Investor Update 2018

April 2018

EnBW

EnBW continues to rigorously implement its 2020 strategy

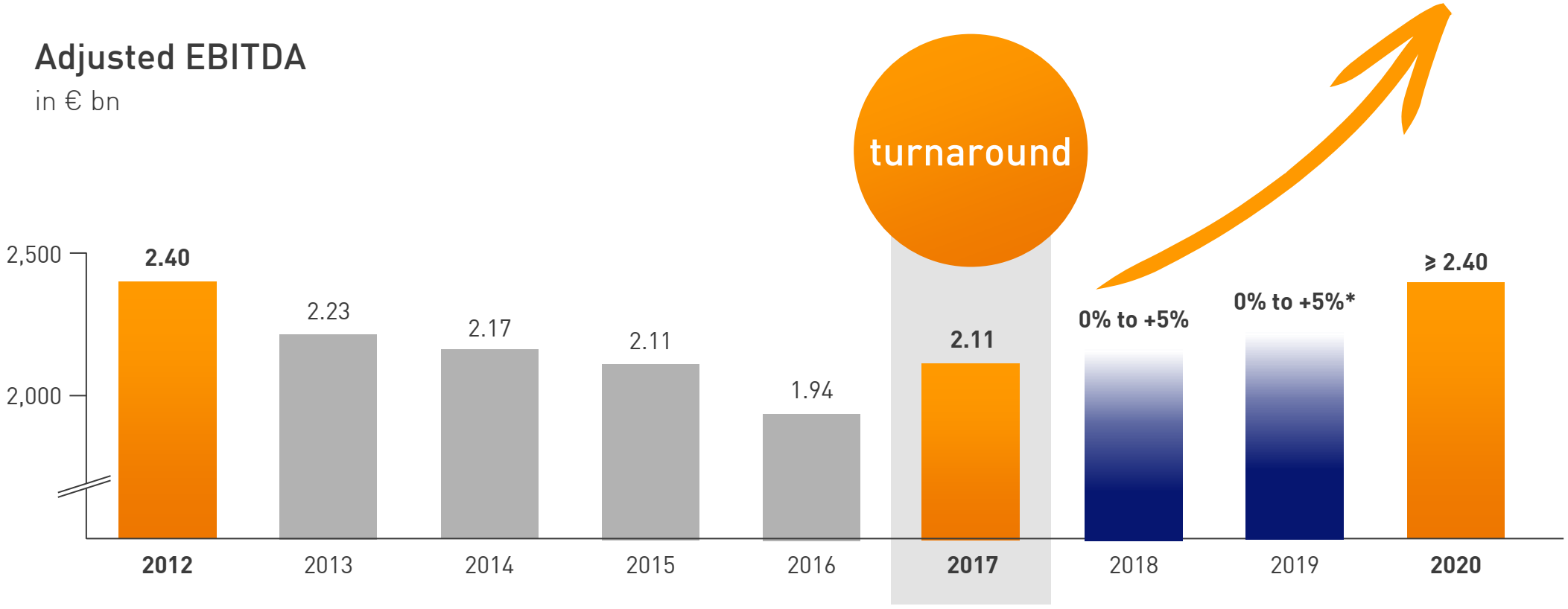
	2012		2020
Generation and Trading	1.2	-80%	0.3
Renewable Energies	0.2	+250%	0.7
Grids	0.8	+25%	1.0
Sales	0.2	+100%	0.4
	2.4		2.4

In Adjusted EBITDA in € bn

Earnings turnaround in 2017 is a key milestone in ongoing transformation

Adjusted EBITDA

in € bn

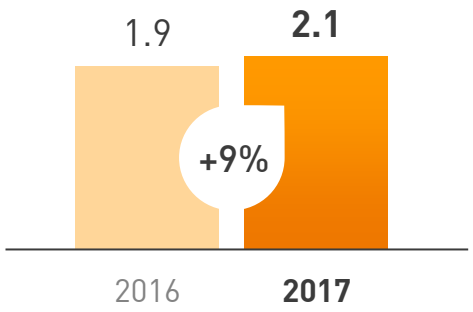


- Operating performance
- Efficiency measures
- Financial discipline

* Referred to forecast 2018

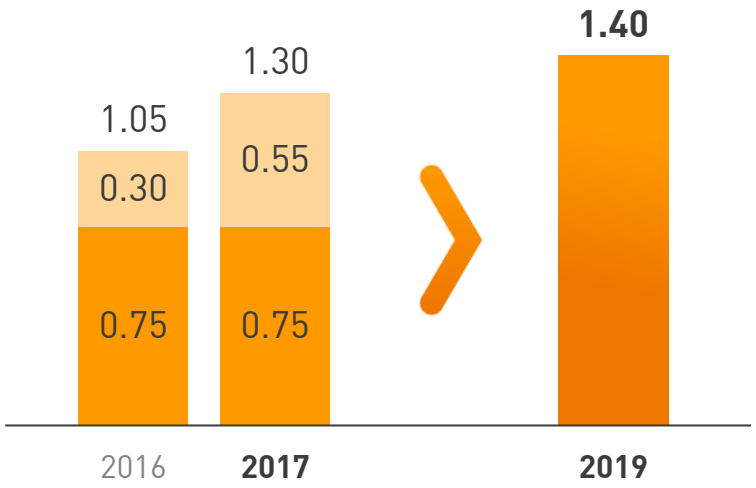
Strategic profit drivers remain in place

Operating performance increased in all segments



Adjusted EBITA
in € bn

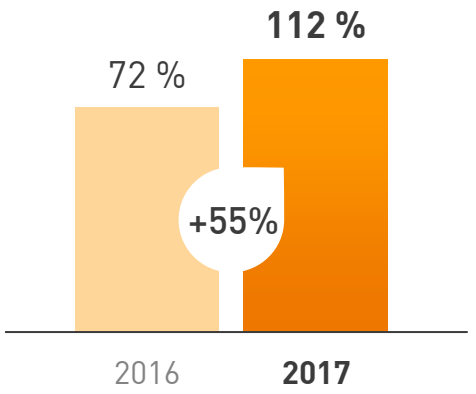
Accelerated ramp up of efficiency measures



in € bn

additional
FOKUS

Financial strength improved

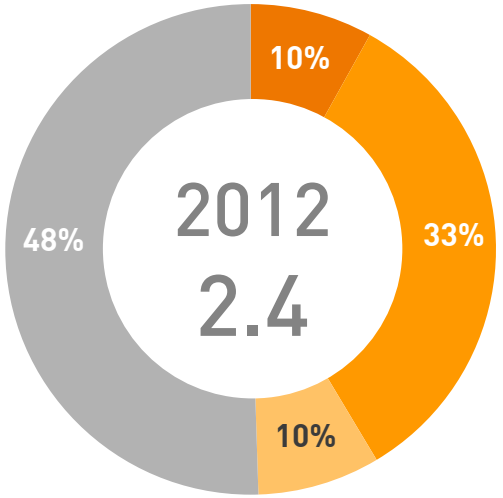


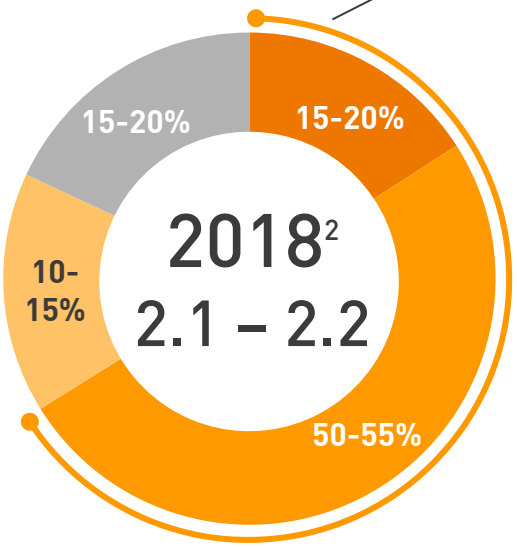
Internal financing capability
Retained Cash Flow minus
Net investments >0

Portfolio transition shows substantial progress

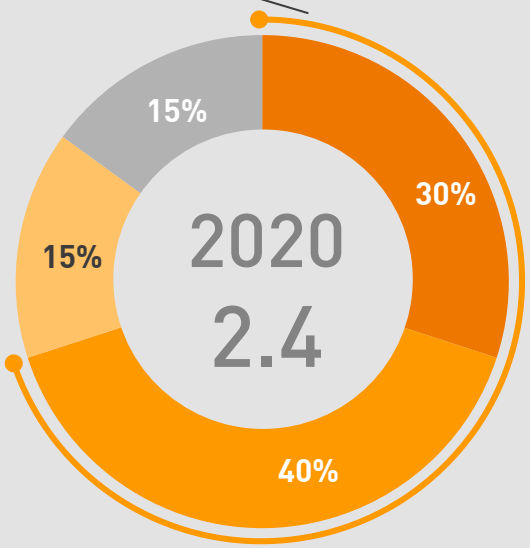
Adjusted EBITDA[1]

in € bn





Share of
low-risk earnings



Renewable Energies Grids Sales Generation &Trading

[1] Divergence from 100% possible due to rounding effects

[2] Forecast

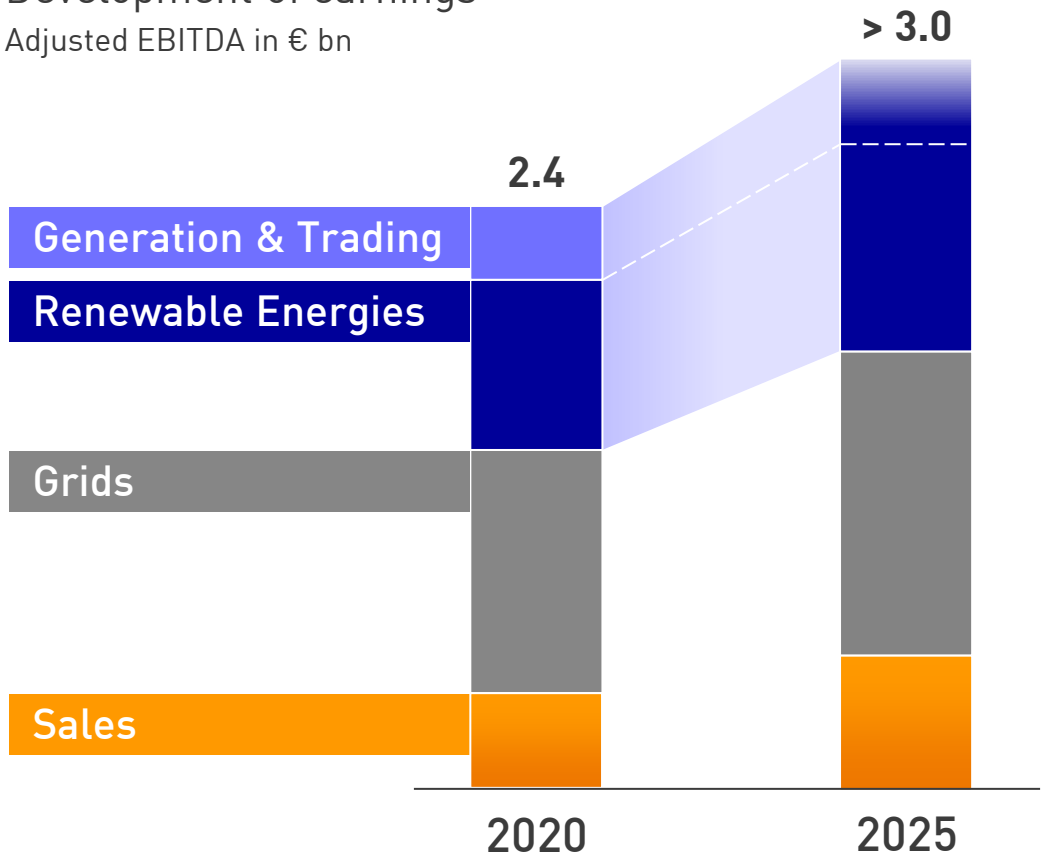
Realistic earnings target 2020

- Expansion of onshore wind from 540 MW to 1,000 MW
- In 2019 commissioning of 609 MW offshore wind farms Hohe See and Albatros
- Continuous investments in distribution and transmission grids
- Efficiency measures of € 1.4 bn will be achieved in 2019 already

Growth targets beyond 2020 have already been defined

Development of earnings

Adjusted EBITDA in € bn



1 Sustainable power infrastructure

- Expansion of onshore and offshore wind to > 3,500 MW by 2025
- Selective international business activities
- CO_2-reduced generation (e.g. midstream gas, fuel switch)

2 System-critical infrastructure

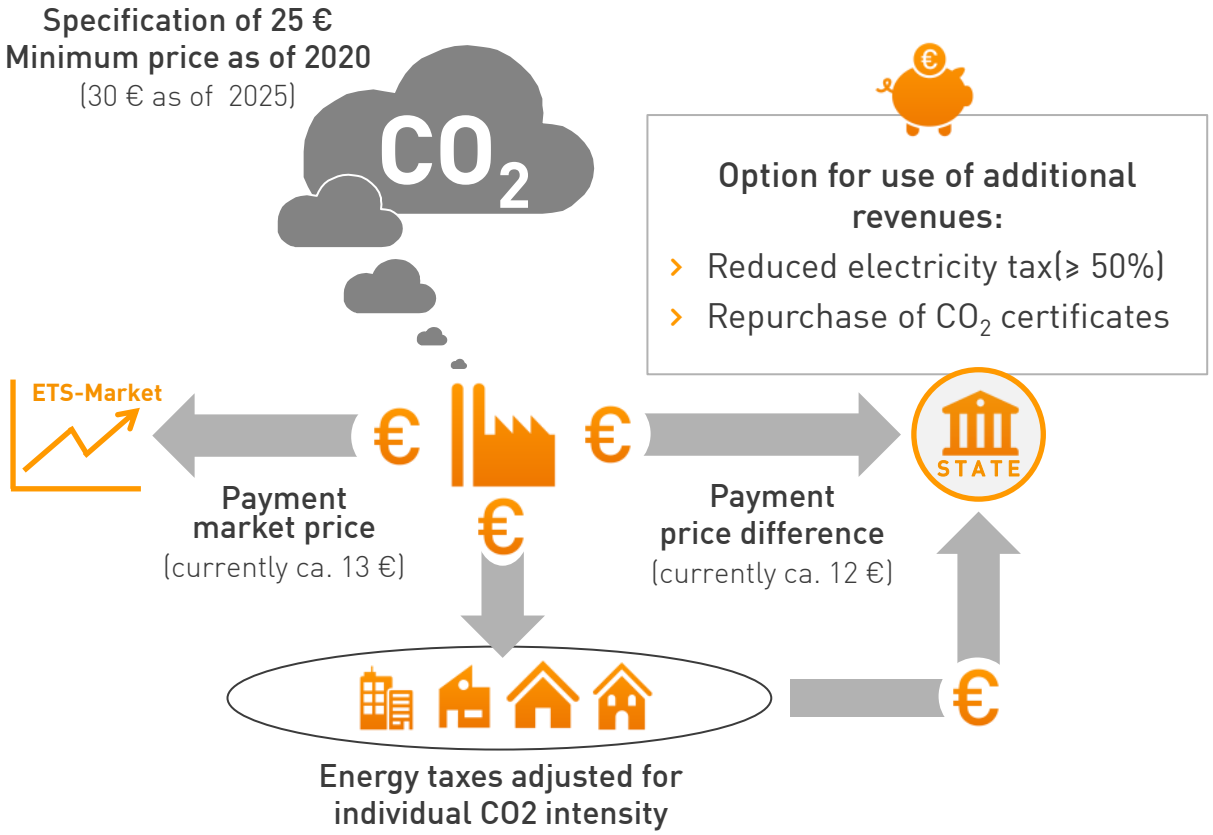
- Expansion of the distribution and electricity transmission grid
- Growth of network-related services
- New areas of system-critical infrastructure (e.g. public security)

3 Intelligent infrastructure for the customer

- Cost reduction and digitization of B2C sales as well as transformation to customer infrastructure business
- New infrastructure-related business areas beyond energy (e.g. mobility infrastructure)

Focusing on sustainability EnBW supports a CO_2 reduced generation

EnBW's position on CO_2 minimum price



Sustainability at EnBW

Focus on selected ESG fields of action

Climate protection focusing on expansion of renewable energies

Reduction of CO2 intensity of own generation

Integrated Performance Management

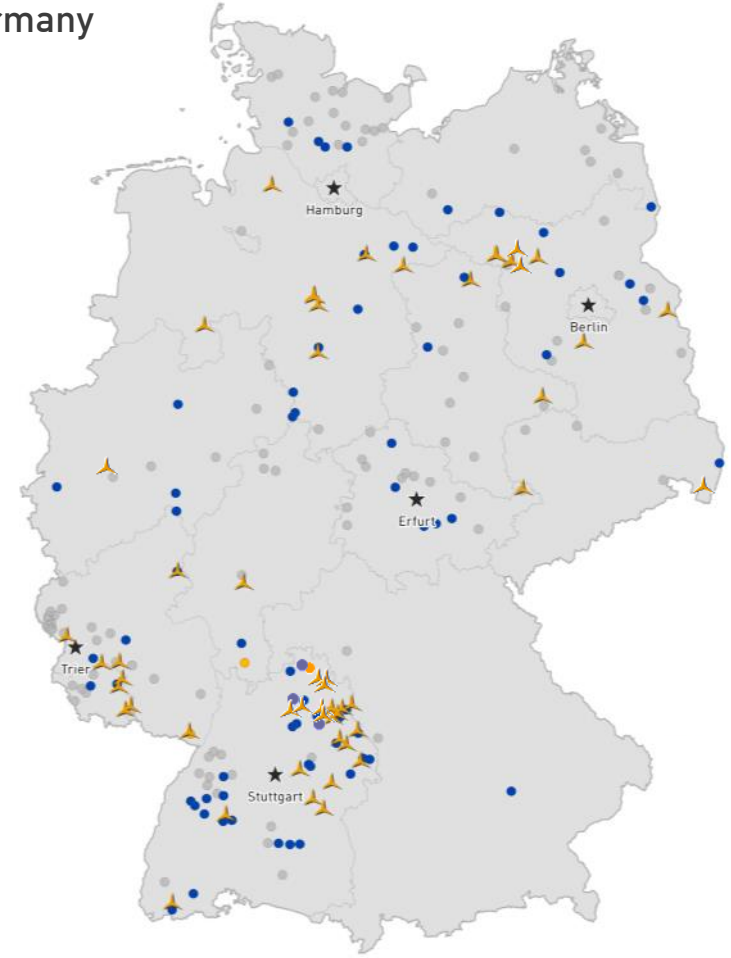
Expanded focus on ESG factors

Strengthened sustainability by defining short-, medium and longterm targets

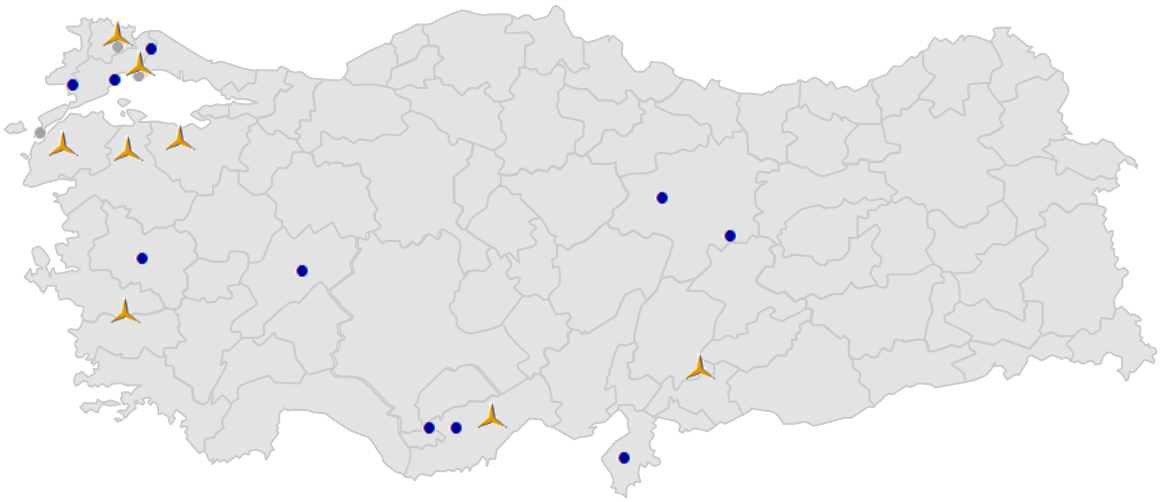
Onshore wind target of 1,000 MW until 2020 remains unchanged

Distribution of the 2017 pipeline and portfolio

Germany



Turkey



★ Office of EnBW

● Project initiation phase[1]

● Project development[2]

● Project under construction

Installed wind farms[3]

as of 31 December 2017

[1] Negotiations for land contracts (low proportion make it to project development); [2] At least land contracts concluded (large proportion are realised); [3] Wind parks in operation with EnBW majority shareholding

Wind offshore step 1:
European portfolio continues to grow significantly

Installed capacity 2015: 336 MW
Under construction: 609 MW
Secured pipeline: 900 MW

2011
- Baltic 1: 48.3 MW

2015
- Baltic 2: 288 MW

Planned for 2019
- EnBW Hohe See: 497 MW
- EnBW Albatros: 112 MW

Planned for 2025
- EnBW He Dreiht: ~900 MW

In operation | Under construction | Development stage

1

The Hohe See and Albatros offshore projects are making a major contribution to achieving the targets in our EnBW 2025 strategy

2

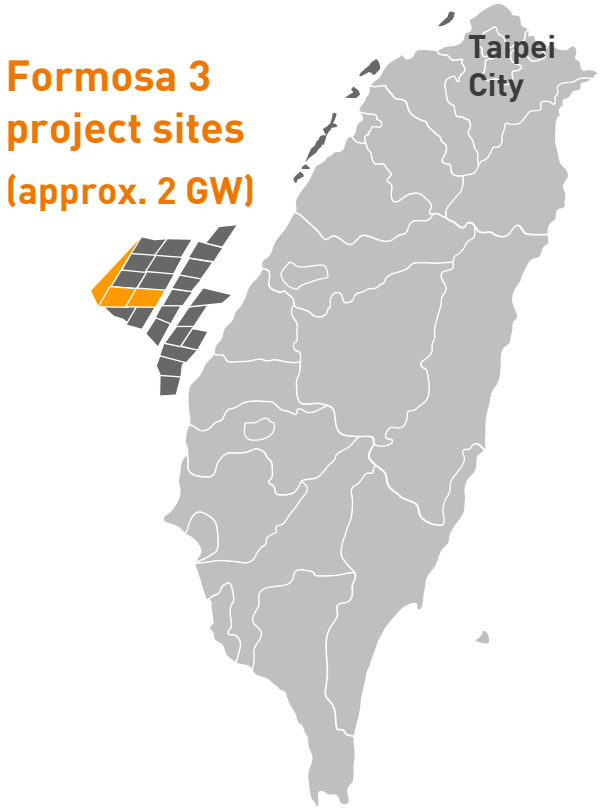
High competitiveness enables the successful acquisition of new offshore wind projects, while excellence and experience ensure they are delivered on budget

3

Offshore wind will be a significant pillar of our strategy even after 2020 Therefore, we will selectively participate in European auctions and monitor global developments

Wind offshore step 2: EnBW goes international

- Formosa 3 – three project sites with a total capacity of approx. 2,000 MW, acquisition of 37.5% stake
- Joint venture contains the strengths of EnBW, Macquarie Capital and Swancor
- Fixed 20-year PPA with a feed-in tariff higher than European benchmarks
- Favourable sites with good wind energy potential and lower water depth
- Next steps: EU merger control clearance, secure grid capacity, start tendering process



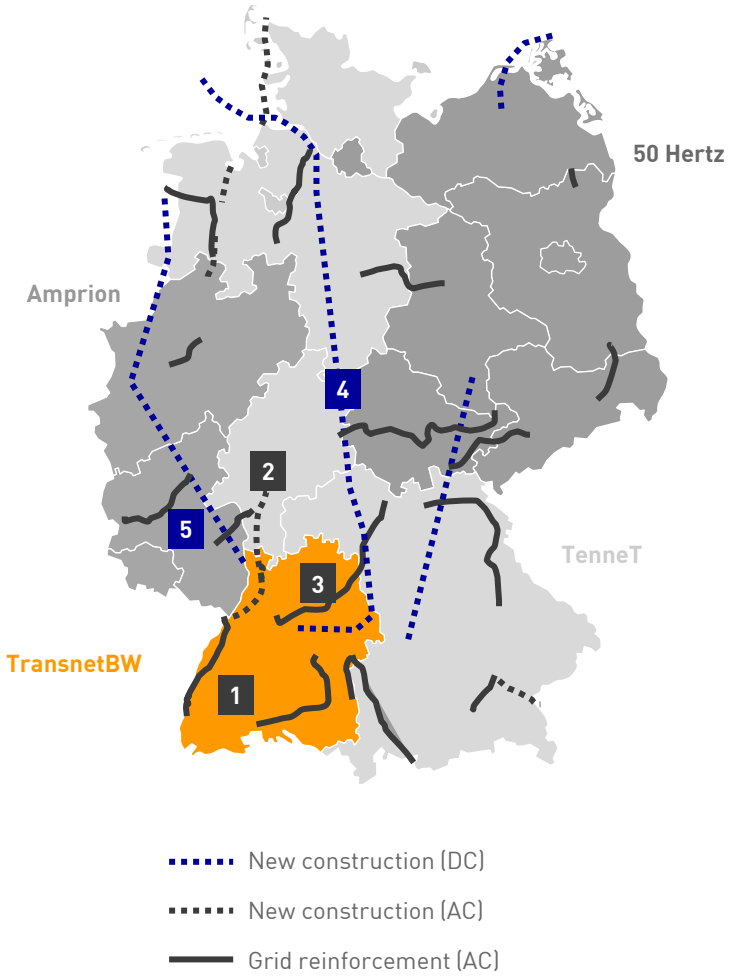
Potential offshore wind farms Taiwan

Expansion of transmission grid mainly affects strategy beyond 2020

Expansion of the EnBW transmission grid

	Grid section	Scheduled completion
AC grid reinforcement		
1 for river Rhein area in Baden	121 km	2021
2 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
5 in corridor A "Ultranet" 2 GW EnBW contribution: converter, power lines Baden-Wuerttemberg	40 km	2021

Investment up to 2025: around € 5 bn



Source: BNetzA, EnBW, 2. draft NEP 2030 May 2017

[1] In cooperation with TenneT

Sales: e-mobility and digitalisation are on top of the agenda

E-Mobility

Expansion
- 120 locations equipped with charging stations
- EnBW's charging card valid at more than 8,000 charging point in DACH countries

Targets 2018
- 200 new DC locations
- Market coverage of 75% in D-A-CH countries

Digitalisation

Expansion
- Smart Metering Systems, e.g. transparency of generation and consumption
- Cloud platform for utilities, e.g. billing services and energy sector backend
- Special digital infrastructure offers for local authorities broadband, security and smart services

Key financial indicators reflect prudent financial policies

EnBW

Securing Profitability

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

Adj. EBITDA Target 2020 € 2.4 bn
Adj. EBITDA Target 2025 > € 3.0 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)

Solid credit quality

MOODY'S INVESTORS SERVICE
Long-term rating:Baa1
Outlook: stable

STANDARD & POOR'S RATINGS SERVICES McGRAW HILL FINANCIAL
Long-term rating: A-
Outlook: stable

FitchRatings
Long-term rating: A-
Outlook: stable

EnBW is a strong business case

First mover: Publication of „EnBW 2020“ in 2013

Regulated grid business and renewables segment will grow to more than 70% by 2020

Net capex limited to retained cash flow to control net financial debt

Selected internationalization to increase diversification

Clear focus on low-risk business to rebuild profitability

Strategy beyond 2020 based on rolling out of core competences

Strategy beyond 2020 will further improve profitability and credit metrics

Stable government-related shareholder structure

Questions & Answers ›

Appendix

- EnBW at a glance
- Political & regulatory environment
- German electricity market
- Figures FY 2017
- Generation portfolio
- Sustainability
- VNG
- Financial profile
- Rating
- Dividend
- Shareholder structure
- Calendar 2018
- IR contact

EnBW at a glance[1]

One of the largest German utilities

- 5.5 million customers
- 13 GW generation portfolio
- Stable shareholder structure
- 21,000 employees
- Strong roots in Baden-Wuerttemberg

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

Electricity	Generation	Trading/ procurement	Transmission/ distribution	Sales	
Gas	Import contracts/ infrastructure	Storage	Trading/portfolio management	Transport/ distribution	Sales

4 Business Segments

Sales | **Grids** | **Renewable Energies** | **Generation & Trading**

[1] Figures 2017

Political & regulatory environment: Overview

EU 2020-Goals

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

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

Conventional generation

- **Goal** Shut-down of last NPP until end of 2022
- Responsibility for financing of phase-out split between operators and government
- **Goal** Establishing milestones regarding the fossil-fuel phase-out and the potential pricing of CO_2 during the current legislative period

Renewables

- **Goal** **2025: 40–45 % RE**
  2035: 55–60 % RE
  in electricity production[1]
- 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

Reform of the tax and allocation system

- **Goal** Potential reform of financing system of the Renewable Energies Act (EEG)
- **Goal** Potential reform of the network tariffs and electricity tax regulation

Grid expansion

- **Goal** 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

[1] Coalition agreement: 65% until 2030

Political & regulatory environment: Fundamental changes

EnBW

Generation and Trading

- Sustained trend towards renewable energies[1]:
  - > 120 GW by 2020
  - > 160 GW by 2030
- Time of profitable operation of conventional power plants in steady decline
- Increasing generation from gas power plants due to coal-to-gas fuel switching
- Political discussion of coal exit; roadmap of coal exit in progress (results end of 2018)
- 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 sector[1] in the future
- Renewables for the most part in the hands of non-PSCs[2]
- Consumers playing an increasingly active role with PV and Battery Systems
- Number of energy co-operatives has increased strongly since 2008

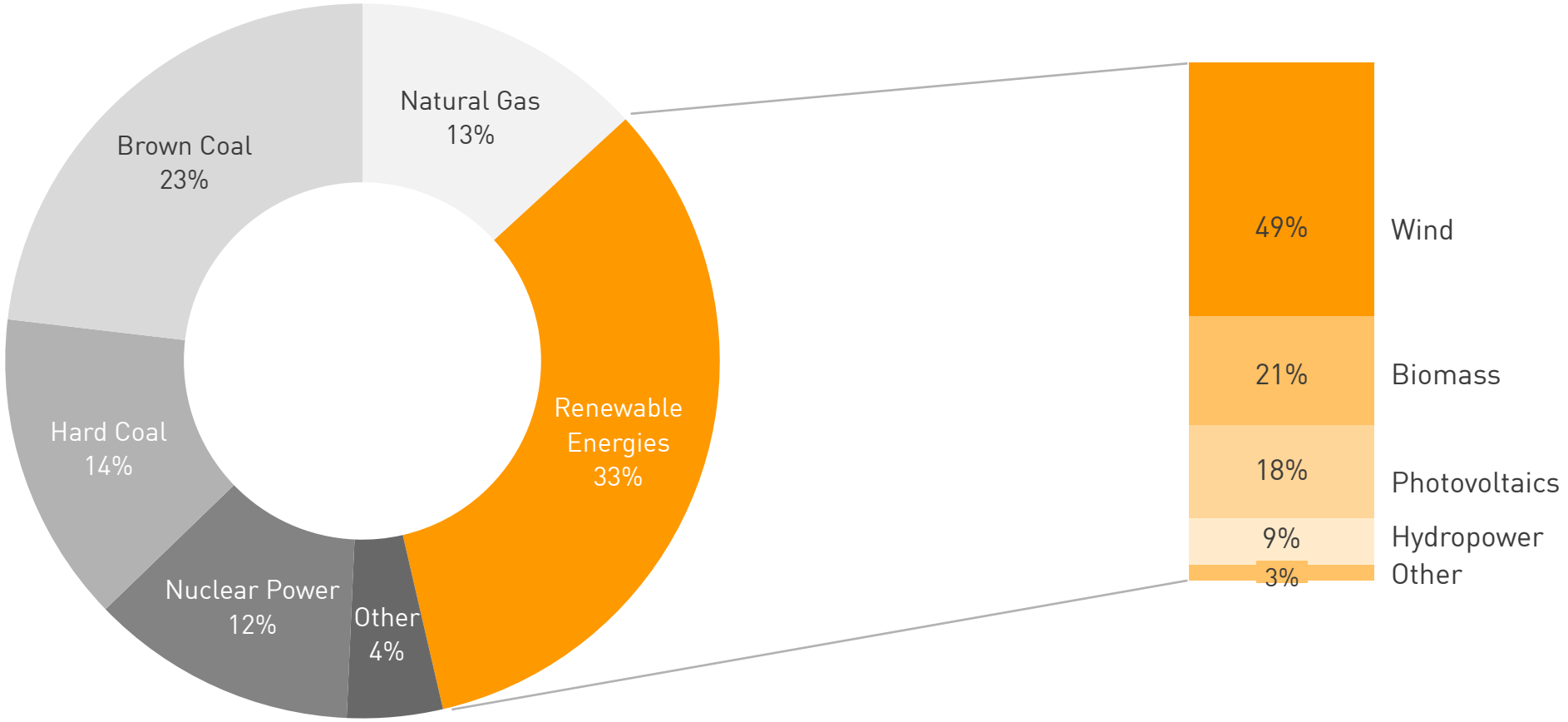
- **Technological developments**: more diversity, modularity and granularity in the energy system
- **New market participants**: more competition and fragmentation of the value chain
- **Regulatory framework conditions**: undergoing constant change, rising complexity

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

German electricity market: Generation capacity

Gross electricity generation according to energy source 2017 in Germany

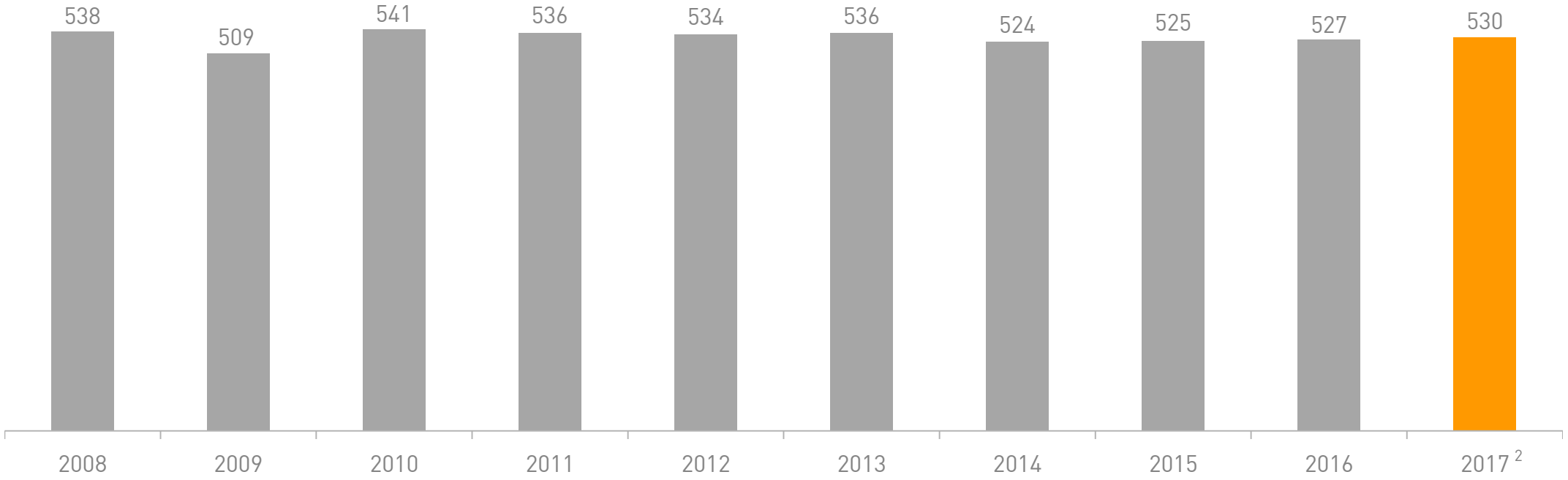


Source: AGEB as of December 2017

German electricity market: Electricity consumption

Electricity consumption in Germany

in TWh [1]



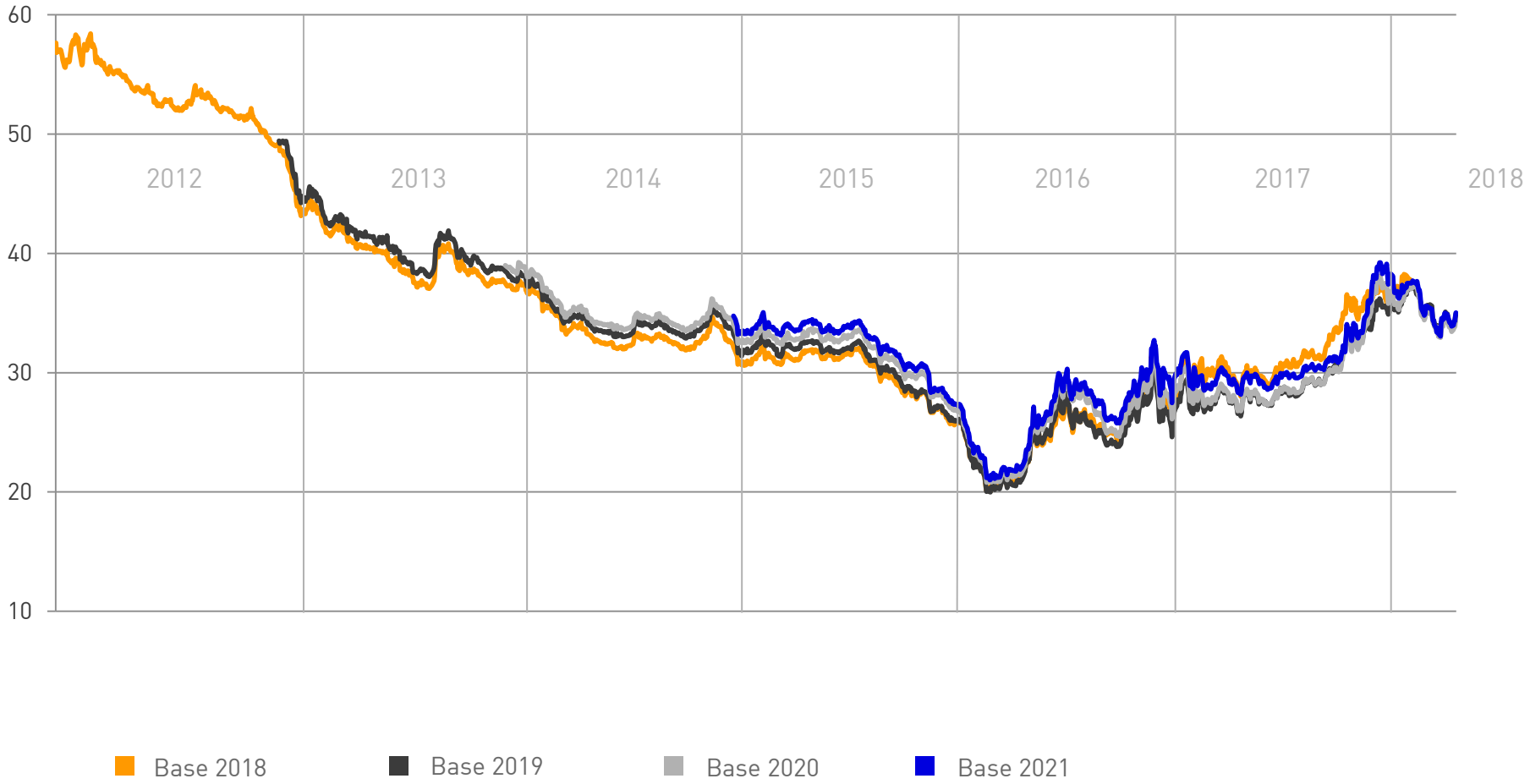
Slightly growing net electricity consumption in the past few years; reduction due to efficiency is compensated by changes in consumption habits and economic growth

[1] Data as of February 2018; Source: AGEB
[2] Preliminary data

German electricity market: Wholesale forward price

Forward price for electricity baseload in Germany

in €/MWh

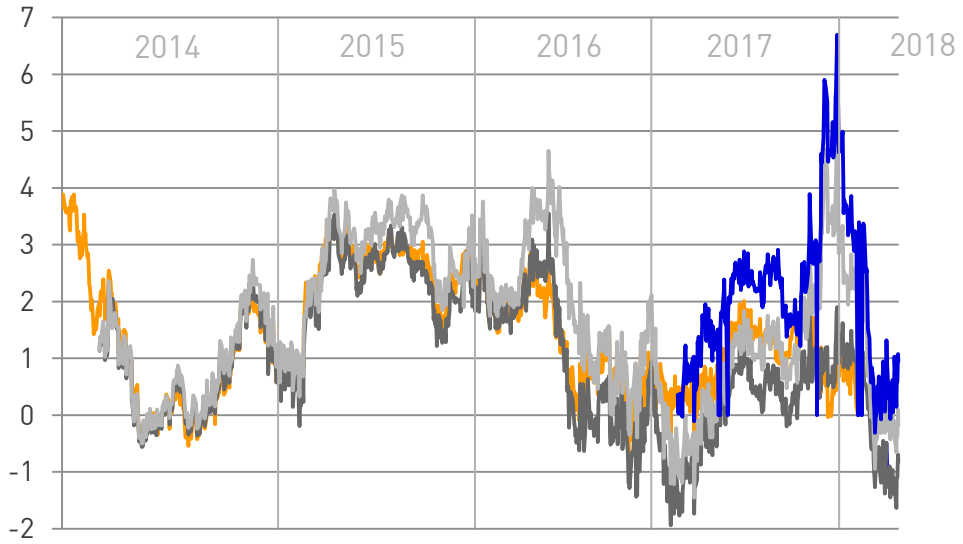


German electricity market: CDS at low levels and increasing prices for CSS

Clean-Dark-Spread Base

in €/MWh

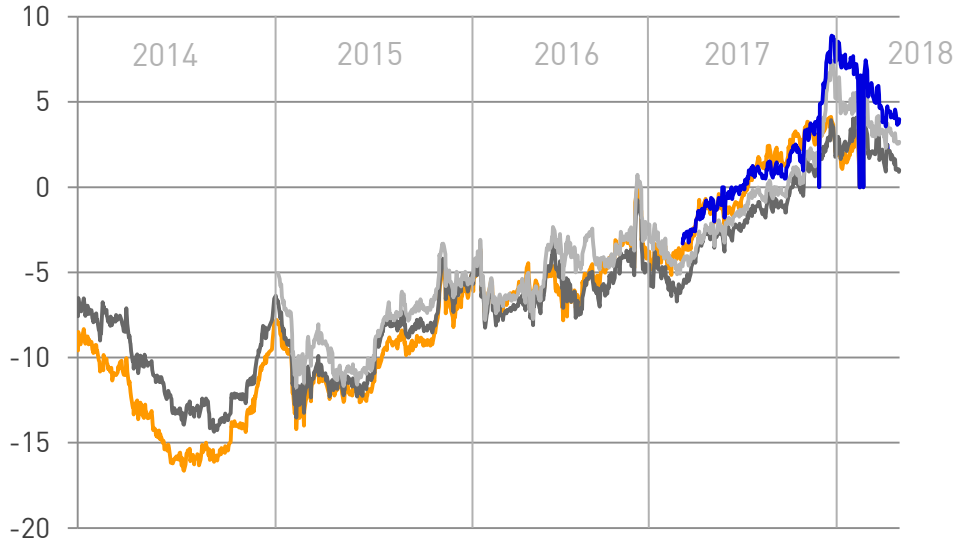
- Gross margin of a coal-fired power plant (plant efficiency: 36 %)



Clean-Spark-Spread Peak

in €/MWh

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

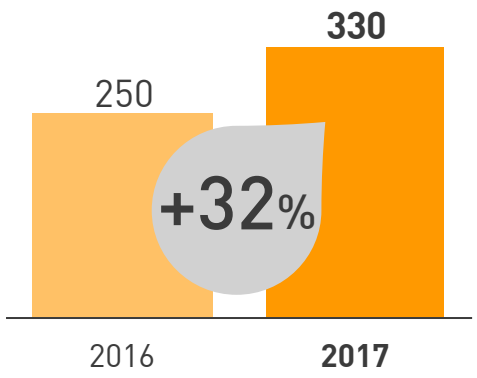


2018 2019 2020 2021

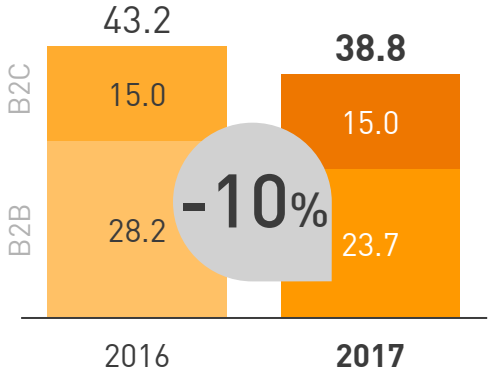
Clean-spark-spread represents the net revenue a generator makes from selling power, having bought gas and the required number of carbon allowances.
Clean-dark-spread refers to an analogous indicator for coal-fired generation of electricity.

Sales
Operating increase above expectations

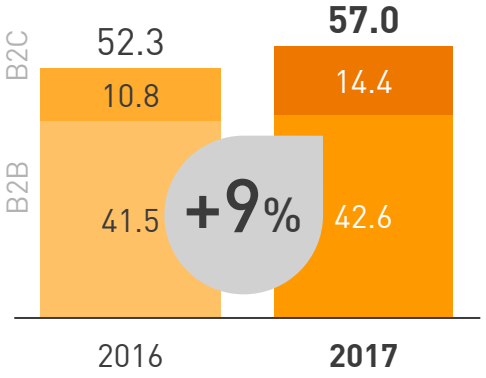
Adjusted EBITDA
in € m



Sales volume Electricity
in TWh



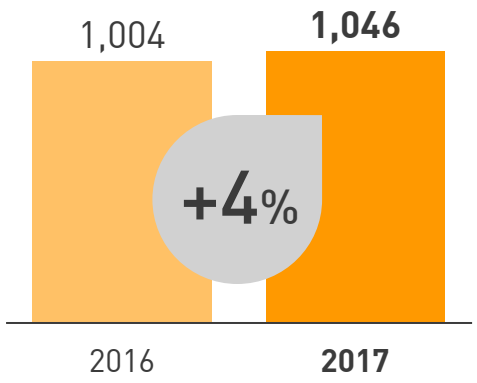
Gas
in TWh



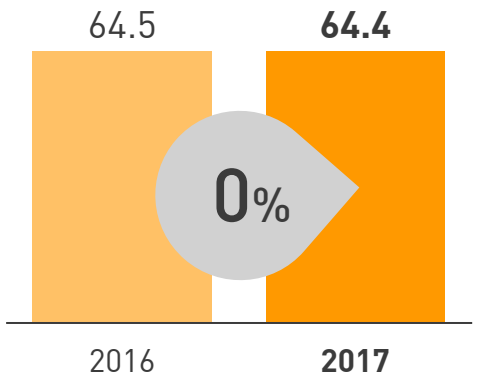
- Positive effects from exiting the unprofitable EnBW and Watt B2B commodity business in 2016
- Reduced ramp-up costs for billing service for other sales and grid operators

Grids
Increase as expected

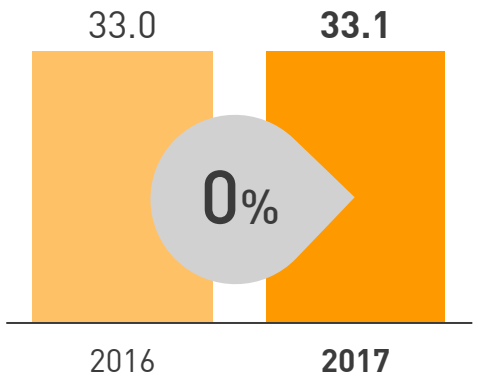
Adjusted EBITDA
in € m



Transmission volume Electricity
in TWh



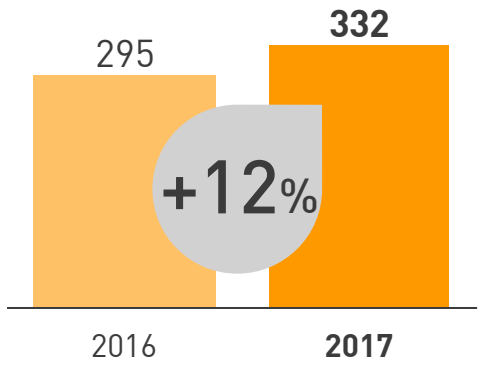
Gas
in TWh



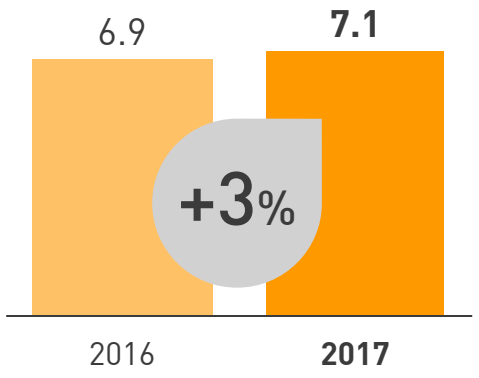
- ➕ Positive effects due to first-time consolidation of VNG
- ➖ Lower earnings from use of distribution grids

Renewable Energies
Increase mainly driven by higher wind yields

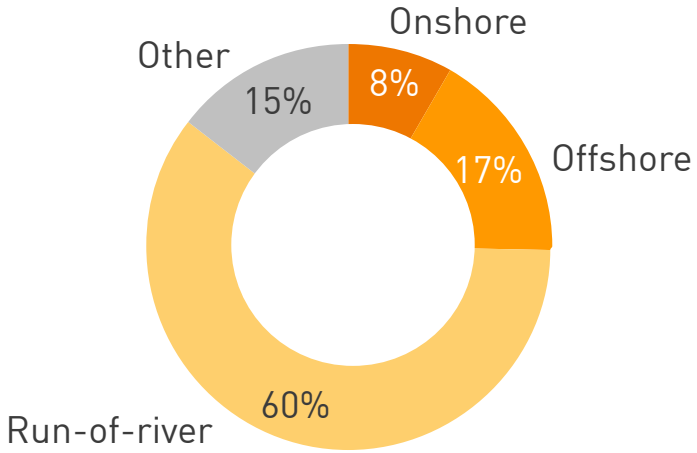
Adjusted EBITDA
in € m



Generation volume
in TWh[1]



Renewables generation mix
in TWh

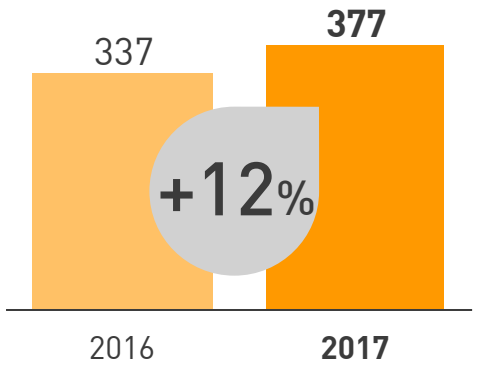


- Higher wind yields compared to previous year, notably at offshore wind farms
- Further onshore wind farms commissioned (+204 MW)
- Reduced water levels at our run-of-river power plants
- Electricity from run-of-river power plants sold on forward market at lower wholesale market prices

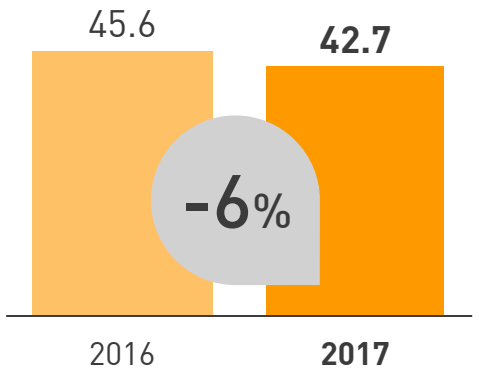
[1]Includes long-term procurement agreements and generation from partly owned power stations; the figures indicated are taken from the segments; segment excludes generation from pump storage plants that is associated in the generation and trading segment. Divergence from 100 percent possible due to rounding effects.

Generation and Trading
Earnings increase mainly due to consolidation effects

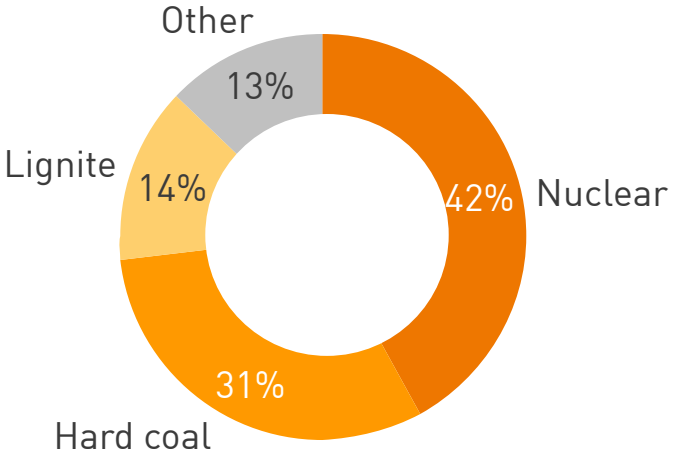
Adjusted EBITDA
in € m



Generation volume
in TWh[1]



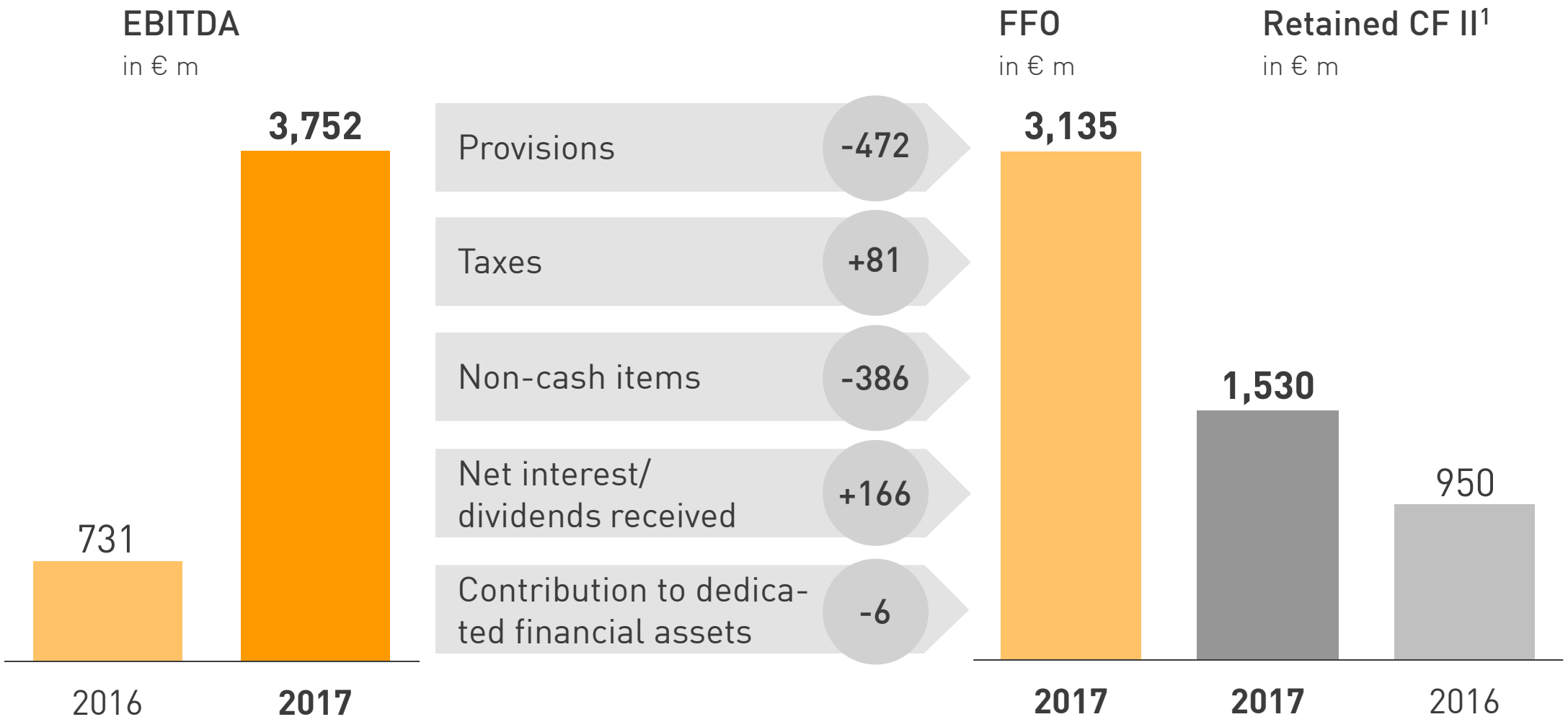
Conventional generation mix
in TWh



- Positive effects due to first-time consolidation of VNG
- Positive effects from elimination of nuclear fuel tax
- Shutdown of KKP 2 nuclear power plant
- Delivered electricity sold on forward market at lower wholesale market prices

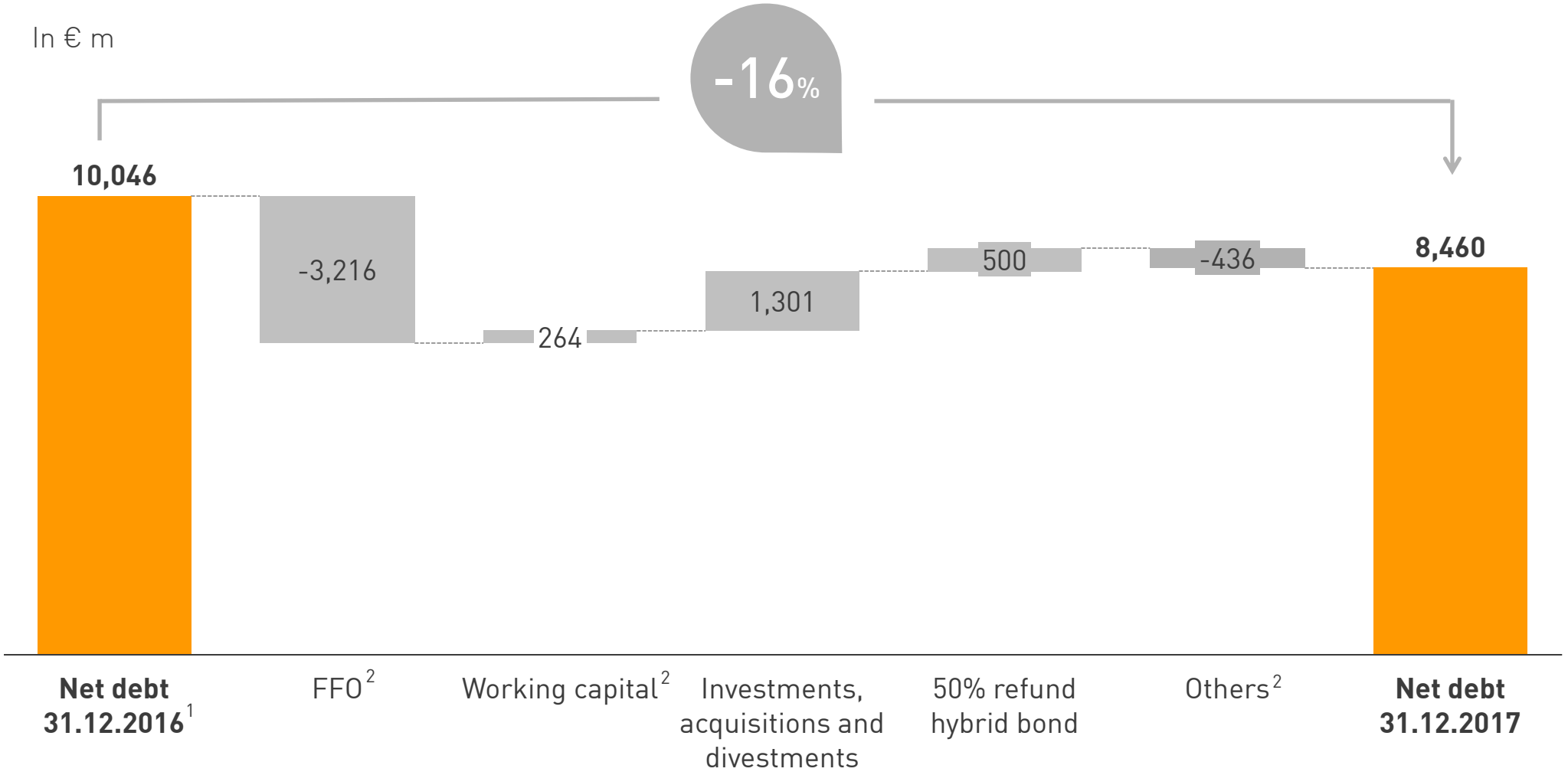
[1] Includes long-term procurement agreements and generation from partly owned power stations; the figures indicated are taken from the segments. Segment includes pump storage plants. Divergence from 100 percent possible due to rounding effects.

FFO: Significant increase
Mainly driven by the nuclear fuel tax refund



[1] Retained CF corrected for effects of the nuclear fuel tax refund

Decrease in net debt mainly due to nuclear fuel tax refund



[1] The figure for the previous year has been restated
[2] Netted of for KFK effects

Strong group profit and EPS driven by operating performance and nuclear fuel tax refund

EnBW

Group net profit/loss[1]

-1.8 bn €	2016
2.1 bn €	2017

Earnings per share[1]

-6.64€	2016
7.58€	2017

Net debt of the EnBW Group

10.0 bn €	2016
8.5 bn €	2017

Equity ratio

8.3 %	2016
15.1 %	2017

Dividend proposal 2017

in €/share

0.50

[1] Profit/loss attributable to shareholders of EnBW AG

Outlook operating performance 2018

	Group	Sales	Grids	Renewable Energies	Generation and Trading
Adj. EBITDA 2017 in € m	2,113	330	1,046	332	377
Forecast 2018 in %	0 to +5	-5 to -15	+5 to +15	+10 to +20	0 to -10

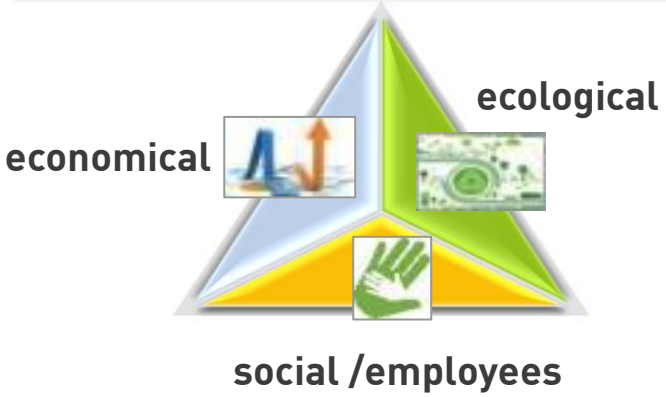
Generation and portfolio of the EnBW Group in 2017

	Generation portfolio in MW		Own generation in GWh	
	2017	**share**	**2017**	**share**
Renewable Energies	**3,381**	**26 %**	**8,290**	**17 %**
Run-of-river	1,034	8 %	5,012	10 %
Storage/pumped storage (using natural flow of water)	1,327	10 %	946	2 %
Wind onshore	540	4 %	661	1 %
Wind offshore	336	3 %	1,416	3 %
Other	114	1 %	255	1 %
Thermal power plants	**9,673**	**74 %**	**41,904**	**83 %**
Brown coal	875	7 %	6,027	12 %
Hard coal	3,523	27 %	12,977	26 %
Gas	1,448	11 %	3,436	7 %
Other	349	3 %	211	-
Pumped storage (not using natural flow of water)	545	4 %	1,721	3 %
Nuclear	2,933	22 %	17,532	35 %
Total	**13,054**	**100 %**	**50,194**	**100 %**

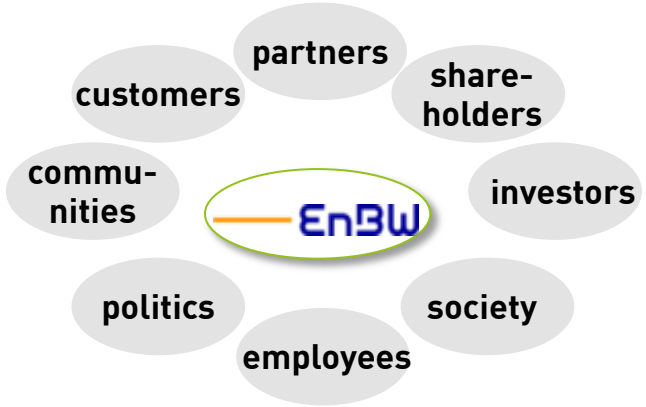
Corporate Sustainability: Integral part of the strategy

Sustainability at EnBW

Sustainability dimensions



EnBW-Stakeholders



Sustainability at EnBW is integrated in:

- Corporate strategy ✓
- Non-financial TOP KPIs ✓
- Stakeholder Management ✓
- Risk & opportunity analysis ✓
- Board remuneration ✓

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

Corporate Sustainability: KPIs and sustainability ratings

Selected 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 research

2017

B-

- ✓ Strong improvements in
  - ✓ Products and Services
  - ✓ Environmental Management
  - ✓ Corporate Governance and Business Ethics

Carbon Disclosure Project

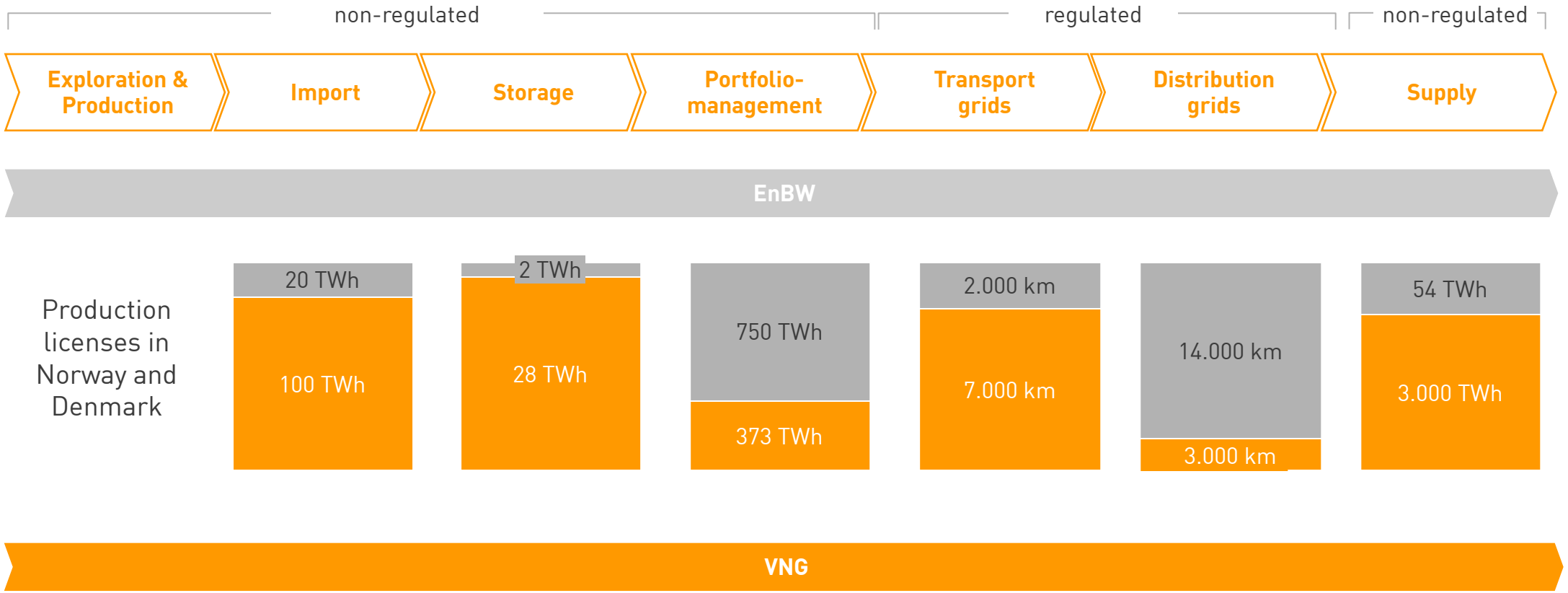
CDP
DRIVING SUSTAINABLE ECONOMIES

2017

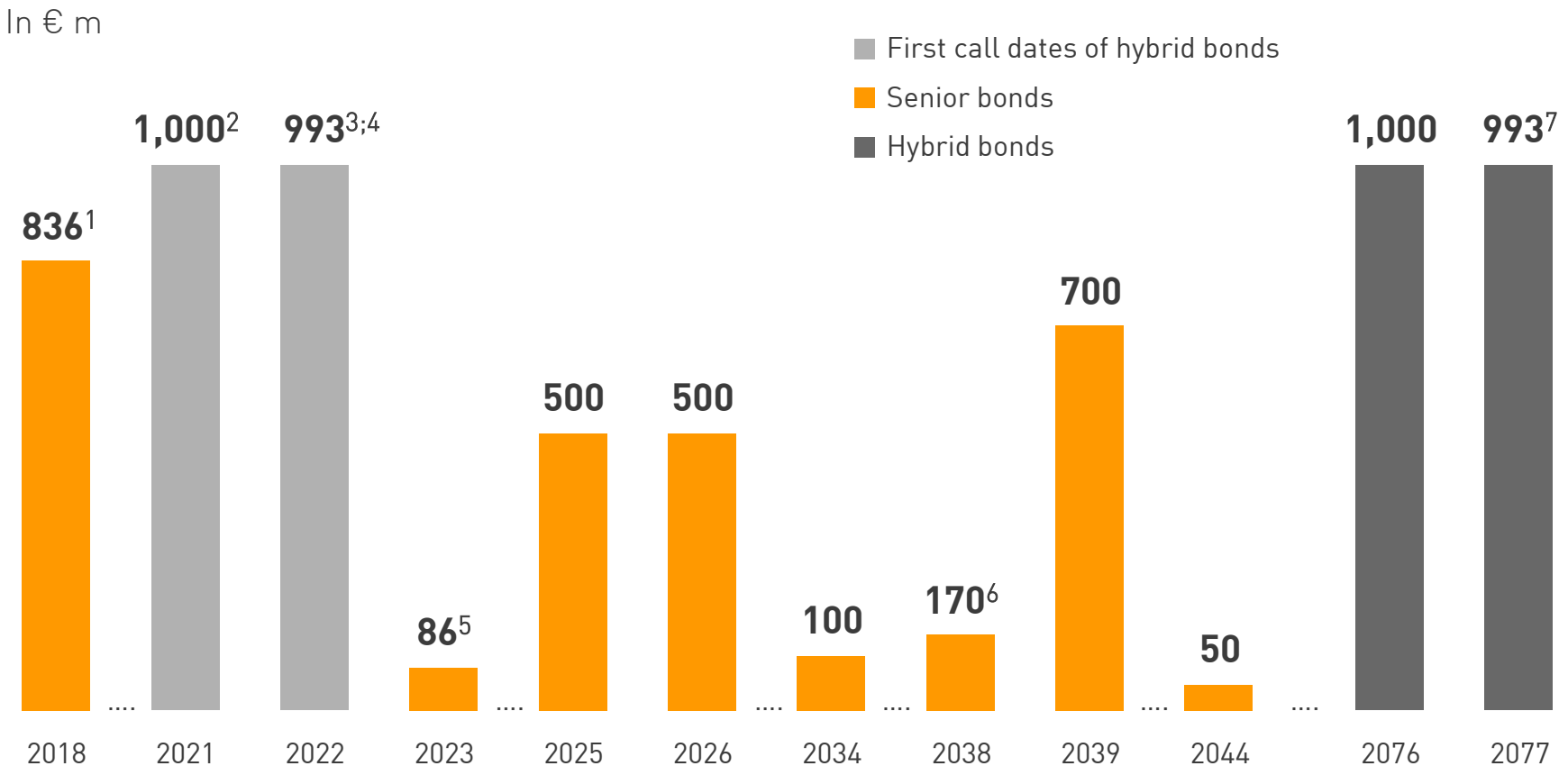
A-

- ✓ 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

EnBW/VNG are fully integrated in the gas market



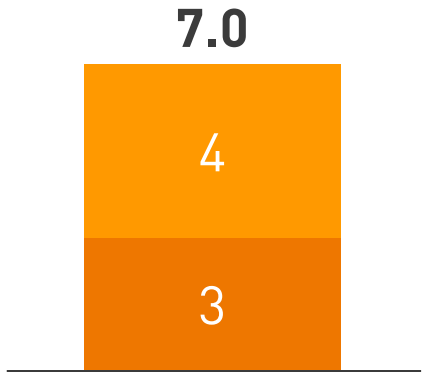
Maturities of EnBW's bonds



[1] Includes CHF 100 million, converted as of the reporting date of 31/12/2017
[2] First call date: hybrid maturing in 2076
[3] First call date: hybrid maturing in 2077
[4] Includes USD 300 million (swap in EUR), Coupon for Swap 5,125%
[5] CHF 100 million, converted as of the reporting date of 31/12/2017
[6] JPY 20 billion (swap in EUR), Coupon for Swap 3,880%
[7] Includes USD 300 million, converted as of 05/10/2016

EnBW has a flexible access to various financing sources[1]

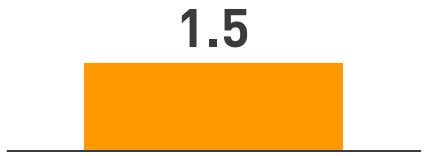
In € bn



Debt Issurance Programme
Thereof € 3 bn utilised[2]

Hybrid Bonds[2]

Commercial Paper Programme
Undrawn



Syndicated Credit Line
Undrawn
Maturity date: 2021

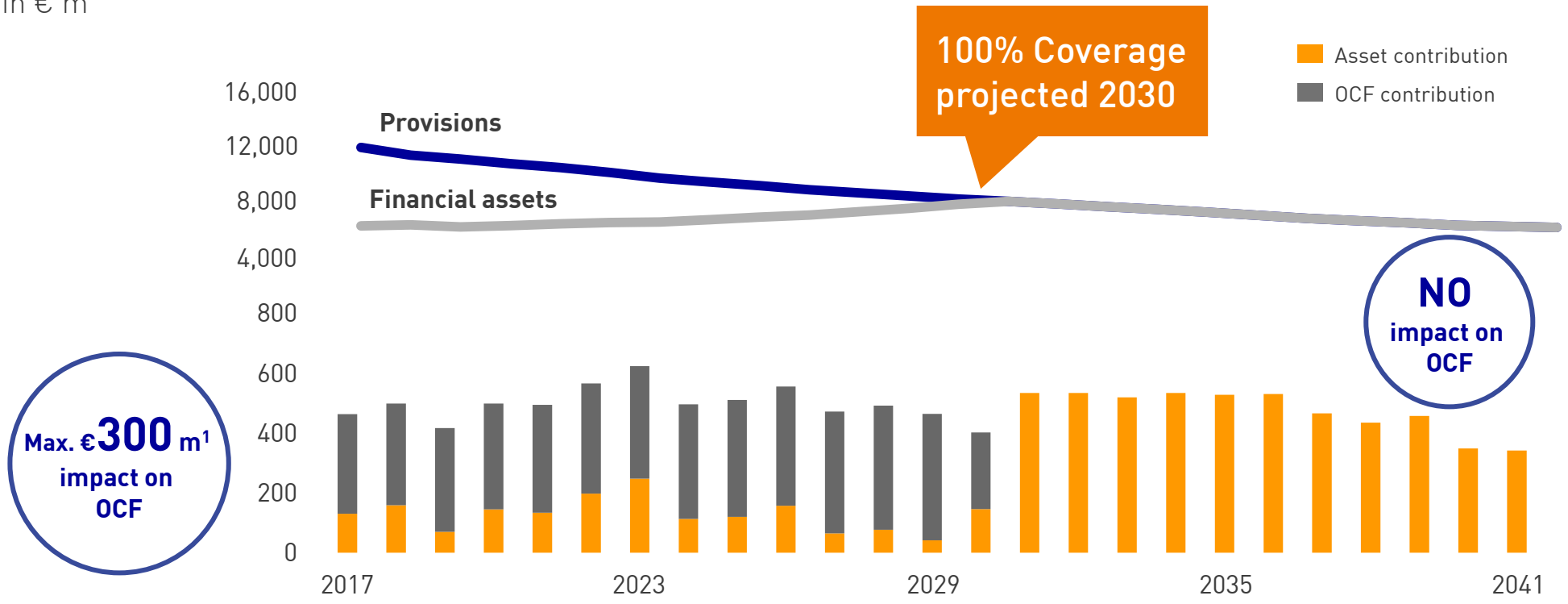
Bilateral Free Credit Lines[2]

Project financing
and
low-interest loans
from the EIB

[1] As of 31 December 2017
[2] Rounded figures

Asset Liability Management Model
EnBW nuclear and pension provisions still covered

EnBW's CF-based model
in € m



[1] Adjusted for inflation

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

STANDARD & POOR'S RATINGS SERVICES
McGRAW HILL FINANCIAL

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

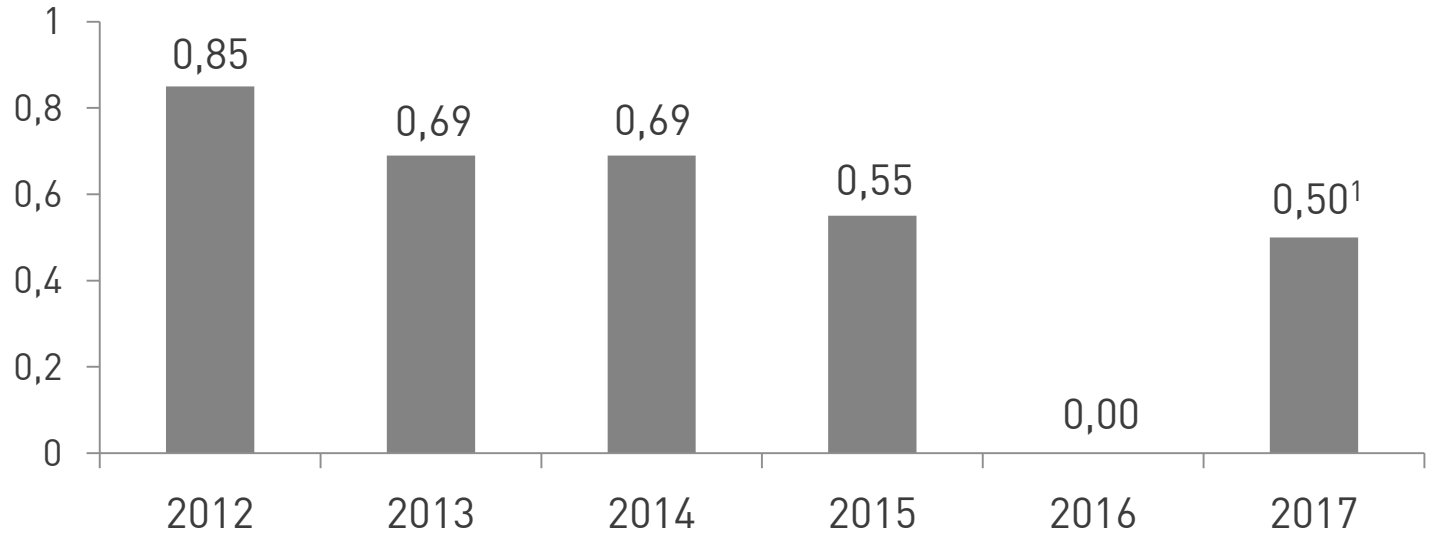
A-/stable
7 July 2017

- 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

Appropriate dividend payment for EnBW's shareholders

Dividend

in €



Dividend for 2017

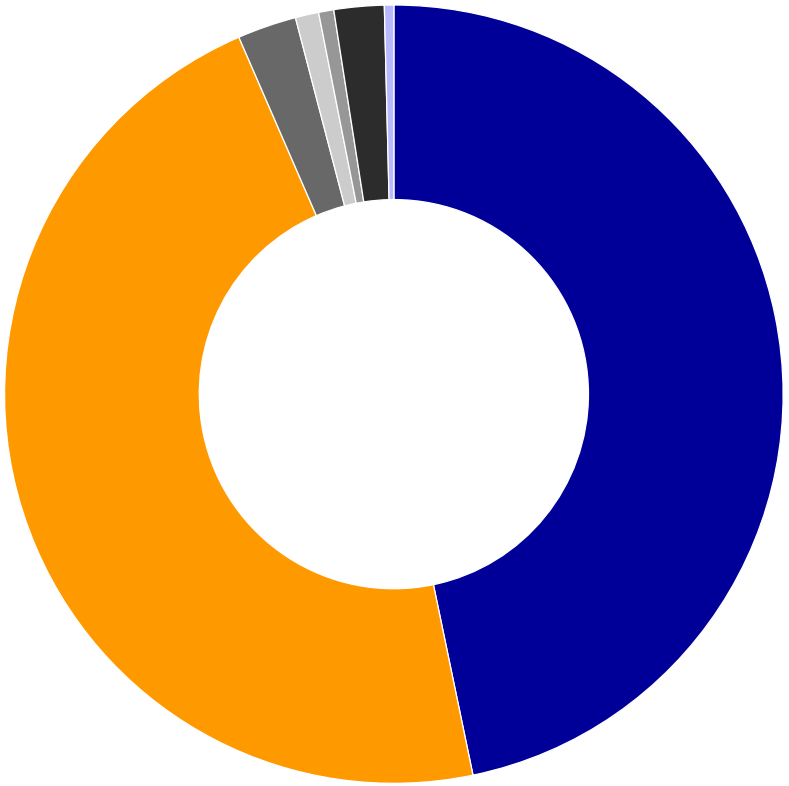
- Dividend proposal of €0.50 per participating share
- Total of 270,855,027 participating no-par value shares corresponds to a total amount of € 135,427,513.50

[1] Subject to approval of AGM 2018 on 8 May 2018

Equity capital market: Shareholder structure

Shareholder structure[1]

OEW Energie-Beteiligungs GmbH	**46.75 %**
NECKARPRI-Beteiligungsgesellschaft mbH[2]	**46.75 %**
Badische Energieaktionaers-Vereinigung	**2.45 %**
Gemeindeelektrizitaetsverband Schwarzwald-Donau	**0.97 %**
Neckar-Elektrizitaetsverband	**0.63 %**
EnBW Energie Baden-Wuerttemberg AG	**2.08 %**
Other shareholders	**0.39 %**



Stock exchange information

ISIN/security ident. 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] 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

as of 31 December 2017

Financial calendar 2018

08.05.2018	Annual General Meeting 2018
15.05.2018	Quarterly Statement January to March 2018 Conference time: 10:00 am
26.07.2018	Six-Monthly Financial Report January to June 2018 Conference time: 01:00 pm
12.11.2018	Quarterly Statement January to September 2018 Conference time: 01:00 pm

Upcoming Events

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