# Overview

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<td>25</td>
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</tbody>
</table>
Substantial progress in portfolio transformation

Earnings share per business segment\(^1\)

- **2012**
  - Renewable Energies: 48%
  - Grids: 33%
  - Sales: 10%
  - Generation & Trading: 10%

- **2018 as of 30 June 2018**
  - Renewable Energies: 14%
  - Grids: 12%
  - Sales: 60%
  - Generation & Trading: 14%

- **2020**
  - Renewable Energies: 30%
  - Grids: ~15%
  - Sales: 48%
  - Generation & Trading: ~15%

Share of low-risk\(^2\) earnings

\(^1\) May not add up to 100% due to rounding

\(^2\) The two segments Grids and Renewable energies are regulated and quasi-regulated and therefore low risk activities.
Sound financial policy has allowed EnBW to maintain A category ratings

Credit Opinion
12 June 2018
› Leadership position as a vertically integrated utility within Baden-Wuerttemberg
› Around 50% of EBITDA from low risk regulated distribution and transmission activities and growing share of renewables under contracts, as EnBW continues to invest in line with its 2020 strategy
› Difficult operating environment in Germany for conventional generation and increasingly challenging environment in retail markets
› Certain execution risks relating to a large investment programme
› Balanced financial policies and track record in implementing measures to shore up its financial profile
› Strong shareholder support

RatingsDirect
24 July 2018
› Solid regional competitive position and increasing foothold in national gas distribution
› Considerable progress made in business repositioning strategy
› Increased share of operating income from low-risk regulated activities and long-term contracted renewables
› Still significant exposure to volatile and commodity-driven wholesale power prices
› Well managed funding of nuclear waste-related liabilities, without major disruptions to its strategy or changes to the capital structure
› Prudent financial policy underpinned by utilisation of nuclear tax refund for capex and deleveraging

Press Release
28 September 2018
› Continued evolution towards a more regulated and contracted business profile
› High earnings visibility in grids and renewables partly offset by residual nuclear decommissioning risk; payment of EUR4.8 billion for transferring responsibility for nuclear waste storage has substantially reduced these risk
› Average forecast credit metrics are generally stronger than peers, with some exceptions with respect to funds from operations (FFO) fixed charge cover
› If the share of regulated EBITDA exceeds 50% on a sustained basis, Fitch may apply a one-notch uplift to the senior unsecured rating
Corporate Sustainability is an integral part of the strategy

**Sustainability at EnBW**

- **Sustainability dimensions**
  - Economic
  - Environmental
  - Social/employees

- **EnBW stakeholders**
  - Customers
  - Partners
  - Shareholders
  - Communities
  - Investsors
  - Employees
  - Society

**Sustainability is integrated in**

- **Corporate strategy**
- **Non-financial top KPIs and targets**
- **Stakeholder management**
- **Risk and opportunity analysis**
- **Annual reporting**
EnBW is committed to climate protection

- EnBW’s long-term strategy is in line with the Paris Agreement and the goals of the EU and the German government.
- EnBW has introduced a TOP-KPI in 2013, covering expansion of RE, in 2016 a TOP-KPI focusing on CO₂-Intensity¹.
- Long-term forecasts includes scenarios with ambitious climate protection targets (see TCFD recommendations).
- TOP KPI CO₂ intensity reflects the great importance of climate protection as an economic and ecological goal of EnBW.
- EnBW strives for greatest possible CO₂-free power generation – with grid expansion, we support climate-friendly energy supply.
- EnBW strongly advocates a price floor for CO₂ of 25 EUR/t in 2020 and 30 EUR/t in 2025.

¹ The calculation basis for the key performance indicator CO₂ intensity is the amount of CO2 emissions from own generation of electricity for the Group, as well as the quantity of electricity generated by the Group without the contribution made by the nuclear power plants. By discounting the electricity generated by nuclear power plants, the performance indicator will not be influenced by the phasing out of nuclear energy in the coming years.
Green Financing Framework: Use of Proceeds

The net proceeds of Green Financing instruments will be used to finance or refinance Eligible Green Projects in the following eligible categories:

1. **Renewable Energy**
   - Onshore wind energy generation
   - Offshore wind energy generation
   - Solar (photovoltaic) energy generation

2. **Energy Efficiency**
   - Smart meters

3. **Clean Transportation**
   - E-mobility infrastructure (charging stations)

**Contribution to the UN Sustainable Development Goals (SDGs):**

1. **Affordable and Clean Energy**
2. **Industry Innovation and Infrastructure**
3. **Sustainable Cities and Communities**
4. **Climate Action**

---

1 Disbursements to existing projects will be limited to projects with commercial operation starting not earlier than 2017; 2 With regard to these SDGs, the respective sub-objectives were also taken into account (e.g. SDG 7: SDG 7.2 – Significant increase in the share of RE; SDG 7.3 – Double the global rate of increase in energy efficiency)
Green Financing Framework: Project Evaluation and Selection

Eligibility criteria

- Consistent with EnBW’s sustainability goals (derived from national / international climate protection targets, e.g. the Paris Agreement) and national / international standards
- Aligned with the three defined eligible project categories
- Application of exclusion filters (including, but not limited to, material controversies, major concerns about impact on environment)

Green Financing Committee

- The Green Financing Committee is responsible for verifying compliance of all projects with the eligibility criteria and applying exclusion filters
- Comprised of representatives from the corporate finance and corporate sustainability, and on a case-by-case basis, the business units
- Committee will take final decision on the selection of eligible projects on an unanimous basis
- To ensure only EnBW’s share is financed, the maximum green financing proceeds allocated to a single eligible project are calculated as follows:
  
  \[(\text{Total asset capex} - \text{external debt associated with the project}) \times \text{percentage ownership interest held by EnBW Group}\]
Green Financing Framework: Relevant criteria for the selection of projects (ESG/CSR-Standards, -Initiatives)

1. EnBW Top KPIs

- Contribution to achieve **EnBW non-financial top performance indicators/targets** (dimensions: Customers and society, Environment)
- **Relevant indicators:**
  1. Installed output of Renewables in GW and the share of the generation capacity accounted for by RE in %; CO₂ intensity in g/kWh
  2. EnBW Customer Satisfaction Index
  3. Reputation Index

2. SDGs (Sustainable Development Goals)

- Contribution to achieve relevant **SDGs**: "17 goals – UN Sustainability Agenda"
- **Relevant goals:**
  SDG 7: Ensure access to affordable, reliable, sustainable and modern energy for all
  SDG 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
  SDG 11: Make cities and human settlements inclusive, safe, resilient and sustainable
  SDG 13: Take urgent action to combat climate change and its impacts

3. GRI (Global Reporting Initiative)

- Contribution to compliance with **sustainability reporting requirements** (GRI Standards)
- **Relevant Topics (and Disclosures):**
  GRI 300 – Environment: GRI 305 – Emissions (Scope 1, Scope 2, Scope 3); GRI 304 – Biodiversity etc.
  GRI 200 – Economy: GRI 203 – Indirect economic effects (infrastructure investments, innovative services)
  GRI 400 – Social issues: GRI 414 – Social evaluation of suppliers (supply chain impact)

Further sets of criteria

- If the above three sets of criteria are not sufficient, **further parameters from other sustainability standards** can be used if necessary:
  - SASB (Sustainability Accounting Standards Board)
  - EFFAS (European Federation of Financial Analysts Societies)
  - DNK („Deutscher Nachhaltigkeitskodex“)
Green Financing Framework: Prioritization of project categories – Application of criteria

Methodology:

- Evaluation of projects based on selection criteria
  - EnBW Top KPIs
  - SDGs
  - GRI
- Possibilities of evaluation
  - ++ (very positive)
  - + (positive)
  - o (neutral)
  - - (negative)
- Result:
  The Green Financing Committee will include in priority the project that contributes the most to the selected criteria

<table>
<thead>
<tr>
<th>Project categories</th>
<th>Top KPIs</th>
<th>SDGs</th>
<th>GRI</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Renewables</td>
<td>CO₂ - intensity</td>
<td>Customer Satisf.</td>
<td>Reputation</td>
</tr>
<tr>
<td>Wind Offshore</td>
<td>++</td>
<td>++</td>
<td>o</td>
<td>+</td>
</tr>
<tr>
<td>Wind Onshore</td>
<td>++</td>
<td>++</td>
<td>o</td>
<td>+</td>
</tr>
<tr>
<td>Solar</td>
<td>++</td>
<td>++</td>
<td>o</td>
<td>++</td>
</tr>
<tr>
<td>E-Mobility</td>
<td>o</td>
<td>o</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Smart meter</td>
<td>+</td>
<td>0</td>
<td>+</td>
<td>0</td>
</tr>
</tbody>
</table>

Note: Green Bond Principles and Climate Bonds Initiative were already used as a basis for the pre-selection of project categories.

On the basis of the application of sustainability criteria, all project categories are suitable for inclusion in Green Bond financing.
EnBW has set up a register and put internal systems in place to track outstanding proceeds from its Green Financing instruments.

Prior to issuance, EnBW will disclose which projects are to be refinanced, and to what extent proceeds are to finance future investments.

EnBW intends to fully allocate the proceeds within 24 months after the issuance date of each Green Financing instrument. For existing projects, only those with commercial operation starting not earlier than calendar year 2017 are eligible.

Until full allocation, the Green Financing Committee will approve at least semi-annually the amount of net proceeds allocated to Eligible Green Projects.

In case a designated eligible project or asset is sold, decommissioned, abandoned or becomes ineligible during the lifetime of the Green bond, EnBW is committed to re-allocate the proceeds to other eligible projects or assets.

In addition to pre-issuance certification, CBI (Climate Bond Initiative) will be mandated to perform a post issuance verification according to the Climate Bonds Standard.
EnBW will report\(^1\), annually and until the maturity of its outstanding Green Bonds, on the use of proceeds and environmental impact.

### Allocation Reporting
- List of projects financed with some individual information
- Total funds allocated (with breakdown per type of project and breakdown of proceeds allocation between new financing and refinancing)
- The amount of unallocated proceeds

### Impact Reporting

<table>
<thead>
<tr>
<th>Eligible Category</th>
<th>Per project</th>
<th>Per category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Renewable Energy</td>
<td>✓ Installed capacity (MW) attributable to the financing instrument</td>
<td>✓ [Expected] annual energy produced (MWh p.a.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>✓ [Expected] annual GHG emissions avoided (t\text{CO}_2)</td>
</tr>
<tr>
<td>Energy Efficiency</td>
<td></td>
<td>✓ Physical indicator, e.g. smart meters (total and attributable number)</td>
</tr>
<tr>
<td>Clean Transportation</td>
<td></td>
<td>✓ Physical indicator, e.g. charging stations, charging procedures (total and attributable number)</td>
</tr>
</tbody>
</table>

\(^1\) Available on EnBW’s website: https://www.enbw.com/company/investors/
Most important elements of the methodology to determine the CO₂ avoidance factors according to the Federal Environment Agency

Identical method for photovoltaics, onshore and offshore wind power ¹

1. CO₂ emissions from renewables-based electricity generation
   - All indirect upstream emissions
     - All relevant emissions from the manufacturing of renewable energy installations to the bought-in auxiliary energy in system operation
   - The parts of substituted fossil energy are calculated individually subject to:
     - The fluctuation of the renewable electricity
     - Merit order for pv, onshore and offshore (pv, onshore and offshore are substituting hard coal and gas only)

2. Greenhouse gases CO₂, CH₄ und N₂O
   - Corresponding CO₂ equivalents (CO₂eq)

Avoided CO₂eq-emissions on a gross level = CO₂eq-emissions from renewables-based electricity = Avoided CO₂eq-emissions on a net level

Renewables-based electricity

CO₂-avoidance factor in gCO₂eq/KWh

¹ taken from „Emissionsbilanz erneuerbarer Energieträger 2016“ by German Environment Agency (October 2017)
Green Financing Framework: External Review

Second Party Opinion from ISS-oekom

EnBW has commissioned ISS-oekom to obtain a Second Party Opinion (SPO) on its Inaugural Green Bond:

"ISS-oekom's overall evaluation of the Green Bond By EnBW is positive:

- EnBW has defined a formal concept for its Green Bond regarding use of proceeds, processes for project evaluation and selection, management of proceeds and reporting. This concept is in line with the Green Bond Principles (Part I of this Second Party Opinion).
- The overall sustainability quality in terms of sustainability benefits and risk avoidance and minimisation is good. (Part II of this Second Party Opinion).
- The issuer itself shows a good sustainability performance (Part III of this Second Party Opinion)."

Pre-Issuance Certification from CBI

EnBW’s Inaugural Green Bond has met the criteria for certification by the Climate Bonds Standard Board on behalf of the Climate Bonds Initiative.

1 The ISS-oekom SPO is available on EnBW’s website: https://www.enbw.com/company/investors/
Eligible Green Projects for inaugural green bond

- Offshore Wind: page 16
- Onshore Wind: page 18
- Solar energy: page 21
- E-mobility: page 22
Eligible offshore wind projects: EnBW Hohe See and Albatros – joint project in the North Sea

<table>
<thead>
<tr>
<th></th>
<th>Hohe See</th>
<th>Albatros</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full capacity</td>
<td>497 MW</td>
<td>112 MW</td>
</tr>
<tr>
<td>EnBW share</td>
<td>50.11%</td>
<td>50.11%</td>
</tr>
<tr>
<td>EnBW generation (expected)</td>
<td>1,121 GWh/a</td>
<td>253 GWh/a</td>
</tr>
<tr>
<td>EnBW CO₂ emissions avoided (expected)</td>
<td>767,687 t/a</td>
<td>173,000 t/a</td>
</tr>
<tr>
<td>Hub height</td>
<td>105 m</td>
<td>105 m</td>
</tr>
<tr>
<td>Number of turbines</td>
<td>71</td>
<td>16</td>
</tr>
<tr>
<td>Construction start</td>
<td>2018</td>
<td>2018</td>
</tr>
<tr>
<td>Project lifetime</td>
<td>25 years</td>
<td>25 years</td>
</tr>
</tbody>
</table>

1 Expected average annual output of the projects calculated by using the annual energy production on typical locations of pv and wind in Germany; Source: Studie: Stromgestehungskosten erneuerbare Energien (März 2018) Fraunhofer Institut

2 calculation based on avoidance factor for offshore wind: 685 g CO₂ eq/kWh taken from: “Emissionsbilanz erneuerbarer Energieträger 2016” by German Environment Agency
Examples for environmental measures:
EnBW Hohe See and Albatros

Benthos, fish, avifauna (resting birds, migratory birds) and marine mammals are constantly investigated.

Approvals and assessments in application phase

› Framework of the approval procedure for offshore wind farms in the Exclusive Economic Zone (EEZ) is in place
  • Potential adverse impacts of the planned facilities on the marine environment had to be assessed
  • In line with the German regulation, an Environmental Impact Assessment (EIA) was mandatory

Environmental measures in construction phase e.g.

› Mitigation of sound and light emissions by vessels and machinery
  • IHC Noise Mitigation System is combination of two well introduced systems
  • Double walled cladding tube surrounded by a double big bubble curtain
  • A big bubble curtain is a system of hoses on the seabed
    • Hoses are under pressure, the air flows through little holes and builds a “curtain” of air bubbles in the water
› Reduction of pollutant emissions
  • Advanced corrosion protection system
  • The coating is environment-friendly using a combination of sacrificial nodes together with an “Impressed Current Cathodic Protection” (ICCP) system (not only sacrificial anodes)
Eligible onshore wind projects (1/2)

<table>
<thead>
<tr>
<th>Onshore farm</th>
<th>Full capacity in MW</th>
<th>Generation: EnBW share in MWh/a</th>
<th>EnBW share in %</th>
<th>EnBW CO₂ emissions avoided in t/a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>202.2</td>
<td>324,644</td>
<td></td>
<td>221,082</td>
</tr>
<tr>
<td>Aalen-Waldhausen</td>
<td>16.5</td>
<td>14,880</td>
<td>50</td>
<td>10,133</td>
</tr>
<tr>
<td>Boxberg-Angeltürn</td>
<td>12.0</td>
<td>21,306</td>
<td>99</td>
<td>14,510</td>
</tr>
<tr>
<td>Boxberg-Bobstadt</td>
<td>12.0</td>
<td>21,306</td>
<td>99</td>
<td>14,510</td>
</tr>
<tr>
<td>Buchholz III</td>
<td>13.2</td>
<td>11,904</td>
<td>50</td>
<td>8,107</td>
</tr>
<tr>
<td>Bühlerstann</td>
<td>13.2</td>
<td>23,760</td>
<td>100</td>
<td>16,181</td>
</tr>
<tr>
<td>Dienstweiter</td>
<td>4.8</td>
<td>8,640</td>
<td>100</td>
<td>5,884</td>
</tr>
<tr>
<td>Dünsbach</td>
<td>9.9</td>
<td>17,820</td>
<td>100</td>
<td>12,135</td>
</tr>
<tr>
<td>Fichtenau</td>
<td>9.9</td>
<td>17,820</td>
<td>100</td>
<td>12,135</td>
</tr>
</tbody>
</table>

1 Expected average annual output of the projects calculated by using the annual energy production on typical locations of pv and wind in Germany; Source: Studie: Stromgestehungskosten erneuerbare Energien (März 2018) Fraunhofer Institut
2 calculation based on avoidance factor for onshore wind: 681 g CO₂eq/kWh taken from German Environment Agency: Emissionsbilanz erneuerbarer Energieträger 2016
## Eligible onshore wind projects (2/2)

<table>
<thead>
<tr>
<th>Onshore farm</th>
<th>Full capacity in MW</th>
<th>Generation: EnBW share in MWh/a</th>
<th>EnBW share in %</th>
<th>EnBW CO₂ emissions avoided in t/a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freckenfeld</td>
<td>19.8</td>
<td>35,640</td>
<td>100</td>
<td>24,271</td>
</tr>
<tr>
<td>Fuerth</td>
<td>16.5</td>
<td>29,700</td>
<td>100</td>
<td>20,226</td>
</tr>
<tr>
<td>Hardthäuser Wald 1</td>
<td>9.0</td>
<td>13,464</td>
<td>83</td>
<td>9,169</td>
</tr>
<tr>
<td>Hardthäuser Wald 2</td>
<td>3.0</td>
<td>5,125</td>
<td>95</td>
<td>3,490</td>
</tr>
<tr>
<td>Homburg</td>
<td>9.6</td>
<td>17,280</td>
<td>100</td>
<td>11,768</td>
</tr>
<tr>
<td>Königheim</td>
<td>6.0</td>
<td>10,651</td>
<td>99</td>
<td>7,253</td>
</tr>
<tr>
<td>Langenburg</td>
<td>33.5</td>
<td>60,300</td>
<td>100</td>
<td>41,064</td>
</tr>
<tr>
<td>Pfettrach</td>
<td>3.4</td>
<td>6,120</td>
<td>100</td>
<td>4,168</td>
</tr>
<tr>
<td>Winterbach</td>
<td>9.9</td>
<td>8,928</td>
<td>50</td>
<td>6,080</td>
</tr>
</tbody>
</table>

1 Expected average annual output of the projects calculated by using the annual energy production on typical locations of pv and wind in Germany; Source: Studie: Stromgestehungskosten erneuerbare Energien (März 2018) Fraunhofer Institut
2 Calculation based on avoidance factor for onshore wind: 681 g CO₂eq/kWh taken from German Environment Agency: Emissionsbilanz erneuerbarer Energieträger 2016
Examples for environmental measures: Wind farm Langenburg

Environmental assessments in detail
- Environmental impact assessment
- Avian fauna assessment: Behaviour patterns of wind energy sensitive bird species
- Fauna assessment: Behaviour patterns of further endangered species
- Report on bats
- Habitats Directive assessment
- Landscape management plan

Key issue: bird protection
- Significantly less bird activity inside forest than at periphery
- Several wind turbines planned at forest edge not constructed as a result
- High hub height reduces risk of collision
  - In 75% of cases typical flight level significantly below rotor
  - Turbines stopped at times of higher collision risk due to flight habits of migratory birds and bats
- Artificial nesting provided to make up for gaps in trees resulting from forest clearance
- Creation of new habitats with diversified fauna and flora

- Turbines stopped at times of high collision risk due to flight habits of birds and bats
- Artificial nesting provided
- Saves 41,064 t CO₂ per year

- 63 m rotor length
- 33.5 MW capacity
- 12 turbines with hub height up to 137 m
- 75% typical bird flights below rotor
### Eligible solar energy projects

<table>
<thead>
<tr>
<th>PV power plants</th>
<th>Full capacity</th>
<th>Generation: EnBW share¹</th>
<th>EnBW share in %</th>
<th>EnBW CO₂ emissions avoided²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Braunsbach-Zottish.</td>
<td>0.8 in MW</td>
<td>947 in MWh/a</td>
<td>99</td>
<td>581</td>
</tr>
<tr>
<td>Berghülen</td>
<td>2.7 in MW</td>
<td>1,732 in MWh/a</td>
<td>50</td>
<td>1,063</td>
</tr>
<tr>
<td>Eggesin</td>
<td>10 in MW</td>
<td>9,350 in MWh/a</td>
<td>100</td>
<td>5,741</td>
</tr>
<tr>
<td>Riedlingen-Zwiefaltendorf</td>
<td>5.2 in MW</td>
<td>3,395 in MWh/a</td>
<td>51</td>
<td>2,084</td>
</tr>
<tr>
<td>Tuningen</td>
<td>4.5 in MW</td>
<td>5,760 in MWh/a</td>
<td>100</td>
<td>3,537</td>
</tr>
<tr>
<td>Löffingen</td>
<td>2.7 in MW</td>
<td>3,456 in MWh/a</td>
<td>100</td>
<td>2,122</td>
</tr>
<tr>
<td>Indoldingen</td>
<td>4.4 in MW</td>
<td>5,632 in MWh/a</td>
<td>100</td>
<td>3,458</td>
</tr>
<tr>
<td>Müßentin</td>
<td>9.3 in MW</td>
<td>8,696 in MWh/a</td>
<td>100</td>
<td>5,339</td>
</tr>
<tr>
<td>Torgau</td>
<td>4.9 in MW</td>
<td>5,415 in MWh/a</td>
<td>100</td>
<td>3,325</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>44.5</strong></td>
<td><strong>44,381</strong></td>
<td><strong>27,250</strong></td>
<td></td>
</tr>
</tbody>
</table>

¹ Expected average annual output of the projects calculated by using the annual energy production on typical locations of pv and wind in Germany; Source: Studie: Stromgestehungskosten erneuerbare Energien (März 2018) Fraunhofer Institut

² Calculation based on avoidance factor for onshore wind: 614 g CO₂eq/kWh taken from German Environment Agency: Emissionsbilanz erneuerbarer Energieträger 2016
Eligible e-mobility projects

E-Mobility DC infrastructure

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of fast-charging stations</td>
<td>123</td>
</tr>
<tr>
<td>Number of fast-charging locations</td>
<td>89</td>
</tr>
<tr>
<td>Country</td>
<td>Germany</td>
</tr>
<tr>
<td>Charging station type</td>
<td>ABB Terra 53</td>
</tr>
<tr>
<td>Charging station supplier</td>
<td>ABB</td>
</tr>
<tr>
<td>Vehicle charges (Jan–Sep 2018)</td>
<td>27,000</td>
</tr>
</tbody>
</table>

Locations of fast-charging stations next to German autobahn grid

Total investment €16 m
**Investment case EnBW**

- **High Level of Financial Discipline**
  - Internal Financing Capability: Retained Cash Flow - Net Investments > 0
  - Coverage of pension and nuclear provisions: Asset Liability Management Model

- **Increasing Group Value**
  - ROCE > WACC
  - Access to Capital Markets

- **Solid credit quality**
  - Moody’s Investors Service: Long-term rating: A3, Outlook: stable
  - FitchRatings: Long-term rating: A-, Outlook: stable

- **Highly ranked sustainability**
  - ISS-oekom: Rating: B- (2017), Status: Prime
  - SUSTAINALYTICS: Rating: ‘73 (2018), Status: Outperformer
  - CDP: Long-term rating: A- (2017), Status: Leadership
Questions & Answers
Appendix

- EnBW at a glance ......................................................... page 26
- Political & regulatory environment ............................... page 27
- Climate protection in the coalition agreement 2018 ......... page 28
- Generation portfolio ..................................................... page 29
- EnBW’s position on CO₂ minimum price ....................... page 30
- Sustainability ............................................................... page 31
- Financing sources and maturity profile bonds ............... page 32
- Shareholder structure ................................................... page 34
- Calendar ................................................................. page 35
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EnBW at a glance

One of the largest German utilities
- 5.5 m customers
- 13 GW generation portfolio
- Stable shareholder structure
- 21,000 employees
- Strong roots in Baden-Württemberg

Balanced risk-return profile
- Focus on renewables and grids
- ~65% EBITDA contribution from low-risk business
- Solid investment grade ratings
- Active in selected foreign markets

Key financial figures
- Revenue: €22 bn
- Adj. EBITDA: €2.1 bn
- Group net profit/loss: €2.1 bn

Fully integrated utility in Germany

Four Business Segments
- Sales
- Grids
- Renewable Energies
- Generation & Trading

1 As of 31 December 2017
2 E&P Business (Exploration & Production) via VNG Norge AS sold in 2018 (closing expected in autumn 2018)
### Political & regulatory environment

#### Nuclear phase-out

- **Goal**
  - Last NPP to shut down by end of 2022
  - Responsibility for financing of phase-out split between operators and government
  - State-owned fund established in mid 2017
  - Operators have partly transferred nuclear provisions and related liabilities to state

#### Renewables

- **Goal**
  - 2025: 40–45% RE in electricity production
  - 2035: 55–60% RE in electricity production
  - RE share goal to be increased to 65% by 2030 in current legislative period
  - Additional tenders for onshore wind and PV expected in 2019/2020
  - Debate on tariff system and costs of power ongoing. Changes to charges expected

#### Coal phase-out

- **Goal**
  - Newly established commission to set phase-out date for coal-fired power generation by end of 2018
  - Commission to set short-term goal for decommissioning a number of coal-fired power plants to reduce gap relative to national climate goals for 2020

#### Electricity grid expansion

- **Goal**
  - Remove bottleneck in energy transition (i.e. slowing grid expansion)
  - Underground cabling given priority over overhead powerlines
  - System of grid charges to be amended in next legislative period

---

### EU 2020 goals

- 20% GHG emissions
- 20% RE in final energy consumption
- 20% Energy savings

### EU 2030 goals

- 40.0% GHG emissions
- 32.0% RE in final energy consumption
- 32.5% Energy savings

### German Climate & Energy Policy Goals

- 20% GHG emissions by 2020
- 20% primary energy consumption by 2020

---

**Paris Climate Agreement:** Hold the increase in global average temperature to well below 2°C above pre-industrial levels and pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels.
Climate protection in the coalition agreement 2018

Climate Protection Act
- Catch up with 2020 target as fast as possible; commitment to the target for 2030
- Coalition partners have agreed to adopt a Climate Protection Act in 2019 to achieve the emission reduction targets for 2030
- By the end of 2018, each federal ministry will present a program of measures addressing its respective sector targets
- Will be further defined at COP24 in Poland in 2018

CO₂ pricing
- Intention to strengthen EU-Emission Trading System
- German government will advocate a global CO₂ pricing system at least among the G20 members

Renewable energy sources
- RE expansion goals raised from 55% to 65% by 2030 (provided that the national grid is developed accordingly)
- Special tenders in 2019 and 2020: 4GW each for onshore wind and PV; additional expansion of offshore capacity

The coalition agreement shows highs and lows: A clear commitment to emission reduction and expansion of renewable energy sources, but business as usual for many aspects especially considering the tax and duties regime. Attainment of the 55% reduction by 2030 is consequently uncertain.
## EnBW Group in 2017: Generation and portfolio

### Generation portfolio

<table>
<thead>
<tr>
<th>Renewable energies</th>
<th>2017 in MW</th>
<th>share in %</th>
<th>2017 in GWh</th>
<th>share in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Renewable energies</td>
<td>3,381</td>
<td>26</td>
<td>8,290</td>
<td>17</td>
</tr>
<tr>
<td>Run-of-river</td>
<td>1,034</td>
<td>8</td>
<td>5,012</td>
<td>10</td>
</tr>
<tr>
<td>Storage/pumped storage (using natural flow of water)</td>
<td>1,327</td>
<td>10</td>
<td>946</td>
<td>2</td>
</tr>
<tr>
<td>Wind onshore</td>
<td>540</td>
<td>4</td>
<td>661</td>
<td>1</td>
</tr>
<tr>
<td>Wind offshore</td>
<td>336</td>
<td>3</td>
<td>1,416</td>
<td>3</td>
</tr>
<tr>
<td>Other</td>
<td>144</td>
<td>1</td>
<td>255</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>9,673</strong></td>
<td><strong>74</strong></td>
<td><strong>41,904</strong></td>
<td><strong>83</strong></td>
</tr>
</tbody>
</table>

### Own generation

<table>
<thead>
<tr>
<th>Thermal power plants</th>
<th>2017 in GWh</th>
<th>share in %</th>
<th>2017 in GWh</th>
<th>share in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lignite</td>
<td>875</td>
<td>7</td>
<td>6,027</td>
<td>12</td>
</tr>
<tr>
<td>Hard coal</td>
<td>3,523</td>
<td>27</td>
<td>12,977</td>
<td>26</td>
</tr>
<tr>
<td>Gas</td>
<td>1,448</td>
<td>11</td>
<td>3,436</td>
<td>7</td>
</tr>
<tr>
<td>Other</td>
<td>349</td>
<td>3</td>
<td>211</td>
<td>-</td>
</tr>
<tr>
<td>Pumped storage (not using natural flow of water)</td>
<td>545</td>
<td>4</td>
<td>1,721</td>
<td>3</td>
</tr>
<tr>
<td>Nuclear</td>
<td>2,933</td>
<td>22</td>
<td>17,532</td>
<td>35</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>13,054</strong></td>
<td><strong>100%</strong></td>
<td><strong>50,194</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
Focusing on sustainability, EnBW supports CO₂ reduced generation with a minimum CO₂ price

EnBW’s position on minimum CO₂ price

- **€25 minimum price specified for 2020** (€30 for 2025)

**Options for use of additional revenue:**
- Reduction in electricity tax (≥ 50%)
- Repurchase of CO₂ certificates

**ETS Market**
- **Payment of market price** (currently ca. €17)
- **Payment price difference** (currently ca. €5)

**Energy taxes adjusted for individual CO₂ intensity**

**Introduction of a national CO₂ target price of €25 from 2020 and €30 from 2025**
- This would render significant market based CO₂ reductions economically viable – climate-friendly power plants would be allocated more operating hours. At the same time risks for renewable energy investments would be mitigated.”

**Reduction of electricity tax by at least 50%**
- Most of today’s electricity and energy taxes have no significant impact on carbon emissions.
- Reduction of the electricity tax facilitated with the additional revenue from the minimum price of CO₂; the natural gas tax can be abolished

**Alignment of energy taxes with the CO₂ intensity of the energy source**
- Fundamental reform of the energy tax system: focus on the climate impact of energy sources
- Existing refunds and exemptions remain unaffected
## Corporate Sustainability: Ratings

<table>
<thead>
<tr>
<th>ISS-oekom</th>
<th>Sustainalytics</th>
<th>Carbon Disclosure Project</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2017</strong></td>
<td>2018</td>
<td><strong>2017</strong></td>
</tr>
<tr>
<td>B- Prime status</td>
<td>73 Outperformer status</td>
<td>A- Leadership status</td>
</tr>
</tbody>
</table>

**Major improvements in**

- Products and services
- Corporate governance and business ethics

**Major improvements in**

- Environmental aspects
- Social aspects

- Effective initiatives in the field of climate protection
- Transparent reporting on emissions, opportunities and risks of climate change
EnBW has flexible access to various financing sources\(^1\)

**Financing sources**
in € bn

- **Debt Issuance Programme**
  - Thereof € 3 bn utilised\(^2\)
  - € 7.0 bn

- **Hybrid Bonds\(^2\)**
  - € 2.0 bn

- **Commercial Paper Programme**
  - Thereof € 180 m utilised
  - € 2.0 bn
  - € 1.8 bn
  - € 0.2 bn

- **Syndicated Credit Line**
  - Undrawn
  - Maturity date: 2021
  - € 1.5 bn

- **Bilateral Free Credit Lines\(^2\)**
  - € 1.4 bn

---

\(^1\) As of 30 June 2018
\(^2\) Rounded figures

Project financing and low-interest loans from the EIB
Maturities of EnBW’s bonds

Fixed Income
in € m

- Repayment on 12 July 2018
- First call dates of hybrid bonds
- Senior bonds
- Hybrid bonds

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount (€ m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>836</td>
</tr>
<tr>
<td>2021</td>
<td>1,000</td>
</tr>
<tr>
<td>2022</td>
<td>993</td>
</tr>
<tr>
<td>2023</td>
<td>865</td>
</tr>
<tr>
<td>2025</td>
<td>500</td>
</tr>
<tr>
<td>2026</td>
<td>500</td>
</tr>
<tr>
<td>2027</td>
<td>700</td>
</tr>
<tr>
<td>2034</td>
<td>100</td>
</tr>
<tr>
<td>2038</td>
<td>170</td>
</tr>
<tr>
<td>2039</td>
<td>50</td>
</tr>
<tr>
<td>2044</td>
<td>50</td>
</tr>
<tr>
<td>2076</td>
<td>1,000</td>
</tr>
<tr>
<td>2077</td>
<td>993</td>
</tr>
</tbody>
</table>

1. Includes CHF 100 million, converted as of the reporting date of 30/06/2018
2. First call date: hybrid maturing in 2076
3. CHF 100 million, converted as of the reporting date of 30/06/2018
4. Includes USD 300 million (swap in EUR), coupon for Swap 5.125%
5. Includes USD 300 million, converted as of 05/10/2016
6. Includes JPY 20 billion (swap in EUR), coupon for Swap 3.880%
7. First call date: hybrid maturing in 2077
Shareholder structure

<table>
<thead>
<tr>
<th>Shareholder</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>OEW Energie-Beteiligungs GmbH</td>
<td>46.75%</td>
</tr>
<tr>
<td>NECKARPRI-Beteiligungsgesellschaft mbH</td>
<td>46.75%</td>
</tr>
<tr>
<td>Badische Energieaktionaers-Vereinigung</td>
<td>2.45%</td>
</tr>
<tr>
<td>Gemeindeelektrizitaetsverband Schwarzwald-Donau</td>
<td>0.97%</td>
</tr>
<tr>
<td>Neckar-Elektrizitaetsverband</td>
<td>0.63%</td>
</tr>
<tr>
<td>EnBW Energie Baden-Wuerttemberg AG</td>
<td>2.08%</td>
</tr>
<tr>
<td>Other shareholders</td>
<td>0.39%</td>
</tr>
</tbody>
</table>

Stock exchange information

- **ISIN/security ID no.**: DE0005220008/ 522000
- **Stock exchange abbreviation**: Bloomberg EBK GY/reutersEBK/EBKG.DE
- **Transparency level**: General Standard
- **Indices**: General All Share, DAXsector All Utilities, CDAX
- **Number of shares**: 276,604,704
- **Class of share**: Ordinary no-par value bearer shares
- **Stock markets**: Regulated market: Frankfurt and Stuttgart, Over-the-counter trading: Berlin and Munich

1 May not add up to 100 % due to rounding
2 100% subsidiary of NECKARPRI GmbH, which is a 100% subsidiary of the federal state of Baden-Württemberg
## Financial calendar

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 November 2018</td>
<td>Quarterly Statement January to September 2018</td>
</tr>
<tr>
<td></td>
<td>(Conference time: 01:00 pm CET)</td>
</tr>
<tr>
<td>28 March 2019</td>
<td>Integrated Annual Report January to December 2018</td>
</tr>
<tr>
<td>8 May 2019</td>
<td>Annual General Meeting</td>
</tr>
<tr>
<td>10 May 2019</td>
<td>Quarterly Statement January to March 2019</td>
</tr>
<tr>
<td>8 November 2019</td>
<td>Quarterly Statement January to September 2019</td>
</tr>
</tbody>
</table>
EnBW’s team

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CFO

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