





Important note



Unless indicated otherwise, all data contained hereinafter refers to the EnBW Group and is calculated according to IFRS.

No offer or investment recommendation

This presentation has been prepared for information purposes only. It does not constitute an offer, an invitation or a recommendation to purchase or sell securities issued by EnBW Energie Baden-Wuerttemberg AG (EnBW), a company of the EnBW Group or any other company. This presentation does not constitute a request, instruction or recommendation to vote or give consent. All descriptions, examples and calculations are included in this presentation for illustration purposes only.

Future-oriented statements

This presentation contains future-oriented statements that are based on current assumptions, plans, estimates and forecasts of the management of EnBW. Such future-oriented statements are therefore only valid at the time at which they are published for the first time. Future-oriented statements are indicated by the context, but may also be identified by the

use of the words "may", "will", "should", "plans", "intends", "expects", "believes", "assumes", "forecasts", "potentially" or "continued" and similar expressions.

By nature, future-oriented statements are subject to risks and uncertainties that cannot be controlled or accurately predicted by EnBW. Actual events, future results, the financial position, development or performance of EnBW and the companies of the EnBW Group may therefore diverge considerably from the future-oriented statements made in this presentation. Therefore it cannot be guaranteed nor can any liability be assumed otherwise that these future-oriented statements will prove complete, correct or precise or that expected and forecast results will actually occur in the future.

No obligation to update the information

EnBW assumes no obligation of any kind to update the information contained in this presentation or to adjust or update future-oriented statements to future events or developments.



Agenda 1 – EnBW at a glance

1.	EnBW at a glance	>>
2.	Regulatory Environment and Markets	>>
3.	Customers and Competition	>>
4.	Strategy	>>
5.	Segments	>>
6.	The VNG Group	>>
7.	Key Financials	>>
8.	Capital Markets	>>
9.	Service	>>



1.1 EnBW at a glance¹



One of the largest German utilities

- 5.5 million customers
- 13 GW generation portfolio
- Stable shareholder structure
- 20,000 employees
- Strong roots in Baden-Wuerttemberg

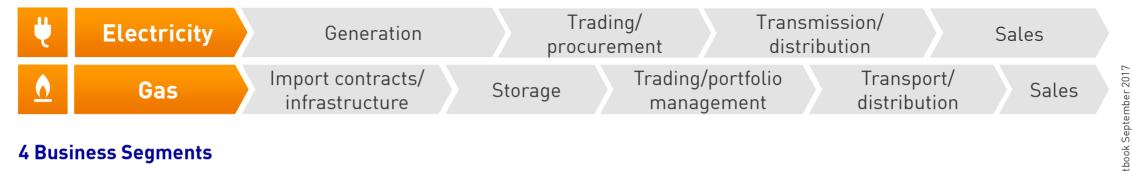
Balanced risk-return profile

- > Focus on renewables and grids
- ~65 % FRITDA contribution from low-risk husiness
- Solid investment grade ratings
- Active in selected foreign markets

Key financial figures

- Revenue € 19 hn
- Adi. EBITDA: € 1.9 bn
- Group net profit/loss: € -1.8 bn

Fully integrated utility in Germany



4 Business Segments



Sales



Grids



Renewable **Energies**



Generation & Trading



1.2 Key figures



Key financials

KPI		2016		Target 2020
Adjusted EBITDA	€ bn	1.9	2.3-2.5	Securing profitability
Internal financing capability	%	72.1	>100	Financial discipline
ROCE	%	7.8	8.5 - 11	Raising the Group's value

Key non-financials

KPI		2016 Target			
RE share of generation capacity	%	23.1	> 40	Expand renewable energies	
SAIDI (electricity)	min/year	16	< 25	Maintain supply reliability	



Agenda 2 – Regulatory Environment and Markets



1.	EnBW at a glance	>>					
2.	Regulatory Environment and Markets	>>					
	 Political & regulatory environment German electricity market German gas market 						
3.	Customers and Competition	>>					
4.	Strategy						
5.	5. Segments						
6.	The VNG Group	>>					
7.	Key Financials	>>					
8.	Capital Markets	>>					
9.	Service	>>					



2.1.1 Political & regulatory environment: Overview



EU 2020-Goals

-20 % GHG emissions

EU 2030-Goals

-40 % GHG emissions

27 % RE of final energy consumption

27 % Energy savings (probably increased to 30 %)

German Climate & Energy Policy Goals

-40 % GHG emissions until 2020 -20 % primary energy consumption until 2020

Nuclear Phase-out

- Shut-down of last NPP until end of 2022
- > Responsibility for financing of phase-out split between operators and government
- State owned fund established in mid 2017
- Operators partly transferred nuclear provisions and corresponding liabilities to state

Renewables

- 2025: 40-45 % RE 2035: 55-60 % RE in electricity production
- Reform of remuneration system towards tenders
- First auction for wind offshore in April 2017, EnBW bit successful
- Debate on tariff system and costs of power ongoing. Changes to charges expected

Electricity market reform

- Maintain market functioning with high shares of RE
- Keep on high level of security of supply: System of various capacity reserves (grid-/ capacity-/ lignitereserve) implemented

Grid expansion

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



2.1.2 Political & regulatory environment: Fundamental changes



Generation and Trading

- Sustained trend towards renewable energies¹:
 - > 120 GW by 2020
 - > 160 GW by 2030
- Time of profitable operation of conventional power plants in steady decline
- Gas power plants with low operating time because of low CSS until 2020
- Political discussion of coal exit
- Increasing volatility of prices and volumes

Power and Gas Grids

- Volatile electricity generation detrimental to grid stability
- Investments of around € 70 bn in expanding the grid through to 2030
- Conventional power stations increasingly in back-up role
- Accelerating expansion of smart grids

Customers

- Downturn demand for electricity and gas due to energy efficiency and rising demand by electric vehicles and residential heating sector¹ in the future
- Renewables for the most part in the hands of non-PSCs²
- Consumers playing an increasingly active role with PV and Battery Systems
- Number of energy co-operatives has increased sixfold since 2008 from ~150 to 970

- > Technological developments: more diversity, modularity and granularity in the energy system
- > New market participants: more competition and fragmentation of the value chain
- Regulatory framework conditions: undergoing constant change, rising complexity

Business models of large utilities are changing; accelerating development of renewable energies and grids as well as new services for customers

¹ Depending on regulatory policies

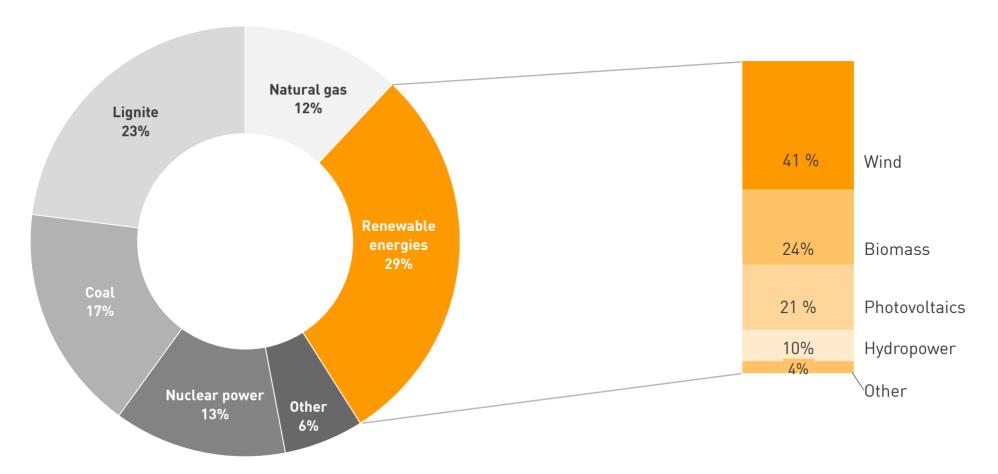
² Power supply companies



2.2.1 German electricity market: Generation capacity



Gross electricity generation according to energy source 2016 in Germany



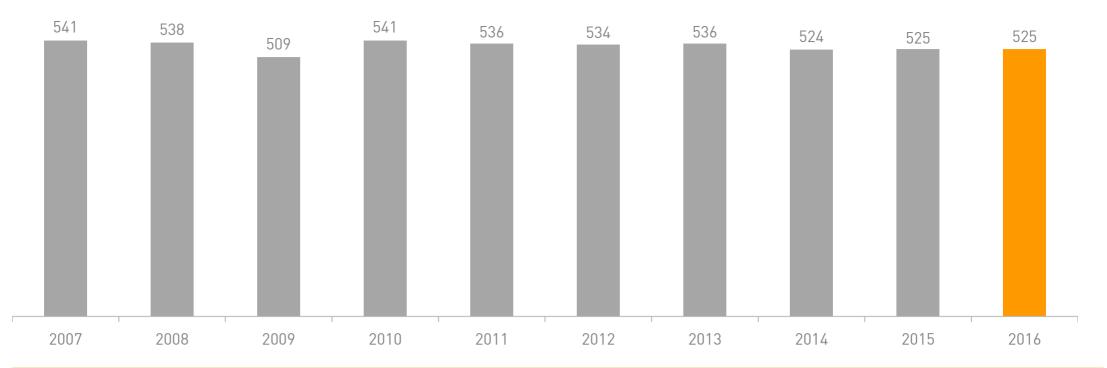


2.2.2 German electricity market: Electricity consumption



Electricity consumption in Germany

in TWh



Net electricity consumption stable in the past few years; reduction due to efficiency is compensated by changes in consumption habits and economic growth

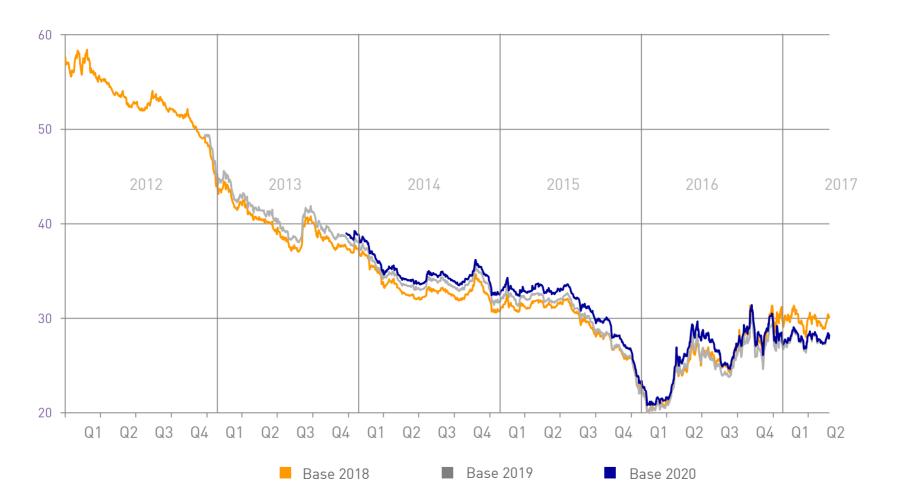


2.2.3 German electricity market: Wholesale forward price



Forward price for electricity baseload in Germany

in €/MWh





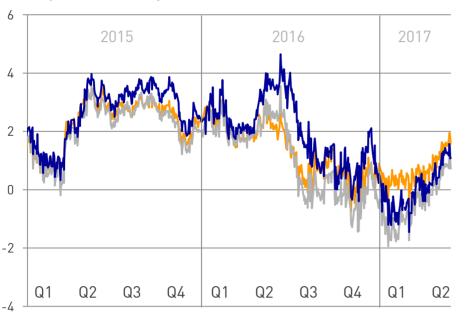
2.2.4 German electricity market: CDS at low levels and negative prices for CSS



Clean-Dark-Spread Base

in €/MWh

Gross margin of a coal-fired power plant (plant efficiency: 36 %)



Clean-Spark-Spread Peak

in €/MWh

Gross margin of a gas-fired power plant (plant efficiency: 50 %)



2018

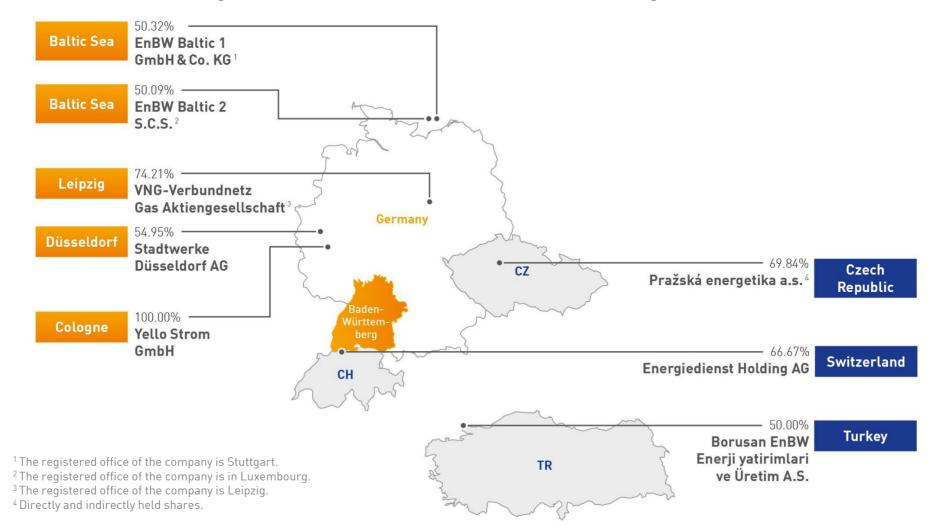
2019

2020

2.3 EnBW's market presence

—— EnBW

Business radius and significant locations outside Baden-Wuerttemberg





2.4.1 German gas market: EnBW's market presence



EnBW's activities in Germany¹

- > GasVersorgung Sueddeutschland GmbH supplies natural gas to utilities, regional gas suppliers, industrial customers and power plants
- > Stadtwerke Duesseldorf AG in which EnBW has a 54.95 % stake, has a large share of the gas market (B2C and B2B) in that region
- > Yello Strom GmbH offers nationwide gas distribution to retail customers
- > Terranets bw GmbH (gas transportation) & Netze BW GmbH (gas distribution) guarantee security of gas supply in Baden-Wuerttemberg by their gas networks
- > **Verbundnetz Gas AG** offers EnBW with the majority stake of 74.2 % a one-step chance to establish a viable footprint in the German gas market

EnBW runs gas operations in **Baden-Wuerttemberg and Eastern Germany**, but serves also customers throughout **Germany**.





2.4.2 German gas market: Forward market price development



EGIX¹: 1 January 2008 - 30 May 2017

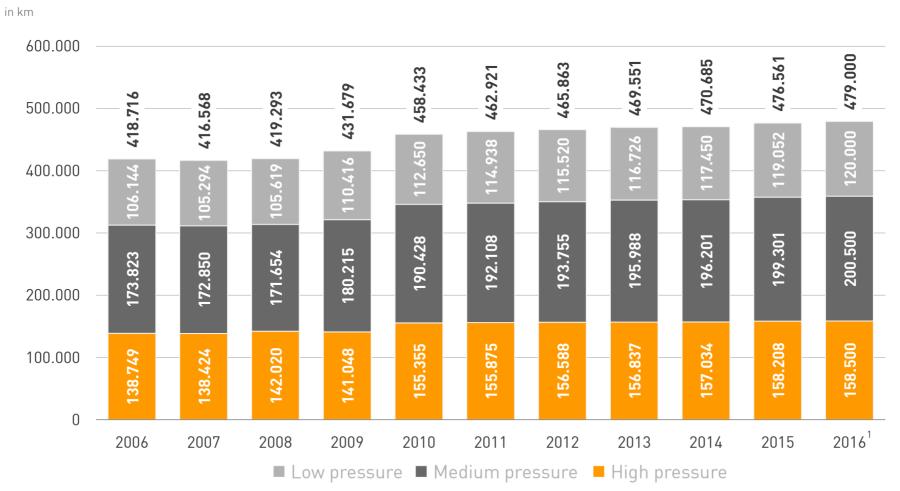
in €/MWh





2.4.3 German gas market: Gas distribution system development





Source: BDEW gas statistics for each year up to 2009; amended system used from 2010: Data from the gas grid operators according to GasNEV; without house connection pipes as of May 2017



Agenda 3 – Customers and Competition



1.	EnBW at a glance	>>
2.	Regulatory Environment and Markets	>>
3.	Customers and Competition	>>
4.	Strategy	>>
5.	Segments	>>
6.	The VNG Group	>>
7.	Key Financials	>>
8.	Capital Markets	>>
9.	Service	>>



3.1 Four categories of competitors: global, national, local and new players



Plavers Companies Characteristics Enel Broad international growth strategy, focus Global VATTENFALL 5 IBERDROLA on market consolidation innoay EVN EnBW Strong national position and selected **National** foreign activities, focus on market Verbund development *MVV Energie Focus on regional markets & selected ☐ Hhwqa > Local **EWE** growth segments (esp. decentralized and renewable generation) SW//M STADTWERKE sonnen 1&1 > Entry of new participants into the market New CAPITAL STAGE increases competition and fragments the NEXT value chain Google

Position of EnBW

- EnBW is positioned as an integrated energy company focusing on Germany and selected foreign markets
- > Three main growth areas are Renewable Energies, Grids and Customer Solutions

Key challenge: optimal positioning given the regulatory/competitive market environment



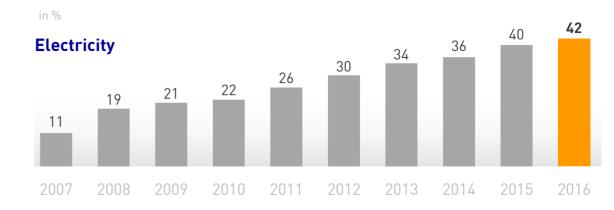
The "Energiewende" increases competition 3.2

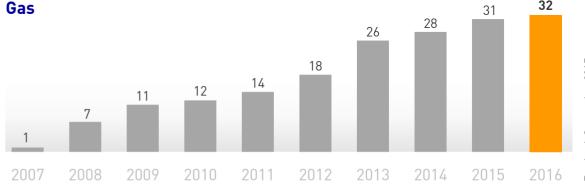


Retail and business customers - trends

- > Growing price sensitivity and new competitors lead to fiercer competition
- > Commodity business (electricity and gas) is still significant
- > Local energy production by customers on the rise
- > Increasing energy efficiency (supported by political measures)
- > Local energy solutions offered by utilities, together with new competitors
- > EnBW as a partner for the industry, housing industry and municipalities
- > Increasing convergence on the markets due to sector coupling and the electrification of heating and transport (car manufacturers, CHP manufacturers as electricity suppliers and virtual power plant platform operators)

Strong competition: Cumulative churn rate of retail customers¹







3.3 Development path for energy solutions





Data and Analysis

- > Metering services
- Energy audits and management systems
- > Status reports of energy system
- Procurement support for energy and efficiency
- Market integration by virtual power plant



Assets, Maintenance and Operation

Commercial & Industrial customers, Municipalities & Housing Industry:

- > Supply and performance contracting
- Energy efficient refurbishing of buildings
- > General contracting
- Management optimization of customers' energy generation assets & infrastructure

Residential Customers:

 Integrated modular energy system for residentials (PV, battery, heating, e-mobility, commodity)



E-Mobility

- New business field in a growing market
- Integrated solutions for different customer groups (public, commercial, industrial, residential)
- Assets, maintenance and operation of infrastructure
- > Entry and billing systems
- Networking with other themes related to the energy system of the future such as PV/storage



3.4 Market potential for energy-related services



Operations

- > Market for energy-related services very fragmented
- > Market volume in Germany € 5.5 bn
- Growing challenges for municipal utilities through rising pressure on costs, fulfilling regulatory requirements and billing technology for the new energy concept
- > Due to high proportion of fixed costs processing is strongly influenced by economy of scale
- Cost advantages for large providers
- > Technology shift and economies of scale offer significant growth opportunities in this market, especially within the area of smart metering solutions

Services and Competences



- > EnBW services cover the complete meter-to-cash value chain. Services can be chosen to suit the individual demand of utility companies
- Services either as Software-as-a-Service only or full scale Business Process Outsourcing
- EnBW with proven knowledge in liberalized utility markets and a clear positioning as a leading provider of smart metering services
- Second successful customer go-live of one of the largest network operators in Germany



Agenda 4 – Strategy



1.	EnBW at a glance								
2.	Regulatory Environment and Markets								
3.	Customers and Competition								
4.	Strategy > EnBW 2020 Strategy								
	 EnBW 2025 Strategy Further strategic aspects: Innovation, Research and Development, Corporate Sustainability, Corporate Governance 								
5.	Segments								
6.	The VNG Group								
7.	Key Financials								
8.	Capital Markets								
9.	Service								

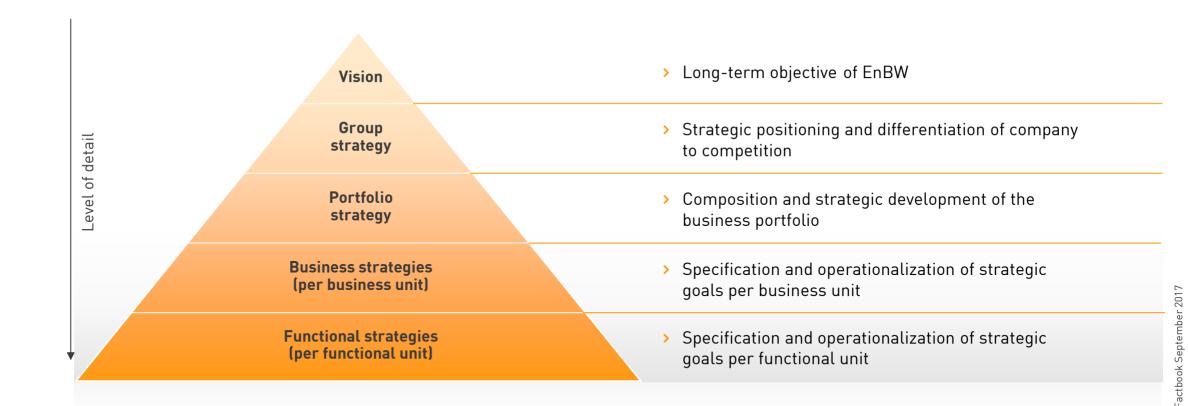


4.1 Strategy process: Corporate strategy follows a structured process at EnBW



Key elements of the strategy

Discussion points/topics



4.2.1 EnBW 2020 strategy: Corporate strategy



Energiewende. Safe. Hands on.



Customer proximity

Engine room of the Energiewende



Where shall we play?

- End customer business in electricity and gas
- Finergy-related services/ energy efficiency (for B2C & B2B segments, increasing for municipal utilities and local communities)
- > Trading and origination

- From the region of
 Baden-Wuerttemberg into
 Germany, Austria, Switzerland
 and Turkey
- Wind onshore, offshore and hydropower
 Conventional generation located mainly in Baden-Wuerttemberg
- > Transport and distribution grid infrastructure managed from Baden-Wuerttemberg into neighbouring regions (also as service provider)

How can we win?

- > System competence of energy
- > Innovative capability and innovation management
- > Strong brand portfolio

- Stringent performance management
- Partnerships and fostering of dialogue
- Operational excellence
- > Infrastructure in the energy industry
- > Regulatory management
- Active opportunities for third parties to invest and participate

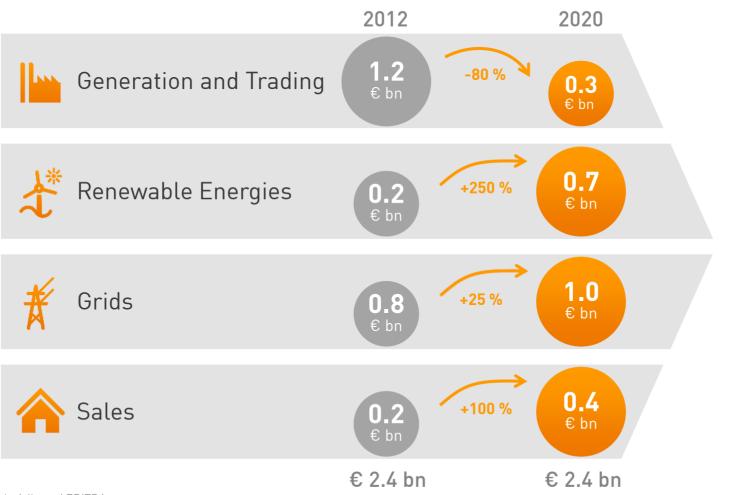
What should our structure be?

- Building up of an **innovation campus**
- > Acquisition of/ JV with energy-related companies
- simple and functional management with simple structures, flat hierarchies and lean processes
- Maximum efficiency
 - Stringent cost orientation for defined quality level (target costing)
- Simplicity and standardisation
- Technological development partnerships



4.2.2 EnBW 2020 strategy: Strategic objectives





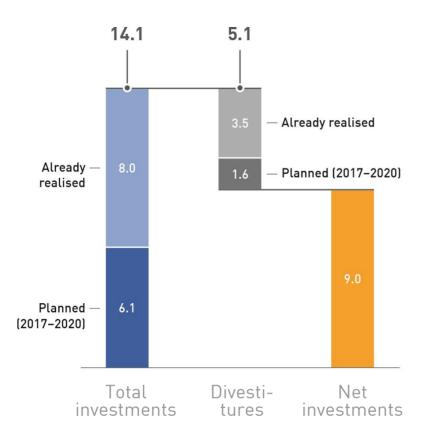


4.2.3 EnBW 2020 strategy: Portfolio strategy



Investments and divestitures as part of the expansion of the portfolio¹

in € bn



4 Segments



Grids

> Expansion of the transmission and distribution grids through to smart grids

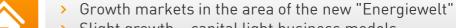


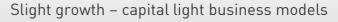
Renewable Energies

Expansion of renewable energies with a focus on wind power (on-/offshore) and hydropower



Sales









Generation and Trading

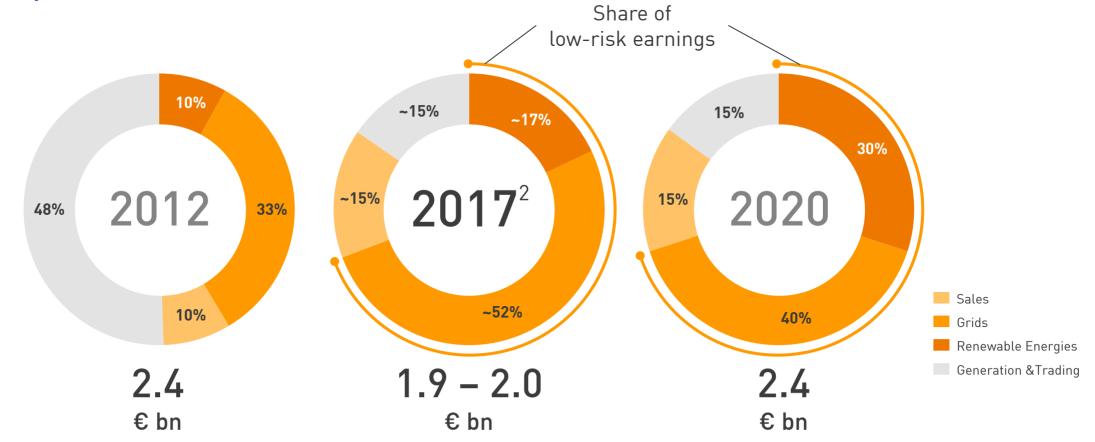
> Moderate investment in thermal generation



4.2.4 Portfolio transition shows substantial progress, in line with EnBW's 2020 strategy



Adjusted EBITDA¹



¹ Divergence from 100% possible due to rounding effects

² Estimate



4.2.5 Concrete measures underpin delivery of 2020 strategy targets

----EnBW

Adjusted EBITDA



2017

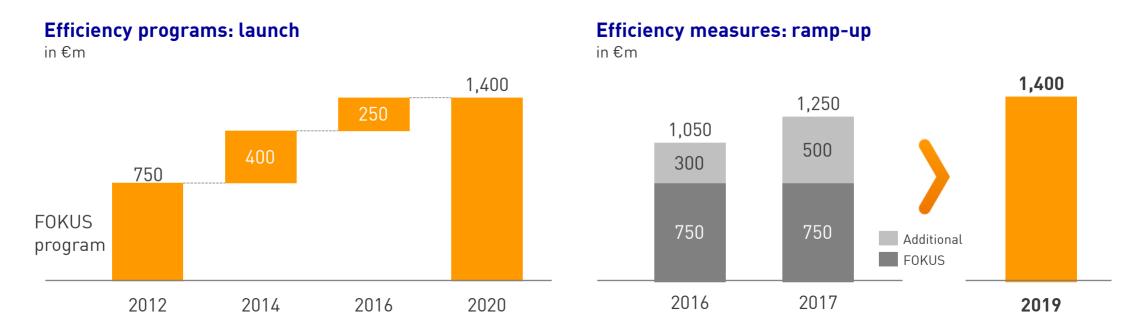
2020

- > Efficiency programs
- > No nuclear fuel tax from 2017
- > Earnings contribution from VNG
- > Growth in onshore wind
- > Growth in offshore wind: Hohe See/Albatros
- > Increasing sales earnings:
 - Exit from B2B Commodity Business
 - Decentralized energy solutions



4.3 Efficiency targets already to be met by 2019

----EnBW



- > Unprofitable power plants incorporated in German power plants network reserve
- > 2016: exit from unprofitable B2B commodity business
- > 2017–2020: ~€100m p.a. from 6.3% management and workforce pay cut
- > ~€150m p.a. contribution from functional units, including holdings such as VNG

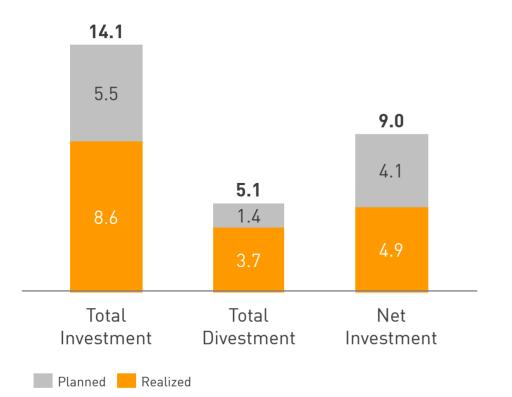


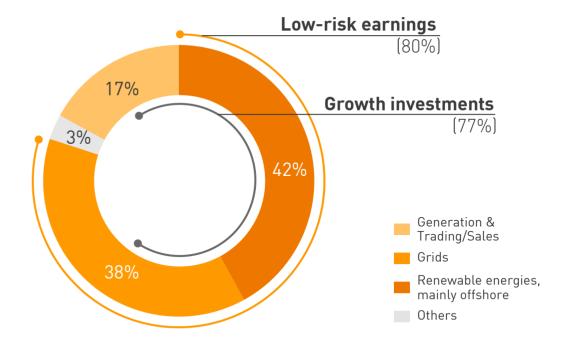
4.4 2017-2019 investment program kept flexible with focus on growth in low-risk businesses



Investment/Divestment volume 2012-2020¹ in € bn

Investment volume 2017-2019





¹ As of 30.06.2017; 2012 as reference year



4.5.1 Financial and non-financial KPIs and targets: Finance and strategy goal dimensions



	Goal	KPI	2016	Target 202	0
dimension	Securing profitability	Adjusted EBITDA in € bn	1.9	2.3-2.5	The operating result is to return to the average level achieved before the Energiewende. The total regulated business (Grids and Renewable Energies segments) together contributes around 70 % to this result.
Finance goal di	High level of financial discipline	Internal financing capability in %	72.1	> 100	The level of net financial liabilities is controlled by limiting net investment to the level of retained cash flow. The Group can thus finance its own restructuring internally.
Final	Raise the value of the Group	ROCE in %	7.8	8.5–11	Return on capital employed (ROCE) is higher than the cost of capital. EnBW is creating value for its stakeholders.
n¹	Share of result from Sales	Share in adjusted EBITDA (total) in € bn / in %	0.2 / 13	0.4 / 15	The operating result for the Sales segment doubles from \bigcirc 0.2 bn (reference year: 2012) to \bigcirc 0.4 bn in 2020 and represents around 15 % of the Group operating result. Innovations make this possible.
l dimension	Share of result from Grids	Share in adjusted EBITDA (total) in € bn / in %	1.0 / 52	1.0 / 40	The operating result for the Grids segment increases by 25 % from \odot 0.8 bn (reference year: 2012) to \odot 1.0 bn in 2020 and represents around 40 % of the Group operating result. The share accounted for by the stable and regulated business is expanding.
Strategy goal	Share of result from Renewable Energies	Share in adjusted EBITDA (total) in € bn / in %	0.3 / 15	0.7 / 30	The operating result for the Renewable Energies segment increases by 250 % from \bigcirc 0.2 bn(reference year: 2012) to \bigcirc 0.7 bn in 2020 and represents around 30 % of the Group operating result. EnBW is more sustainable.
St	Share of result from Generation and Trading	Share in adjusted EBITDA (total) in € bn / in %	0.3 / 17	0.3 / 15	The operating result for the Generation and Trading segment falls by 80 % from \in 1.2 bn (reference year: 2012) to \in 0.3 bn in 2020 due to changed framework conditions and only represents around 15 % of the Group operating result.



4.5.2 Financial and non-financial KPIs and targets: Other goal dimensions



	Goal	KPI	2016	Target 2020	
l society sion	Reputation	Reputation Index	50	55.4	In parallel with the restructuring of the business model, EnBW aims to continuously improve its reputation.
Customers and so goal dimensio	Customer proximity	Customer Satisfaction Index EnBW / Yello	132 / 150	>136 / >159	EnBW and Yello customers are satisfied customers with a high level of customer loyalty. EnBW and Yello are organisations strongly oriented towards customers and meet the needs and wishes of their customers through tailored solutions and products.
Custor go	Supply reliability	SAIDI (electricity) in min / year	16	< 25	EnBW regards the maintenance of supply quality to its customers as its chief priority. The high degree of supply reliability in the grid area operated by EnBW is based on comprehensive investment in grids and plants and our abundant system expertise.
oyees nension	Employee commitment	Employee Commitment Index (ECI) 1	59	65	The commitment of our employees to EnBW is very strong and there is faith in the future viability of the company.
Employees goal dimensio	Occupational health & safety	LTIF ¹	3.9	<pre></pre>	The number of accidents at work and the resulting days of absence remains stable or is falling.
nment nension	Expand renewable energies (RE)	Installed capacity of RE in GW and the share of the generation capacity accounted for by RE in %	3.1 / 23.1	5.0 / >40	The share of the generation capacity accounted for by renewable energies has doubled compared with 2012. Onshore and offshore wind power and hydropower are at the forefront of this development.
Environment goal dimensio	Climate protection	CO ₂ intensity in g/kWh	577	-15 % to -20 %	EnBW actively contributes to climate protection by successively reducing the CO_2 intensity of its own generation of electricity (excluding nuclear power) by 15 to 20 % by 2020 compared to 606 g/kWh in the reference year 2015.



4.6.1 Key elements of the energy business are shifting (again) – change becomes the norm



Phase 1

Mainly driven by energy policies and regulation

Expansion of renewable energies

Exit from nuclear power

Decline in economic importance of conventional power generation

Expansion of electricity/gas grids

Phase 2

Increasingly market-driven: cost efficiency gains, technical innovation, changing customer needs, changing competitive landscape

Increased competitiveness and market integration of renewable energies

Technical innovations driving new business models (e.g. e-mobility)

Digitization and network energy solutions (e.g. smart grids)

Customer needs: individualization and transaction simplicity

4.6.2 We have extended our strategic thinking towards 2025



Reasons for extension

Methodology and approach

Medium-term planning reaching end of long-term strategic period (2020)

Major changes in business environment

Capitalizing on lessons learned from strategy EnBW 2020

- Timely anticipation of market/environment and regulatory changes
- Best possible fit between market potential and EnBW capabilities
- Long-term competitiveness and future viability as key benchmark for each business and for EnBW as a whole
- **Development of new growth areas –** also for further diversification
- Ongoing organizational renewal across EnBW (structure, processes, leadership, performance)



4.6.3 Our assessment of future trends pinpoints six key developments



- 1 Decarbonization continues to be a main driver of political and regulatory action
- 2 Renewable energies and grids will remain pillars of growth in the markets we serve
- 3 New competitors and technological developments will impact the value chain
- 4 Energy and infrastructure issues will converge
- Demand for intelligent, safe and reliable infrastructure will grow significantly
- Customer expectations will demand greater individualization and be harder to predict



4.6.4 Strategic conclusions we have drawn for our business towards 2025

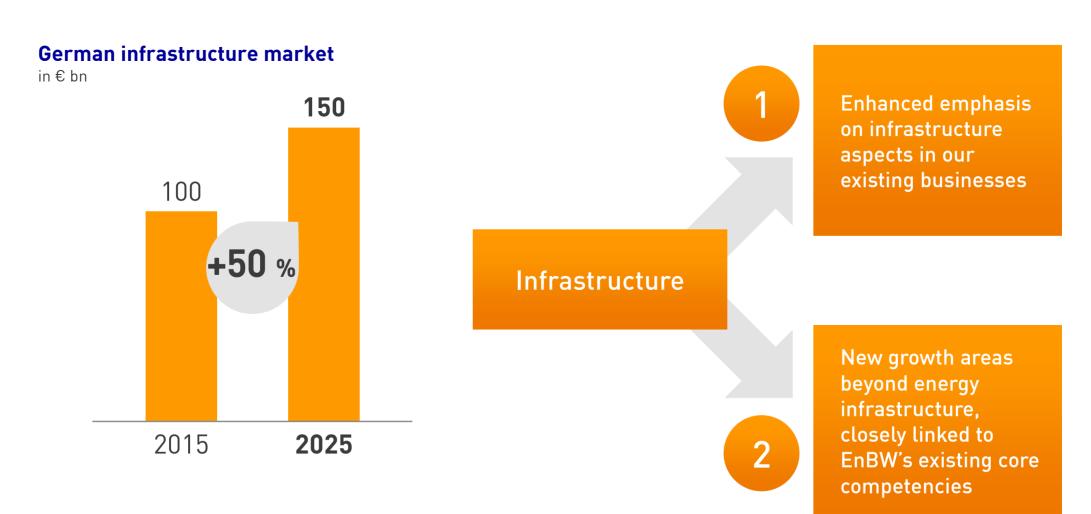


- Renewable energies, grids and customer-facing businesses will remain EnBW's key future growth areas
- We are developing new growth areas in the field of (critical) infrastructure, including beyond energy
- We attach great importance to a balanced and diversified business portfolio
- 4 A key goal of EnBW will remain continuous improvement and performance drive
- We consider the ability to change and adapt quickly to be a key basic competitive success factor
- We are preparing EnBW for growth in absolute numbers post-2020



4.6.5 The German infrastructure market will grow strongly, with opportunities in our existing business portfolio and in areas beyond energy







4.6.6 Infrastructure pilots beyond energy already underway



Pilot segment	Business case

Broadband/
telco

Expand **NetCom's telco and broadband activities** into **major earnings pillar** for EnBW Group

E-mobility/ charging infrastructure

Launch and build substantial e-mobility activities focused on grid and charging infrastructure, plus (digital) services

Urban precinct development

Pool existing activities and products and build integrated, extended **portfolio going beyond energy**

Security infrastructure

Devise business models for **enhanced public security** based on digital solutions and components (e.g. video surveillance)

Waterway locks

Support **lock enlargement on rivers** (Neckar, others?) for larger scale vessels

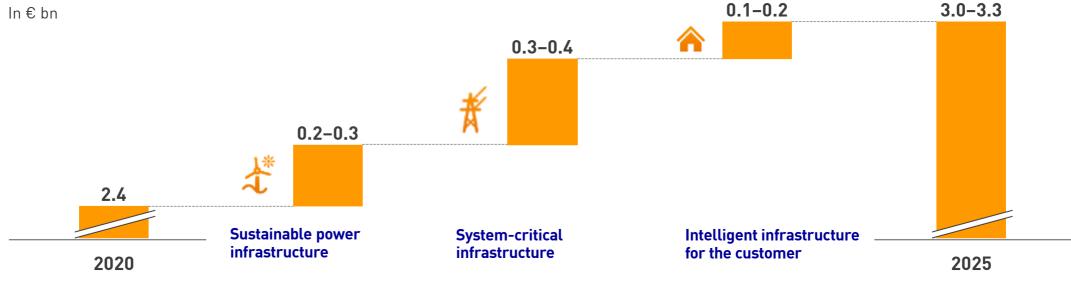
...



4.6.7 We have defined specific growth targets until 2025, with a clear set of priorities



Development of earnings



- > Expansion of onshore and offshore wind to > 3,500 MW by 2025
- Selective international business activities
- > CO2-reduced generation (e.g. midstream gas, fuel switch)

Expansion of the distribution and electricity transmission

 Expansion of networkrelated services

arid

 New areas of systemcritical infrastructure (e.g. public security)

Cost reduction and digitization of B2C sales as well as transformation to customer infrastructure business

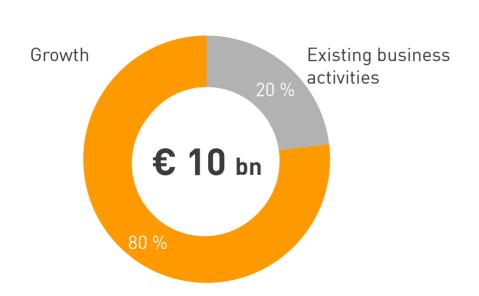
 New infrastructurerelated business areas beyond energy (e.g. mobility infrastructure)

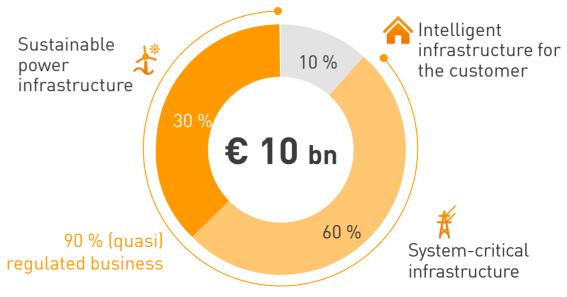


4.6.8 Resulting investment priorities 2021–2025: 80 % targeting growth, 90 % targeting regulated businesses

---- EnBW

Allocation of investment spending





Focus on future growth: 80 % of total investment targets strategic growth areas High proportion of (quasi) regulated business: approx. 90 % of investment in grids and renewable energies



4.6.9 Strategic long-term plan: growth and significant improvement in our financial situation by 2025



Significant increase in operating result (adjusted EBITDA) to ≥ € 3 bn (approx. +30 % compared to 2020 target)

Increased retained cash flow, stronger balance sheet and higher quality earnings

€ 10 bn total (gross) investment over the period 2021–2025, approx. 80 % targeting growth

Adequate and stable dividend yield

Substantial increase in the value of EnBW by 2025



4.6.10 Clear-cut goals for EnBW in 2025





EnBW transformed into a sustainable and innovative infrastructure company



Balanced portfolio with three key areas and high proportion of stable and regulated businesses: power, infrastructure, customers



New growth areas beyond energy closely linked to EnBW's core competencies



Significant improvement in our financial situation



Evolution of EnBW into a modern, high-performance organization



4.7.1 The innovation strategy of EnBW



Internal

Internal development

Incubation

 Business model development in early stages

↓

Company builder

 Professional startup support with focus on scaling

Innovation portfolio

- 1. Connected Home
- 2. Smart City
- 3. Connected Mobility
- 4. Virtual Power Plant







Technology transfer Speedboats

Innovation

External

External participations

Venturing

 Minority investment into early stage startups



Mergers & Acquisitions

Majority

 investment into
 later stage
 companies



Incubation: Creating new business models at the Innovation Campus



Managing

- > Adopt the findings from market research and create suitable business models in a startup environment
- Develop new cross-value chain business models based on state-ofthe-art methodology
- Significantly improve EnBW's innovation capability and culture

Innovation capacity to bring ideas swiftly to the market

- Small entrepreneurial, dynamic teams developing and testing new business models from concept to market entry
- > Inspiring environment deliberately set apart from group structure







4.7.3 Innovation: Professional support for EnBW startups within a Company Builder



Company Builder

> Provides an environment in which key resources, competences and set of rules establish a support system for internal teams in growth and scaling stages

Capabilities

> Additional capabilities and skills that are needed in the scaling and commercialization stage

Automation

> Automation of processes and optimization of cost to serve

Framework

> Appropriate organizational framework for scaling of innovation projects

Sales

> Expansion of current and development of new distribution channels





4.7.4 Late stage acquisition: Realisation of substantial growth and market shares





Late stage acquisition

> Realisation of substantial growth and market shares through majority acquisitions of mature companies

Design and structure

- Acquisition of companies with proven track record, established business model and profitability in sight
- Competences and skills complement EnBW portfolio approach

Objectives

- > Gain relevant growth
- > Strengthen capabilities
- Possess potentials for further scaling

4.7.5 Innovation: Venture Capital investments into innovative startups



EnBW New Ventures is the open innovation connection between startups and EnBW Group

- > Win-Win for both sides, EnBW New Ventures acts as professional VC investor
- > Start-up gains access to energy market expertise, customers and suppliers of EnBW
- > EnBW participates in fast innovation cycles and growth options
- > Cooperative approach to foster business with products and services based on innovative business models

EnBW New Ventures follows an active portfolio approach

- > Evergreen with total investment amount of € 100 m
- Direct minority participations
- > Open for syndication in a traditional VC approach

Current Portfolio

- > DZ-4 GmbH: Generate and use your own solar power on your rooftop without upfront investment. The energy supply of the future is decentral.
- > Lumenaza GmbH: The software platform for the energy transition. Peer-to-Peer energy trading "utility in a box".
- replex GmbH: Analysis and virtualization of data center resources providing a transparent view on complex IT infrastructure.
- > THEVA GmbH: Innovation and high-tech in high-temperature superconductors.





4.8 Research and development: Creating know-how for new opportunities



Creating knowledge for long-term, complex or visionary business opportunities



- > Emerging technologies
- > Game-changing technologies
- > New partnerships

Learning by doing: pilots and demonstrations with particular focus on



- Digital energy
- > Decentralized energy and storage
- Deep geothermal energy (for heat and electricity generation) and new renewables

Explore new and convincing solutions



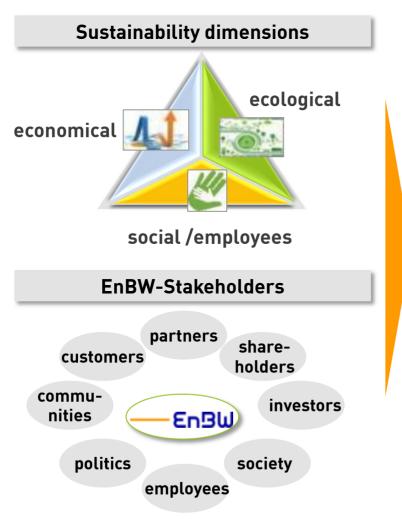
- > Ready to succeed for the energy future
- > Win the public opinion with attractive solutions
- Exciting R&D projects to attract future employees



4.9.1 Corporate Sustainability: Integral part of the strategy



Sustainability at EnBW



Sustainability at EnBW is integrated in:



Renewables: EnBW "Hohe See"

- EnBW constructing 500 MW North Sea wind farm with Canadian partner Enbridge
- ✓ Investment volume of around € 1.8 bn

New Products: EnBW Solar+

- Innovative product, which combines PV and battery storage
- Customers can become a member of the "Energy Community" and share power with others

New Products: E-Mobility

- Design and operation of charging stations and expansion of electromobility services
- EnBW and Hyundai Germany cooperate in the area of e-mobility



4.9.2 Corporate Sustainability: KPIs and sustainability ratings



Key performance indicators (KPI)

Non financial KPIs are part of the corporate Performance Management System (PMS)

Customers

Satisfaction Index

Employees

Commitment Index

Environment

Renewables capacity

Oekom research

oekom r|e|s|e|a|r|c|h

2015

C+

- ✓ Strong improvements in
 - ✓ Environment
 - ✓ Compliance
 - ✓ HR

Carbon Disclosure Project



2016



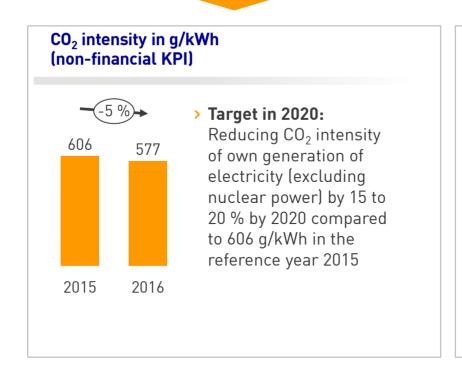
- ✓ Effective initiatives in the field of climate protection (energy efficiency, fuel switch coal to gas etc.)
- ✓ Transparent reporting on emissions, opportunities and risks on climate change



4.9.3 Corporate Sustainability: Commitment to climate protection



- > EnBW supports global efforts to protect the climate and ambitious climate protection targets
- > EnBW is concentrating its investments on renewable energies, grids and developing digitalised business models and promotes the achievement of the targets set at Paris Conference (2015)



Task Force on Climate-Related Financial Disclosures (TCFD)

- Financial Stability Board established TCFD in Nov 2015. Thomas Kusterer, CFO of EnBW, is member of the task force
- > TCFD develops climate-related financial risk disclosures for use by companies in providing information to investors, lenders, insurers, and other stakeholders





4.9.5 Corporate Sustainability: Further activities



Activities

Contents

Active in networks

- > UN Global Compact: Participant since 2010
- > Econsense: EnBW is a member of the "Forum for Sustainable Development of German Business"



Focused environmental processes

> The environmental management system at EnBW is certified according to ISO 14001 and valid for all environmentally-relevant activities of EnBW AG



Responsible employer

EnBW was once again rated as one of Germany's most attractive employers in 2017 ("Top Employers in Germany 2017")



Corporate Citizenship > We concentrate our support for general social issues on the core areas of popular sport, education, social issues, the environment and art and culture



4.10 Corporate Governance: Responsible and transparent management





German Corporate Governance Code



Compliance

- We are convinced that responsible and transparent management fosters the trust placed in the company by investors, customers, employees and the general public and leads to sustainable added value
- > Good corporate governance is an important component of the corporate culture at EnBW.
- > EnBW is in compliance with the recommendations of the German Corporate Governance Code, as amended on 7 Feb 2017.

For further information

- Overview Board of Management
- Overview Supervisory Board

- > The Compliance Management System, which has been implemented throughout the Group, serves to minimise risks and avoid liability issues and a loss of reputation. It focuses on company and sector-specific risks and priorities and encompasses all controlled companies with employees in the EnBW Group. The main focus of compliance activities is placed on the prevention, detection and sanctioning of corruption, the prevention of violations against competition and antitrust laws, the prevention of money laundering and data protection issues. The effectiveness of the corruption prevention and antitrust law areas of the system were tested in accordance with the IDW PS 980 testing standard in 2013, and re-affirmed in 2016. They are deemed appropriate for the detection of the risk that there could be a significant violation of the regulations applicable in these areas in good time and with a sufficient degree of certainty, as well as for the prevention of such violations.
- > The EnBW Code of Conduct forms part of EnBW's culture.
- > The Compliance Department emphasised the most recent compliance incidents in the German economy, particularly in light of the importance of the compliance culture at EnBW, during numerous events (esp. focussed in the latest company-wide management training, which had been the third of its kind) and will also focus on this subject in more depth in the future.



Agenda 5 – Segments



1.	EnBW at a glance	>>
2.	Regulatory Environment and Markets	>>
3.	Customers and Competition	>>
4.	Strategy	>>
5.	Segments	>>
	 Sales Grids Generation and Trading Renewable Energies 	
6.	The VNG Group	>>
7.	Key Financials	>>
8.	Capital Markets	>>
9.	Service	>>



5.1 Segment overview





Sales

> Adjusted EBITDA 2016: € 249.7 m

> Employees: 3,244

> Task/products: Sale of electricity, gas, energy-related services and energy industry billing services; energy efficiency consultancy; cooperation with local authorities; collaboration with public utilities



Grids

> Adjusted EBITDA 2016: € 1,004.1 m

> Employees: 8,330

> Task/products: Transport and distribution of electricity and gas; provision of grid-related services; water supply; guaranteeing the security of supply and system stability



Renewable Energies

> Adjusted EBITDA 2016: € 295,3 m

> Employees: 1,029

> **Task/products:** Project development and management, construction and operation of renewable energy power plants



Generation and Trading

> Adjusted EBITDA 2016: € 33.2 m
 > Employees: 5,076

Task/products: Advisory services, construction, operation and decommissioning / dismantling of thermal generation plants; electricity and gas trading; risk management of market-related risks; development of gas midstream business, district heating; waste management / environmental services; provision of system services; direct marketing of renewable energy power plants



5.2.1 Sales: Multi-brand approach



Multi-brand retail customer approach for Germany

EnBW

> EnBW as premium energy brand with focus on the Baden-Wuerttemberg mass market and public authorities. In Germany for energy solutions like contracting

Yello

Yello as EnBW's single national brand for the German national mass market as a viable alternative for every customer

Natur Energie Plus Natur Energie Plus is the national brand for ecologically oriented households



5.2.2 Sales: Market feedback



Brand awareness

EnBW

> The full-line service provider delivers quality and inventiveness made in Baden-Wuerttemberg: electricity, gas, water, energy/ environmental services, district/local heating



- > Selected special products with added value
- > Retail/business/industrial customers and municipalities/municipal utilities



95 %

Baden-Wuerttemberg Q1/2017

Yello

- > Retail customers in Germany
- Attractive pricing
- Focus on online sales and service
- > Electricity and gas for standard service
- > Selected special products only in cooperation



90 %

National Q1/2017



- Nationwide sustainability brand
- > Ecological products
- > Focus on people
- > Target group: LOHAS ("Lifestyle of Health and Sustainability")



8 %

National Q1/2017



5.2.3 Sales: Electricity and gas sales

--EnBW

Electricity and gas sales of the EnBW Group

in bn kWh

III DII KWII	2016	2015	Variance in %
Electricity sales	114.8	115.4	-0.5
Retail and commercial customers (B2C)	15.0	15.5	-3.2
Business and industrial customers (B2B)	28.2	31.5	-10.5
Trade	71.6	68.4	4.7

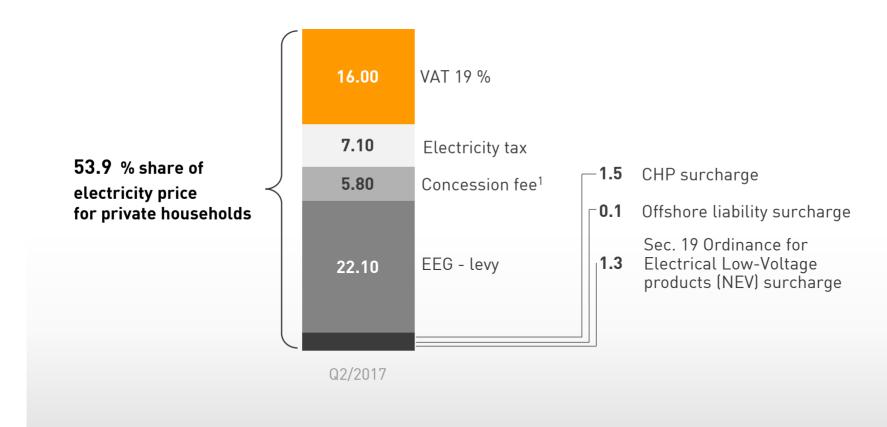
	2016	2015	Variance in %
Gas sales	139.1	135.2	2.9
Retail and commercial customers (B2C)	10.8	10.5	2.9
Business and industrial customers (B2B)	41.5	69.9	-40.6
Trade	86.8	54.8	58.4

5.2.4 Sales: Retail customer electricity price is mainly regulated/tax-driven



Electricity price

in %



Source: German Federal Association of Energy and Water Management (BDEW), May 2017

Average concession fee; varies according to size of community

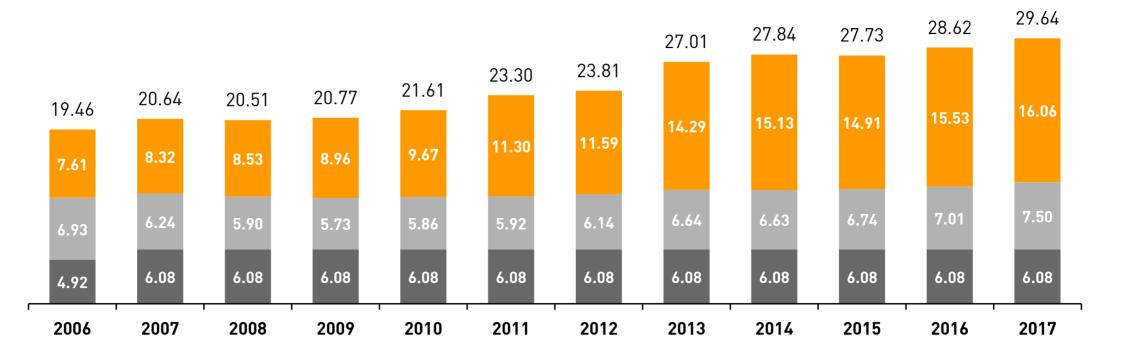


5.2.5 Sales: Development of retail electricity price



Average electricity price for a 3-person household (Annual consumption of 3,500 kWh)

In Cent/kWh



■ Taxes, fees and cost allocation

■ Network user charges, including metering, billing and metering station operation

Procurement and sales



5.3.1 Grids: Electricity and gas grids constitute EnBW's core business



EnBW grid regions



EnBW has a thorough grasp of the grid business

- > EnBW and its predecessor companies have been in the grid business for more than 100 years
- > Security of supply is our highest priority which is why we employ modern and tested technologies and maintain an extensive network of service centres
- > Efficiency benchmark from most recent regulatory period certifies generally best results for EnBW grids
- > High regulatory competence/market competence

Grid business has stabilising effect on portfolio

- Electricity and gas grids are subject to regulation
- Stabilising risk/return mix, with stable cash flows



5.3.2 Grids: Electricity grids



Network grid lengths of the EnBW Group

in km

2016	2015
2,100	2,100
1,100	1,100
8,600	8,200
46,500	44,900
94,300	95,300
	2,100 1,100 8,600 46,500





5.3.3 Grids: General and regulatory environment



Challenges of grids in Europe

Three main challenges for the grids:

- > Electricity generation is becoming increasingly uneven fluctuations have an impact on grid stability
- Many decentralised electricity generation plants connected to the grid – load flow reversals partly possible
- > Germany as a transit country large proportion of cross-border trading

EnBW's approaches to solutions:

- > **TSO**: New transmission lines can bridge the distance between focal point of production and consumption centres, use of HVDC transmission lines
- **DSOs**: Expansion of the grids to integrate renewables, smart expansion of distribution grids, efficient and swift expansion of the distribution grids by municipal partners

Regulatory environment

- > Electricity transmission and distribution grids remain regulated, also in the long term, as a natural monopoly
- > Regulatory risks manageable through increasing stability of the regulatory framework
- > Revenue cap regulation enables grid revenues to remain independent of consumption fluctuations
- > Pressure to be as efficient as possible ongoing due to regulation
- > Improved investment conditions for transmission grids on account of changes in the regulatory framework
- > Partly improvements in regulatory framework conditions for investments in distribution grids as of the third electricity regulation period (from 2019) due to the reform of the Incentive Regulation Ordinance of mid-2016
- Amendment of Incentive Regulation generally leads to no substantial changes in the regulatory framework for the transmission and distribution grid operators



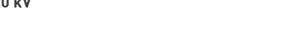
5.3.4 Grids: Comparison of electricity transmission and distribution grids



Comparison electricity



Transmission grids 380 kV. 220 kV





817 operators

Distribution grids ≤ 110 kV

Grid length: ~1.780.000 km

Competition for franchises

Organisation

- > 4 operators: 50Hertz, Amprion, TenneT, TransnetBW
- Grid length: ~36,000 km
- Grids owned by operators

Tasks

- Ensuring balance between generation and consumption
- Using balancing power

Connecting consumers and local providers

Franchises issued by municipalities

Recording incidents and troubleshooting

Challenge of Energiewende

- > Transport of electricity from wind power from northern to southern Germany
- Building new HVDC transmission lines
- Connecting offshore wind farms

- > Connection of decentralized renewables (e.g. PV, wind)
- Development of charging-infrastructure for electric cars
- Use of smart grid tech and digitalisation of metering operation (e.g. smart meter)

Unbundling regulations

- Ownership unbundling, independent transmission operator (ITO)
- Functional & financial unbundling of the grid business and obligation to non-discriminatory use of grid information



5.3.5 Grids: Electricity grids are the backbone of the "Energiewende"



Electricity grids

General

- > The electricity grid business has become a growth business due to the new energy concept
- > Changes in legislation have simplified reimbursement for costs of investments in grids: e.g. amendments of the Incentive Regulation Ordinance (ARegV)

Transmission grid

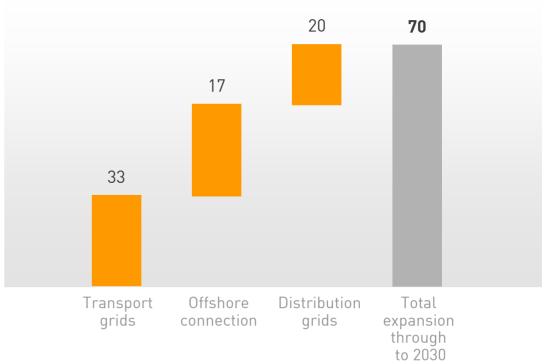
- Growing geographical imbalance between generation and consumption
- > Expansion of transmission grid esp. construction of high voltage direct current (HVDC) transmission lines and connection of offshore wind farms

Distribution grid

- > Feed-in growing due to local generation
- > Still strong tendencies towards moving back to municipal ownership (however, large part of concession already extended)

Capex for expanding the German electricity grid through to 2030

in € bn





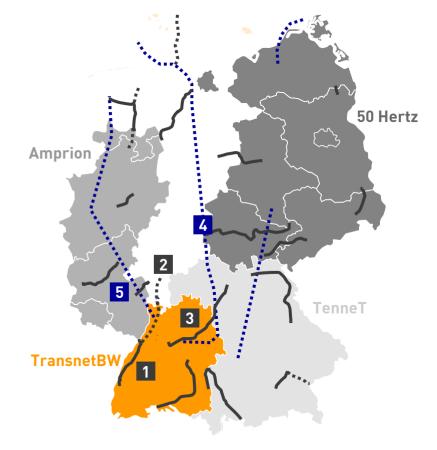
5.3.6 Grids: Expansion of transmission grid to ensure security of supply



Expansion of the EnBW transmission grid

	Grid section	Scheduled completion	
AC grid reinforcement			
1 for Rhein river area in Baden	121 km	2021	
for north Baden-Wuerttemberg	156 km	2022	
3 for north east Baden-Wuerttemberg	158 / plus 56 km	2022 / 2030	
DC expansion			
4 in corridor C "SuedLink" 4 GW	700 km ¹	2025	
in corridor A "Ultranet" 2 GW EnBW contribution: converter, power lines Baden- Wurttemberg	40 km	2021	

Investment up to 2025: around € 5 bn



••••• New construction (DC)

New construction (AC)

Grid reinforcement (AC)



5.3.7 Grids: Investing in distribution grid to integrate renewables and electric cars whilst securing high quality supply



Challenges and activities

Challenges of the distribution grid in Baden-Wuerttemberg ...

- > Wide use of PV in the grid area
- > High expansion targets for wind power
- > Increased emergence of electric cars

... necessitate grid expansion using intelligent technologies (e.g. controllable local grid station, current peaks storage, etc.)

In addition to expansion of the distribution grids, EnBW is investigating smart distribution grids together with partners in several "grid laboratories"

Through to 2025, investments of ~€ 2.5 bn necessary to develop the electricity distribution grid infra-structure in Baden-Wuerttemberg

EnBW grid laboratories and grid innovations

Grid-lab electric fleets



Intelligent load management for electric vehicles

Grid-lab Freiamt



Further development of innovative equipment

Grid-lab Niederstetten



Local grid intelligence



Grid-lab Sonderbuch

Integration of renewables in low-voltage grid

Grid-lab Boxberg and Stockach



Pilot tests to avoid grid overload

Bio-oil transformers



Pilot project with 100 transformers in real grid operation

grid-control



Crafting an effective concept for a future-oriented grid



5.3.8 Grids: Gas grids



EnBW Group's gas grids¹

in km

	2016	2015
Long-distance transmission grid		
High pressure	2,000	1,900
Distribution grid		
High pressure	2,200	2,200
Medium pressure	7,900	7,600
Low pressure	4,500	4,500
Overall length	16,600	16,200





5.3.9 Grids: Comparison of gas transmission and distribution grids

Ownership unbundling, independent transmission



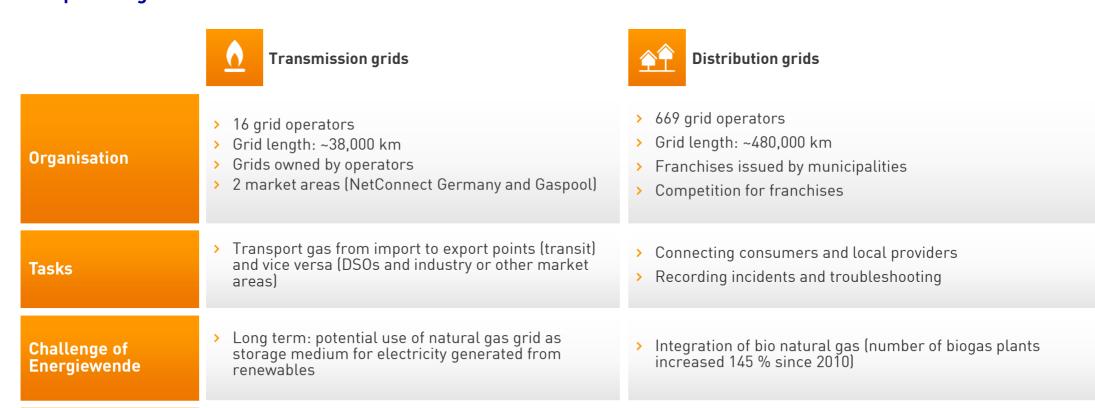
Functional & financial unbundling of the grid business and

obligation to non-discriminatory use of grid information

Comparison gas

Unbundling

regulations



operator (ITO)



5.3.10 Grids: Gas grids are a major element of the "Energiewende"



Gas grids

General

Long-term increase in demand for H-gas capacities in Germany: approx. +13 % up to 2020 approx. +24 % up to 2025 approx. +33 % up to 2030

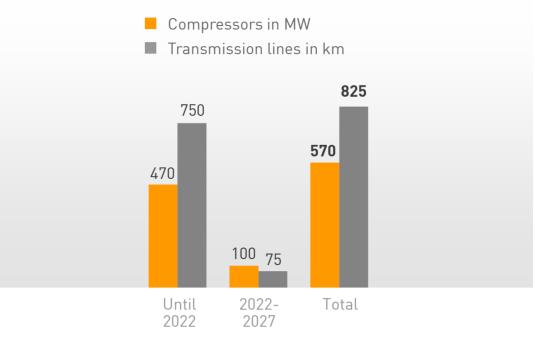
Transmission grid

> Increasing capacity requirements from changes in regulatory environment: Switch on the market from L-gas to H-gas (replacement of approx. half of the L-gas from NL up to 2025 by H-gas from Russia/Norway)

Distribution grid

- Minor dimension of expansion compared to electricity due to less pronounced effects of "Energiewende"
- Growth potential due to the connection of new communities to the natural gas grid
- > Still strong tendencies towards moving back to municipal ownership

Expansion of the gas transmission grid in Germany through to 2027



Investments of ~ € 4.5 bn, of which ~€ 3.6 bn until 2022



5.4.1 Generation and portfolio of the EnBW Group in 2016



	Generation portfolio in MW		Own generation in GWh	
	2016	share	2016	share
Renewable Energies	3,140	23 %	8,257	16 %
Run-of-river	1,032	8 %	5,284	10 %
Storage/pumped storage (using natural flow of water)	1,322	10 %	1,052	2 %
Wind onshore	336	2 %	413	1 %
Wind offshore	336	2 %	1,265	2 %
Other	114	1 %	243	-
Thermal power plants	10,442	77 %	44,538	84 %
Brown coal	875	6 %	5,802	11 %
Hard coal	3,956	29 %	12,625	24 %
Gas	1,784	13 %	3,199	6 %
Other	349	3 %	174	-
Pumped storage (not using natural flow of water)	545	4 %	1,722	3 %
Nuclear	2,933	22 %	21,016	40 %
Total	13,582	100 %	52,795	100 %



5.4.2 Power plants including equity investments and supply contracts







5.4.3 Thermal power plants in 2016¹





Conventional

Karlsruhe	
Narisrune	1,351
Duesseldorf	1,246
Lippendorf	875
Heilbronn	778
Altbach/Deizisau	589
Mannheim	546
Rostock	259
Walsum	250
Stuttgart	211
Walheim	136



Nuclear

Philippsburg	1,402
Neckarwestheim	1,096
Fessenheim, Cattenom (France)	



Grid reserve power plants²

Marbach	426
Heilbronn	250
Walheim	244
Karlsruhe	353
Altbach	433







¹ Major power plants, incl. major changes in 2017 ² Decommissioning of HLB 5/6, MAR DT III, MAR GT II, WAL1/2, RDK4s and ALT HKW1 has been announced; continued temporary operation due to system relevance



5.4.4 Hydropower plants in 2016





Run-of-River

Rhine power plants	560
Neckar, Donau, Murg, Nagold, Enz, Glatt, Jagst, Kocher, Argen	159
Iller power plants	51
EnAlpin	270



Pumped storage

Schluchsee power plants	870
Vorarlberger Illwerke	863
Glems	90
Rudolf-Fettweis-Werk Forbach	43







5.4.5 Onshore and offshore wind farms in 2016¹





Wind onshore

Neuruppin, Goerike, Kemberg, Buchholz,	
Haupersweiler, Eisenach, Oldendorf, Schwienau, Rositz,	280
Zernitz, Ostercappeln, Buehlertann etc.	
Harthaeuser Wald, Ilshofen-Ruppertshofen,	75
Braunsbach, Boxberg	7.5
Rot am See	10
SW Duesseldorf	12



Baltic 1, Baltic 2 336

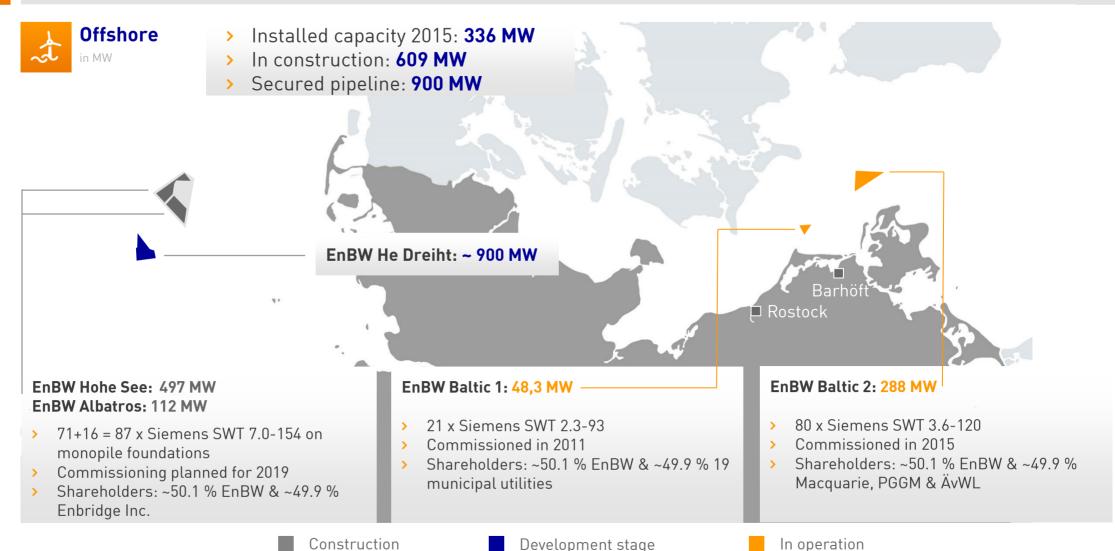






5.4.6 Offshore wind portfolio and project pipeline



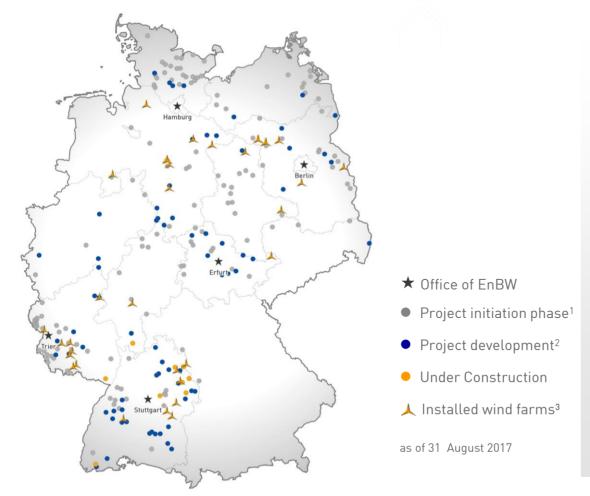


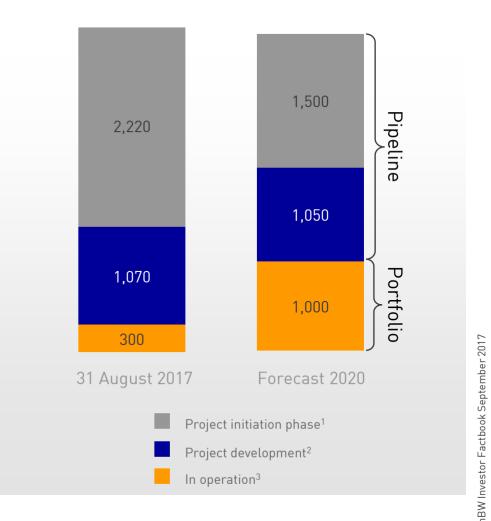


5.4.7 Onshore wind portfolio: Project pipeline 2017 in line with plans for growth up to 2020



Regional distribution of the 2017 pipeline and portfolio

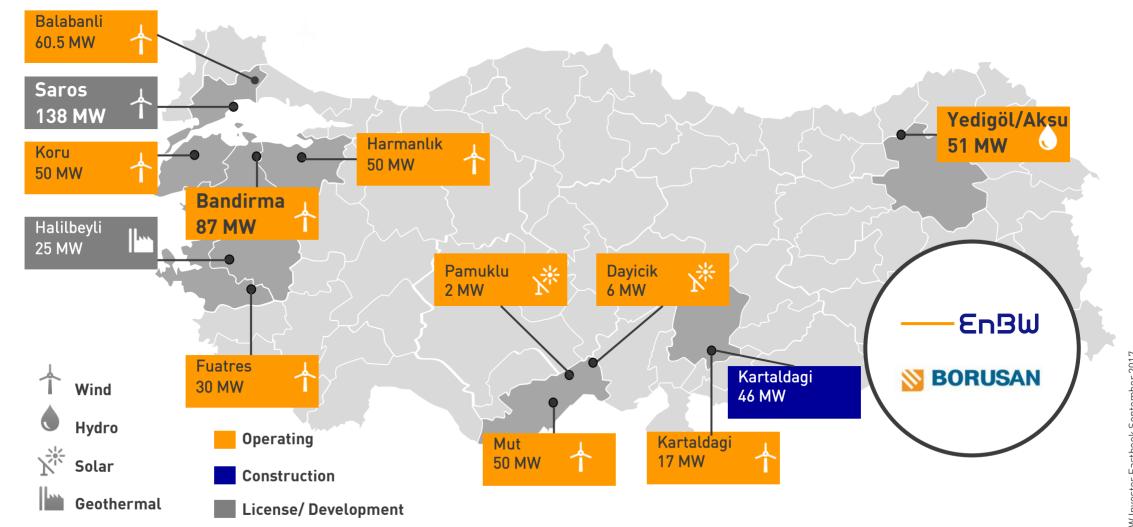






5.4.8 Turkish activities¹: Borusan EnBW Energy portfolio projects







5.5 EnBW's trading activities: Central access to wholesale markets to manage price and volume risks



EnBW's trading activities

- Central interface to wholesale commodity markets for customers and EnBW Group: power, gas, emissions, coal, fuels
- Direct marketing renewables 2017 4,500 MW+
- > 375,000+ trades per year
- > Annual trading volumes, 2016:
 - > 410 TWh power
 - > 790 TWh natural gas
 - > 80 mn t coal
 - 260 mn t emission certificates
 - > 44 mn bbl oil
- > 200+ employees

Market access for electricity:

- > Energiewende products:
 - > direct marketing of renewables, virtual power plants with flexibility close-todelivery, ramp-up/down products in 15min-periods, GOOs, green power
 - > 24/7 service
 - > Physical portfolio management and forecast services
 - > Commercial asset optimization for gas midstream activities incl. GVS-portfolio
 - > Support of customers of EnBW sales units

OTC market access:

- Power: NL, FR, CH, AT, CZ
- Gas: TTF, Gaspool, NCG, Austrian VTP

Exchange market access:

> ICE, CME, EEX, Powernext, EPEX, EXAA, Nordpool Spot



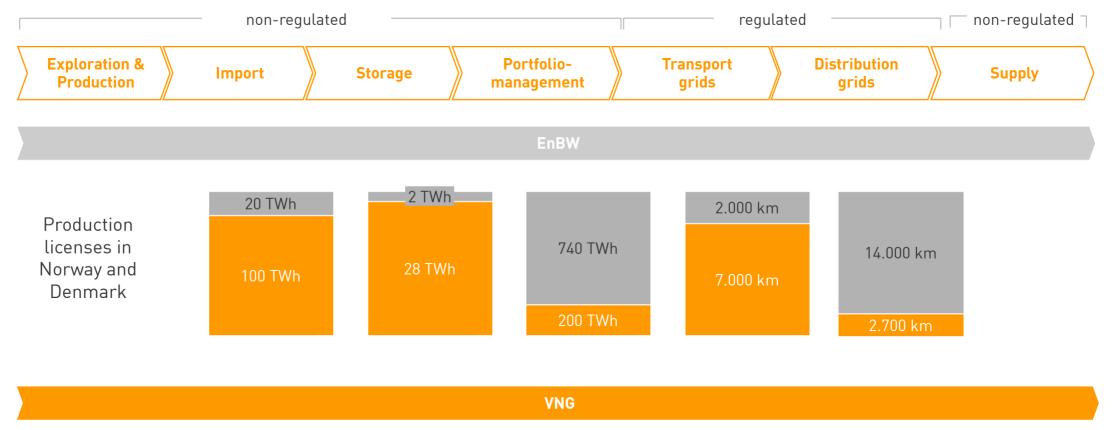
Agenda 6 – The VNG Group

1.	EnBW at a glance	>>
2.	Regulatory Environment and Markets	>>
3.	Customers and Competition	>>
4.	Strategy	>>
5.	Segments	>>
6.	The VNG Group	>>
7.	Key Financials	>>
8.	Capital Markets	>>
9.	Service	>>



6.1 EnBW is fully integrated in the gas market







6.2.1 VNG Group: Key figures (German GAAP)





	2016	2015	2014	2013
Gas sendout (TWh bn)	362	373	368	362
Sales (€ bn)	7.2	9.4	10.0	11.0
EBIT ¹ (€ m)	84	-54	230	182
Net income/loss (€ m)	40	-53	184	89
Number of employees	1,289	1,441	1,427	1,440



6.2.2 VNG Group: Business areas



VNGGROUP is split into the following four business areas **Exploration Trading Transport** Storage & Production & Sales is largely represented by **Verbundnetz** VNG VNG Norge Gasspeicher Gas AG

The VNG Group, headquartered in Leipzig, with approx. 1,300 employees is a horizontally and vertically integrated group of companies which operates in the European gas sector with more than 20 companies in eight countries. The core business, natural gas, is broken down into four business areas: Exploration & Production, Trading & Sales, Transport and Storage."

VNG - Verbundnetz Gas Aktiengesellschaft, as the parent company of the VNG Group, is also responsible for the gas trading business. VNG Norge AS concentrates on the exploration and production of natural gas off the coast of Norway and Denmark. ONTRAS Gastransport GmbH, an independent transmission system operator, independently and non-discriminatorily markets Germany's second largest high pressure network while VNG Gasspeicher GmbH offers the storage capacities of several underground gas storage facilities in central and northern Germany throughout Europe.

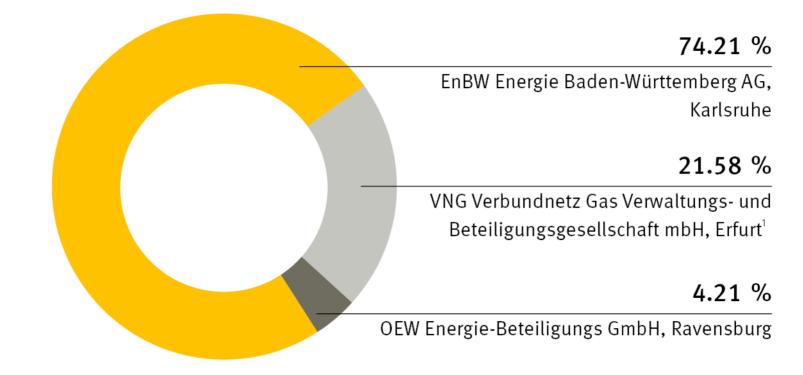




6.2.3 VNG Group: Shareholders of VNG AG



as of May 2017



VNGGROUP



6.2.4 VNG Group: Companies (selection)

Leipziger Biogasgesellschaft mbH, Leipzig, Germany

MBG Mitteldeutsche Biogasgesellschaft mbH, Leipzig, Germany



VNG – Verbundnetz Gas Aktiengesellschaft, Leipzig, Germany ENERGIEUNION GmbH, Schwerin, Germany G.EN. Gaz Energia Sp. z o.o., Tarnowo Podgórne, Republic of Poland goldgas GmbH, Eschborn, Germany goldgas GmbH, Vienna, Austria	
G.EN. Gaz Energia Sp. z o.o., Tarnowo Podgórne, Republic of Poland goldgas GmbH, Eschborn, Germany goldgas GmbH, Vienna, Austria	
Republic of Poland goldgas GmbH, Eschborn, Germany goldgas GmbH, Vienna, Austria	
goldgas GmbH, Vienna, Austria	
goldpower GmbH, Walluf, Germany	
HANDEN Sp. z o.o., Warschaw, Republic of Poland	
SPIGAS S.r.l., La Spezia, Italy	
VNG Austria GmbH, Gleisdorf, Austria	
VNG Energie Czech s.r.o., Prag, Czech Republic	
VNG-Erdgascommerz GmbH, Leipzig, Germany	
VNG Innovation GmbH, Leipzig, Germany	
VNG Italia S.r.I., Bologna, Italy	

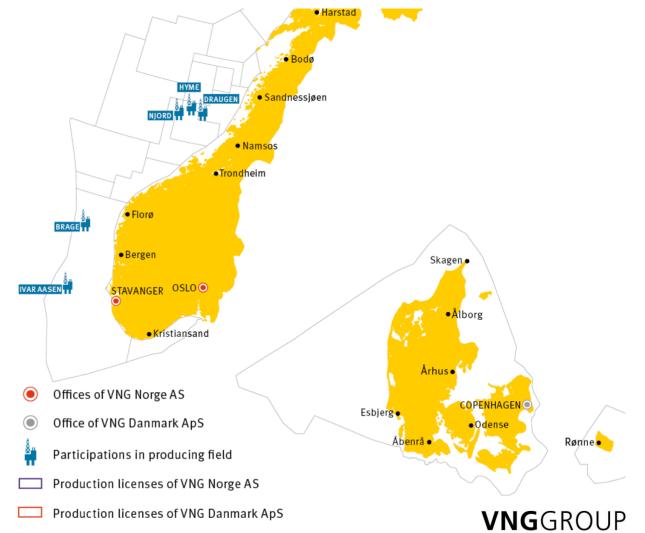




6.2.5 VNG Group: Exploration & Production in Norway and Denmark



- **37** Production licenses
- 2 Operatorships
- 3 Field developments
- 5 Shares in producing fields





6.2.6 VNG Group: Exploration & Production in Norway and Denmark

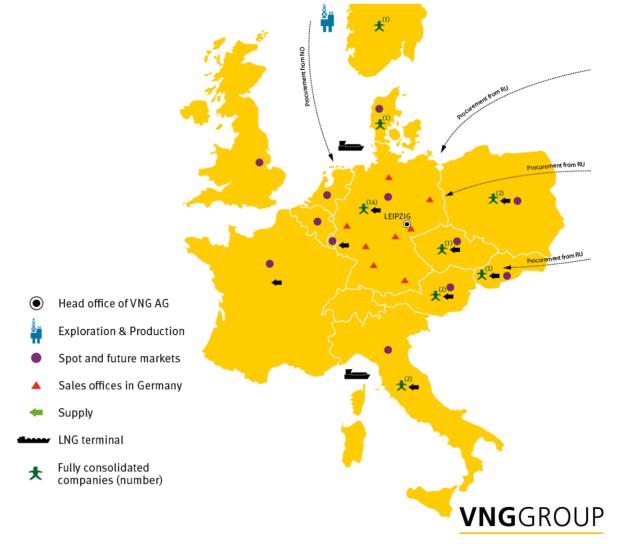
---EnBW

362 TWh Gas sendout

8 Sales offices in Germany

Wholesale on European Spot and Futures Markets

268,000 retail consumers





6.2.7 VNG Group: Trading & Sales Gas Sendout and Procurement



SEND-OUT AND PROCUREMENT 2016

200.7

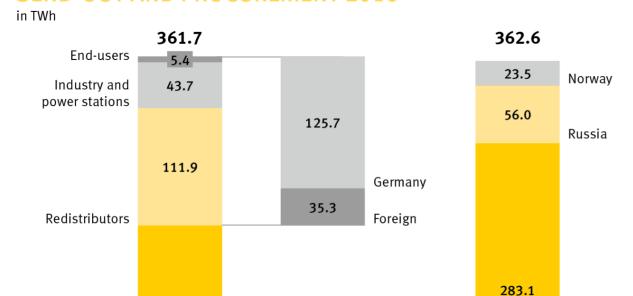
SALES BY

CUSTOMER

SEGMENT

Trading

companies



SALES BY

SALES

MARKET

Spot/ futures market

and

SUPPLY

SOURCES

others







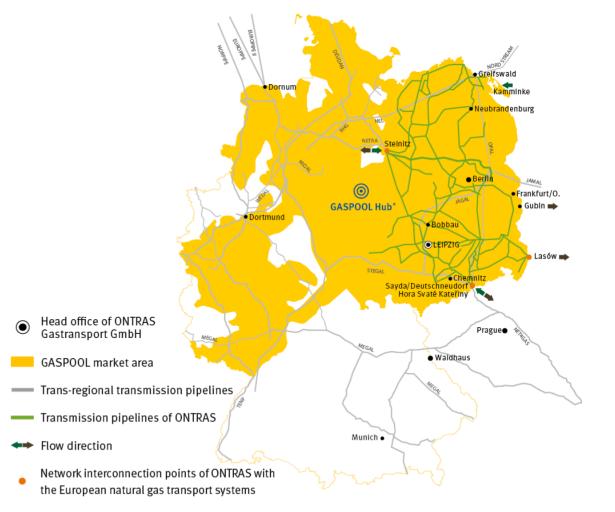
6.2.8 VNG Group: Second largest transmission system operator in Germany

7,000 km High-pressure pipelines

2,700 km Distribution network in Poland

450 Interconnection points

130 Downstream network operators





6.2.9 VNG Group: Storage Third largest storage operator in Germany



2.5 bnm³ Storage capacity

4 Storage facilities

2 Types of storage

Working gas volume i	n million m ^s
Etzel	151
Kirchheilingen	180
VGS storage hub ¹	2,186

¹Bernburg: 1,039 million m³, including 92 million m³ leasehold cavern;

Bad Lauchstaedt: 1,147 million m³

as of 31 December 2016





Agenda 7 – Key Financials



1.	EnBW at a glance	>>
2.	Regulatory Environment and Markets	>>
3.	Customers and Competition	>>
4.	Strategy	>>
5.	Segments	>>
6.	The VNG Group	>>
7.	Key Financials	>>
	 > Five-year summary > Fiscal year 2016 > Half year 2017 	
8.	Capital Markets	>>
9.	Service	>>

7.1 Five-year summary (1/2)



EnBW Group¹

		2016	2015	2014	2013	2012
Earnings						
Revenue	€m	19,368	21,167	21,003	20,545	19,324
EBITDA	€m	1,939	1,918	2,137	2,000	2,307
Group net profit ²	€m	-1,797	158	-466	51	484
Balance sheet						
Equity ratio	%	8.3	13.4	11.9	17.0	17.3
Adjusted net debt ³	€m	10,003	6,736	7,983	7,271	8,419
Cash flow						
Operating cash flow	€m	474	1,918	1,776	1,919	856
Free cash flow	€m	-495	652	330	1,168	206
Profitability						
ROCE	%	7.8	9.5	10.0	9.7	11.1
Value added	€m	123	354	376	180	364
Capital market						
Dividend per share	€	0.00	0.55	0.69	0.69	0.85
Energy sales						
Electricity	bn kWh	115	115	126	128	136
Gas	bn kWh	139	135	117	100	73

¹ The figures for 2014 have been restated; ² In relation to the profit/loss attributable to the shareholders of EnBW AG; ³ Includes investments held as financial assets



7.1 Five-year summary (2/2)



EnBW Group¹

		2016	2015	2014	2013	2012
Sales segment						
Electricity	bn kWh	44	48	48	52	59
Gas	bn kWh	54	82	72	69	58
Revenue	€m	7,771	9,061	9,067	9,568	9,278
Adjusted EBITDA	€m	250	255	231	227	241
Grids segment						
Electricity sales ²	bn kWh	_	_	-	13	17
Revenue	€m	6,644	6,351	6,231	5,708	5,340
Adjusted EBITDA	€mn	1,004	747	886	962	773
Renewable Energies segment						
Electricity sales ²	bn kWh	3	3	4	4	3
Revenue	€m	511	447	407	372	353
Adjusted EBITDA	€m	295	287	191	220	239
Generation & Trading segment						
Electricity sales	bn kWh	68	65	75	60	57
Gas sales	bn kWh	85	53	45	31	15
Revenue	€m	4,434	5,300	5,290	4,888	4,346
Adjusted EBITDA	€m	337	777	900	839	1,125

¹ The figures for 2014 have been restated;

² Since the beginning of 2015, electricity sales from the Grids segment are no longer disclosed because the Independent Transmission Operators (ITO) no longer report their data.



7.2.1 Fiscal year 2016



Key performance figures

		2016	2015	Variance in %
Cash flow from operating activities	€m	473.6	1,918.3	-75.3
Free cash flow	€m	-494.7	651.6	_
Equity ratio	%	8.3	13.4	-
Net debt	€m	10,002.9	6,735.5	48.5
Dynamic leverage ratio		5.16	3.19	61.8
Value added ¹	€m	123.4	354.3	-65.2
ROCE	%	7.8	9.5	-
Group net profit 1,2	€ m	-1,797.2	158.2	
Earnings per share from Group net profit/loss 1, 2	€	-6.64	0.58	_

¹ The figures for the previous year have been restated. ² In relation to the profit/loss attributable to the shareholders of EnBW AG.



7.2.2 Fiscal year 2016: ROCE and value added



Group level

- Decreasing value added at € 123 m (2015: € 354 m)
- ROCE at 7.8 % compared to 9.5 % in the prior year
- Increase in average capital employed

		Sales		Grids		Renewable Energies		Generation & Trading		Other / Consolidation		Total	
Value added 2016 by segment ¹	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	
Adj. EBIT incl. investment result (€ m)	193.2	199.2	668.2	451.3	130.1	161.1	44.8	409.5	40.2	77.2	1,076.5	1,298.3	
Average capital employed (€ m)	617.4	800.5	5,085.1	4,669.3	2,995.8	2,820.7	2,072.8	2,377.2	2,944.5	2,959.5	13,715.6	13,627.2	
ROCE (%)	31.3	24.9	13.1	9.7	4.3	5.7	2.2	17.2	_	_	7.8	9.5	
WACC (%)	8.3	8.2	5.8	5.9	7.5	7.5	8.4	8.4	_	_	6.9	6.9	
Value added (€ m)	142.0	133.7	371.2	177.4	-95.9	-50.8	-128.5	209.2	-	_	123.4	354.3	



7.2.3 Fiscal year 2016

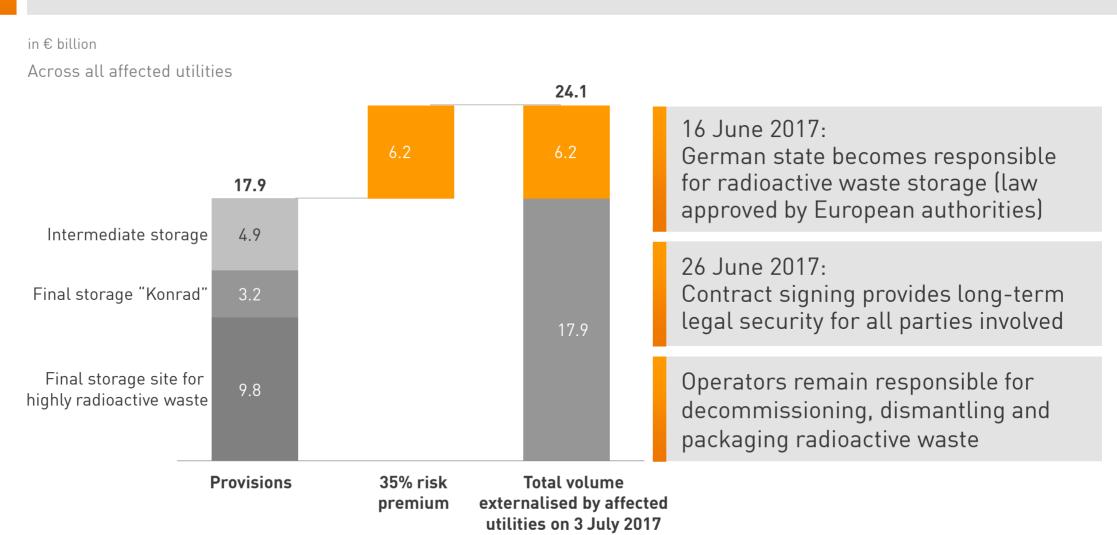


Segment reporting in € million	Sales		Grids		Renewable Energies		Generation & Trading		Other / Consolidation		Tot	
	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015
Revenue												
External revenue	7,771.1	9,061.2	6,643.7	6,350.6	510.6	447.0	4,433.9	5,300,4	9.1	7.3	19,368.4	21,166.5
Internal revenue	431.4	319.1	2,639.0	2,592.0	272.4	318.3	2,341.8	2,705.4	-5,684.6	-5,934.8	0.0	0.0
Total revenue	8,202.5	9,380.3	9,282.7	8,942.6	783.0	765.3	6,775.7	8,005.8	-5,675.5	-5,927.5	19,368.4	21,166.5
Earnings indicators												
Adjusted EBITDA	249.7	255.3	1,004.1	747.4	295.3	287.4	337.2	777.3	52.6	42.4	1,938.9	2,109.6
EBITDA	177.1	329.5	897.2	818.9	293.8	274.3	-739.3	579.9	101.9	-84.4	730.7	1,918.2
Scheduled amortisation and depreciation	-56.5	-56.1	-367.2	-345.0	-153.2	-110.9	-310.4	-384.6	-27.1	-31.1	-914.4	-927.7
Impairment losses	-44.2	-6.7	-2.9	-4.2	-11.8	-13.1	-1,417.8	-677.0	-2.5	-12.5	-1,479.2	-713.5
Net profit/loss from entities accounted for using the equity method	-		12.9	22.2	-16.5	-16.2	4.6	5.7	-11.0	14.6	-11.0	26.3
Significant non-cash items	22.0	-34.2	16.8	57.2	8.6	4.4	11.2	-18.8	-12.5	-12.3	46.1	-3.7
Assets and liabilities												
Capital employed	525.6	578.7	5,310.8	4,936.9	3,066.2	2,960.3	2,074.7	2,055.9	3,817.0	2,369.9	14,794.3	12,935.4
of which carrying amount of entities accounted for using the equity method	-	_	(282.7)	(304.4)	(207.7)	(193.2)	(56.7)	(56.3)	(1,288.5)	(272.2)	(1,835.6)	(826.1)
Capital expenditure on intangible assets and property, plant and equipment	51.9	67.9	795.6	710.8	208.1	439.4	111.1	170.5	22.7	27.8	1,189.4	1,416.4



7.3.1 KFK: Payments of utilities in funds lead to release of nuclear storage obligations

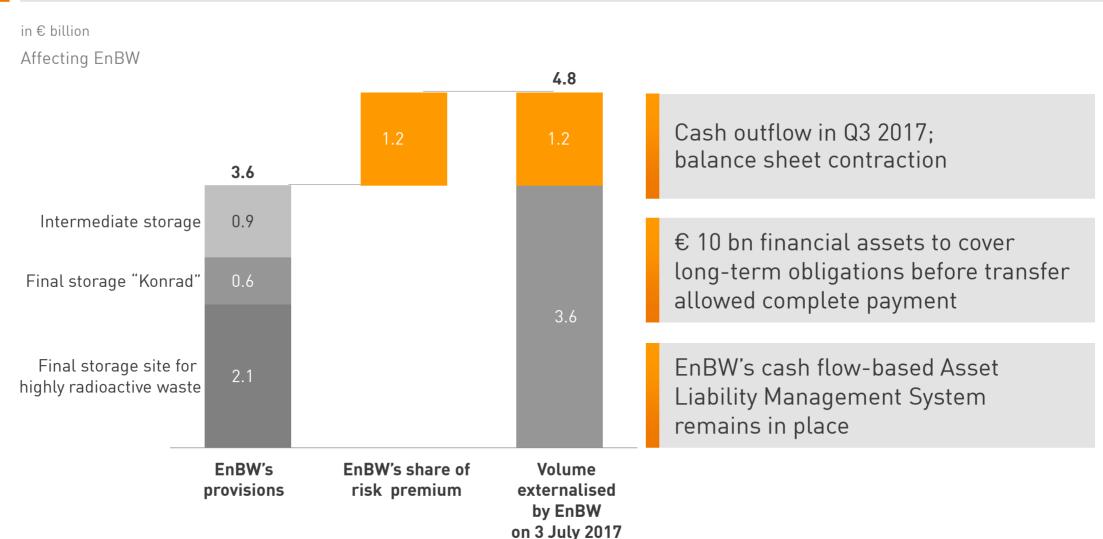






7.3.2 KFK: Complete payment of provisions and risk premium by EnBW lead to net debt increase, but de-risking



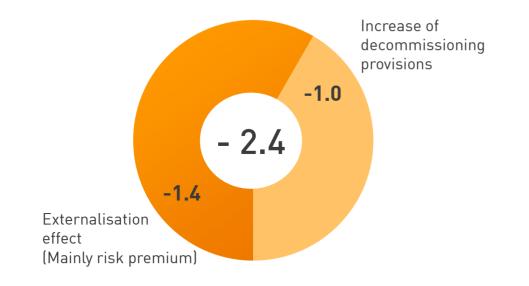




7.3.3 Law initiated by KFK has had a negative impact in 2016... ...but will have a positive impact as of 2017ff

Impact on EnBW's EBT 2016

in € billion



Financial result will improve by € ~ 200 m p.a.¹...

- ✓ Risk-free interest rate of on average 0.5 %
- ✓ Rate of increase of costs of ~1.4 %
- ✓ Spread of around -0.9 % as real interest rate

Increase of remaining nuclear power provisions by \bigcirc 1,045 m to \bigcirc 6,214 m due to lower spread

Nominal amount of remaining nuclear provisions: $\[\] \[\] \[\]$

... but EBT will rise by € ~100 m p.a. only

Higher annual depreciation over remaining life time of nuclear power plants

¹ Depending on future development of interest rate to be applied

² The nominal amount (without taking into account the effects of the discount rate and rate of increase of costs).



7.4 Nuclear fuel tax reimbursement a positive one-off effect, but no easing of efforts to deliver 2020 strategy

—EnΒW

H1 2017

7 June Federal Constitutional Court ruling declared nuclear fuel tax unconstitutional, leading to tax refund

~€ 1.1 bn refunded to EnBW in June (total paid by EnBW 2011-2016: **€ 1.44 bn**)

H₂ 2017

Remaining **~€ 300 m** refunded in July

Additional **~€ 200 m** in interest also refunded

~€ 145 m pro-rata payout to co-owner of GKN II

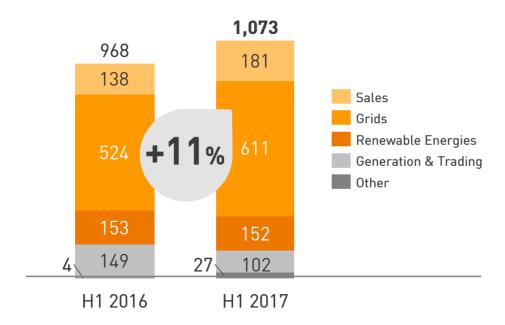


Half-year 2017 key financials underpin 2020 strategy execution



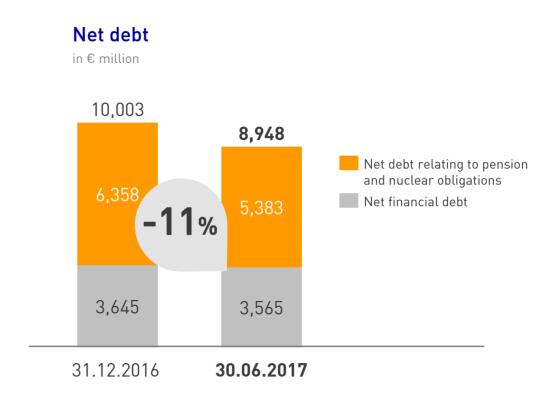
Adjusted EBITDA

in € million





- > No nuclear fuel tax in 2017
- > Positive effects related to other periods



- > Nuclear fuel tax refund
- Provisions down due to higher discount factor
- > Positive free cash flow
- > 49.89% of EnBW Hohe See sold to Enbridge

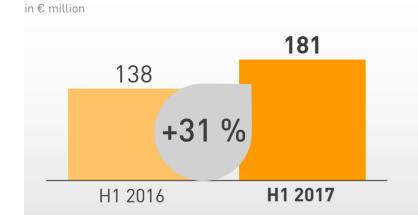


Sales

7.5.2 H1 2017: Sales and Grids with positive development



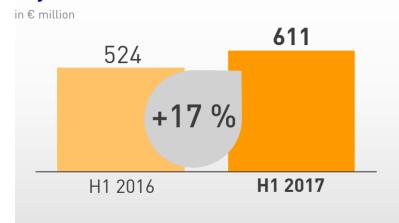
Adjusted EBITDA



Positive effects from withdrawal from the unprofitable EnBW and Watt B2B commodity business in 2016

Temporary prior-year effects

Adjusted EBITDA



Positive effects due to first-time consolidation of VNG

Temporary prior-year effects

Grids



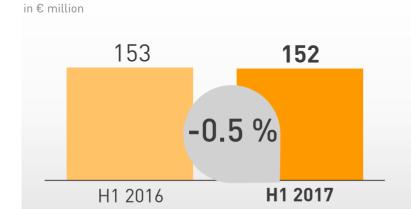
Renewable

Energies

7.5.3 H1 2017: Renewable Energies on prior-year level; Generation & Trading mainly characterised by negative effects



Adjusted EBITDA



- Higher wind yields compared to previous year, in particular offshore wind farms
- Reduced water level of our run-of-river power plants
- Electricity delivered from run-of-river power plants was sold on the forward market at lower wholesale market prices

Adjusted EBITDA

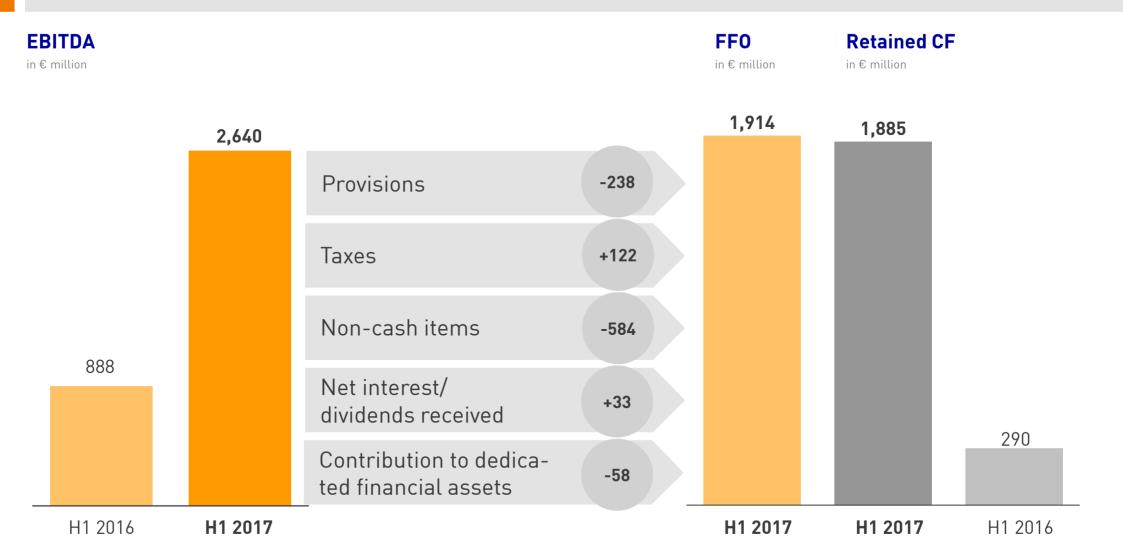


- Downtime and early inspection of nuclear power plant KKP 2
- Electricity delivered was sold on the forward market at lower wholesale market prices
- Positive effects from the elimination of the nuclear fuel tax which will increase in the course of the year



7.5.4 H1 2017: Significant FFO increase mainly due to refund of nuclear fuel tax

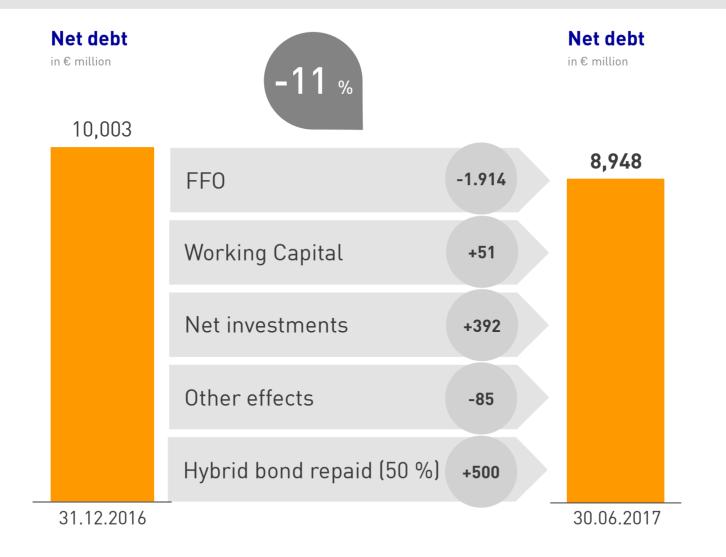






7.5.5 H1 2017: Net debt decreased mainly in the light of the refund of the nuclear fuel tax

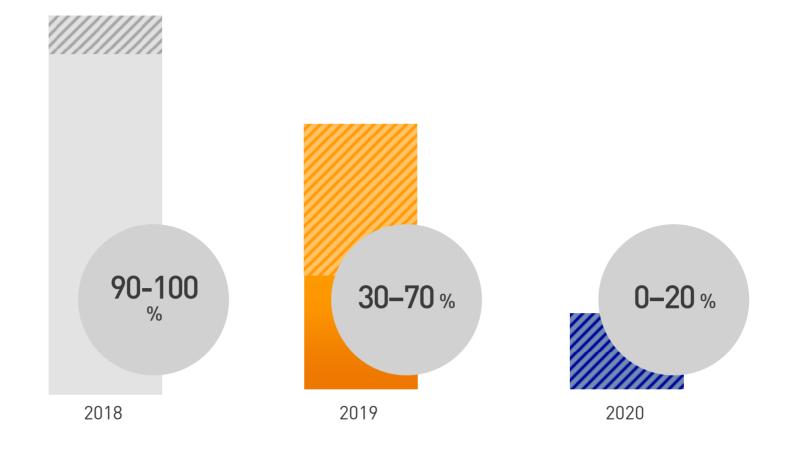






7.6 Hedge levels¹







7.7 Confirmation of outlook 2017



Sales

Grids

Renewable Energies Generation and Trading

Group

Adj. EBITDA 2016

in € million

250

1,004

295

337

1,939

Forecast 2017

in %

+15 to +25

-5 to +5

+5 to +15

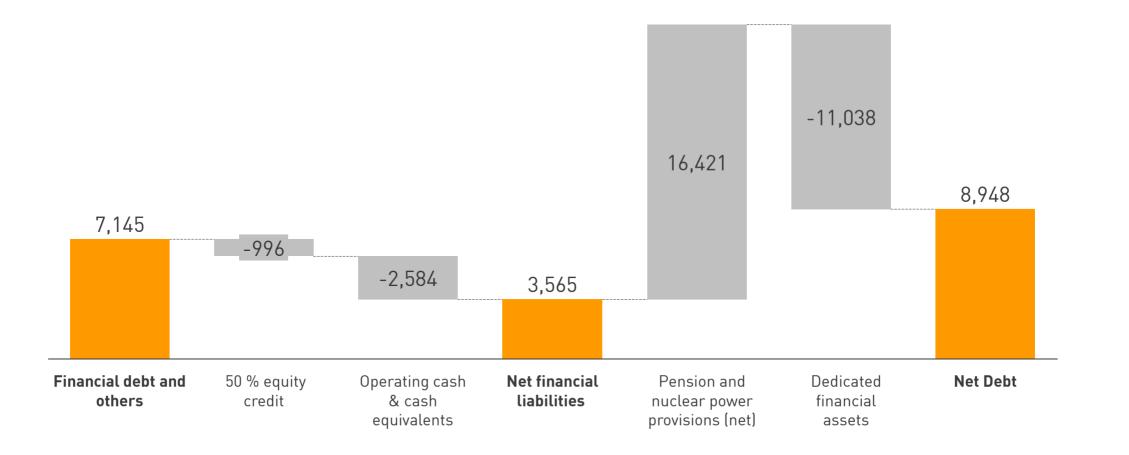
-10 to -20 0 to +5



7.8 H1 2017: Calculation of net debt



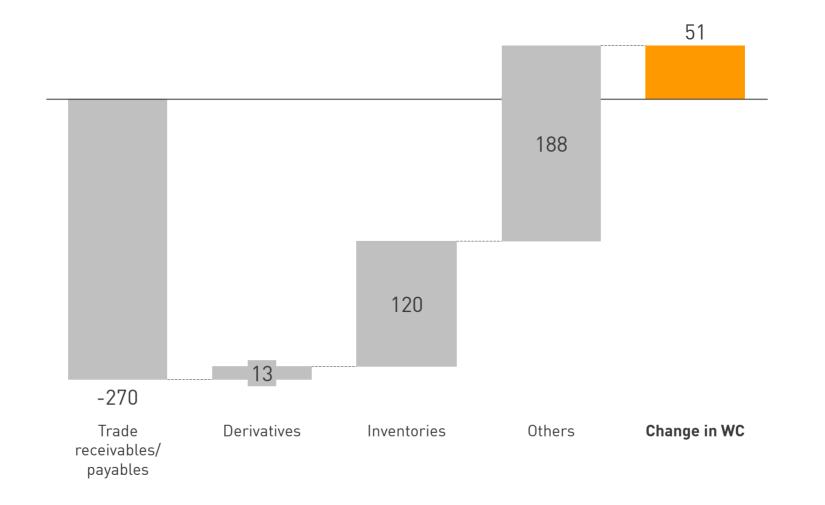
in € million



7.9 H1 2017: Working capital effects



in € million





Agenda 8 – Capital Markets



1.	EnBW at a glance	>>
2.	Regulatory Environment and Markets	>>
3.	Customers and Competition	>>
4.	Strategy	>>
5.	Segments	>>
6.	The VNG Group	>>
7.	Key Financials	>>
8.	Capital Markets	>>
	 Asset Liability Management model Bonds Maturity profile Ratings Shareholder structure 	
9.	Service	>>

8.1 Service-focused Investor Relations



Ingo Peter Voigt



Head of Finance,
M&A and Investor Relations

- > EnBW views investor relations as a service provided for one of its most important stakeholders.
- > Investor Relations strives to meet the information requirements of investors, analysts, rating agencies and banks in a timely fashion. Active communication facilitates ongoing dialogue with the target groups and enables us to underscore EnBW's potential for generating value added.
- As only a small proportion of our shares are in free float, our investor relations activities concentrate on fixed-income investors and credit analysts on the buy and sell side to ensure access to the capital markets at all times.
- EnBW is aware of the importance of investor relations. The interest of our investors is always of relevance when taking strategic decisions.

8.2 EnBW's finance strategy is geared to maintaining a strong credit standing



EnBW's strategy



Objectives of EnBW's finance strategy and financial management

EnBW's finance strategy

- > Optimising the cost of capital
- > Ensuring sufficient liquidity for operations at all times
- > Limiting the interest rate risk for the Group
- > Maintaining a strong credit standing

EnBW's financial management

- Multi-pillar strategy offering maximum flexibility in financing
- > Diversified market approach
- Widely spread maturity profile; preference for long-term financing for the purpose of risk mitigation
- Hybrid capital to support senior debt holders
- > Investments limited to RCF and thus managing net financial debt
- Sophisticated Asset Liability Management to cover future pension and nuclear provisions and limit burden on OCF

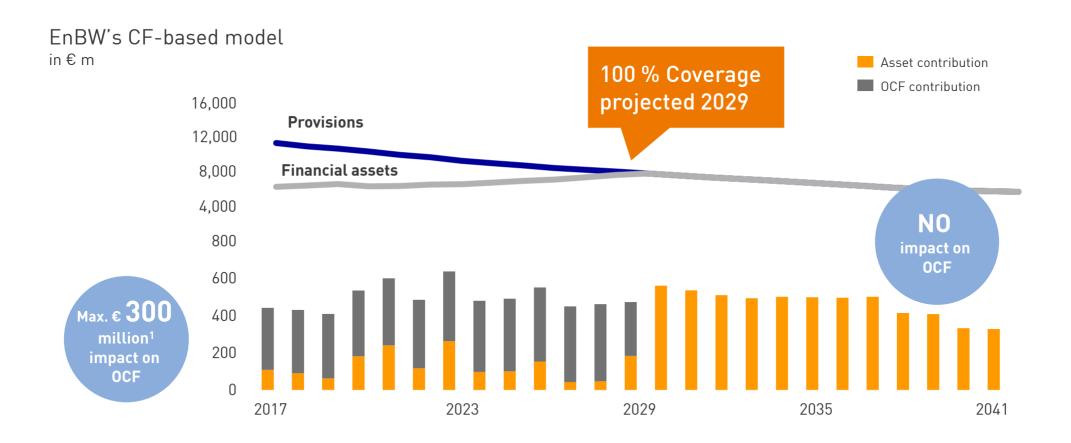




8.3

Asset Liability Management model – EnBW covers nuclear and pension provisions even after KFK transfer







8.4 New financial framework for operating business



Asset Liability Management Model Timely coverage of pension and nuclear obligations

Active management of corresponding financial assets

Impact on operating cash flow of a max. $\in 300$ m p.a. adjusted for inflation

After full coverage no more funding through operating cash flow

Operating business Management of net financial debt

Internal financing capability new key performance indicator

Limitation of cash relevant net investments to retained cash flow of an average € 1.3 bn p.a.

Further implementation of strategy can be executed by internal financial ressources only

Future dividend payout will be based on the earnings performance and the internal financing capability



8.5 EnBW has a flexible access to various financing sources¹



Debt Issuance Programme

€ 7 billion

Thereof € 3 bn utilised²

Hybrid bonds

€ 2 billion²

Commercial Paper Programme

€ 2 billion

undrawn

Syndicated credit line

€ 1.5 billion

undrawn Maturity date: 2021 Bilateral free credit lines

€ 1.3 billion²

Project financing and low-interest loans from the EIB



8.6.1 Fixed income: EnBW's senior bonds



Issuer: EnBW Finance B.V.

CCY	Incre- ments	Volume (mn)	Term (years)	Issue date	Maturity	Coupon (%)	Interest date	Security No. (WKN)	ISIN No.	Stock Ex.
CHF	5,000	100	5	12/7/2013	12/7/2018	1.25	12 July	A1HM5M	CH0217677605	S
€	50,000	750	10	20/11/2008	20/11/2018	6.875	20 Nov	A0T3US	XS0399861086	L
CHF	5,000	100	10	12/7/2013	12/7/2023	2.25	12 July	A1HM5N	CH0217677654	S
€	1,000	500	20	9/12/2004	16/1/2025	4.875	16 Jan	A0DG9U	XS0207320242	L
€	1,000	500	12	4/6/2014	4/6/2026	2.500	4 June	A1ZJ9E	XS1074208270	L
€	100,00	100	20	13/6/2014	13/6/2034	2.875	13 June	Priva	ate Placement	
YEN	100,000,000	20,000	30	16/12/2008	16/12/2038	3.880	16 June & 16 Dec	Private Placement		
€	1,000	600	30	7/7/2009	7/7/2039	6.125	7 July	A1AJTV	XS0438844093	L
€	100.000	100	25	16/6/2014	16/6/2039	3.080	16 June	Priva	ate Placement	
€	100.000	50	30	1/8/2014	1/8/2044	2.900	1 Aug	Priva	ate Placement	



8.6.2 Fixed income: EnBW's hybrid bonds



Issuer: EnBW Energie Baden-Wuerttemberg AG

CCY	Incre- ments	Volume (mn)	Term (years)	Issue date	Maturity	Coupon (%)	Interest date	Security No. (WKN)	ISIN No.	Stock Ex.
€	1,000	750 ¹	60.4	28/10/2011	2/4/2072	7.375	2 April	A1MBBB	XS0674277933	L
€	1,000	250 ¹	60 ²	2/4/2012	2/4/2072	7.375	2 April	A1MBBB	XS0674277933	L
€	1,000	1,0001	62	18/3/2014	2/4/2076	3.625	2 April	A11P78	XS1044811591	F, L
USD^3	2,000	300 ¹	60.5	5/10/2016	5/4/2077	5.125	5 April	A2BN7K	XS1498442521	L
EUR	1,000	725 ¹	60.5	5/10/2016	5/4/2077	3.375	5 April	A2BPFD	XS1405770907	L

As of 30 June 2017

L = Luxembourg, F = Frankfurt

¹ Hybrid bond coupon initially

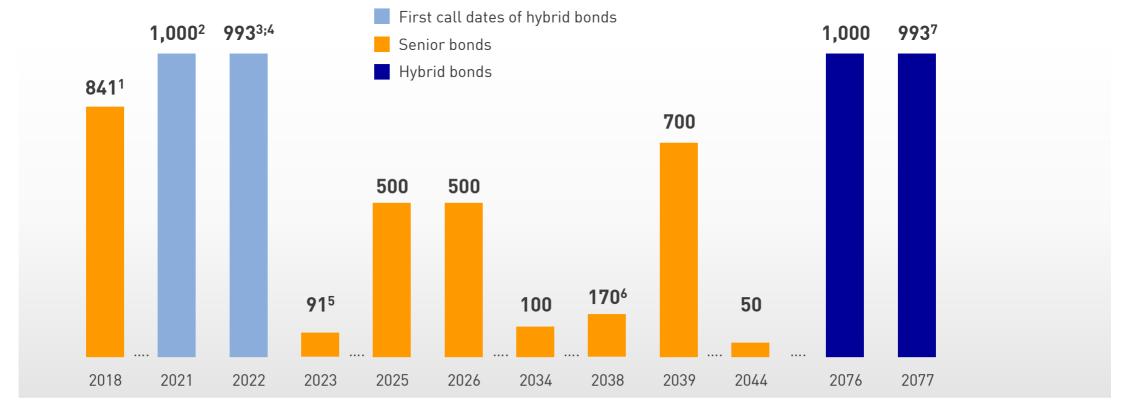
²Increase of hybrid bond ISIN No. XS0674277933

³ Regulation S: This Notes are not offered or sold within the United States or to, or for the account or benefit of, U.S. persons



8.6.3 Fixed Income: Maturity profile





¹ Includes CHF 100 million, converted as of the reporting date of 30/6/2017

³ First call date: hybrid maturing in 2077

⁵ CHF 100 million, converted as of the reporting date of 30/6/2017

⁷ Includes USD 300 million, converted as of the reporting date of 05/10/2016

² First call date: hybrid maturing in 2076 ⁴ Includes USD 300 million (swap in EUR)

⁶ JPY 20 billion (swap in EUR)

8.6.4 Fixed income: Ratings



Rating: a sound financial policy has allowed EnBW to maintain solid ratings against the negative sector trend

MOODY'S INVESTORS SERVICE

Baa1/stable

24 May 2017

- > Conventional generation to remain challenging
- > EnBW 2020 strategy to compensate for negative impact of changing market conditions; de-risking of EBITDA mix, increasing contribution from more stable profit streams
- > KFK agreement creates additional financial burden
- Continuing implementation of measures to defend credit quality
- Strong shareholder support



A-/stable

20 June 2017

- Considerable progress in its business repositioning strategy
- > Funding of nuclear waste-related liabilities without major disruptions to strategy or capital structure
- Nuclear tax refund will support recovery of credit measures
- Stable outlook reflects expectation that network operations and growing renewable business will mitigate volatility in power generation and sales, and that credit measures will recover in the near term

FitchRatings

A-/stable

7 July 2017

- > Ratings reflect strong integration, expected increase in earnings visibility and lower financial leverage than many of its peers
- Payment to the state-run nuclear fund (KFK) puts pressure on credit metrics
- > Prudent investment and dividend policy supporting credit ratios
- Nuclear fuel tax refund will lead to increased headroom assuming that at least part of the amount will be used for strengthening the balance sheet



Equity capital market: Shareholder structure

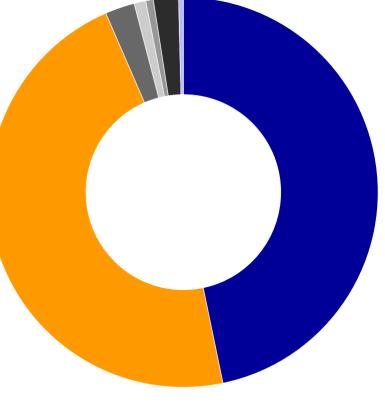


Shareholder structure¹

46.75 %
46.75 %
2.45 %
0.97 %
0.63 %
2.08 %
0.39 %

Stock exchange information

ISIN/security ident. no.	DE0005220008/ 522000 Bloomberg EBK GY/reutersEBK/EBKG.DE				
Stock exchange abbreviation					
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 Divergence from 100 % possible due to rounding effects ; ² 100% subsidiary of NECKARPRI GmbH which is a 100% subsidiary of the federal state of Baden-Wuerttemberg

8.7.2 Key financial indicators



Securing Profitability

Portfolio Transformation

Grids and Renewables with ~70 % Adj. EBITDA contribution by 2020

Adj. EBITDA Target 2020 € 2.3-2.5 bn Adj. EBITDA Target 2025 € 3.0-3.3 bn

High Level of Financial Discipline

Internal Financing Capability

Retained Cash Flow minus Net Investments >0 Coverage of pension and nuclear provisions

Asset Liability Management Model
Cap on Operating Cash Flow of € 300 m p.a.

Increasing Group Value

ROCE > WACC

8.5 - 11.0

Access to Capital Markets

Solid Investment Grade Ratings

Sustainable Dividend Level

Payout Ratio of 40 %-60 % (medium-term target)



8.7.3 Equity capital market: EnBW share in figures¹



		2016	2015	2014	2013	2012
Annual high	€	24.25	27.00	28.39	30.89	38.32
Annual low	€	18.29	20.21	24.50	25.00	30.00
Closing price	€	19.69	20.62	25.60	26.85	30.15
Number of shares outstanding ² as of 31 December	m	270,855	270,855	270,855	270,855	270,855
Market capitalisation as of 31 December	€bn	5.3	5.6	6.9	7.3	8.2
Stock exchange trade (total)	Number of shares	80,173	125,440	157,809	95,634	95,154
Stock exchange trade (daily average)	Number of shares	391	568	711	439	433
Distribution ³	€m	0.00	149.0	186.9	186.9	230.2
Dividend per share	€	0.00	0.55	0.69	0.69	0.85

¹ Share value based on closing price trading the EnBW share in XETRA ² Total number of shares 2012 to 2015: 276.605 mn shares (2010 to 2011: 250.006 mn shares). ³ Distribution in terms of shares entitled as of year-end.



Agenda 9 - Service

9.	Service	>>
8.	Capital Markets	>>
7.	Key Financials	>>
6.	The VNG Group	>>
5.	Segments	>>
4.	Strategy	>>
3.	Customers and Competition	>>
2.	Regulatory Environment and Markets	>>
1.	EnBW at a glance	>>



9.1 Financial calendar 2017 and 2018



2017



> Report: January – September 2017
Conference time: 01:00 pm

2018



Integrated Annual Report:
January - December 2017



> Annual General Meeting 2018



9.2 Important links



Important links

- > EnBW Group online
- > VNG Group online
- > EnBW Strategy
- > EnBW Renewables Energies
- > EnBW Current ratings
- > EnBW Corporate Governance
- EnBW Annual Report 2016 (pdf)

- > EnBW Overview Board of Management
- > EnBW Overview Supervisory Board
- > EnBW Dividend history
- > EnBW Current share price
- > EnBW Financial calender
- > EnBW IR Contact
- > EnBW Six-Monthly Report 2017 (pdf)

9.3 EnBW's IR team





Ingo Peter Voigt

Head of Finance,

M&A and Investor Relations

T +49 721 - 6314375

i.voigt@enbw.com



Julia von Wietersheim
Senior Manager
Investor Relations
T +49 721 - 6312060
j.vonwietersheim@enbw.com



Lea Gantz

Manager
Investor Relations

T +49 721 - 6313646
I.gantz@enbw.com

9.4 Your feedback



We welcome any feedback on our Investor Factbook. Please let us know if you require any further information

