6	47.2	-	-	14.2	27.4	-	-	68.9	78.0
of which:														
Germany <sup>2</sup>	0.2	0.7	1.8	2.1	7.8	5.5	-	-	4.7	13.0	-	-	14.6	21.5
United Kingdom	0.4	0.4	-	-	33.5	33.2	-	-	0.7	0.5	-	-	34.6	34.1
Netherlands/Belgium	1.6	-	-	-	6.6	5.5	-	-	8.8	13.9	-	-	17.0	19.4
Turkey	-	-	-	-	2.7	3.0	-	-	-	-	-	-	2.7	3.0
innogy – continuing operations	9.7	8.8	-	-	-	-	-	-	-	-	-	-	9.7	8.8
Operations acquired from E.ON	4.5	-	-	-	-	-	-	-	-	-	-	-	4.5	-
<b>RWE Group</b>	<b>16.4</b>	<b>9.9</b>	<b>1.8</b>	<b>2.1</b>	<b>50.8</b>	<b>47.2</b>	<b>48.3</b>	<b>67.2</b>	<b>14.2</b>	<b>27.4</b>	<b>21.2</b>	<b>21.8</b>	<b>153.2</b>	<b>176.0</b>

1 Including capacity not attributable to any of the energy sources mentioned (e.g. oil-fired power stations).

2 Including electricity from generation assets not owned by RWE that we can deploy at our discretion on the basis of long-term use agreements.

In 2019, 3.6 billion kWh were purchased (previous year: 5.0 billion kWh), of which 1.5 billion kWh were from hard coal-fired power stations (previous year: 2.3 billion kWh).

**Rise in generation capacity thanks to asset swap with E.ON.** At the end of 2019, we had a total installed power generation capacity of 42.9 GW, giving us a leading market position in Europe. This figure includes power plants that we took offline temporarily for economic reasons and the five lignite units we put into security standby. Our generation capacity grew by 1.9 GW over the course of the past year. This was attributable to renewables, which accounted for an installed capacity of 9.2 GW at the end of 2019. This figure was calculated applying IFRS consolidation principles, which explains why it deviates from the disclosure on page 28. It was 5.3 GW higher than the previous year's figure, above all due to the acquisition of E.ON's renewable energy business. In addition, we converted the Dutch Amer 9 and Eemshaven hard coal-fired power stations to co-fire biomass and commissioned new wind turbines. Conversely, we recorded a significant drop in hard coal-fired capacity, which declined by 3.2 GW. This was mainly due to the shutdown of Aberthaw B in Wales and parts of Gersteinwerk as well as the sale of our 51 % stake in the Bergkamen power plant (see page 47). The aforementioned retrofits of Amer 9 and Eemshaven for biomass co-firing also contributed to the reduction in installed hard coal-fired capacity.

In terms of generation capacity, gas is our major source of energy. At the end of 2019, it accounted for 33 %. Lignite was in second place with 24 %, followed by renewables with 21 %. Disregarding the five lignite units we placed in security stand-by, renewables, consisting of wind, hydro, biomass and photovoltaics, are already in second place in the RWE Group. A detailed overview of our generation capacity based on renewables is provided on the next page.

The geographic focus of our generation business is Germany, where 55 % of our installed capacity is located. The United Kingdom and the Netherlands follow, accounting for shares of 21 % and 12 %, respectively. As a result of the acquisition of E.ON's renewable energy business, the USA has become our fourth most important generation site. Nearly half of our onshore wind turbines are situated there, making the USA our single-largest market for renewable energy.

<b>Power generation capacity</b> As of 31 Dec 2019, in MW	Renewables	Pumped storage, batteries	Gas	Lignite	Hard coal	Nuclear	Total <sup>1</sup>	Total <sup>1</sup> 31 Dec 2018
Lignite & Nuclear	7	-	400	10,255	-	2,770	13,459	13,459
European Power	670	2,336	13,553	-	3,977	-	20,879	23,906
of which:								
Germany <sup>2</sup>	55	2,336	3,767	-	2,341	-	8,538	9,872
United Kingdom	55	-	6,676	-	-	-	7,035	8,595
Netherlands/Belgium	560	-	2,323	-	1,636	-	4,519	4,652
Turkey	-	-	787	-	-	-	787	787
innogy – continuing operations	3,639	-	-	-	-	-	3,639	3,571
Operations acquired from E.ON	4,864	20	-	-	-	-	4,884	-
<b>RWE Group</b>	<b>9,180</b>	<b>2,358<sup>3</sup></b>	<b>13,953</b>	<b>10,255</b>	<b>3,977</b>	<b>2,770</b>	<b>42,863<sup>3</sup></b>	<b>40,937<sup>3</sup></b>

1 Including capacity not attributable to any of the energy sources mentioned (e.g. oil-fired power stations).

2 Including capacity not owned by RWE that we can deploy at our discretion on the basis of long-term use agreements. As of the end of 2019, as in the previous year, it amounted to a net 2,986 MW, including hard coal-fired power stations with a total capacity of 783 MW.

3 Including insignificant capacity at RWE Supply & Trading.

<b>Generation capacity based on renewables</b> As of 31 Dec 2019, in MW	Offshore wind	Onshore wind	Solar	Hydro	Biomass	Total	Total 31 Dec 2018
Germany	597	666	2	435	6	1,706	1,366
United Kingdom	1,272	706	-	82	55	2,115	1,165
Netherlands	-	295	-	11	549	855	517
Poland	-	385	1	-	-	386	242
Spain	-	447	-	12	-	459	459
Italy	-	475	-	-	-	475	90
USA	-	2,824	125	-	-	2,949	-
Others	48	126	-	61	-	235	73
<b>RWE Group</b>	<b>1,917</b>	<b>5,924</b>	<b>128</b>	<b>601</b>	<b>610</b>	<b>9,180</b>	<b>3,912</b>

**Significant decline in CO<sub>2</sub> emissions.** Last year, our power stations emitted 88.1 million metric tons of carbon dioxide. This was 29.9 million metric tons, or 25 %, less than in 2018. The main reason for the decline was the substantial reduction in electricity generation from lignite and hard coal last year. We posted a decline not only in our absolute but also our specific emissions, i.e. carbon dioxide emissions per megawatt hour of electricity generated, which dropped from 0.67 to 0.58 metric tons.

We purchase nearly all of the emission allowances we need on the market. Since the beginning of the third emissions trading period, which started on 1 January 2013, the countries of Western Europe have only allocated free CO<sub>2</sub> certificates to energy utilities in exceptional cases. Of our emissions in EU countries (87.1 million metric tons) in the year being reviewed, we were only able to cover 1.1 million metric tons with such state allocations.

Emissions balance	CO <sub>2</sub> emissions		Free allocation of CO <sub>2</sub> certificates		Shortage of CO <sub>2</sub> certificates	
	2019	2018	2019	2018	2019	2018
Million metric tons of CO <sub>2</sub>						
Lignite & Nuclear	57.7	79.4	0.6	0.7	57.1	78.7
European Power	30.4	38.6	0.5	0.6	28.9	36.9
of which:						
Germany <sup>1</sup>	7.4	13.0	0.5	0.6	6.9	12.4
United Kingdom	12.9	12.4	-	-	12.9	12.4
Netherlands/Belgium	9.1	12.1	-	-	9.1	12.1
Turkey <sup>2</sup>	1.0	1.1	-	-	-	-
innogy – continuing operations	-	-	-	-	-	-
Operations acquired from E.ON	-	-	-	-	-	-
<b>RWE Group</b>	<b>88.1</b>	<b>118.0</b>	<b>1.1</b>	<b>1.3</b>	<b>86.0</b>	<b>115.6</b>

1 Including figures relating to generation capacity not owned by RWE that we can deploy at our discretion on the basis of long-term use agreements.

In 2019, these stations emitted a total of 1.3 million metric tons of CO<sub>2</sub> (previous year: 2.0 million metric tons).

2 As Turkey does not participate in European emissions trading, we do not need emission allowances to cover CO<sub>2</sub> emissions in that country.

**64.8 million metric tons of lignite produced.** Our generation companies procure the fuel used by their power stations either directly on the market or via RWE Supply & Trading. We source lignite from proprietary opencast mines. In our Rhenish mining area west of Cologne, we produced 64.8 million metric tons of lignite last year. This was 21.5 million metric tons less than in the preceding year, in part due to the halt to the clearance of Hambach Forest and the resulting curtailment of our opencast mining activities. We used the lion's share, or 53.8 million metric tons, of lignite to generate electricity. The remainder was used to manufacture refined products (e.g. lignite briquettes) and, to a limited extent, to generate process steam and district heat.

**Electricity and gas sales down year on year.** Last year, we sold 192.0 billion kWh of electricity and 56.6 billion kWh of gas. In 2018, these figures stood at 216.1 billion kWh and 67.0 billion kWh, respectively. Most of these transactions were concluded in the Supply & Trading segment. Electricity sales experienced a drop of 11 %, largely due to declining in-house production, which resulted in a drop in electricity from RWE power stations sold by RWE Supply & Trading on the wholesale market. Gas deliveries were down 16 %. This was mainly because we now classify gas sales by RWE Supply & Trading in the Czech Republic merely as pure trading transactions. The change in accounting occurred with effect from 1 July 2019. Since then, the affected transactions have no longer been considered in our sales volume or revenue.

External revenue <sup>1</sup>	2019	2018	+/-
€ million			
Lignite & Nuclear	1,003	1,132	-129
European Power	1,062	925	137
Supply & Trading	9,514	10,208	-694
innogy – continuing operations	1,164	1,124	40
Operations acquired from E.ON	374	-	374
Other, consolidation	8	17	-9
<b>RWE Group (excluding natural gas tax/electricity tax)</b>	<b>13,125</b>	<b>13,406</b>	<b>-281</b>
Natural gas tax/electricity tax	152	141	11
<b>RWE Group</b>	<b>13,277</b>	<b>13,547</b>	<b>-270</b>

1 Some prior-year figures have been adjusted, mainly due to changes in the recognition of revenue from derivative transactions (see page 98 in the Notes).

<b>External revenue by product<sup>1</sup></b>	2019	2018	+/-
€ million			
<b>Electricity revenue</b>	<b>10,272</b>	<b>10,121</b>	<b>151</b>
of which:			
Lignite & Nuclear	282	303	-21
European Power	620	542	78
Supply & Trading	8,259	8,478	-219
innogy – continuing operations	869	799	70
Operations acquired from E.ON	242	-	242
<b>Gas revenue</b>	<b>1,156</b>	<b>1,547</b>	<b>-391</b>
of which:			
European Power	12	17	-5
Supply & Trading	1,094	1,484	-390
innogy – continuing operations	50	47	3
<b>Other revenue</b>	<b>1,697</b>	<b>1,738</b>	<b>-41</b>
<b>RWE Group (excluding natural gas tax/electricity tax)</b>	<b>13,125</b>	<b>13,406</b>	<b>-281</b>

1 Some prior-year figures have been adjusted, mainly due to changes in the recognition of revenue from derivative transactions (see page 98 in the Notes). Immaterial electricity revenue in the 'other, consolidation' item is not stated separately.

**External revenue marginally down.** In 2019, the RWE Group's external revenue declined by 2% to €13,125 million (excluding natural gas tax and electricity tax). The drop was primarily due to the 25% decline in gas revenue to €1,156 million. As mentioned earlier, since 1 July 2019 gas sales by RWE Supply & Trading in the Czech Republic have been recognised as pure trading transactions and are

therefore no longer considered in revenue. We recorded €10,272 million in revenue from our main product, electricity, corresponding to a marginal gain year on year. The backdrop to this is that RWE Supply & Trading realised higher prices for electricity on the wholesale market, whereas the reduction in sales volume had a counteracting effect.

<b>Adjusted EBITDA</b>	2019	2018	+/-
€ million			
Lignite & Nuclear	374	356	18
European Power <sup>1</sup>	453	334	119
Supply & Trading	702	183	519
innogy – continuing operations	833	699	134
Operations acquired from E.ON	253	-	253
Other, consolidation	-126	-34	-92
<b>RWE Group</b>	<b>2,489</b>	<b>1,538</b>	<b>951</b>

1 In the period under review, €368 million was attributable to the UK (previous year: €102 million).

**Adjusted EBITDA jumps 62%.** Our adjusted earnings before interest, taxes, depreciation and amortisation (adjusted EBITDA) amounted to €2,489 million. This was at the upper end of the range of €2.2 billion to €2.5 billion we forecast in November 2019 (see page 16 of the interim statement on the first three quarters of 2019). Our March 2019 forecast envisaged adjusted EBITDA of €1.4 billion to €1.7 billion (see pages 83 et seq. of the 2018 Annual Report). We clearly exceeded this expectation. Our exceptional trading performance played a major role. Furthermore, we benefited from the reinstatement of the British capacity market and the acquisition of E.ON's renewable energy business, neither of which had been considered in our first forecast. Our adjusted EBITDA rose by 62% compared to the previous year, largely driven by the aforementioned factors. In addition, earnings from the continuing innogy operations were significantly higher year on year, as we had expected.

The following developments were observed in the segments:

- **Lignite & Nuclear:** This division's adjusted EBITDA totalled €374 million, which is within the forecast range of €300 million to €400 million. It represents an increase of 5% compared to the previous year. A positive effect was felt from our realisation of slightly higher wholesale prices for the generation from our lignite-fired and nuclear power stations than in 2018. We had already sold forward nearly all of the production of these plants in earlier years. The acquisition of the minority interests in the Gundremmingen and Emsland power plants also contributed to the rise in earnings. This was contrasted by the negative effects of power plant outages for maintenance and the preliminary halt to the clearance of Hambach Forest.
- **European Power:** We recorded €453 million in adjusted EBITDA in this segment. This clearly exceeded the range of €250 million to €350 million forecast in March 2019. The reinstatement of the British capacity market came to bear here, which resulted in retrospective payments being made that had been withheld during the suspension of the capacity market. Although we received the payments at the beginning of 2020, the reimbursement was reflected in earnings in the year being reviewed. We had not planned for this in our original outlook for 2019. The reimbursement was the main reason why the segment's adjusted EBITDA was 36% up year on year. However, there were also some negative effects, e.g. from a significant drop in the margins and utilisation of our hard coal-fired power stations.
- **Supply & Trading:** Here, adjusted EBITDA totalled €702 million, which was substantially above the originally forecast range of €100 million to €300 million. The previous year's figure (€183 million) was also clearly exceeded. The exceptional trading performance was the main driver. The gas and LNG business of RWE Supply & Trading also displayed encouraging development. Furthermore, a burden experienced in 2018 resulting from a value adjustment recognised for an equity stake did not recur.
- **innogy – continuing operations:** Adjusted EBITDA posted by the innogy business remaining with RWE amounted to €833 million, which was within the anticipated range of €800 million to €900 million. It was 19% higher than in 2018. The overall increase in the use of innogy wind farms due to the weather played a role. In addition, income from renewable energy assets that do not receive fixed feed-in subsidises rose, driven by an increase in realised electricity prices. The continued expansion of wind power capacity also had a positive impact on earnings.
- **Operations acquired from E.ON:** We included the renewable energy business transferred from E.ON to RWE in our consolidated financial statements as of 18 September 2019. In the last three-and-a-half months of the year, it posted €253 million in adjusted EBITDA. This confirmed our November 2019 forecast, which envisaged a range of €200 million to €300 million. Our March 2019 outlook did not consider the acquisition of the E.ON business.



<b>Adjusted EBIT</b> € million	2019	2018	+/-
Lignite & Nuclear	12	77	-65
European Power <sup>1</sup>	132	37	95
Supply & Trading	691	177	514
innogy – continuing operations	443	349	94
Operations acquired from E.ON	116	-	116
Other, consolidation	-127	-21	-106
<b>RWE Group</b>	<b>1,267</b>	<b>619</b>	<b>648</b>

1 In the year under review, €198 million was attributable to the UK (previous year: –€48 million).

#### Adjusted EBIT more than twice as high as in 2018.

Adjusted EBITDA minus operating depreciation and amortisation results in adjusted EBIT which, at €1,267 million, was within the range of €1.1 billion to €1.4 billion forecast in November 2019. The originally anticipated range of €0.4 billion to €0.7 billion was clearly exceeded. The deviation was caused by the same factors that came to bear on adjusted EBITDA. Adjusted EBIT more than doubled versus 2018 (€619 million).

#### Reconciliation to net income: positive one-off effect due to asset swap with E.ON.

The reconciliation from adjusted EBIT to net income was greatly affected by the asset swap with E.ON. A €8.3 billion book gain on the deconsolidation of innogy's grid and retail business and the stake in IGH came to bear in particular. It was the reason why we closed fiscal 2019 with unusually high net income.

<b>Non-operating result</b> € million	2019	2018	+/-
Disposal result	48	-25	73
Impact of derivatives on earnings	81	-146	227
Other	-1,210	10	-1,220
<b>Non-operating result</b>	<b>-1,081</b>	<b>-161</b>	<b>-920</b>

The non-operating result, in which we recognise certain effects that are not related to operations or to the period being reviewed, totalled –€1,081 million, which was much less than in 2018 (previous year: –€161 million). Its components were as follows:

- Disposals of investments and assets resulted in earnings of €48 million (previous year: –€25 million). This was largely due to the book gains on the sale of the Belgian gas-fired power plant Inesco and property that was no longer needed.
- The valuation of derivatives had an effect of €81 million (previous year: –€146 million). However, such effects on earnings are temporary and are due to the fact that, pursuant to IFRS, financial instruments used to hedge price risks are accounted for at fair value at the corresponding balance-sheet date, whereas transactions which are hedged with them are only recognised as a profit or loss when they are realised.
- Income stated under 'other' totalled –€1,210 million (previous year: €10 million). This reflects a large portion of the curtailments that will result from the German lignite phaseout. Impairments recognised for power plants and opencast mines as well as transfers to provisions for mining damage reduced income by €2,087 million. Furthermore, a €347 million provision was formed for redundancy schemes. A counteracting effect came from our €2.6 billion claim for damages from the government,

which we also recognised in the non-operating result. The expected early decommissioning of German hard coal-fired power stations required additions to provisions and impairments totalling €432 million. However, these were contrasted by write-ups on gas-fired power plants and a pumped storage power station of €363 million. The Dutch coal phaseout, which has been enshrined in law, was taken into account by recognising power plant impairments of €693 million. Another impairment loss related to the German Nordsee Ost offshore wind farm,

which was subjected to an impairment test because the insolvency of a service provider required the maintenance concept to be revised fundamentally. The test led to an impairment of €225 million. This took account of the fact that the wind farm, which was completed in 2015, is being subsidised according to the acceleration model. This model envisages a very high starting payment, which is limited to eight years. This is why the fair value of the wind farm declines faster than what the straight-line depreciation pursuant to IFRS reflects.

<b>Financial result</b> € million	2019	2018	+/-
Interest income	185	166	19
Interest expenses	-258	-180	-78
<b>Net interest</b>	<b>-73</b>	<b>-14</b>	<b>-59</b>
Interest accretion to non-current provisions	-881	-264	-617
Other financial result	16	-131	147
<b>Financial result</b>	<b>-938</b>	<b>-409</b>	<b>-529</b>

Our financial result totalled –€938 million, deteriorating by €529 million compared to 2018. Its components changed as follows:

- Net interest declined by €59 million to –€73 million due to higher interest expenses, in part as a result of the initial application of IFRS 16 (see page 50). Furthermore, the interest expenses include fees paid to top up our credit line in 2019.
- The interest accretion to non-current provisions reduced the result by €881 million, much more than in the previous year (–€264 million). The main reason for this is that the real discount rate used to calculate provisions for mining damage had to be lowered and the associated rise in the present value of obligations was partially recognised as an expense in the interest accretion. The reason for the interest adjustment is the expected premature end to electricity generation from lignite within the scope of the German coal phaseout.
- The 'other financial result' improved to €16 million (previous year: –€131 million) in part thanks to gains on our portfolio of securities after losses in the previous year.

Owing to the curtailments of the non-operating result and the financial result, we are stating earnings before taxes from our continuing operations of –€752 million (previous year: €49 million). This goes hand in hand with €92 million in tax income, which is less than what could have been expected based on the (theoretically) normal effective tax rate. This is because we did not capitalise any deferred taxes in the RWE AG tax group unless they were offset by deferred tax liabilities, because we will probably not be able to use the deferred tax claims in the foreseeable future. A counteracting effect came from a reduction of our tax risk provision. After taxes, our continuing operations generated income of –€660 million (previous year: –€54 million).

Income from discontinued operations, which encompass innogy's grid and retail businesses as well as the stakes in IGH and VSE, amounted to €9,816 million (previous year: €1,127 million). The high figure is due to our sale of these activities, except for the interest in VSE, in September 2019, which resulted in a deconsolidation gain of €8,258 million. The assets we sold had been recognised on the consolidated balance sheet at their historic carrying amounts, whereas the purchase prices were derived from their fair values, most of which were much higher. Income from operating

<b>Reconciliation to net income</b>	2019	2018	+/-
€ million			
<b>Adjusted EBITDA</b>	<b>2,489</b>	<b>1,538</b>	<b>951</b>
Operating depreciation, amortisation and impairment losses	-1,222	-919	-303
<b>Adjusted EBIT</b>	<b>1,267</b>	<b>619</b>	<b>648</b>
Non-operating result	-1,081	-161	-920
Financial result	-938	-409	-529
<b>Income from continuing operations before taxes</b>	<b>-752</b>	<b>49</b>	<b>-801</b>
Taxes on income	92	-103	195
<b>Income from continuing operations</b>	<b>-660</b>	<b>-54</b>	<b>-606</b>
Income from discontinued operations	9,816	1,127	8,689
<b>Income</b>	<b>9,156</b>	<b>1,073</b>	<b>8,083</b>
of which:			
Non-controlling interests	643	679	-36
RWE AG hybrid capital investors' interest	15	59	-44
<b>Net income/income attributable to RWE AG shareholders</b>	<b>8,498</b>	<b>335</b>	<b>8,163</b>

activities of discontinued operations totalled €1,558 million, rising substantially year on year although only VSE contributed to Group earnings for all twelve months of 2019. The increase was due to IFRS accounting policies, which stipulate that no depreciation or amortisation may be recognised for discontinued operations since they were stated separately as of 30 June 2018.

Non-controlling interests in income declined by €36 million to €643 million. The main reason for this is that post-tax income from continuing innogy operations declined, driving down the share in income allocable to the minority shareholders of these activities.

The portion of earnings attributable to RWE hybrid capital investors amounted to €15 million (previous year: €59 million). This sum corresponds to the finance costs related to our £750 million hybrid bond, which was called on 20 March 2019. As this bond did not have a predefined maturity, the proceeds we recorded from it were classified as equity pursuant to IFRS. RWE's other hybrid capital is classified as debt, and we recognise the interest accrued on it in the financial result.

Due to the aforementioned developments, we closed the year with exceptionally high net income, which amounted to €8,498 million (previous year: €335 million). Based on the 614.7 million RWE shares outstanding, this corresponds to earnings per share of €13.82 (previous year: €0.54).

<b>Capital expenditure on property, plant and equipment and on intangible assets</b>	2019	2018	+/-
€ million			
Lignite & Nuclear	342	230	112
European Power	252	245	7
Supply & Trading	11	13	-2
innogy – continuing operations	1,215	592	623
Operations acquired from E.ON	267	-	267
Other, consolidation	3	-1	4
<b>RWE Group</b>	<b>2,090</b>	<b>1,079</b>	<b>1,011</b>

<b>Capital expenditure on financial assets</b>	2019	2018	+/-
€ million			
Lignite & Nuclear	78	-	78
European Power	2	4	-2
Supply & Trading	68	37	31
innogy – continuing operations	23	141	-118
Operations acquired from E.ON	20	-	20
Other, consolidation	7,557	-1	7,558
<b>RWE Group</b>	<b>7,748</b>	<b>181</b>	<b>7,567</b>

**Significant rise in capital expenditure due to asset swap with E.ON.** At €9,838 million, our capital expenditure was exceptionally high (previous year: €1,260 million). This was primarily due to the asset swap with E.ON. As a result, our capital spending on financial assets amounted to €7,748 million (previous year: €181 million). €4.0 billion of this sum was attributable to the purchase of the 16.7% stake in E.ON, while €3.6 billion was allocable to the acquisition of its renewable energy business. As expected, our capital expenditure on property, plant and equipment also grew substantially. Totalling €2,090 million, it was

nearly twice as high as in 2018. Among other things, this can be traced back to the construction of the British offshore wind farm Triton Knoll and the Australian solar farm Limondale. Further details on these two large-scale projects can be found on page 38 of the 2018 Annual Report. The inclusion of E.ON's renewable energy business and power plant maintenance also contributed to the increase in capital expenditure on property, plant and equipment. Furthermore, the adoption of IFRS 16 came to bear, as it resulted in the capitalisation of rights of use for leased assets.

<b>Workforce<sup>1</sup></b>	<b>31 Dec 2019</b>	<b>31 Dec 2018</b>	<b>+/-</b>
Lignite & Nuclear	11,150	11,292	- 142
European Power	2,927	2,738	189
Supply & Trading	1,337	1,267	70
innogy – continuing operations	2,505	2,192	313
Operations acquired from E.ON	1,559	-	1,559
Other <sup>2</sup>	314	259	55
<b>RWE Group</b>	<b>19,792</b>	<b>17,748</b>	<b>2,044</b>

1 Converted to full-time positions.

2 This item exclusively comprises employees of the holding company RWE AG.

**Much higher headcount due to acquisition of E.ON renewable energy business.** As of 31 December 2019, the RWE Group's continuing operations had 19,792 people on the payroll, of which 15,056 were employed in Germany and 4,736 worked at locations abroad. Part-time positions were calculated in these figures on a pro-rata basis. Compared to the end of 2018, the workforce expanded by 2,044 staff members. This was predominantly due to the acquisition of E.ON's renewable energy business, which

added 1,559 employees, 763 of whom are in the USA. In purely operating terms, i.e. disregarding the effects of acquisitions and disposals, our headcount rose by 485, with the expansion of innogy's offshore wind capacity being a major factor. Personnel figures do not include apprentices or trainees. At the end of 2019, 701 young adults were learning a profession at RWE, compared to 666 in the previous year.

## 1.8 Financial position and net worth

**The asset swap with E.ON made RWE more financially robust. Due to the deconsolidation of innogy's grid and retail activities, our net debt in 2019 more than halved to €9.3 billion. The asset swap also had a positive effect on the equity ratio, which rose by 9.4 percentage points to 27.2%. Our solid financial and asset positions are reflected in the ratings issued by Moody's and Fitch, with both agencies classifying our creditworthiness as investment grade.**

**Responsibility for procuring funds.** RWE AG regained sole responsibility for financing within the RWE Group when we sold our investment in innogy. Although we held a majority stake in innogy, the company was operationally independent and therefore took care of the financing of the activities for which it was responsible. As the parent company, RWE AG is responsible for acquiring funds from banks or the money and capital market. Subsidiaries only raise debt capital directly in specific cases, for example if it is advantageous economically to make use of local credit and capital markets. RWE AG also acts as a co-ordinator when subsidiaries assume contingent liabilities. This allows for central management and monitoring of financial risks. Moreover, it strengthens our position when negotiating with banks, business partners, suppliers and customers.

**Tools for raising debt capital.** We cover a major portion of our financing needs with earnings from our operating activities. In addition, we have a wide range of tools to procure debt capital.

- Our Debt Issuance Programme (DIP) gives us latitude in procuring debt capital for the long term. A DIP is a framework prospectus for the flexible issuance of bonds. Our current programme allows us to make issuances with a total nominal value of €10 billion. However, RWE AG has not issued a bond since 2015.
- We have a Commercial Paper Programme for short-term refinancing that enables us to raise funds equivalent to up to US\$5 billion on the money market. We only used a portion of these funds in the past fiscal year. At times, a maximum of €3.4 billion in commercial paper was outstanding.

- Furthermore, we have access to a syndicated credit line, which serves to secure liquidity. We increased our credit line from €3 billion to €5 billion in April 2019 by concluding a new agreement. This was prompted by the transaction with E.ON, because it increased the operating activities for which we are responsible. The new credit line was granted to us by a consortium of 27 international banks. It consists of two tranches: one tranche of €3 billion with a tenor of five years and one of €2 billion with a tenor of two years. With the agreement of the banks, the former tranche can be extended twice for one year at a time. The latter tranche can be extended once, for one year, without requiring approval from the banks. So far, RWE has not used the syndicated credit line.

**Bond volume drops to €1.1 billion.** As of 31 December 2019, RWE bonds with a total value of €1.1 billion were outstanding. Essentially, these were three hybrid bonds: one of €539 million (2.75% coupon; earliest possible redemption in October 2020), one of €282 million (3.5%; April 2025) and one of US\$317 million (6.625%; March 2026). Due to early buybacks in October 2017, the amounts are lower than the issue volumes (€700 million, €550 million and US\$500 million). A fourth hybrid bond with a coupon of 7% and a nominal value of £750 million was redeemed at the first call date, on 20 March 2019, without replacing it with new hybrid capital. Therefore, the volume of RWE AG bonds as of the balance-sheet date was notably lower than at the end of 2018 (€1.9 billion).

<b>Credit rating of RWE AG (as of 31 Dec 2019)</b>	Moody's	Fitch
Non-current financial liabilities		
Senior debt	Baa3	BBB
Subordinated debt (hybrid bonds)	Ba2	BB+
Current financial liabilities	P-3	F2
Outlook	Stable	Stable

**Borrowing costs down to 1.4 %.** In 2019, the cost of debt for RWE was 1.4 %. It was calculated for our average liabilities from bonds, commercial paper and bank loans held during the year. The £750 million bond redeemed in March 2019 was not considered, as it was classified as equity pursuant to IFRS. The cost of debt declined considerably compared to 2018 (2.9 %). This was because we made more use of commercial paper with favourable interest rates to refinance our business in the reporting year.

**Solid investment grade rating.** The level of our borrowing costs partially depends on the rating agencies' assessment of our creditworthiness. We have commissioned Moody's and Fitch to provide such credit ratings. Moody's gives our long-term creditworthiness a rating of 'Baa3', which was confirmed in October 2019 after an extensive review. Fitch rates us one grade better at 'BBB'. Both agencies thus attest to our investment grade creditworthiness – each with a stable rating outlook.

<b>Cash flow statement<sup>1</sup></b>	2019	2018	+/-
€ million			
Funds from operations	1,809	138	1,671
Change in working capital	-2,786	4,473	-7,259
<b>Cash flows from operating activities of continuing operations</b>	<b>-977</b>	<b>4,611</b>	<b>-5,588</b>
<b>Cash flows from investing activities of continuing operations</b>	<b>474</b>	<b>-2,999</b>	<b>3,473</b>
<b>Cash flows from financing activities of continuing operations</b>	<b>189</b>	<b>-1,559</b>	<b>1,748</b>
Effects of changes in foreign exchange rates and other changes in value on cash and cash equivalents	13	13	-
<b>Total net changes in cash and cash equivalents</b>	<b>-301</b>	<b>66</b>	<b>-367</b>
Cash flows from operating activities of continuing operations	-977	4,611	-5,588
Minus capital expenditure <sup>2</sup>	-1,771	-1,246	-525
Plus proceeds from divestitures/asset disposals <sup>2</sup>	695	74	621
<b>Free cash flow</b>	<b>-2,053</b>	<b>3,439</b>	<b>-5,492</b>

1 All items relate solely to continuing operations.

2 This item solely relates to transactions with an effect on cash.

**Operating cash flows: high outflows from the realisation of commodity forward transactions.** Despite a significant improvement in our funds from operations, our cash flows from operating activities of continuing operations declined to -€977 million (previous year: €4,611 million). This was mainly due to transactions reflected in the change in net working capital. For example, there were substantial cash outflows in the period under review from the realisation of

commodity forward transactions, for which we had received high variation margins before 2019. Variation margins are payments with which transaction partners offset profit and loss positions resulting from the daily revaluation of active contracts. However, their influence on cash flows is temporary and ends once the forward transactions are realised.



Investing activities of continuing operations resulted in a net cash inflow of €474 million. This was mainly due to income from the sale of securities, whereas capital expenditure on property, plant and equipment and financial assets had a counteracting effect. In the previous year, we recorded a cash outflow of €2,999 million in part due to substantial purchases of securities.

Cash flows from financing activities of continuing operations amounted to €189 million (previous year: – €1,559 million). In the year under review, we took on more financial debt than we repaid. This resulted in a net inflow of €1,678 million which was contrasted by the redemption of the £750 million hybrid bond not included in financial liabilities, which led to

an outflow of €869 million. On top of that, we made dividend payments to RWE shareholders, hybrid investors and co-owners of fully consolidated RWE companies amounting to €560 million.

On balance, the aforementioned cash flows from operating, investing and financing activities decreased our cash and cash equivalents by €301 million.

Our free cash flow amounted to – €2,053 million. This was far below the previous year's level (€3,439 million), primarily due to declining operating cash flows.

<b>Net debt</b>	31 Dec 2019	31 Dec 2018	+/-
€ million			
Cash and cash equivalents	3,192	3,523	- 331
Marketable securities	3,523	3,863	- 340
Other financial assets	4,983	2,809	2,174
<b>Financial assets</b>	<b>11,698</b>	<b>10,195</b>	<b>1,503</b>
Bonds, other notes payable, bank debt, commercial paper	2,466	1,657	809
Hedging of bond currency risk	7	12	- 5
Other financial liabilities	3,268	1,107	2,161
<b>Financial liabilities</b>	<b>5,741</b>	<b>2,776</b>	<b>2,965</b>
Correction of hybrid capital	- 562	- 88	- 474
Plus 50 % of the hybrid capital stated as equity	-	470	- 470
Minus 50 % of the hybrid capital stated as debt	- 562	- 558	- 4
<b>Net financial assets (including correction of hybrid capital)</b>	<b>6,519</b>	<b>7,507</b>	<b>- 988</b>
Provisions for pensions and similar obligations	3,446	3,287	159
Surplus of plan assets over benefit obligations	- 153	- 213	60
Provisions for nuclear waste management	6,723	5,944	779
Provisions for mining damage	4,618	2,516	2,102
Provisions for dismantling wind farms	951	362	589
<b>Net debt of continuing operations</b>	<b>9,066</b>	<b>4,389</b>	<b>4,677</b>
<b>Net debt of discontinued operations</b>	<b>232</b>	<b>14,950</b>	<b>- 14,718</b>
<b>Net debt</b>	<b>9,298</b>	<b>19,339</b>	<b>- 10,041</b>

**Notable debt reduction due to deconsolidation of innogy's grid and retail businesses.**

As of 31 December 2019, our net debt amounted to €9.3 billion. This represents a decline of €10.0 billion compared to the end of the previous year. The asset swap with E.ON played a major role.

Net debt of discontinued operations dropped by €14.7 billion to €0.2 billion. This was due to the deconsolidation of innogy's grid and retail businesses, which were sold to E.ON, and of the 50.04% stake in Czech gas network operator IGH, which we sold to the MIRA consortium. The remainder was attributable to our stake in Slovakian energy provider VSE, which we acquired from innogy in 2019 and plan to sell on to E.ON.

Conversely, as expected, net debt of continuing operations rose considerably, by €4.7 billion to €9.1 billion. The negative free cash flow came to bear here. Effects from the asset swap with E.ON factored in at €3.0 billion, of which €1.5 billion was attributable to the net debt which we assumed from E.ON's renewable energy business, €0.7 billion was attributable to additional nuclear provisions and another €0.7 billion to the purchase price for VSE paid to innogy. The German coal phaseout also affected net debt. It was the main reason why provisions for mining damage rose by €2.1 billion. We are claiming €2.6 billion in compensation from the government, which should cover the majority of the financial damage we will suffer from the coal phaseout. This is recognised in other financial assets and had a counteracting effect. The adoption of IFRS 16 drove up net debt by €0.4 billion. Another €0.4 billion stems from our redemption of the £750 million hybrid bond, eliminating the advantage of classifying half of it as equity. However, at the same time, innogy repaid a loan to us which was about as high as the redemption amount. This resulted from an agreement that our former subsidiary had reached with us prior to its IPO in 2016 (see page 52 of the 2016 Annual Report).

**Slightly lower off-balance-sheet obligations from electricity and fuel.**

Net debt does not include our off-balance-sheet obligations, which largely stem from long-term fuel and electricity purchase agreements. As of the balance-sheet date, payment obligations from material procurement contracts amounted to €27.1 billion for fuel (previous year: €27.9 billion) and €7.1 billion for electricity (previous year: €7.8 billion). These figures are based on assumptions regarding the prospective development of commodity prices. For further information on our off-balance-sheet obligations, please see page 168 in the Notes.

**Group balance sheet: equity ratio increased to 27.2%.**

The asset swap with E.ON had a notable impact on the Group balance sheet. This was the main reason why the balance-sheet total decreased by €15.9 billion to €64.2 billion compared to the end of 2018. Due to the deconsolidation of the innogy operations continued by E.ON and the stake in IGH, assets held for sale dropped from €40.5 billion to €1.3 billion and liabilities held for sale fell from €32.8 billion to €0.5 billion. By contrast, the first-time consolidation of the acquired E.ON activities inflated the balance sheet by €12.2 billion. The RWE Group's equity increased by €3.2 billion. As of the cut-off date for the financial statements, its share in the balance-sheet total (equity ratio) was 27.2%, 9.4 percentage points higher than at the end of the previous year. The main reason was the substantial gain on the deconsolidation of innogy's grid and retail businesses. This was counteracted by the fact that the non-controlling interests decreased. Our dividend payments and the redemption of the £750 million hybrid bond also contributed to the reduction in equity.

Group balance-sheet structure	31 Dec 2019		31 Dec 2018	
	€ million	%	€ million	%
<b>Assets</b>				
Non-current assets	35,951	56.0	18,595	23.2
of which:				
Intangible assets	4,809	7.5	2,193	2.7
Property, plant and equipment	19,097	29.7	12,409	15.5
Current assets	28,241	44.0	61,513	76.8
of which:				
Trade accounts receivable	3,621	5.6	1,963	2.5
Receivables and other assets	15,311	23.9	10,291	12.8
Marketable securities	3,258	5.1	3,609	4.5
Assets held for sale	1,274	2.0	40,496	50.6
<b>Total</b>	<b>64,192</b>	<b>100.0</b>	<b>80,108</b>	<b>100.0</b>
<b>Equity and liabilities</b>				
Equity	17,448	27.2	14,257	17.8
Non-current liabilities	27,018	42.1	20,007	25.0
of which:				
Provisions <sup>1</sup>	18,936	29.5	14,366	17.9
Financial liabilities	3,924	6.1	1,998	2.5
Current liabilities	19,726	30.7	45,844	57.2
of which:				
Provisions <sup>1</sup>	2,638	4.1	2,572	3.2
Financial liabilities	1,810	2.8	766	1.0
Trade accounts payable	2,987	4.7	2,429	3.0
Other liabilities	11,781	18.4	7,281	9.1
Liabilities held for sale	510	0.8	32,796	40.9
<b>Total</b>	<b>64,192</b>	<b>100.0</b>	<b>80,108</b>	<b>100.0</b>

1 Prior-year figures adjusted; see commentary on page 116 in the Notes.

## 1.9 Notes to the financial statements of RWE AG (holding company)

The financial statements of RWE AG primarily reflect the business performance of its subsidiaries. Thanks to its strong trading performance, RWE Supply & Trading contributed in particular to the Group parent's earnings last year. However, there were also some burdens, for example as a result of impairments triggered by the Dutch coal phaseout. At €514 million, RWE AG's net profit was slightly higher than in 2018. We intend to raise the dividend and therefore propose a payment of €0.80 per share to the Annual General Meeting taking place in April 2020.

**Financial statements.** RWE AG prepares its financial statements in compliance with the rules set out in the German Commercial Code and the German Stock Corporation Act. The financial statements are submitted to Bundesanzeiger Verlag GmbH, located in Cologne,

Germany, which publishes them in the Federal Gazette. The financial statements of RWE AG can be ordered directly from us and are also available on the internet at [www.rwe.com/reports](http://www.rwe.com/reports).

Balance sheet of RWE AG (abridged)	31 Dec 2019	31 Dec 2018
€ million		
<b>Assets</b>		
Financial assets	20,628	25,166
Accounts receivable from affiliated companies	10,233	3,669
Other accounts receivable and other assets	6,056	479
Marketable securities and cash and cash equivalents	2,929	4,864
<b>Total assets</b>	<b>39,846</b>	<b>34,178</b>
<b>Equity and liabilities</b>		
Equity	5,738	5,654
Provisions	2,237	2,700
Accounts payable to affiliated companies	29,213	23,169
Other liabilities	2,658	2,655
<b>Total equity and liabilities</b>	<b>39,846</b>	<b>34,178</b>

Income statement of RWE AG (abridged)	2019	2018
€ million		
Income from financial assets	1,758	1,091
Net interest	31	-391
Other income and expenses	-1,550	-227
Taxes on income	275	-1
<b>Net profit</b>	<b>514</b>	<b>472</b>
Transfer to other retained earnings	-22	-42
<b>Distributable profit</b>	<b>492</b>	<b>430</b>

**Assets.** RWE AG had €39.8 billion in total assets as of 31 December 2019, compared to €34.2 billion in the prior year. This is mainly due to the effects of the asset swap with E.ON. For example, RWE transferred the renewable energy business received from E.ON to a subsidiary, resulting in a corresponding account receivable from that company. Conversely, the sale of the stake in innogy held by another subsidiary led to a liability vis-à-vis that company. However, some developments reduced the balance-sheet total. Among other things, securities and cash and cash equivalents were down. Here, the cash outflows from the realisation of commodity forwards relating to RWE Supply & Trading set out on page 63 came to bear. At the end of 2019, the equity ratio was 14.4 %. Due to the rise in total assets, it was lower than in the previous year (16.5 %).

**Financial position.** RWE AG is set up solidly in economic terms and has a number of financing tools at its disposal that it can use flexibly. This is reflected in our credit ratings, which are investment grade. A detailed presentation of RWE's financial position and financing activity in the year under review has been made on pages 62 et seqq.

**Earnings position.** RWE AG's earnings position improved slightly compared to 2018. The main items on the income statement developed as follows:

- Income from financial assets rose by €667 million to €1,758 million. The exceptional energy trading performance was a major driver. In addition, the business activities received from E.ON contributed to earnings for the first time. However, there were also some curtailing factors such as the significant deterioration of market conditions for hard coal-fired power plants faced by RWE Generation.
- Net interest also improved considerably, advancing by €422 million to €31 million. This was due to substantial capital gains from pension fund management.

- The 'other income and expenses' line item deteriorated by €1,323 million to – €1,550 million. The main reason for this was an impairment recognised for financial accounts receivable from a Dutch subsidiary, the earnings prospects of which deteriorated considerably due to the coal phaseout mandated by law. Furthermore, IT projects drove up expenses at RWE AG.
- In the year under review, we recorded tax income of €275 million, largely because we reduced our tax risk provision and received tax refunds for earlier years. RWE AG had recorded a tax expense of €1 million in 2018.
- The presented earnings figures lead to net profit of €514 million. This represents an improvement of €42 million compared to 2018.
- The distributable profit of €492 million corresponds to the planned payment of a dividend of €0.80 per share to our shareholders.

**Outlook for 2020.** RWE AG's earnings prospects will largely depend on the business performance of its subsidiaries. Our current assessment makes us confident of being able to achieve a net profit in 2020 that is slightly higher than in 2019.

#### **Corporate governance declaration in accordance with Section 289f and Section 315d of the German Commercial Code.**

On 14 February 2020, the Executive Board and the Supervisory Board of RWE AG issued a corporate governance declaration in accordance with Section 289f and Section 315d of the German Commercial Code. The declaration contains the Corporate Governance Report for the first time and has been published on the internet at [www.rwe.com/corporate-governance-declaration](http://www.rwe.com/corporate-governance-declaration).

## 1.10 Presentation of the RWE Group with innogy as a purely financial investment

For fiscal 2019, we are also presenting Group figures reflecting our former subsidiary innogy as a purely financial investment for the last time. We do not apply the principles of consolidation pursuant to IFRS to determine these figures. In doing so, we do not consider innogy based on its earnings, but on the dividend we are paid. Applying this method leads to adjusted EBITDA of €2.1 billion and adjusted net income of €1.2 billion for the Group. This is much more than we had predicted originally. The main reasons for this were our strong trading performance and the reinstatement of the British capacity market.

**Former subsidiary innogy: full consolidation of limited informational value.** International Financial Reporting Standards (IFRS) stipulate that we fully consolidate companies that are directly or indirectly controlled by RWE AG in the Group's financial statements. This means that the revenue, expenses, cash flows, assets, liabilities, etc. of the affected activities are included in the Group's figures. This approach also had to be applied to innogy. However, it did not reflect the way in which we managed our former subsidiary. We held innogy as a purely financial investment, which was allowed to operate as an independent business entity.

**Adjusted figures.** Therefore, we applied a second method, which deviated from IFRS consolidation principles, to calculate the figures for the Group, which reflected the status of our subsidiary more accurately. In doing so, the stake in innogy was recognised on the balance sheet under 'other financial assets'. In RWE's earnings figures, innogy was considered only with the dividend payable to us. We treated the transactions of the rest of the Group with innogy as transactions with third parties. Since we sold our stake in innogy to E.ON in September 2019, we have stopped preparing balance sheets applying the above method, but we applied it one last time to calculate earnings for 2019.

This largely disregards the effects of the asset swap with E.ON (e.g. the acquisition of the renewable energy business). Therefore, the figures give some insight into the business trend that is virtually untainted by the exceptional effects of the transaction. We also use these figures to measure performance in determining Executive Board remuneration.

**Adjusted EBITDA and adjusted net income higher than forecast.** The overview below presents some key earnings figures that were calculated applying the method described above. The figure determined for adjusted EBITDA in 2019 was €2,106 million (previous year: €1,521 million) and adjusted net income amounted to €1,210 million (previous year: €591 million). Our outlook of November 2019 envisaged ranges of €1.8 billion to €2.1 billion and €0.9 billion to €1.2 billion, respectively (see page 16 of the interim statement on the first three quarters of 2019). In our first earnings forecast of March 2019, we had envisaged adjusted EBITDA of €1.2 billion to €1.5 billion and adjusted net income of €0.3 billion to €0.6 billion (see page 84 of the 2018 Annual Report). We clearly exceeded these expectations. This was primarily due to the exceptional trading performance of RWE Supply & Trading and the effect on earnings of the reinstatement of the British capacity market.

Key figures for the RWE Group including innogy as a financial investment that is not fully consolidated <sup>1</sup>	2019	2018	+/-
€ million			
Adjusted EBITDA	2,106	1,521	585
Adjusted EBIT	1,412	953	459
Adjusted net income	1,210	591	619

1 Figures not calculated in compliance with IFRS. In addition to the issues mentioned above, this relates to the following items, amongst others: all supply and service agreements of the Group with innogy have been accounted for as pending transactions, even if they would have had to be recognised at fair value. Provisions for impending losses from these transactions have not been formed. Supply and service agreements with external third parties and associated provisions have been accounted for as in the IFRS consolidated financial statements. The same applies to the accounting effects of hedges and deferred taxes. Earnings for 2019 do not contain the actual innogy dividend of €1.40 per share, but include the theoretical value of €1.64, which was the basis for the conditions of the asset swap with E.ON.

## 1.11 Disclosure relating to German takeover law

**The following disclosure is in accordance with Section 315a, Paragraph 1 and Section 289a, Paragraph 1 of the German Commercial Code as well as with Section 176, Paragraph 1, Sentence 1 of the German Stock Corporation Act. The information relates to company-specific regulations, for example relating to adjustments to the capital structure by the Executive Board or a change of control of the company. At RWE, these provisions are in line with the standards of German listed companies.**

**Composition of subscribed capital.** RWE AG's capital stock amounts to €1,573,748,744.44 and is divided among 614,745,499 no-par-value common shares in the name of the bearer. As set out on page 25, our 39,000,000 preferred shares were converted to common shares in the middle of 2019. Since then, all RWE shares have granted their bearer the same rights.

**Shares in capital accounting for more than 10% of voting rights.** As of 31 December 2019, no holding in RWE AG exceeded 10% of the voting rights.

**Limitation of share transfers.** Within the scope of the employee share plan of RWE AG, 305,216 RWE common shares were issued to staff in Germany in the financial year that just ended. The securities must be held until 31 December 2020.

We also have employee stock purchase plans in the UK. Staff members of RWE Generation UK plc, RWE Technology UK Limited and RWE Supply & Trading GmbH UK Branch qualify for them. The shares are subject to a five-year holding period starting from their respective issue dates. A total of 27,742 RWE common shares were purchased under the UK plans.

### **Appointment and dismissal of Executive Board members/amendments to the Articles of Incorporation.**

Executive Board members are appointed and dismissed in accordance with Section 84 et seq. of the German Stock Corporation Act in conjunction with Section 31 of the German Co-Determination Act. Amendments to the Articles of Incorporation are made pursuant to Section 179 et seq. of the German Stock Corporation Act in conjunction with Article 16, Paragraph 5 of the Articles of Incorporation of RWE AG. According to the aforementioned provision in the Articles of Incorporation, unless otherwise required by law or the Articles of Incorporation, the Annual General Meeting shall adopt all resolutions by a simple majority of the votes cast or – if a capital majority is required – by the simple majority of the capital stock represented when the resolution is passed. Pursuant to Article 10, Paragraph 9 of the Articles of Incorporation, the Supervisory Board is authorised to pass resolutions in favour of amendments to

the Articles of Incorporation that only concern the wording without changing the content.

### **RWE AG authorisation to implement share buybacks.**

Pursuant to a resolution passed by the Annual General Meeting on 26 April 2018, RWE AG is authorised until 25 April 2023 to conduct share buybacks accounting for up to 10% of the capital stock as of the effective date of the resolution or as of the exercise date of the authorisation if the capital stock is lower on this date. At the Executive Board's discretion, the acquisition can be made on the stock exchange or via a public purchase offer.

Shares purchased in this way may then be cancelled. Furthermore, they may be transferred to third parties or sold otherwise in connection with mergers or acquisitions of companies, parts of companies, operations, or of stakes in companies. Shares that are not sold on the stock exchange or through a tender to all shareholders may only be sold for cash. Moreover, in such cases, the sale price may not be significantly lower than the price at which the shares are listed on the stock market. The company may transfer shares bought back to the holders of option or convertible bonds and also use the shares to fulfil its obligations resulting from employee share schemes. In the aforementioned cases, shareholder subscription rights are waived. These authorisations may be exercised in full or in part, or once or several times for partial amounts.

### **Executive Board authorisation to issue new shares.**

Pursuant to the resolution passed by the Annual General Meeting on 26 April 2018, the Executive Board is authorised to increase the company's capital stock, subject to the Supervisory Board's approval, by up to €314,749,693.44 until 25 April 2023, through the issuance of up to 122,949,099 new bearer common shares in return for contributions in cash or in kind (authorised capital). These authorisations may be exercised in full or in part, or once or several times for partial amounts.

In principle, shareholders are entitled to subscription rights. However, subject to the approval of the Supervisory Board, the Executive Board may waive them in the following cases:

- They may be waived in order to prevent the number of shares allocated from the subscription resulting in fractional amounts (fractions of shares).
- Subscription rights may be waived in order to issue shares in exchange for contributions in kind for the purposes of mergers or acquisitions of companies, parts of companies, operations, or of stakes in companies.
- Subscription rights may be waived in the event of a cash capital increase if the price at which the new shares are issued is not significantly lower than the price at which shares are quoted on the stock market and the portion of the capital stock accounted for by the new shares, for which subscription rights are waived, does not exceed 10% in total.
- Furthermore, subscription rights may be waived in order to offer shares to potential holders of convertible or option bonds commensurate to the rights to which they would be entitled on conversion of the bond or on exercise of the option.

The Executive Board is authorised, subject to the approval of the Supervisory Board, to determine the further details and conditions of the share issuance.

In sum, the capital stock may not be increased by more than 20% through the issuance of new shares waiving subscription rights.

**Effects of a change of control on debt financing.** Our debt financing instruments often contain clauses that take effect in the event of a change of control. The following rule applies to a small residual amount of a senior bond remaining with us, which was the only bond that could not be fully transferred to innogy in 2016: in the event of a change of control in conjunction with a drop in RWE AG's credit rating below investment-grade status, creditors may demand immediate redemption. In such cases, RWE AG has the right to cancel its subordinated hybrid bonds within the defined change of control period; if this does not occur, the annual compensation payable on the hybrid bonds increases by 500 basis points.

RWE AG's €5 billion syndicated credit line also includes a change-of-control clause, which essentially has the following content: in the event of a change of control or majority at RWE, drawings are suspended until further notice. The lenders shall enter into negotiations with us on a continuation of the credit line. Should we fail to reach an agreement with the majority of them within 30 days from such a change of control, the lenders may cancel the line of credit.

**Effects of a change of control on Executive Board and executive remuneration.** Members of the Executive Board of RWE AG have the special right to terminate their employment contract in the event that shareholders or third parties obtain control over the company and this would be linked to significant disadvantages for the Executive Board members. In such a case, they are free to resign for cause from their position within six months of the change of control by giving three months' notice. In addition, they can request the termination of their employment contract and receive a one-off payment.

The amount of the one-off payment shall correspond to the compensation that would have been due until the end of the contractually agreed term of service, but no more than three times the total contractual annual remuneration. Share-based payment is not included in this. This is in line with the recommendations of the German Corporate Governance Code applicable to the year under review.

The Strategic Performance Plan presented on page 75 et seq. stipulates for the Executive Board and executives of RWE AG and subordinated associated companies that in the event of a change of control the granted performance shares, which have already been finally determined but not yet paid out, shall be paid out early. The payout amount shall correspond to the number of performance shares multiplied by the sum of the average closing price of the RWE common share on the last 30 trading days prior to the announcement of the change of control and the amount of dividend paid out per share until then, calculated starting from the time when the number of performance shares was finally granted. All performance shares granted on a preliminary basis at the time of the change of control shall expire without replacement or compensation.



## 1.12 Remuneration report

**The capital market expects companies to have performance-linked remuneration systems which bring the interests of management in line with those of the company's owners. Another demand is that Executive Board members be rewarded if their company applies the principles of sustainable development and takes its responsibility vis-à-vis society seriously. RWE's remuneration system meets these requirements. Despite this, we want to refine it and have already worked closely with investors to this end. This year, the Supervisory Board of RWE AG will finalise the new rules and present them to the 2021 Annual General Meeting for a vote.**

### Structure of Supervisory Board remuneration

The remuneration of the Supervisory Board is governed by the provisions of the Articles of Incorporation of RWE AG. Accordingly, the Chairman of the Supervisory Board receives fixed remuneration of €300,000 per fiscal year. His Deputy receives €200,000 per fiscal year. The other members of the Supervisory Board receive fixed remuneration of €100,000 and additional compensation for committee mandates according to the following rules.

Members of the Audit Committee receive additional remuneration of €40,000. This payment is increased to €80,000 for the Chair of this committee. With the exception of the Nomination Committee, the members of which do not receive additional remuneration, the members and the Chairs of all the other Supervisory Board committees receive an additional €20,000 and €40,000 in remuneration, respectively. Remuneration for a committee mandate is only paid if the committee is active at least once in the fiscal year.

Supervisory Board members who concurrently hold several offices in this body only receive compensation for the highest-paid position. Remuneration is prorated if a Supervisory Board member only performs a function for part of a fiscal year.

In addition to the remuneration paid, out-of-pocket expenses are refunded to the members of the Supervisory Board. Some Supervisory Board members also receive income from the exercise of Supervisory Board mandates at subsidiaries of RWE AG.

The members of the Supervisory Board imposed on themselves the obligation, subject to any commitment to relinquish their pay, to use 25 % of the total annual compensation (before taxes) to buy RWE shares and to hold them for the duration of their membership of the Supervisory Board of RWE AG. Last year, all of the members who do not relinquish their compensation met this self-imposed obligation for their compensation for 2018. For the new members who joined the Board in 2019, this self-imposed obligation begins when the remuneration for fiscal 2019 is paid at the beginning of 2020.

### Level of Supervisory Board remuneration

In total, the remuneration of the Supervisory Board (excluding out-of-pocket expenses) amounted to €3,304,000 in fiscal 2019 (previous year: €3,480,000). Of this sum, €465,000 (previous year: €460,000) was

remuneration paid for mandates on committees of the Supervisory Board and €543,000 (previous year: €720,000) was remuneration paid for mandates at subsidiaries.

The remuneration of all individuals who have served on the Supervisory Board in 2018 and/or 2019 is shown in the following table.

Supervisory Board remuneration <sup>1</sup>	Fixed remuneration		Remuneration for committee offices		Remuneration for mandates at subsidiaries <sup>2</sup>		Total remuneration <sup>3</sup>	
	2019	2018	2019	2018	2019	2018	2019	2018
€ '000								
Dr. Werner Brandt, Chairman	300	300	-	-	-	-	300	300
Frank Bsirske, Deputy Chairman	200	200	-	-	143	200	343	400
Michael Bochinsky (since 1 Aug 2018)	100	42	40	17	-	-	140	59
Reiner Böhle (until 18 Sep 2019)	72	100	14	20	-	-	86	120
Sandra Bossemeyer	100	100	20	20	-	-	120	120
Martin Bröker (since 1 Sep 2018)	100	33	-	-	-	-	100	33
Anja Dubbert (since 27 Sep 2019)	26	-	1	-	-	-	27	-
Matthias Dürbaum (since 27 Sep 2019)	26	-	1	-	-	-	27	-
Ute Gerbault	100	100	-	-	-	-	100	100
Reinhold Gispert (until 31 Jul 2018)	-	58	-	23	-	-	-	81
Andreas Henrich (until 31 Aug 2018)	-	67	-	-	-	-	-	67
Prof. Dr. Hans-Peter Keitel	100	100	20	20	-	-	120	120
Dr. h.c. Monika Kircher	100	100	30	-	-	-	130	100
Monika Krebber (until 18 Sep 2019)	72	100	14	20	86	120	172	240
Harald Louis	100	100	20	20	20	20	140	140
Dagmar Mühlenfeld	100	100	20	20	-	-	120	120
Peter Ottmann	100	100	20	20	-	-	120	120
Günther Schartz	100	100	20	20	-	-	120	120
Dr. Erhard Schipporeit	100	100	80	80	215	300	395	480
Dr. Wolfgang Schüssel	100	100	25	40	-	-	125	140
Ullrich Sierau	100	100	40	40	-	-	140	140
Ralf Sikorski	100	100	40	40	50	50	190	190
Marion Weckes	100	100	40	40	-	-	140	140
Leonhard Zubrowski	100	100	20	20	30	30	150	150
<b>Total<sup>3</sup></b>	<b>2,296</b>	<b>2,300</b>	<b>465</b>	<b>460</b>	<b>543</b>	<b>720</b>	<b>3,304</b>	<b>3,480</b>

1 Supervisory Board members who joined or retired from the corporate body during the year receive prorated remuneration.

2 Remuneration for exercising mandates at subsidiaries is only included for periods of membership of the Supervisory Board of RWE AG.

3 The commercial rounding of certain figures can result in inaccurate sum totals.

## Structure of Executive Board remuneration

**Fundamentals.** The structure and level of the Executive Board's remuneration are determined by the Supervisory Board of RWE AG and reviewed on a regular basis to determine whether they are appropriate and in line with the market. The remuneration system described in the following has been applied since 1 October 2016. It is made up of non-performance-based and performance-based components. The former consists of the fixed salary, the pension instalment as well as fringe benefits. The performance-based components include the bonus and a share-based payment, the latter of which is a long-term compensation component.

**Recipients of Executive Board remuneration.** In the financial year that just ended, Rolf Martin Schmitz and Markus Krebber received compensation for their work on the Executive Board of RWE AG. Rolf Martin Schmitz has been a member of the Executive Board since 1 May 2009 and its Chairman since 15 October 2016. His contract expires on 30 June 2021. Markus Krebber was appointed to this corporate body with effect from 1 October 2016 and has been in charge of finance since 15 October 2016. His tenure on the Executive Board runs through to 30 September 2024.

## Non-performance-based Executive Board remuneration

**Fixed compensation and pension instalments.** The members of the Executive Board of RWE AG receive a fixed annual salary, which is paid in twelve monthly instalments. As a second fixed remuneration component, they are entitled to a pension instalment for every year of service, which is determined on an individual basis, unless – as is the case with Rolf Martin Schmitz – they belonged to the Executive Board before the pension instalment was introduced and have therefore received a pension commitment (see page 78).

The pension instalment is paid in cash or retained in part or in full in exchange for a pension commitment of equal value through a gross compensation conversion. RWE has concluded a reinsurance policy to finance the pension commitment. The accumulated capital may be drawn upon

on retirement, but not before the Executive Board member turns 62. Members of the Executive Board of RWE reach the established age limit when they are 63 years old. They can be reappointed for one year at a time thereafter, but may not hold office beyond their 65<sup>th</sup> birthday.

When retiring, Executive Board members can choose a one-time payment or a maximum of nine instalments. They and their surviving dependants do not receive any further benefits. Vested retirement benefits from earlier activities within the RWE Group remain unaffected by this.

**Fringe benefits.** Non-performance-based compensation components also include fringe benefits, primarily consisting of company cars and accident insurance premiums.

## Performance-based Executive Board remuneration

**Bonus.** Executive Board members receive a bonus which is based on the economic performance of the company and the degree to which they achieve their individual goals and the collective goals of the Executive Board. The starting point for calculating the bonus is what is referred to as the 'company bonus', which depends on the level of EBIT of relevance to remuneration in the relevant fiscal year. The basis for determining this figure is adjusted EBIT (EBIT minus the non-operating result). We calculated adjusted EBIT for 2019 and the preceding year using the method set out on

page 69. This means that innogy, the subsidiary acquired by E.ON in September 2019, is considered only in terms of the dividend payment it owes to RWE. The rules of Executive Board remuneration stipulate that the Supervisory Board may modify adjusted EBIT to make this figure more suitable for measuring performance. Such adjustments can relate to gains on disposals, changes in provisions, as well as impairments and their consequences. This converts adjusted EBIT to EBIT of relevance to remuneration.

The company bonus is determined as follows: the Supervisory Board sets a target as well as a floor and a ceiling for EBIT of relevance to remuneration at the beginning of every fiscal year. After the end of the fiscal year, the actual level of adjusted EBIT and EBIT of relevance to remuneration resulting from the modifications explained earlier are determined. If the latter is identical to the EBIT target, the target achievement is 100%. In this case, the company bonus equals the contractually agreed baseline bonus. If EBIT of relevance to remuneration is exactly at the pre-defined floor, target achievement is 50%; if it is at the ceiling, target achievement is 150%. Target achievement is adjusted linearly between the two limits. If EBIT of relevance to remuneration is below the floor, no company bonus is paid. If the ceiling is exceeded, the maximum target achievement remains 150%.

To calculate the individual bonus, the company bonus is multiplied by a factor reflecting the personal performance of the Executive Board member in question. This performance factor depends on the achievement of: (1) individual goals, (2) general collective goals, and (3) collective goals in relation to corporate responsibility and employee motivation. The aforementioned target categories are each weighted by one-third. Degrees of achievement can range between 0% and 200%. However, the derivable performance factor is limited to between 80% and 120%. This means that the performance factor for an Executive Board member with a 150% target achievement is only 120%.

After the end of every fiscal year, the Supervisory Board evaluates the individual performance of the Executive Board members relative to the three categories above and determines their individual performance factor. This is done in line with the binding goals and targets which it sets at the beginning of the financial year. The bonus determined in this manner is paid out in full to the Executive Board members after the end of the fiscal year.

**Share-based payment.** Executive Board members are granted a payment under the Strategic Performance Plan (SPP), which rewards the achievement of long-term goals. The key determinant of success is the total return of the RWE common share, which is made up of the share price and the dividend (performance). The link between

compensation and the performance of the share price over the long term motivates the Executive Board to consider the interests of the company's owners when taking decisions. Another of the SPP's success factors is net income of relevance to remuneration of the fiscal year in question. This key figure is derived from adjusted net income, which is arrived at by deducting the non-operating result and other exceptional items including their effects on income taxes from net income. Like adjusted EBIT, we calculated it using the method described on page 69, with innogy being considered only in terms of the dividend payment it owes RWE. The conditions of the SPP allow the Supervisory Board to make limited modifications to adjusted net income in predefined cases in order to arrive at net income of relevance to remuneration. Such modifications may be made as long as they reflect the impact of unforeseeable events such as capital measures, acquisitions, sales and regulatory changes.

The SPP is based on performance shares with a term (vesting period) made up of the fiscal year to which they relate and the three subsequent years. The Executive Board members receive a grant letter for each tranche, in which they are informed of their personal gross allocation amount. The preliminary number of performance shares is calculated by dividing the grant amount by the average closing quotation of the RWE share over the last 30 days of trading on Xetra before the grant.

Only after the end of the fiscal year is the number of fully granted performance shares determined. It depends on the net income of relevance to remuneration in the fiscal year in question. The actual figure is compared to a pre-defined target figure. The procedure is similar to the approach taken when determining the company bonus. The Supervisory Board pre-defines a target, a floor and a ceiling for net income of relevance to remuneration, orienting itself towards the approved medium-term plan in doing so. If the target figure is achieved exactly, 100% of the conditionally granted performance shares is fully allocated. If net income of relevance to remuneration is exactly at the floor, 50% of the conditionally granted performance shares is fully allocated; if it is at the ceiling, the final grant amounts to 150%. At a level below the floor, all of the conditionally granted performance shares from the tranche lapse. If the ceiling is exceeded, the maximum grant remains 150%.

The finally granted performance shares are fully paid out in cash to the Executive Board member after the end of the four-year vesting period. The level of the payment depends on the performance of the RWE common share. It corresponds to the final number of performance shares multiplied by the sum of the average closing quotation of the RWE common share over the 30 days of trading on Xetra leading to the end of the vesting period and the dividends accumulated in the last three years. However, a cap applies in this case as well: even in the event of an extremely good share performance, the payment is limited to a maximum of 200% of the initial gross grant amount.

The members of the Executive Board are obliged to reinvest 25% of the payment (after taxes) in RWE shares. The shares must be held until at least the end of the third year after conclusion of the vesting period.

The performance shares remain unaffected after an Executive Board member leaves the body at the end of their contract and are paid out as planned at the end of the vesting period. If an Executive Board member voluntarily leaves the company early or is dismissed with good cause, all performance shares which have not yet reached the end of the vesting period lapse. The SPP also contains a provision which gives the Supervisory Board the power to punish infractions by Executive Board members, for example serious violations of the company's Code of Conduct, by reducing or completely voiding ongoing SPP tranches.

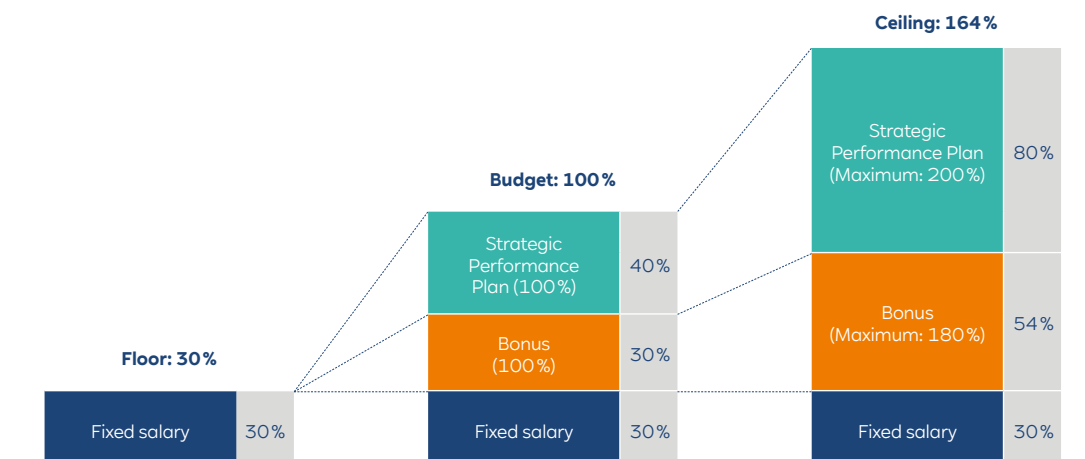
When the SPP was introduced in 2016, the Supervisory Board established a transitional tranche for 2016 and three further regular tranches for 2017, 2018 and 2019. In doing so, it also determined target figures for adjusted net income and the aforementioned ceilings and floors. The SPP conditions stipulate that the Supervisory Board may retrospectively adjust the target and threshold values only to a very limited extent in precisely defined cases. Such adjustments are permissible if they take account of the effects of capital measures, acquisitions, divestments and regulatory changes, which were not yet known or unforeseeable when the figures were determined. One major modification was made relating to the 2018 and 2019 tranches: instead of deriving adjusted net income from net income according to IFRS, it was calculated using the method explained earlier, with innogy being considered only in terms of the dividend it owes RWE. Accordingly, the target figures for the ceiling and floor of net income of relevance to remuneration were also adjusted retrospectively.

**Remuneration for exercising mandates.** During the past fiscal year, members of the RWE AG Executive Board were paid to exercise supervisory board mandates at affiliates. This income is deducted from the bonus and therefore does not increase the total remuneration.

**Remuneration broken down by component.** Assuming that both the company and the Executive Board members achieve their performance targets to a degree of 100%, the compensation structure roughly breaks down as follows: the base salary accounts for around 30% of total remuneration. Approximately 30% is allocable to short-term variable remuneration, i.e. the bonus. As a long-term compensation component, the SPP accounts for about 40% of total remuneration.

**Limitation of Executive Board remuneration.** As set out earlier, the level of variable compensation components is limited. The company bonus amounts to a maximum of 150% of the contractually agreed bonus budget. Multiplying this by the individual performance factor (80% to 120%), it is possible to reach a maximum of 180% of the bonus budget. With regard to share-based payment under the SPP, payout of the performance shares after the completion of the vesting period is limited to a maximum of 200% of the grant budget. Due to the above maximum values, there is also a cap on total compensation (see the diagram on the next page).

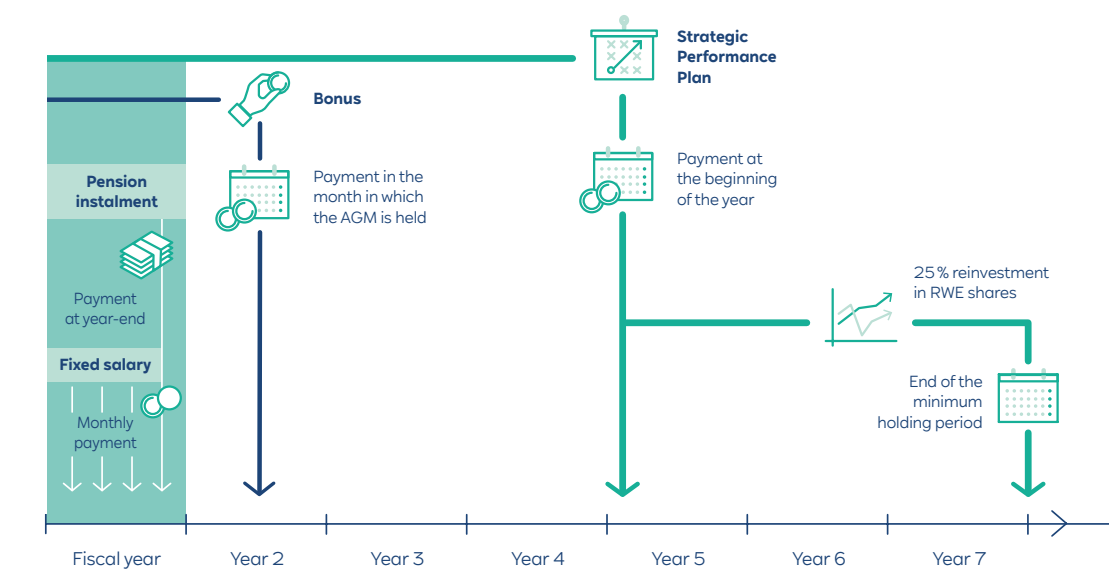
## Range of Executive Board remuneration



**Payment dates.** Executive Board members receive their fixed salary in twelve monthly instalments. The pension instalment is paid out at the end of the year, insofar as it is not converted into a pension commitment. After the fiscal year, the Supervisory Board determines the target achievement for the company bonus and the individual performance factor. The bonus is paid out in the month of the Annual General Meeting (AGM) which attends to the financial statements of RWE AG. After the end of the vesting

period, the performance shares from the SPP are paid out during the month of the Annual General Meeting held in the following year. As explained earlier, Executive Board members must invest 25% of the payment in RWE common shares and may not sell these shares until after three additional calendar years have passed from completion of the four-year vesting period. As a result, it takes a total of seven years for Executive Board members to obtain the full amount of their compensation.

## Executive Board remuneration payment timeline for a fiscal year



**Pension scheme.** Until the introduction of the pension instalment as of 1 January 2011 described earlier, pension benefits were granted to the members of the Executive Board. Of the Executive Board members in 2019, this only applies to Rolf Martin Schmitz; the pension commitment made to him in 2009 will remain unchanged. It entitles him to life-long retirement benefits in the event of retirement from the Executive Board of RWE AG upon turning 59, permanent disability, early termination or non-extension of his employment contract by the company. In the event of death, his surviving dependants are entitled to benefits. The amount of Rolf Martin Schmitz's qualifying income and the level of benefits determined by the duration of service are taken as a basis for his individual pension and surviving dependants' benefits.

**Change of control.** If shareholders or third parties obtain control over the company and this results in major disadvantages for the Executive Board members, they have a special right of termination. They have the right to resign from the Executive Board and to request that their employment contract be terminated in combination with a one-off payment within six months of the change of control.

A change of control as defined by this provision occurs when one or several shareholders or third parties acting jointly account for at least 30% of the voting rights in the company, or if any of the aforementioned can exert a controlling influence on the company in another manner. A change of control also occurs if the company is merged with another legal entity, unless the value of the other legal entity is less than 50% of the value of RWE AG.

On termination of their employment contract, Executive Board members receive a one-off payment equalling the compensation due until the end of the term of their contract. However, this amount will not be higher than three times their total contractual annual remuneration. The share-

based payments under the SPP are not included in this payment.

In the event of a change of control, all of the fully granted performance shares under the SPP that have not been paid out are paid out early. All performance shares granted under the SPP on a preliminary basis lapse on the date of the change of control.

**Early termination of Executive Board mandate and severance cap.** Following a recommendation of the German Corporate Governance Code (GCGC), the Executive Board's employment contracts include a provision stipulating that if an Executive Board mandate is otherwise terminated early without due cause, a severance payment of no more than the remuneration due until the end of the employment contract and no more than two total annual compensations including fringe benefits is made (severance cap).

**Refinement of the remuneration system planned.** Last year, we discussed ways to refine the Executive Board's remuneration system with representatives of institutional investors. One of the objectives was to meet the demands of the world's capital markets, which have become more exigent over time. With the help of investor feedback, we started revising major parts of the system. However, we have maintained its basic structure. The new features are set to be approved by the Supervisory Board of RWE AG this year and applied to all new employment contracts thereafter. Furthermore, we intend to put them up for a vote at the 2021 Annual General Meeting.

The Supervisory Board passed a resolution to continue the Strategic Performance Plan, which used to encompass tranches only for 2016 to 2019 without any changes for the time being. Accordingly, new target ceilings and floors have been established for net income of relevance to remuneration.

## Level of Executive Board remuneration

The remuneration of the Executive Board of RWE AG is calculated in compliance with the rules set out in the German Commercial Code. The members of the Executive Board received €7,571,000 in total remuneration for their work in fiscal 2019.

The previous year's figure was €6,880,000. The remuneration components are shown in the following table.

<b>Level of Executive Board remuneration (according to HGB)</b> € '000	Dr. Rolf Martin Schmitz		Dr. Markus Krebber		Total	
	2019	2018	2019	2018	2019	2018
<b>Non-performance-based</b>	<b>1,183</b>	<b>1,180</b>	<b>1,085</b>	<b>1,066</b>	<b>2,268</b>	<b>2,246</b>
of which:						
Fixed remuneration	1,160	1,160	763	750	1,923	1,910
Pension instalments <sup>1</sup>	–	–	300	300	300	300
Fringe benefits	23	20	22	16	45	36
<b>Performance-based</b>	<b>3,032</b>	<b>2,636</b>	<b>2,271</b>	<b>1,998</b>	<b>5,303</b>	<b>4,634</b>
Bonus (short-term)	1,782	1,386	1,171	898	2,953	2,284
of which: credited remuneration for mandates <sup>2</sup>	115	115	146	180	261	295
Value of performance shares at grant <sup>3</sup> (long-term)	1,250	1,250	1,100	1,100	2,350	2,350
<b>Total remuneration</b>	<b>4,215</b>	<b>3,816</b>	<b>3,356</b>	<b>3,064</b>	<b>7,571</b>	<b>6,880</b>

1 The pension instalment paid to Markus Krebber is part of his remuneration under the German Commercial Code (HGB), but this does not apply to the annual service cost of the pension commitment to Rolf Martin Schmitz.

2 Income from the exercise of Supervisory Board offices within the Group are fully deducted from the bonus.

3 The German Commercial Code mandates the statement of the value of the grant at the beginning of the fiscal year.

EBIT of relevance to remuneration, the basis for calculating the bonus, amounted to €1,207 million in the fiscal year that just ended. It differs from adjusted EBIT (€1,412 million) in that we make certain modifications to it to neutralise effects that are not considered in the target figures. For example, when determining the target figure, we did not consider any income from the potential reinstatement of the British capacity market. The effect on income of the delayed capacity payments for 2018 and 2019 was

therefore eliminated from the actual figure. The EBIT target derived from the medium-term plan was €786 million (target achievement of 100 %), with a floor of €186 million (target achievement of 50 %) and a ceiling of €1,386 million (target achievement of 150 %). These figures result in a target achievement of 135 % for 2019. This means that the company bonus was 35 % higher than the bonus budget established at the beginning of the year.

<b>Calculation of the 2019 company bonus</b>	2019 € million	Target achievement %
Adjusted EBIT	1,412	–
Adjustments <sup>1</sup>	– 205	–
<b>EBIT of relevance to remuneration</b>	<b>1,207</b>	<b>135</b>
Target	786	100
Ceiling	1,386	150
Floor	186	50

1 See commentary above.



The Supervisory Board found that the Executive Board overachieved the individual and collective targets. The main success factors were the rapid implementation of the asset swap with E.ON and the progress made in transforming RWE into a leading renewable energy company. The compromise reached with the German government on the lignite phaseout and the Executive Board's further development of RWE's strategy to reflect the future of renewable energy and electricity generation from coal were also rewarded. The above-average performance of the RWE share and investor feedback demonstrated that the capital market welcomes the new strategy. Requirements in relation to employee motivation, which is regularly measured using internal surveys, were also met to a degree of at least 100%. With one exception, this also applies to the CR targets, which primarily related to the CO<sub>2</sub> intensity of the

generation portfolio, occupational safety, and adherence to compliance, environmental and social standards. The only target that was missed concerned the number of work-related accidents which, at 2.1 for every one million hours worked, exceeded the predefined upper limit of 1.9.

Each of the Executive Board members had a target achievement of 153%. Due to the cap, the individual performance factor was 120%. Multiplying this figure by the company bonus (135%) results in a factor of 162%. The latter translates into the individual bonus, which amounted to €1,782,000 for Rolf Martin Schmitz and €1,171,000 for Markus Krebber. These sums correspond to 1.62 times the predetermined budgeted figures of €1,100,000 (Schmitz) and €723,000 (Krebber).

<b>Calculation of the 2019 tranche of the Strategic Performance Plan</b>	2019 €million	Target achievement %
Adjusted net income	1,210	-
Adjustments <sup>1</sup>	-363	-
<b>Net income of relevance to remuneration</b>	<b>847</b>	<b>150</b>
Target	51	100
Ceiling	351	150
Floor	-249	50

1 See commentary.

The German Commercial Code stipulates that the long-term performance-based remuneration component is the value of the performance shares granted on a preliminary basis at the beginning of a fiscal year. As set out on page 75, the level of the full grant depends on the development of net income of relevance to remuneration in the fiscal year compared to a predefined target. The latter was set by the Supervisory Board at €51 million for 2019 (grant of 100%). The floor was -€249 million (grant of 50%) and the ceiling was €351 million (grant of 150%). The amount actually achieved was €847 million (after modifications), which corresponds to a target achievement of 150%. This means that the final grant of performance shares for 2019 was 50% higher than the preliminary grant.

Net income of relevance to remuneration is adjusted net income (€1,210 million) minus several exceptional items. For example, we recognised significant impairments for power stations in the 2016 consolidated financial statements, which had not yet been included in the medium-term plan at the time and cause depreciation and amortisation to be much lower now. We eliminated this effect on depreciation and amortisation. The same applies to the income we received in the British generation business due to the retroactive capacity payments we received for 2018.

<b>Long-term incentive payment: Strategic Performance Plan</b>		Dr. Rolf Martin Schmitz			
Tranche	Year	2019	2018	2017	2016
Grant date		1 Jan 2019	1 Jan 2018	1 Jan 2017	1 Jan 2016
Fair value at grant date	€ '000	1,250	1,250	1,250	769
Share price (average)	€	19.10	18.80	11.62	13.78
<b>Number of performance shares allocated on a provisional basis</b>		<b>65,445</b>	<b>66,489</b>	<b>107,573</b>	<b>55,787</b>
Measurement date of performance conditions		31 Dec 2019	31 Dec 2018	31 Dec 2017	31 Dec 2017
Target achievement in relation to net income of relevance to remuneration	%	150	123	115	115
Final number of fully granted performance shares		98,168	81,781	123,709	64,155
End of vesting period		31 Dec 2022	31 Dec 2021	31 Dec 2020	31 Dec 2019

<b>Long-term incentive payment: Strategic Performance Plan</b>		Dr. Markus Krebber			
Tranche	Year	2019	2018	2017	2016
Grant date		1 Jan 2019	1 Jan 2018	1 Jan 2017	1 Jan 2016
Fair value at grant date	€ '000	1,100	1,100	988	247
Share price (average)	€	19.10	18.80	11.62	13.78
<b>Number of performance shares allocated on a provisional basis</b>		<b>57,592</b>	<b>58,511</b>	<b>84,983</b>	<b>17,915</b>
Measurement date of performance conditions		31 Dec 2019	31 Dec 2018	31 Dec 2017	31 Dec 2017
Target achievement in relation to net income of relevance to remuneration	%	150	123	115	115
Final number of fully granted performance shares		86,388	71,969	97,730	20,602
End of the vesting period		31 Dec 2022	31 Dec 2021	31 Dec 2020	31 Dec 2019

The table below shows the increase in provisions to cover obligations from share-based payments under the SPP.

<b>Addition of provisions for long-term share-based incentive payments</b> € '000	2019	2018
Dr. Rolf Martin Schmitz	2,726	1,413
Dr. Markus Krebber	1,982	934
<b>Total</b>	<b>4,708</b>	<b>2,347</b>

**Obligations under the former pension scheme.** The service cost of pension obligations to Rolf Martin Schmitz amounted to €554,000 in 2019 (previous year: €536,000). This is not a remuneration component in accordance with the German Commercial Code. As of year-end, the net present value of the defined benefit obligation determined in accordance with IFRS amounted to €14,997,000 (previous year: €13,370,000). The present value of the pension obligation determined according to the German Commercial Code totalled €11,894,000

(previous year: €10,534,000). The pension obligation for 2019 increased by €1,360,000 (previous year: €1,248,000).

Based on the emoluments qualifying for a pension as of 31 December 2019, the projected annual pension of Rolf Martin Schmitz on retiring from the company as of the expiry of his appointment amounted to €556,000 (same as in the previous year). This includes vested pension benefits due from former employers transferred to RWE AG.

## Recommendations of the German Corporate Governance Code

In presenting the remuneration system, we also follow the recommendations of the version of the GCGC applicable to 2019, which was published on 7 February 2017. In line with the GCGC, the total remuneration of management board members comprises the monetary compensation elements, pension commitments, other awards, fringe benefits of all kinds and benefits from third parties which were granted or paid in the financial year with regard to management board work. Item 4.2.5, Paragraph 3 of the Code lists the compensation components that should be disclosed. Unlike German commercial law, the GCGC stipulates that the annual service cost of pension benefits is also part of total remuneration.

The GCGC provides specific examples for the recommended presentation of management board compensation based on model tables, which distinguishes between 'benefits granted' and 'benefits received'.

- According to the GCGC, benefits or compensation are granted when a binding commitment to such is made to the management board member. In deviation from German commercial law, it is not relevant to what extent the management board member has already provided the services being remunerated.

- The term 'benefits received' defines the extent to which the management board member has already received payments. In this regard, the relevant aspect is the time at which the amount being paid is sufficiently certain and not the actual time of the payment.

This distinction made in the Code can be illustrated with the example of the bonus: the contractually agreed and promised budgeted bonus for the fiscal year in question is considered 'granted'. Conversely, the benefits received table shows the bonus level which will actually be paid with a high degree of probability. In this regard, it is irrelevant that the payment will not be made until the following year. The payment date is deemed to have been reached when the indicators and results needed to determine target achievement (and therefore the bonus) are known with sufficient certainty. The Code assumes that this is already the case at the end of the year. As a result, the Executive Board bonuses are stated in the reporting year in the benefits received table.

In the following, we present the compensation of the Executive Board of RWE AG based on the sample tables recommended by the GCGC.

Benefits granted	Dr. Rolf Martin Schmitz Chief Executive Officer since 15 October 2016				Dr. Markus Krebber Chief Financial Officer since 15 October 2016			
	2019 (Min.)	2019 (Max.)	2019	2018	2019 (Min.)	2019 (Max.)	2019	2018
€ '000								
Fixed remuneration	1,160	1,160	1,160	1,160	763	763	763	750
Pension instalment	-	-	-	-	300	300	300	300
Fringe benefits	23	23	23	20	22	22	22	16
<b>Total fixed remuneration</b>	<b>1,183</b>	<b>1,183</b>	<b>1,183</b>	<b>1,180</b>	<b>1,085</b>	<b>1,085</b>	<b>1,085</b>	<b>1,066</b>
<b>One-year variable remuneration (bonus)</b>	<b>0</b>	<b>1,980</b>	<b>1,782</b>	<b>1,386</b>	<b>0</b>	<b>1,302</b>	<b>1,171</b>	<b>898</b>
<b>Multi-year variable remuneration (SPP)</b>	<b>0</b>	<b>2,500</b>	<b>1,250</b>	<b>1,250</b>	<b>0</b>	<b>2,200</b>	<b>1,100</b>	<b>1,100</b>
2018 tranche (term: 2018 - 2021)	-	-	-	1,250	-	-	-	1,100
2019 tranche (term: 2019 - 2022)	0	2,500	1,250	-	0	2,200	1,100	-
<b>Total variable remuneration</b>	<b>0</b>	<b>4,480</b>	<b>3,032</b>	<b>2,636</b>	<b>0</b>	<b>3,502</b>	<b>2,271</b>	<b>1,998</b>
<b>Total variable and fixed remuneration</b>	<b>1,183</b>	<b>5,663</b>	<b>4,215</b>	<b>3,816</b>	<b>1,085</b>	<b>4,587</b>	<b>3,356</b>	<b>3,064</b>
Service cost	554	554	554	536	-	-	-	-
<b>Total remuneration</b>	<b>1,737</b>	<b>6,217</b>	<b>4,769</b>	<b>4,352</b>	<b>1,085</b>	<b>4,587</b>	<b>3,356</b>	<b>3,064</b>

<b>Benefits received</b>	Dr. Rolf Martin Schmitz Chief Executive Officer since 15 October 2016		Dr. Markus Krebber Chief Financial Officer since 15 October 2016	
	2019	2018	2019	2018
€ '000				
Fixed remuneration	1,160	1,160	763	750
Pension instalment	–	–	300	300
Fringe benefits	23	20	22	16
<b>Total fixed remuneration</b>	<b>1,183</b>	<b>1,180</b>	<b>1,085</b>	<b>1,066</b>
<b>One-year variable remuneration (bonus)</b>	<b>1,782</b>	<b>1,386</b>	<b>1,171</b>	<b>898</b>
<b>Multi-year variable remuneration (SPP)</b>	<b>1,538</b>	<b>–</b>	<b>494</b>	<b>–</b>
Payment from the 2016 tranche	1,538	–	494	–
<b>Total variable remuneration</b>	<b>3,320</b>	<b>1,386</b>	<b>1,665</b>	<b>898</b>
<b>Total variable and fixed remuneration</b>	<b>4,503</b>	<b>2,566</b>	<b>2,750</b>	<b>1,964</b>
Service cost	554	536	–	–
<b>Total remuneration</b>	<b>5,057</b>	<b>3,102</b>	<b>2,750</b>	<b>1,964</b>

## 1.13 Development of risks and opportunities

**RWE's risk exposure continued to improve in 2019. It was important to us that the European Commission gave the go-ahead for the asset swap with E.ON. The renewable energy business gives us a new operating mainstay with a high level of regulated income. This makes us more profitable and crisis-proof. Despite this, RWE remains exposed to risks. For example, the adverse effects of the German coal phaseout may be more significant than expected. This and further material risks are identified, assessed and managed using our proven Group risk management system, which helps us to keep RWE on course despite the persistent uncertainties in our business.**

### Distribution of risk management tasks at RWE.

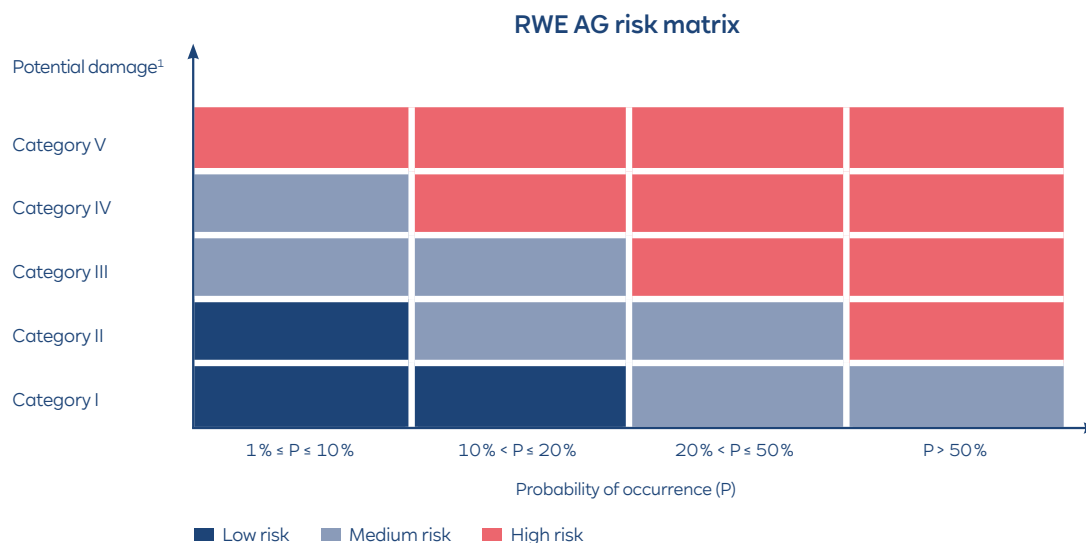
Responsibility for Group risk management lies with RWE AG. The parent company's Executive Board monitors and manages the overall risk of the RWE Group. In addition, it determines the general risk appetite of RWE and defines upper limits for single risk positions. At the level below the Executive Board, the Controlling & Risk Management Department has the task of applying and developing the risk management system. It derives detailed limits for the individual business fields and operating units from the risk caps set by the Executive Board. Its tasks also include checking the identified risks for completeness and plausibility and aggregating them. In so doing, it receives support from the Risk Management Committee, which is composed of the heads of the following five RWE AG departments: Controlling & Risk Management (Chair), Finance & Credit Risk, Accounting, Legal & Insurance, and Corporate Business Development. The Controlling & Risk Management Department provides the Executive Board and the Supervisory Board of RWE AG with regular reports on the company's risk exposure.

A number of additional organisational units and committees have been entrusted with risk management tasks:

- Financial risks and credit risks are managed by the Finance & Credit Risk Department, which reports directly to the CFO of RWE AG.
- The Accounting Department, which also reports to the CFO, sees to it that financial reporting is free of material misstatements. It has an accounting-related internal control system for this purpose. A committee consisting of officers from Accounting and other departments of relevance to accounting assists in securing the quality of financial reporting. More detailed information can be found on page 92.
- The Internal Audit & Compliance Department monitors compliance with RWE's Code of Conduct, focusing on avoiding corruption. It reports to the CEO of RWE AG or, if members of the Executive Board are affected, directly to the Chairman of the Supervisory Board and the Chairman of the Audit Committee.
- Risks from changes in commodity prices are monitored by RWE Supply & Trading in so far as they relate to the conventional electricity generation, energy trading and gas businesses.
- Strategies to limit market risks in conventional electricity generation must be approved by the Commodity Management Committee. The members of this expert panel are the CFO of RWE AG, individuals from the management team of RWE Supply & Trading and a representative of the Controlling & Risk Management Department.
- In October 2019, we also set up such a committee for market risks associated with renewable energy. The Renewables Commodity Management Committee consists of the CFO of RWE AG, members of the management of RWE Renewables GmbH and a representative of the Controlling & Risk Management Department.
- The strategic guidelines for the management of financial assets (including the funds of RWE Pensionstreuhand e. V.) are determined by the Asset Management Committee. The following individuals belong to it: the CFO of RWE AG, the Managing Director in charge of finance at RWE Supply & Trading, the heads of the following departments: Controlling & Risk Management, Finance & Credit Risk, Portfolio Management/ Mergers & Acquisitions and – from the last department in the list – the head of Financial Asset Management.

Under the expert management of the aforementioned organisational units, RWE AG and its operating subsidiaries are responsible for identifying risks early, assessing them correctly and managing them in compliance with corporate standards. Internal Audit regularly assesses the quality and functionality of our risk management system.

**Risk management as a continuous process.** Risks and opportunities are defined as negative or positive deviations from expected figures. Their management is an integral and continuous part of operating processes. We assess risks every six months, using a bottom-up analysis. We also monitor risk exposure between the regular survey dates. The Executive Board of RWE AG is immediately notified of any material changes. Our executive and supervisory bodies are updated on the Group's risks once a quarter.



Potential damage <sup>1</sup> € million	Earnings risks Potential impact on net income <sup>2</sup>	Indebtedness/equity risks Potential impact on net debt <sup>2</sup> and equity <sup>2</sup>
Category V	≥ 8,000	≥ 8,000
Category IV	≥ 1,500 and < 8,000	≥ 4,000 and < 8,000
Category III	≥ 600 and < 1,500	≥ 2,000 and < 4,000
Category II	≥ 300 and < 600	≥ 1,000 and < 2,000
Category I	< 300	< 1,000

1. Aggregated for 2020 to 2022.

2. Since the sale of innogy, we have returned to the definition of net income, net debt and equity according to IFRS consolidation principles. These figures were previously determined using the method presented on page 69, with innogy being recognised as a purely financial investment.

Our risk analysis normally covers the three-year horizon of our medium-term plan, but can extend beyond that in individual cases. We measure the potential damage based on the possible effects on net income, net debt and equity. Hedging measures are considered. We define the potential damage as the deviation from the budgeted figure in question, accumulated over the three-year planning horizon. We analyse the material risks using a matrix (see chart on the preceding page) in which they are categorised by potential damage and probability of occurrence. Risks

that share the same cause are aggregated to a single risk if possible. To clearly assign them to the matrix fields, we have established thresholds for net income, net debt and equity, which are oriented towards the RWE Group's ability to bear risks. They are presented in the table below the matrix. Depending on their position in the matrix, we distinguish between low, medium and high risks. Based on this systematic risk identification, we determine whether there is a need for action and initiate measures to mitigate the risks if necessary.

Risk classes	Classification of the highest single risk	
	31 Dec 2019	31 Dec 2018
Market risks	Medium	Medium
Regulatory and political risks	High	High
Legal risks	Low	Medium
Operational risks	Medium	Medium
Financial risks	Medium	Medium
Creditworthiness of business partners	Medium	Medium
Other risks	Low	High

**Main risks for the RWE Group.** Depending on their causes, our risks can be classified into seven groups, which are shown in the table above. The highest individual risk determines the classification of the risk of the entire risk class. Only the regulatory and political risks are currently classified as 'high'. They primarily result from the coal phaseout in Germany. It is already apparent that the compensation we have been awarded will not fully cover the financial damage we will sustain as a result of the early closure of lignite power plants and opencast mines. In fact, the difference between the compensation and the actual damage could increase if the burdens are greater than planned. Furthermore, regulatory pressure on our lignite business may continue to rise despite the exit agreement. We no longer see any high risks in the 'other risks' category. In the previous year, we had factored in the potential failure of the asset swap with E.ON. Since the transaction was approved and implemented to a substantial extent, 'other risks' are now classified as 'low'.

In this section, we provide commentary on the main risks and opportunities and explain what measures have been taken to counter the threat of negative developments.

- **Market risks.** In most of the countries in which we are active the energy sector is characterised by the free formation of prices. Declines in quotations on wholesale electricity markets can cause generation assets to become less profitable. This relates to power plants as well as wind farms and other renewable energy assets that are not subsidised with fixed feed-in payments. Declines in electricity prices can cause us to recognise impairments.

Power purchase agreements with firm conditions expose us to the risk of having to pay more for electricity than we can earn when selling it on the market. This may force us to form provisions to cover this risk. We have identified such a risk inherent in the two contracts we concluded to purchase electricity from the 1,055 MW Datteln 4 hard coal-fired power plant in 2005 and 2006. Based on the

estimates of its operator Uniper, the station will go online in the summer of 2020, ten years later than planned. We intend to adapt or cancel the purchase agreements and have therefore taken legal recourse.

Wholesale electricity prices in our most important generation markets, i.e. Germany, the UK and the Netherlands, are far above the lows recorded in 2016. This is primarily due to the development of the prices of fuel and CO<sub>2</sub> emission allowances. It cannot be ruled out that electricity prices come under significant pressure again. The continued expansion of renewable energy could be a contributing factor. However, there is also a chance that prices develop in our favour, not least due to the German nuclear and coal phaseouts. The reduction of secured generation capacity could lead to more frequent shortages along with high electricity prices.

We assess the price risks to which we are exposed on the procurement and supply markets taking account of current forward prices and expected volatility. For our power plants, we limit these risks by selling most of our electricity forward and securing the prices of the fuel and CO<sub>2</sub> emission allowances needed for its generation.

We also use financial instruments to hedge our commodity positions. In the consolidated financial statements, such instruments, including those serving the purpose of limiting interest and currency risks, are usually presented through the statement of on-balance-sheet hedges. More detailed information on this can be found on pages 113 et seqq. in the Notes.

RWE Supply & Trading plays a central role when it comes to managing commodity price risks. It functions as the Group's interface to the global wholesale markets for electricity and energy commodities. On behalf of our power plant companies, RWE Supply & Trading markets large portions of our generation position and purchases the fuel and CO<sub>2</sub> certificates needed to produce electricity. The role of RWE Supply & Trading as internal transaction partner makes it easier for us to limit the risks associated with price volatility on energy markets. However, the trading transactions are not exclusively intended to reduce risks. In compliance with risk thresholds, the company also takes commodity positions to achieve a profit.

Our risk management system for energy trading is firmly aligned with best practice as applied to the trading businesses of banks. As part of this, transactions with third parties are concluded only if the associated risks are within approved limits. There are guidelines governing the treatment of commodity price risks and associated credit risks. Our subsidiaries constantly monitor their commodity positions. Risks associated with trades conducted by RWE Supply & Trading for its own account are monitored daily.

The Value at Risk (VaR) is of central importance for risk measurement in energy trading. It specifies the maximum loss from a risk position not exceeded with a predetermined probability over a predefined period of time. The VaR figures within the RWE Group are based on a confidence interval of 95 %. The assumed holding period for a position is one day. This means that, with a probability of 95 %, the daily loss will not exceed the VaR.

The VaR for the price risks of commodity positions in the trading business of RWE Supply & Trading may not rise above €40 million. In the past financial year, it averaged €12 million, and the daily maximum was €22 million. In addition, limits derived from the aforementioned VaR thresholds have been set for every trading desk. Furthermore, we develop extreme scenarios and factor them into stress tests, determine their consequences for earnings, and take countermeasures if we deem the risks to be too high.

The management of our gas portfolio and the liquefied natural gas (LNG) business is pooled in a new organisational unit at RWE Supply & Trading. We established a VaR cap of €14 million for these activities. The average VaR in 2019 was €6 million, and the daily maximum was €8 million.

We also apply the VaR concept to measure the extent to which the commodity price risks that we are exposed to outside the trading business can affect the RWE Group's adjusted EBITDA. To this end, we calculate the overall risk for the Group on the basis of the commodity risk positions of the individual companies; this overall risk mainly stems from power generation. As the majority of our generation position is already fully hedged for 2020, only minor market price risks remain for this year. Opportunities for additional profits arise, because we are able to flexibly adapt our power plant deployment to short-term market developments.



In the UK generation business, our earnings not only depend on the development of the price of electricity, fuel and emission allowances, but also on the level of the payments we receive for participating in the national capacity market. The payments are determined in annual auctions and fluctuate depending on supply and demand.

We are also exposed to market risks in the gas storage business, which has gained importance for us as a result of the transaction with E.ON. As set out on page 31, the realisable margins depend significantly on the seasonal differences in the price of gas. If the price differences are large, they can be taken advantage of to generate substantial income. The German gas storage business is currently characterised by overcapacity and substantial pressure on margins. However, we are confident that market conditions will improve in the long run.

Our biggest market risks remain unchanged in the 'medium' category.

- **Regulatory and political risks.** Energy supply is a long-term business and companies involved in this industry are dependent on a stable, reliable framework, which has recently ceased to exist especially in conventional electricity generation. Ambitious emission reduction targets have caused the governments in our core markets to intervene in the energy sector repeatedly. The most recent examples of this are the decisions to phase out coal-fired power generation in Germany and the Netherlands, on which we provide detailed information on pages 42 et seqq. After intense negotiations, we reached an agreement with the government on the early closure of our lignite-fired power plants and opencast mines. In exchange, we were promised compensation, but it will not fully cover our expected financial burdens. Furthermore, there is a risk of the actual burdens being more substantial than planned, and, in turn, the earnings shortfalls as well. Legislation on the coal phaseout in the Netherlands does not provide for compensating the affected power producers at all. Despite this, we are pushing for compensation for our financial disadvantages and will take legal recourse if necessary.

As much as the most recent decisions to phase out coal place a burden on us, they can contribute to de-escalating the dispute over coal-based electricity generation, thereby increasing the planning security of power plant operators. However, the risk of regulatory pressure rising despite this remains, for example through the introduction of price floors for carbon dioxide or the determination of extremely restrictive pollutant emission limits.

We are also exposed to risks in the field of nuclear energy, albeit to a much lesser extent than in the past. Since we made contributions to the German nuclear energy fund in the middle of 2017, the state has assumed complete responsibility for the interim and final storage of our radioactive waste. However, we are still exposed to cost risks associated with disposal tasks which remain within our remit. For example, it cannot be ruled out that the dismantling of nuclear power stations will be more expensive than estimated and we will therefore have to establish higher provisions. However, we also see the opportunity to leverage synergies and cut costs.

Our risk exposure in the British capacity market also improved. The market had been suspended in November 2018, because the Court of the European Union had declared its approval issued by the European Commission in 2014 null and void. Following an extensive review, the Commission reapproved the capacity market in October 2019. This meant that capacity payments could be resumed and the retained payments could be made retrospectively.

Even in the present political environment, we are exposed to risks associated with, for instance, approvals when building and operating production facilities. This particularly affects our opencast mines and power stations. The danger here is that approvals are granted late or not at all and that granted approvals are withdrawn temporarily or for good. One example is the preliminary halt to the clearance of Hambach Forest ordered by the Münster Higher Administrative Court in October 2018, which curtailed the continued operation of the Hambach opencast mine. However, the suit pending before the Münster Higher Administrative Court should lose importance as we have reached an agreement on the preservation of the forest with the government.

In Germany, we do not have to pay an apportionment under the Renewable Energy Act (EEG) for electricity that we consume ourselves in our power stations and opencast mines. However, the legal situation surrounding the own electricity privilege is vague and requires clarification on certain points from the country's highest court, for example with regard to the EEG exemption of leased assets. There is a danger that the options to benefit from the own electricity privilege may be limited and that back payments may even have to be made for previous years.

By acquiring the renewable energy businesses of E.ON and innogy, we are positioning ourselves in an area of the energy sector that is characterised by fairly stable framework conditions and wide public acceptance. However, there are regulatory risks in this area as well. Adjustments to state subsidy schemes can lead to reductions in payments and new projects losing their appeal. This can lead to investment undertakings being broken off. It is also conceivable that firmly pledged state payments may be cut retrospectively. In the dialogue we maintain with policymakers, we point out that reliable framework conditions are the basic precondition for companies to invest in building sustainable, climate-friendly energy infrastructure.

Although our exposure to regulatory and political risks has decreased, we continue to classify them as 'high'. We ascribe the greatest importance to the burdens resulting from the German coal phaseout, which cannot be offset by compensatory payments from the state.

- **Legal risks.** Individual RWE Group companies are involved in litigation and arbitration proceedings due to their operations or the acquisition of companies. Out-of-court claims have been filed against some of them. Furthermore, Group companies are directly involved in various procedures with public authorities or are at least affected by their outcomes. To the extent necessary, we have accrued provisions for possible losses resulting from pending proceedings before ordinary courts and arbitration courts.

Risks may also result from exemptions and warranties that we granted in connection with the sale of assets. Exemptions ensure that the seller covers the risks that are identified within the scope of due diligence, the probability of occurrence of which is, however, uncertain. In contrast, warranties cover risks that are unknown at the time of sale. These hedging instruments are standard procedure in sales of companies and equity holdings.

We currently have low exposure to legal risks. At the end of 2019, a claim for damages filed against us due to a failed joint venture with the Russian Sintez Group was dismissed. This eliminated our sole legal risk in the 'medium' category.

- **Operational risks.** RWE operates technologically complex, interconnected production facilities such as conventional power stations, opencast mines and large-scale onshore and offshore wind farms. Damage and outages can result in substantial lost earnings. During their construction and modernisation, delays and cost increases can occur, for example due to accidents, material defects, late deliveries or time-consuming approval processes. Furthermore, renewable energy assets run the risk of delayed commissioning being disadvantageous to subsidisation. We counter the described risks through diligent plant and project management as well as high safety standards. We also regularly inspect and maintain our facilities. If economically viable, we take out insurance policies.

In relation to capital expenditure, there is a risk that the return may fall short of expectations and prices paid for acquisitions may retrospectively prove to be too high. Before we take investment decisions, we conduct extensive analyses to try and map the financial and strategic effects as realistically as possible. Moreover, RWE has specific accountability provisions and approval processes in place to prepare and implement the decisions.

Our business processes are supported by secure data processing systems. Nevertheless, we cannot rule out a lack of availability of IT infrastructure or a breach in data security. Our high security standards are designed to prevent this. In addition, we regularly invest in hardware and software upgrades.

As in the previous year, our operating risks are classified as 'medium'.

- **Financial risks.** Market interest rates, currency exchange rates, share prices and collateral pledged for forward transactions can have a substantial effect on our financial position. We are exposed to various interest rate risks. For example, rises in interest rates can lead to reductions in the price of the securities we hold. This primarily relates to fixed-interest bonds. Last year, the VaR for the interest rate-related price risk of capital investments was €5 million on average at RWE AG.

Moreover, increases in interest rates cause our financing costs to rise. We measure this risk using the Cash Flow at Risk (CFaR), applying a confidence level of 95 % and a holding period of one year. Our average CFaR at RWE AG in 2019 was €18 million.

Furthermore, market interest rates have an effect on our provisions, as they are the point of reference for the discount rates used for determining the net present values of obligations. This means that, all other things being equal, provisions rise when market interest rates fall and vice versa. On pages 144 et seq. of the Notes, we present the effects of changes in interest rates on the net present values of our pension obligations and on the nuclear and mining provisions.

We are exposed to foreign exchange risks primarily owing to our business activities in the UK and the USA. Furthermore, energy commodities such as coal and oil are traded in US dollars. Companies which are overseen by RWE AG have their currency risks managed by the parent company. RWE AG aggregates the risks to a net financial position for each currency and hedges it if necessary. In the year being reviewed, the average VaR for RWE AG's foreign currency position was €2 million.

The securities we hold in our portfolio include shares. The single-largest position is currently the 15 % stake in E.ON, which had a fair value of €3.8 billion as of the end of 2019. Substantial changes in the quotation of the E.ON share can affect our financial power significantly. Besides the stake in E.ON, our assets under management include other substantial shareholdings. In 2019, the average VaR for the share price risk of these equities (without the stake in E.ON) was €5 million.

Collateral pledged for forward transactions can have a significant effect on our liquidity. Its level is determined by the extent to which the contractually agreed prices deviate from market quotations as of the respective cut-off date. These differences can be substantial, especially on volatile markets. In recent times, the prices of commodities of importance to us have fluctuated considerably, in particular those of CO<sub>2</sub> emission allowances. This development exposes us to risks. However, this also increases the probability of receiving substantial collateral from contracting parties, resulting in a temporary increase in our equity.

Risks and opportunities from changes in the price of securities are controlled by a professional fund management system. Range of action, responsibilities and controls are set out in internal guidelines which the Group companies are obliged to adhere to when concluding financial transactions. All financial transactions are recorded using special software and are monitored by RWE AG.

The conditions at which we can finance our business on the debt capital market are in part dependent on the credit ratings we receive from international rating agencies. As set out on page 63, Moody's and Fitch place our creditworthiness in the investment grade category with a stable outlook. However, the agencies may change their assessments and lower our credit rating, which can result in additional costs if we have to raise debt capital. This would probably also increase the liquidity requirement when pledging collateral for forward transactions.

Our growth strategy in the renewables business envisages annual spending of €1.5 billion to €2.0 billion plus proceeds from the sale of shares in projects. This exposes us to the risk of a timing offset between fund procurement and fund usage: we are often bound to firm time frames when spending capital, but the divestments necessary to refinance them can be delayed or fail. In such cases, our net debt would rise – at least temporarily.

As in the previous year, we classify our financial risks as 'medium'.

- **Creditworthiness of business partners.** Our business relations with key accounts, suppliers, trading partners and financial institutions expose us to credit risks. Therefore, we track the creditworthiness of our transaction partners closely and assess their credit standing based on internal ratings, both before and during the business relationship. Transactions that exceed certain approval thresholds and all trading transactions are subject to credit limits, which we determine before the transaction is concluded and adjust if necessary, for instance in the event of a change in creditworthiness. At times, we request cash collateral or bank guarantees. In the trading and financing business, credit risks and the utilisation of the limits are measured daily.

We agree on collateral when concluding over-the-counter trading transactions. Furthermore, we enter into framework agreements, e.g. those of the European Federation of Energy Traders (EFET). For financial derivatives, we make use of the German master agreement for forward financial transactions or the master agreement of the International Swaps and Derivatives Association (ISDA).

As in the past, our risks stemming from the creditworthiness of our business partners do not exceed the category 'medium'.

- **Other risks.** This risk class includes reputation risks and risks associated with non-compliance and criminal offences. Until September 2019, this category covered the possibility of a failure of the asset swap with E.ON. This risk, which we had classified as 'high' due to its huge potential damage, has since been eliminated. As a result, the overall risk in this category is now 'low'.

**RWE's risks and opportunities: general assessment by management.** As demonstrated by the commentary in this chapter, RWE's overall risk exposure improved. The risk of our asset swap with E.ON failing has been eliminated and our operating activities will become more stable and crisis-proof thanks to the large contribution to earnings made by renewable energy. The reinstatement of the British capacity market is also having a positive effect. Nevertheless, we remain exposed to substantial risks.

Germany's coal phaseout in particular has negative consequences for us. The state compensation that we have been offered does not fully cover the foreseeable damage. This discrepancy could become more significant if the burdens we actually experience exceed our expectations. We welcome the planning security gained due to the exit roadmap. In the renewable energy business, we are also exposed to regulatory risks, albeit to a lesser extent. Cuts in state subsidies could cause investment projects to stop being worthwhile. Retrospective intervention in the subsidy scheme could even render existing assets unprofitable. We have not identified any further material regulatory risks for the time being. Brexit is also highly unlikely to have a substantial impact on our business.

Besides the regulatory environment, market conditions can also change substantially. This exposes us to risks in particular in power production. Decreases in wholesale electricity prices can shrink our margins. However, prices and margins can also display positive development. In Germany, our main market, we could benefit from temporary price spikes, which may become more frequent given the expected shortage of conventional generation capacity.

Through extensive restructuring, ambitious efficiency-enhancing measures and strict investing discipline, we have established a solid financial foundation for the RWE Group. By analysing the effects of risks on our liquidity and pursuing a conservative financing strategy, we ensure that we can meet our payment obligations punctually. We have considerable liquid funds and great leeway in terms of debt financing, thanks to the Debt Issuance Programme, the Commercial Paper Programme and the syndicated credit line. We budget our liquidity with foresight, based on the short, medium and long-term funding needs of our Group companies, and have a significant amount of minimum liquidity on a daily basis.

Thanks to our comprehensive risk management system and the measures for safeguarding our financial and earning power described earlier, we are confident that we can manage the current risks to RWE. At the same time, we are establishing the prerequisites for ensuring that this remains the case in the future.

**Accounting-related internal control system: statements in accordance with Section 289, Paragraph 4, and Section 315, Paragraph 4 of the German Commercial Code.**

Risks associated with financial reporting reflect the fact that our annual, consolidated and interim financial statements may contain misrepresentations that could have a significant influence on the decisions made by their addressees. For example, stated earnings that are too high could cause capital investors to invest in the company. Our accounting-related Internal Control System (ICS) aims to detect potential errors and misrepresentations that result from non-compliance with accounting standards. The foundations of the ICS are our basic principles – which are set out in RWE's Code of Conduct and, first and foremost, include our ambition to provide complete, objective, correct, clear and timely information – as well as our groupwide guidelines. Building on this, minimum requirements for the accounting-related IT systems are designed to ensure the reliability of data collection and processing.

RWE AG is responsible for the design and monitoring of the ICS. These tasks are performed by our Accounting Department. In doing so, it can rely on a groupwide set of rules. On top of this, we created a committee, the objective of which is to ensure that the ICS is applied throughout the Group following uniform principles and meeting high ambitions in terms of correctness and transparency. The ICS Committee consists of representatives from the Accounting, Controlling & Risk Management and Internal Audit & Compliance departments, along with officers from the areas of human resources, procurement, trading, finance, taxes and IT, all of whom play an important role in accounting.

We subject the ICS to a comprehensive review every year. As a first step, we examine whether the risk situation is presented appropriately and whether suitable controls are in place for the identified risks. In a second step, we test the effectiveness of the controls. If the ICS reviews pertain to accounting-related processes, e.g., the preparation of financial statements or consolidation, they are conducted by employees from the Accounting Department. The appropriateness and effectiveness of the controls are certified by an accounting firm for processes handled by service centres on our behalf, for example invoice

processing. The representatives of the finance, human resources, procurement, trading and IT functions document whether the agreed ICS quality standards are adhered to by their respective areas. Our Internal Audit Department is also involved in the ICS reviews. The results of the reviews are documented in a report to the Executive Board of RWE AG.

The review conducted in 2019 once again demonstrated that the ICS is effective. The tests related to RWE without innogy. However, our subsidiary, which has been sold in the meantime, applied the audit procedure described above analogously. The results obtained were considered in the assessment of the ICS of RWE.

Within the scope of external reporting, the members of the Executive Board of RWE AG take a half-year and full-year balance-sheet oath, confirming that the prescribed accounting standards have been adhered to and that the financial statements give a true and fair view of the net worth, financial position and earnings. When in session, the Supervisory Board's Audit Committee regularly concerns itself with the effectiveness of the ICS. Once a year, the Executive Board of RWE AG submits a report on this to the Committee.

## 1.14 Outlook

**Our earnings forecast for 2020 already reflects the new RWE entirely. The renewable energy business that we acquired from E.ON in September 2019 is now contributing to the Group's earnings for a full year for the first time. This will have a positive impact on adjusted EBITDA, which we estimate will amount to between €2.7 billion and €3.0 billion. This would be substantially above the €2.5 billion achieved last year. Here, we will benefit from the progressive expansion of our wind and solar power capacity. By contrast, we will probably not match the extraordinarily good energy trading performance achieved in 2019.**

**Experts predict steady growth.** Initial forecasts see the world economy expanding by about 2.5 % in 2020, roughly as much as last year. The economic outlook for the Eurozone is also similar to the development in 2019, with estimated growth of some 1 %. Experts anticipate a similar gain in Germany, whereas growth in the Netherlands may well once again exceed the average of the Eurozone countries. The UK's prospects largely depend on whether the country manages to maintain its close economic relations with the EU after Brexit. If so, UK GDP could post an increase of 1 %. The US economy is expected to expand by some 2 %.

**Power consumption expected to stagnate.** Our expectations regarding this year's electricity usage are based on the above economic outlooks. If the German economy grows as expected, demand for electricity in our home country should be flat relative to 2019. The precondition for this is that the decline in industrial output witnessed in 2019 comes to a halt. However, as in other RWE markets, Germany is also expected to feel the dampening effects of energy savings. Electricity usage in the UK should also be on a par year on year, whereas it will probably post a slight rise in the Netherlands due to the country's more dynamic economy. Despite the favourable growth forecast for the USA, we anticipate that the country's demand for electricity will stagnate because we expect the need for energy for air conditioning to decline further. This is based on the assumption that summer temperatures will be normal and therefore slightly lower than in 2019.

**Electricity production for 2020 nearly completely sold forward.** The development of commodity prices will depend on a number of factors that are very difficult to predict. However, it will only have a minor impact on our earnings in the current year, because we have sold forward nearly all our electricity generation for 2020 and have secured the prices of the required fuel and CO<sub>2</sub> emission allowances. These transactions have been concluded up to three years in advance. Therefore, the realised electricity prices can differ from the current market quotations significantly. The price realised for the electricity generated by our German lignite-fired and nuclear power stations, which we sold forward with long lead times, was higher for 2020 than for 2019.

**Focus on completing the asset swap with E.ON and the agreement on the lignite phaseout.** This year, we want to bring the asset swap with E.ON to a rapid conclusion. Once the continuing operations have been transferred to us, the new RWE will also be complete in legal terms. The German coal phaseout will remain a central topic. Now that we have reached an agreement with the federal government on the exit conditions for our lignite power stations and opencast mines, the next step is to convert this agreement into a public law contract. This is the only way to give our Rhenish lignite business and its 10,000 workers certainty.

**Financial reporting for 2020 reflects the new RWE.** This year's financial reporting reflects the new RWE from the outset. The renewable energy business transferred from E.ON to RWE in September 2019 and the minority interests in our Gundremmingen and Emsland nuclear power stations we received in the same month will contribute to the Group's earnings for a full year in 2020 for the first time. The innogy operations which we will continue remain included in our figures although, legally, they still belong to the E.ON Group for the time being.

Earnings forecast <sup>1</sup> € million	2019 actual	Outlook for 2020
Adjusted EBITDA	2,489	2,700 – 3,000
of which:		
Core business	2,183	2,150 – 2,450
of which:		
Offshore Wind	614	900 – 1,100
Onshore Wind / Solar	295	500 – 600
Hydro / Biomass / Gas	671	550 – 650
Supply & Trading	731	150 – 350
Coal / Nuclear	307	500 – 600
Adjusted EBIT	1,267	1,200 – 1,500
Adjusted net income	–	850 – 1,150

1 New segment structure; prior-year figures adjusted.

Starting in 2020, we have a new segment structure. We eliminated the provisional items 'innogy – continuing operations' and 'acquired E.ON operations' and reassigned the generation activities based on energy source. Going forward, we will distribute our business among the following five segments: (1) Offshore Wind, (2) Onshore Wind / Solar, (3) Hydro / Biomass / Gas, (4) Supply & Trading and (5) Coal / Nuclear. Segments (1) to (4) represent our core business. In (5), we have pooled our German electricity generation from lignite, hard coal and nuclear fuel. These technologies must follow exit paths established by the government, as a result of which plant dismantling and opencast mine recultivation will gain importance relative to power production. Figures for 2019 will be adapted to the new segment structure to enable comparability.

**Adjusted EBITDA for fiscal 2020 forecast between €2.7 billion and €3.0 billion.** Our operating result should continue to improve. We expect adjusted EBITDA for 2020 in the order of €2,700 million to €3,000 million (previous year: €2,489 million), with around €2,150 million to €2,450 million coming from the core business. Including anticipated operating depreciation and amortisation of about €1,500 million, the Group's adjusted EBIT is estimated to total between €1,200 million and €1,500 million (previous year: €1,267 million). The earnings figures do not include the income from our 15 % shareholding in E.ON, which we recognise in the financial result.

We anticipate adjusted net income of €850 million to €1,150 million. This figure differs from net income according to IFRS in that the non-operating result, which reflects exceptional items, and other major non-recurrent effects as well as the applicable taxes are deducted from it. We did not calculate adjusted net income for the last two years because this figure would have been of limited informational value due to the significant one-off effects of the asset swap with E.ON.

The positive earnings trend is primarily due to the renewable energy business acquired from E.ON. As we have been including it in our figures since 18 September 2019, it will contribute a full twelve months of earnings to our Group in 2020 for the first time. By contrast, RWE Supply & Trading will probably not be able to match the exceptional trading performance posted last year.

Our outlook broken down by segment is as follows:

- Offshore Wind: We anticipate that our offshore wind farm business in 2020 will post adjusted EBITDA of €900 million to €1,100 million. This would represent a significant increase over last year's figure (€614 million), which only considered three-and-a-half months of the acquired E.ON operations.

- Onshore Wind/Solar: Adjusted EBITDA recorded by our onshore wind power and photovoltaic activities is expected to total between €500 million and €600 million, clearly exceeding last year's figure (€295 million). In addition to the full-year inclusion of the E.ON business for the first time, the commissioning of new generation capacity will also contribute to the rise in earnings.
- Hydro/Biomass/Gas: This segment encompasses our run-of-river, pumped storage, biomass and gas power stations. It also includes the Dutch Amer 9 and Eemshaven hard coal power plants, because we are increasingly co-firing them with biomass. Furthermore, the Aberthaw hard coal-fired power station, which was decommissioned at the end of 2019, is still considered in this segment. Our 37.9% stake in Kelag, the Austrian energy utility specialising in hydroelectric power, is also reported here. We expect adjusted EBITDA generated in this segment to total between €550 million and €650 million in 2020. This would represent a decline compared to 2019 (€671 million). Lower payments from the British capacity market are the main reason. Last year, we benefited from retrospective capacity payments for 2018.
- Supply & Trading: Starting in 2020, this segment also includes innogy's German and Czech gas storage facilities. We expect Supply & Trading to achieve annual average adjusted EBITDA in the order of €250 million over the long term. This figure should usually range between €150 million and €350 million. Following the exceptionally strong earnings posted in 2019 (€731 million), we anticipate a figure within the aforementioned range in 2020.
- Coal/Nuclear: Our German lignite, hard coal and nuclear power stations as well as lignite production in the Rhenish coal mining region are subsumed here. We expect adjusted EBITDA in this segment to amount to €500 million to €600 million, clearly surpassing the figure achieved last year (€307 million). This is due to higher generation margins and the full-year impact on earnings of the acquired minority stakes in the Gundremmingen and Emsland nuclear power plants.

#### **Capital expenditure on property, plant and equipment**

**markedly up on previous year.** Capital expenditure on property, plant and equipment and intangible assets is estimated to be much higher than in 2019 (€2,090 million). The full-year inclusion of the renewable energy business received from E.ON will come to bear here. However, capital expenditure on property, plant and equipment in our core business will probably increase even without this effect, because we are building several large-scale wind farms, for example, Triton Knoll in the British North Sea and Big Raymond in Texas. We plan to spend €200 million to €300 million outside of the core business in the Coal/Nuclear segment. These funds are primarily being used to maintain our power plants and opencast mines.

**Net debt not to exceed three times EBITDA.** One of our key management parameters is the ratio of net debt to adjusted EBITDA of the core business, also referred to as the leverage factor. This key figure is more indicative than total liabilities because it also reflects earning power and therefore our ability to meet our debt obligations. We set the upper limit for the leverage factor at 3.0, which we intend to comply with over the long term. This involves a new definition of net debt: in the future, it will no longer contain our provisions for mining damage, which essentially cover our obligations to recultivate opencast mining areas. The same applies to the assets we use to cover these provisions. These assets include our 15% stake in E.ON and the €2.6 billion claim for damages from the lignite phaseout, which was recognised in net debt in 2019.

**Dividend for 2020.** RWE AG's dividend policy will remain in line with the principle of economic sustainability. The Executive Board intends to pay a dividend of €0.85 per share for fiscal 2020, which is slightly higher than for 2019. It is envisaged that the dividend payment will continue rising steadily in line with the development of our core business in the following years.