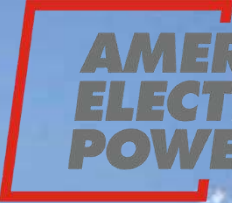




**FREE  
ELECTRONS**





**AMERICAN  
ELECTRIC  
POWER**

BOUNDLESS ENERGY™

# BOUNDLESS ENERGY™



**Innovation Overview and Advanced Technology Focus Areas**  
**Chris Johnson, Managing Director**  
**Enterprise Innovation and Technology**  
**([cdjohnson@aep.com](mailto:cdjohnson@aep.com))**

# AEP IS GLOBALLY LOOKING FOR NEW TECHNOLOGIES AND BUSINESS MODELS IN THREE PRIMARY AREAS DEPLOYABLE IN 2-5 YEARS INTO THE FUTURE

Nick Akins, Chairman, President and CEO:

*"I am confident in our ability to transform our industry for the benefit of the communities we serve. AEP is globally searching for, and validating innovative, advanced technologies, especially to integrate into the distribution grid of the future, for all of our customers and for our operations. Our electrification activities need to improve the lives of all members of society."*



# EXAMPLES OF AEP'S AREAS OF INTEREST IN TRANSFORMATIONAL TECHNOLOGIES AND BUSINESS MODELS READY TO DEPLOY ON A MID-TERM TIME HORIZON

## CLEAN ENERGY PATHFINDING

- **Going green without going dark**
- **Universal access for all citizens**
- **Clean energy software**
- **Hydrogen fuel storage**
- **Mitigating weather-related impacts**
- **Long duration energy storage**
- **Does not include large scale renewables and behind the meter technologies**



# EXAMPLES OF AEP'S AREAS CONTINUED...

## DISTRIBUTED ENERGY FUTURE

- Distributed generation
- Solar plus storage
- BTM solutions
- MG to CHPs
- Renewable natural gas
- DER Grid management

## ADVANCED DATA PLATFORMS

- Advanced data innovation
- Data value chain
- Transactive platforms
- Customer privacy blockchain
- Customer needs identification



# START-UP PITCH DECK QUESTIONS TO ANSWER ABOUT YOUR TECHNOLOGY

1. What is the challenge your technology can solve for AEP?
2. What is the solution that your technology provides?
3. Describe a pilot with the minimum, fastest to complete activities that would demonstrate its benefits to AEP and its customers
4. What would you need from AEP to have a successful pilot?
5. What would be the approximate cost of your pilot?
6. What would be the milestones and duration of your pilot?

# Collaborate to Innovate: Shaping the Energy Landscape of Tomorrow

**CLP**

We want to work with you!



# CLP is a leading utility in APAC

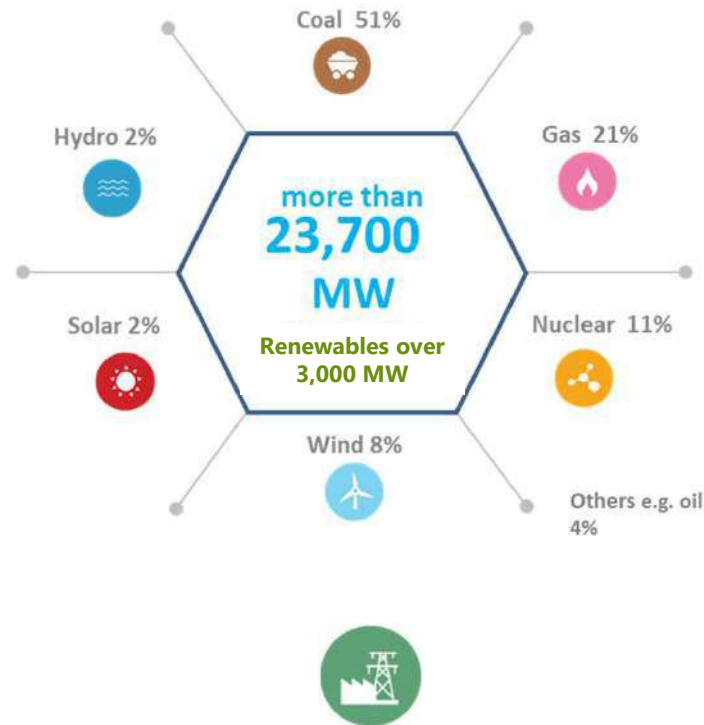
2

## APAC operations



Revenue in 2018  
~US\$ 12 billion

## Generation and Transmission



Over 15,800 km transmission lines

## Retailer and Services

Over 5.1 million Customers

EV charging network

Smart Energy Connect  
Smart Energy Services

Smart CITY and GRID

# CLP Businesses in APAC

3

## CLP Power Hong Kong



### Generation



### Transmission & Distribution



**Over 2.6 million customers**

## New Energy Services

### CLPe Solutions

- Power engineering
- Infrastructure
- Facilities management
- Consulting
- Smart energy services
- DER



Platform that offers digital energy management solutions to save energy, money and time:

- Sustainability
- Energy cost saving
- Wellness
- Security
- Connectivity
- Productivity



EV charging infrastructure

# CLP Businesses in APAC

4



## Mainland China

**Generation:** One of the largest external independent power producers with a focus on clean and low-carbon energy, including nuclear and renewables

Developer of Incremental Distribution Networks (IDN) and energy services



## India

**Generation:** Operate broad generation portfolio covering coal, gas and wind and solar energy.

CLP is one of the largest foreign players in the Indian power industry



## Southeast Asia and Taiwan

**Generation:** Investments in a solar project in Thailand and a coal-based generation plant in Taiwan



## Australia

**Gentailer:** Provide gas and electricity to 2.50 customer accounts and owns & operates a portfolio of generation assets, including coal, gas, wind power and battery storage

**Energy Solutions:** CLP is actively offering innovative energy solutions focused on *C&I and industrial parks*, including:

- Microgrid solutions
- PPA
- EV charging
- Battery
- DER
- Smart Energy Services

# Why does CLP work with Start-ups?

5

To provide new **digital, connected, smart** and **low carbon** products and services to our customers and **prepare** our assets for the future.



From **producing electricity** to **offering customer centric energy related services**.

Energy is one of the last industries to be disrupted

Digitalisation  
Decarbonisation  
Decentralisation  
Democratisation  
Electrification

Competition from **disruptive players** and **convergence of industries**

# Why Work With CLP?



## **Revenues → Route to Market within CLP and to our Customers:**

Access to APAC Markets, 5 mln+ customers, World class brand



## **Domain and Marketing Expertise:**

We have 118 years of experience and a Diverse Portfolio for you to test solutions



## **We really make it easy to work with us:**

Simple agreement and a process to quickly pilot & deploy your solution



## **We have outstanding People:**

Diverse range of skills, all committed to the future of energy



# What are we looking for?

7



## Customer Solutions

Our customers need solutions that increase **insights, efficiency, sustainability, connectivity, safety, wellbeing** and **productivity**. We are in the process of rolling out smart meters to all our Hong Kong customers.

- Smart Home and Solutions using Smart Meter data
- Smart Office – comfort, services offerings
- Smart Buildings – retro-commissioning, energy efficiency, BEMS
- Facility Management – productivity
- Green Energy - PPA



## Distributed Generation and Demand

Flexible generation and demand are playing a large role in the future of the grid.

- Integration of customer solutions with grid solutions
- Demand management solutions



## Smart City Solutions

Industries are converging and CLP as infrastructure provider has an important role in the city of the future. How can you help our citizens and public services.

- Data optimization and sharing tools
- Energy sharing platforms
- Data centre solutions
- Public lighting, safety, transport, healthcare, education



## Smart Grid and Distribution

The future of networks is connected and decentralized. We are preparing our grid and offering microgrid solutions to end customers

- Microgrid solutions for HK, China, Thailand and India
- Distributed Energy Resources
- Demand Management for Hong Kong
- Integration of renewables
- Future proofing of grid operations and business model



## Transportation and Mobility

The number of EV's is increasing and hence creating an impact on CLP's grid in Hong Kong. CLP also owns a charging network

- EV solutions for grid operator
- EV Charging platform
- Fleet management (busses, trucks, taxis etc)



## Operational efficiency

Improving the resource allocation of our current operations.

- Wind farm analytics – fault predictions & (price) forecasting
- Predictive maintenance for critical assets in our infrastructure
- Increase insights in our customer base



## Moonshot Ideas

Surprise and convince us! How can we not have thought about this and why should CLP do this! We are all ears!

EDP INNOVATION

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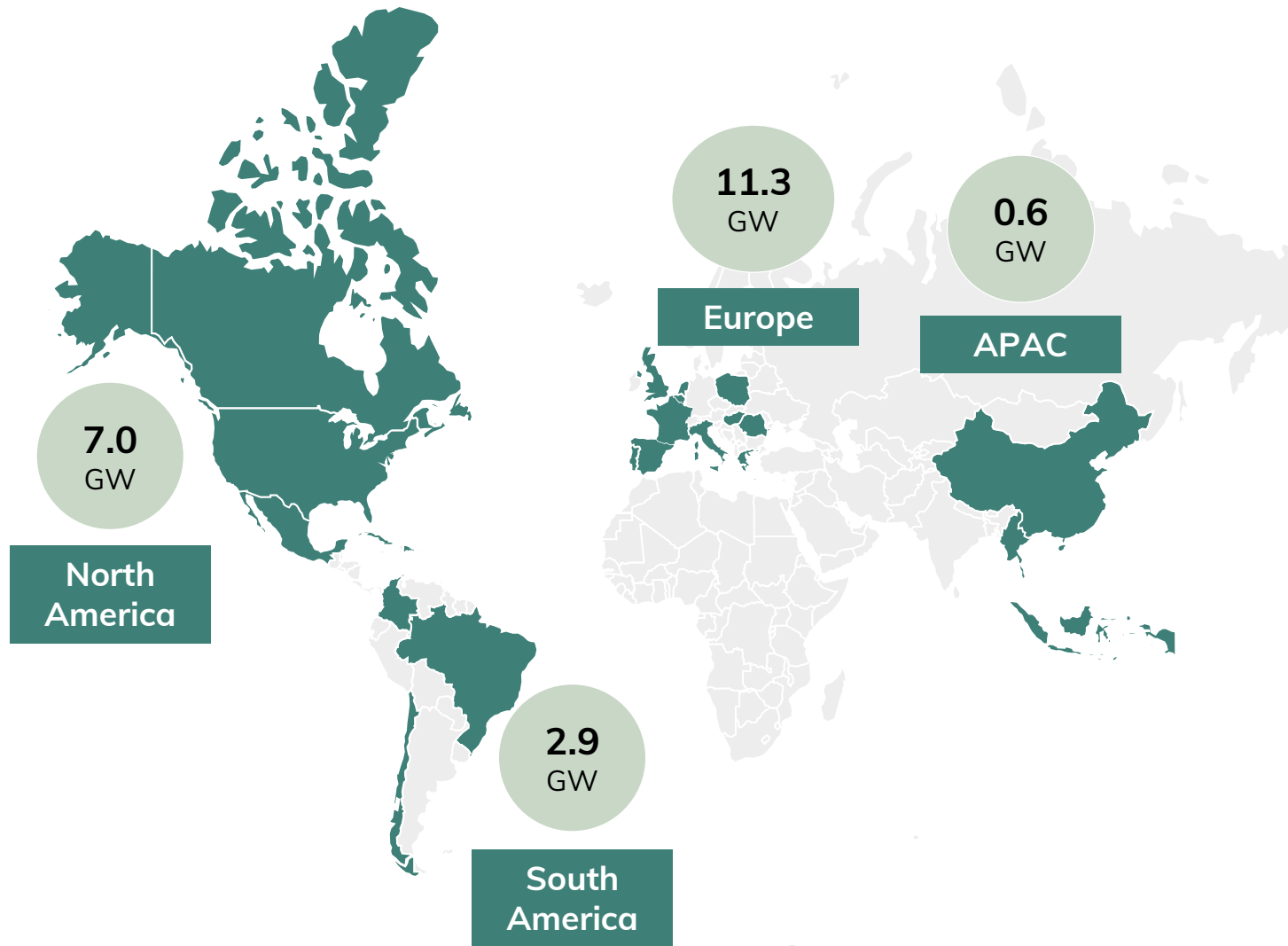
Changing Tomorrow Now

*edp*



# EDP Group Overview

Present in over 20 countries, EDP is an integrated utility committed to lead the Energy Transition...



● Installed capacity of wind+solar+hydro (as of Dec 2021)

**Renewables  
Major +21GW**

**+370k Km of  
Distribution Grid**

**+9.3M of  
Customers**

**3.7Bn€ of EBITDA  
in 2021**

# EDP Energy Transition Targets



## LEADING THE ENERGY TRANSITION

**100%** of our installed capacity and electricity generation will be renewable

**98%** CO<sub>2eq</sub> emission intensity reduction (Scope 1&2), against 2015<sup>(1)</sup>

**50%** CO<sub>2eq</sub> emission reduction in Scope 3, against 2015

**50%** of our clients are purchasing our sustainable services<sup>(2)</sup>

**100%** of smart grids worldwide

**100k** EV charging points installed<sup>(3)</sup>

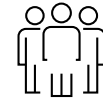


## COMMITTED TO PROTECT THE ENVIRONMENT

Biodiversity **No Net Loss** in all new projects

**90%** of waste recovered from renewable technologies

**100%** of light fleet will be electric

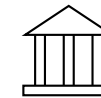


## ... WITH A POSITIVE IMPACT ON SOCIETY

**35%** of female employees

**75%** sustainable purchases

**300 M€** of SDG social investment

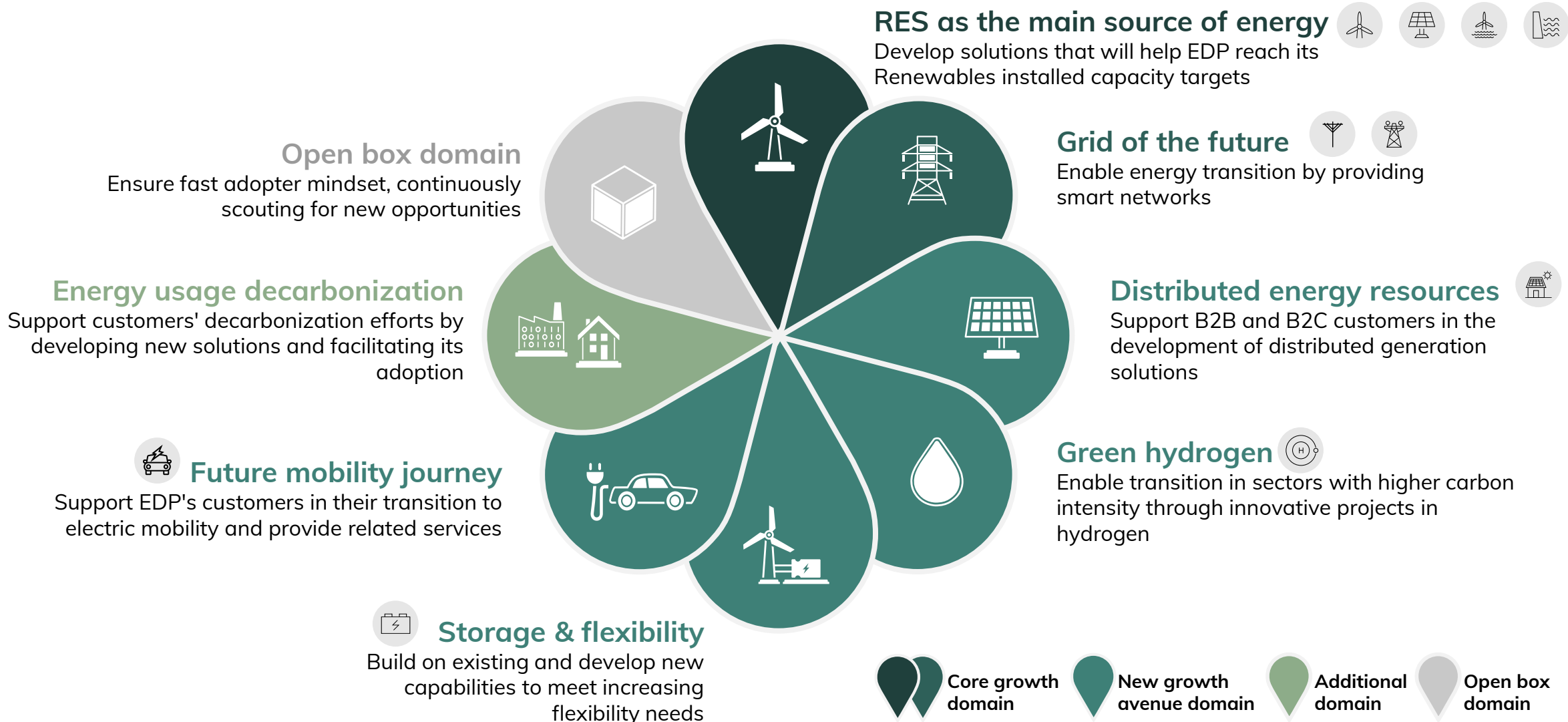


## ... AND A STRONG GOVERNANCE STRUCTURE

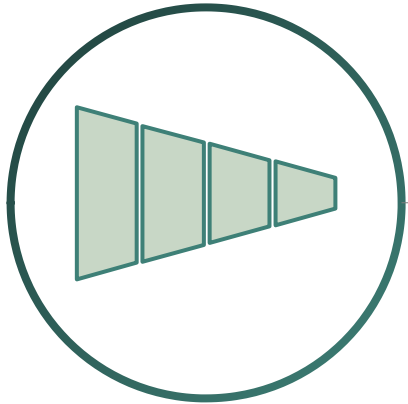
**Top** quartile in **ESG** rating performance

By  
**2030**  
our main targets

# 7 Innovation Domains defined to drive innovation



# Three parallel, complementary, paths will be used to drive innovation



## Internal Incubation

Deployment of internally developed (though internally and externally scouted) innovation portfolio, through a funnel perspective and aiming scale-up of solutions & businesses



## Open Ecosystem

Implementation of partnerships (startups, corporate, other) to accelerate incorporation of innovative solutions & businesses



## Venture Investments

Realization and management of investments (VC) in external opportunities/startups to accelerate incorporation of innovative solutions & businesses

*edp*



# Facts & Figures

Edition 2020

***e-on***

# Content

1	<b>E.ON Group</b>	<b>2 - 8</b>
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4	Non-Core	62 - 73
5	Financials	74 - 78

# E.ON at a glance

Group EBIT<sup>1,2</sup>  
€ bn

4.1

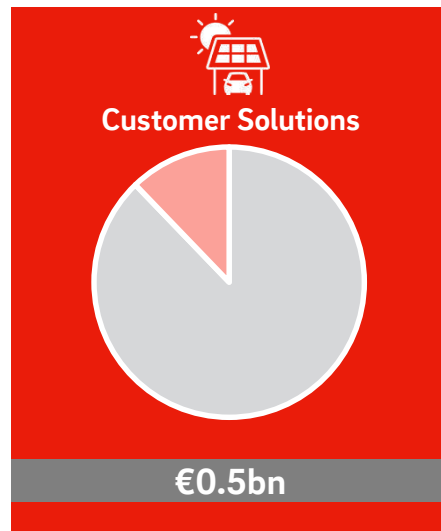
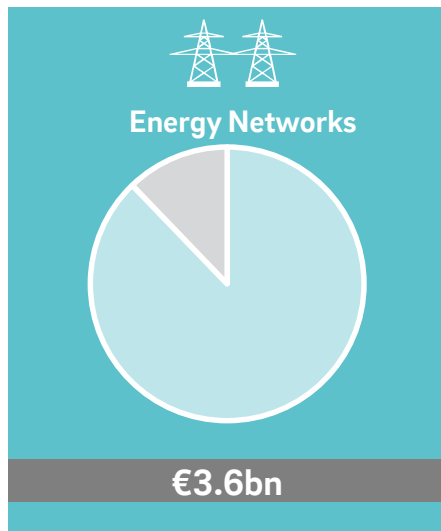
Adj. Net Income<sup>1,2</sup>  
€ bn

1.6

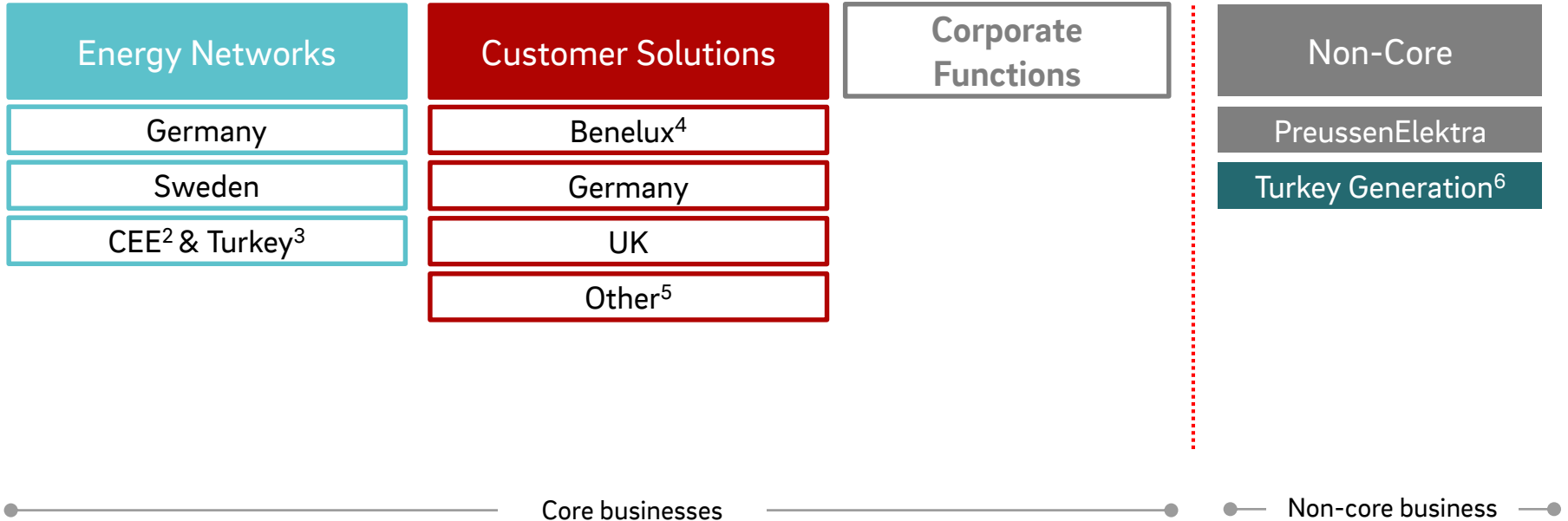
1. Adjusted for non operating effects.  
2. Pro forma.

## Core EBIT<sup>1</sup> 2019<sup>2</sup>

### Our divisions



# E.ON is divided into two main businesses<sup>1</sup>



1. Segmentation from 2020 onwards.

2. Central and Eastern Europe, including Czech Republic, Hungary, Poland, Romania, Slovakia, Croatia.

3. Networks business (Enerjisa Enerji).

4. Belgium, The Netherlands and Luxemburg.

5. Including Czech Republic, Hungary, Italy, Poland, Romania, Sweden, Slovakia, Slovenia and Croatia.

6. Generation business (Enerjisa Üretim).

# E.ON's two core businesses

## Energy Networks

### ~€33bn Regulated Asset Base<sup>1</sup>

Germany €21.9bn

Sweden €3.8bn

CEE<sup>2</sup> & Turkey<sup>3</sup> €7.6bn

### ~74 GW Renewables capacity connected to E.ON networks

### ~3.0m Smart Meters rolled out in our grid areas

In total more than 17m Smart Meters to be rolled out until 2032

## Customer Solutions

### ~51m<sup>4</sup> customers across Europe

Germany 13.8m

UK 9.6m

Other EU 16.9m<sup>5</sup>

### ~30% of adj. EBIT<sup>6</sup> from decentral energy infrastructure

Resilience from long-term customer relations built on satisfaction and trust

### Market leading position with 4x Top 1 and 6x Top 3 positions

1. Regulated Asset Base (RAB) is the value of all distribution assets determined by the regulator. In general, RABs from different regulatory regimes are not directly comparable due to significant methodical differences. These include for example different regulatory asset lifetimes, asset valuation methods or treatment of customer contributions for network connections.

2. 100% view for Slovakia.

3. 100% view for Turkey.

4. Including Turkey.

5. Other including Benelux, Sweden, Romania, Hungary, Czech Republic, Poland, Slovakia, Italy, Slovenia and Croatia.

6. Adjusted for non operating effects.

# E.ON's Board of Management

## **Dr. Johannes Teyssen**

Chief Executive Officer

- Strategy & Innovation
- Human Resources
- Communications & Political Affairs
- Legal & Compliance
- Corporate Audit
- Sustainability & HSE
- Culture and Performance

## **Dr. Marc Spieker**

Chief Financial Officer

- Finance
- Investor Relations
- Mergers & Acquisitions and Participation Management
- Risk, Accounting & Controlling
- Tax
- S4 Transformation

## **Dr.-Ing. Leonhard Birnbaum**

Chief Operating Officer

Integration

- innogy integration
- Consulting
- PreussenElektra

## **Dr. Thomas König**

Chief Operating Officer –

Networks

- Energy Networks
- Procurement
- Turkey

## **Dr. Karsten Wildberger**

Chief Operating Officer –

Commercial

- Customer Solutions
- Decentralized Generation
- Energy Management
- Marketing
- Digital Technology



# E.ON Supervisory Board

## Shareholder representatives



**Dr. Karl-Ludwig Kley**  
**Chairman of the Supervisory Board**  
Born 1951, German  
Member since 2016  
Extensive leadership and supervisory board experience



**Erich Clementi**  
**Deputy Chairman**  
Born 1958, Italian  
Member since 2016  
Expert in digital transformation and strategy



**Klaus Fröhlich**  
Born 1960, German  
Member since 2018  
Expert in brand and product strategies and digitization; particular focus on e-mobility



**Ulrich Grillo**  
Born 1959, German  
Member since 2019  
Excellent network in German industry as well as management and strategy expertise



**Carolina Dybeck Happe**  
Born 1972, Swedish  
Member since 2016  
Profound experience in finance and digital transformation of products and services



**Andreas Schmitz**  
Born 1960, German  
Member since 2016  
Particular expertise in financial analysis and capital markets



**Dr. Rolf Martin Schmitz**  
Born 1957, German  
Member since 2019  
Extensive management and strategy expertise paired with technical knowledge



**Dr. Karen de Segundo**  
Born 1946, Dutch  
Member since 2008  
In-depth knowledge of energy market and regulated industries experience



**Deborah Wilkens**  
Born 1971, United States of America  
Member since 2019  
Proven capital market expert specialized in the energy sector



**Ewald Woste**  
Born 1960, German  
Member since 2016  
Extensive expertise in the energy sector, ESG expert

# E.ON Supervisory Board

## Employee representatives



**Andreas Scheidt**  
**Deputy Chairman of the Supervisory Board**  
Born 1964, German  
Member since 2015  
In-depth knowledge of the energy business



**Eugen Gheorghe Luha**  
Born 1957, Romanian  
Member since 2012  
Profound expertise in the gas business



**Christoph Schmitz**  
Born 1965, German  
Member since 2020  
Expert in press and public relations



**Szilvia Pinczésné Márton**  
Born 1969, Hungarian  
Member since 2018  
In-depth knowledge of the network business and co-determination matters



**Fred Schulz**  
Born 1962, German  
Member since 2014  
Experience in grid operations and HR management



**Stefan May**  
Born 1970, German  
Member since 2019  
Technical expertise as well as extensive knowledge in co-determination



**Elisabeth Wallbaum**  
Born 1975, German  
Member since 2016  
Expertise in Energy generation and IT-based process control



**Monika Krebber**  
Born 1962, German  
Member since 2019  
Profound knowledge of business administration and supervisory board experience



**René Pöhls**  
Born 1970, German  
Member since 2019  
Expert in network operation, HR and experience in co-determination



**Albert Zettl**  
Born 1966, German  
Member since 2016  
Background in the fields of grid management, grid distribution

# Content

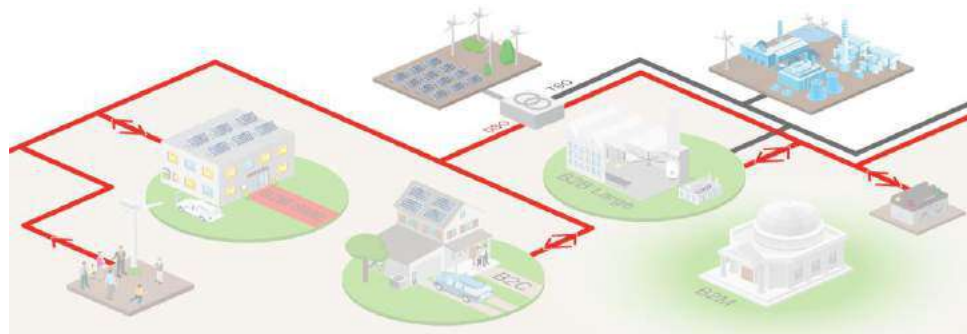
1	E.ON Group	2 - 8
2	<b>Energy Networks</b>	<b>9 - 45</b>
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# Energy Networks at a glance



## What we do

- Within Energy Networks we provide the infrastructure for the new energy world. We manage our grids from high to low voltage in a smart way, to promote a growing connection of renewable capacity.
- Power and gas distribution is predominantly a regulated business in our countries of operation.
- We have a strong network presence in power and gas in our core markets.
- About 39.400 employees work in Energy Networks.



2019 <sup>1,2</sup>	Germany	Sweden	Hungary	Czech Republic	Poland	Romania	Slovakia <sup>3</sup>	Turkey <sup>3</sup>	Total <sup>4</sup>
Wheeling volumes power (TWh)	238	36	36	14	8	6	10	46	394
Wheeling volumes gas (TWh)	173	n/a	15	3	-	26	-	-	217
Grid length power ('000km)	705	138	130	66	18	82	39	232	1,409
Grid length gas ('000km)	103	n/a	18	5	-	23	-	-	149
RAB power & gas (€ bn) <sup>5</sup>	21.9	3.8	2.5	1.8	0.7	0.8	0.6	1.3	33.2

1. Preliminary figures.

2. Excluding Croatia as the nature of the business is not fully comparable.

3. Slovakia and Turkey are not consolidated in E.ON financial statements (here: 100% view).

4. Small differences in reported total figures may occur due to rounding.

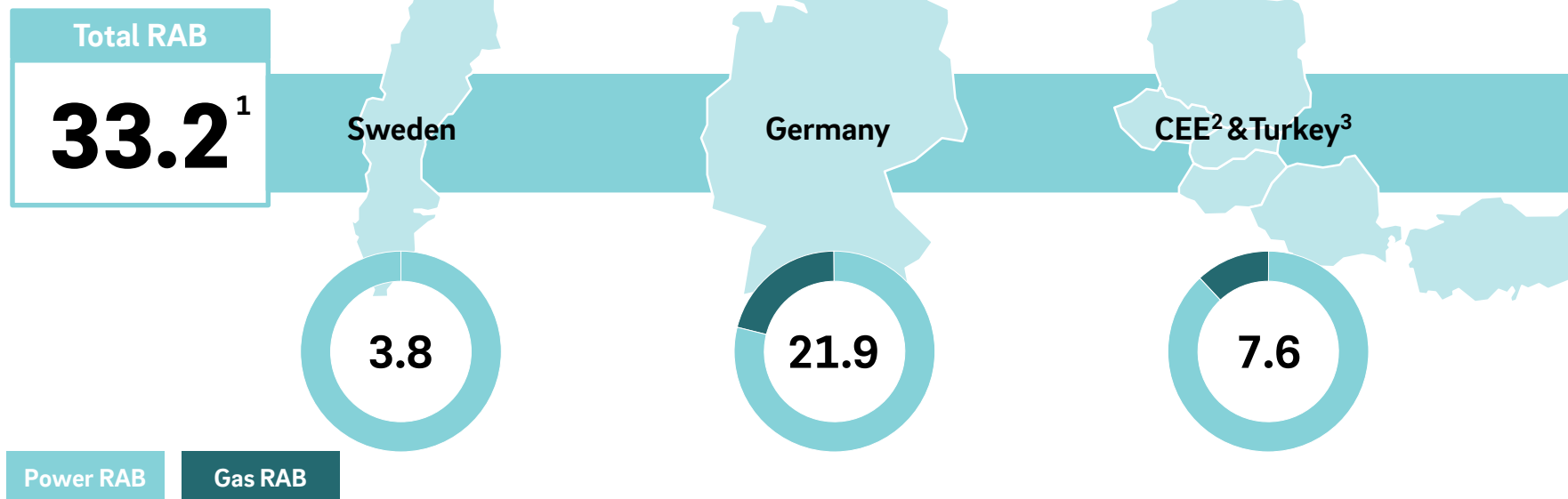
5. RAB Sweden, Poland, Slovakia and Turkey only includes power.

# Energy Networks – Geographies



## Regulated Asset Base (RAB)

€ bn



1. Differences may occur due to rounding.

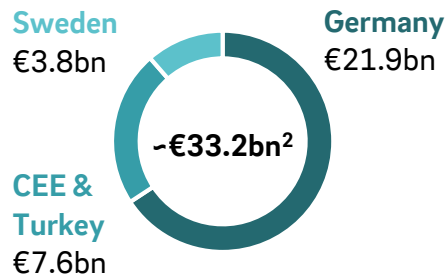
2. Central Eastern Europe including: Czech Republic, Hungary, Poland, Romania, Slovakia.

3. 100% view for Slovakia and Turkey.

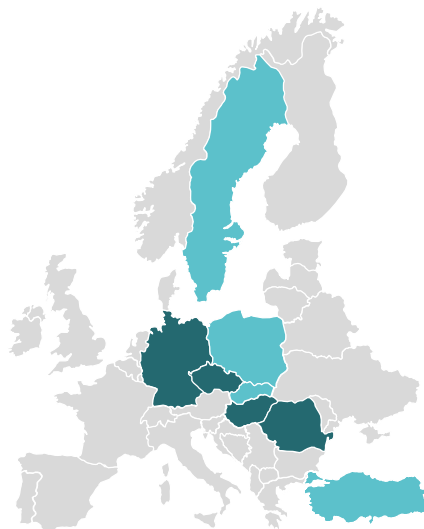
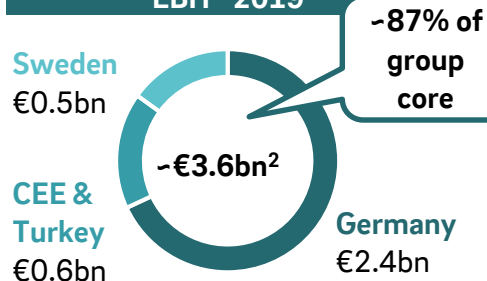
# Energy Networks – Overview



## Regulated Asset Base 2019<sup>1</sup>

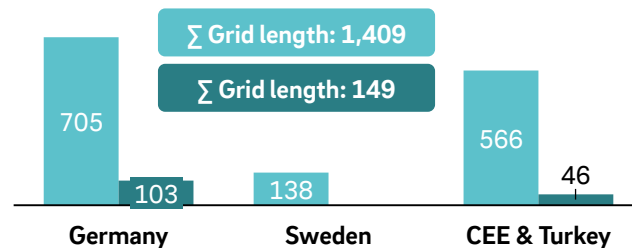


## EBIT<sup>3</sup> 2019<sup>4</sup>

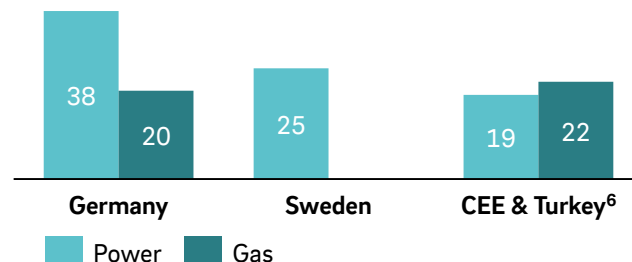


■ Power and gas  
■ Power only

## Grid length ('000 km)<sup>2</sup>



## Market share<sup>5</sup> (%)



1. 100% view for Slovakia and Turkey.

2. Differences may occur due to rounding.

3. Adjusted for non operating effects. Turkey and Slovakia included as an at-equity participation (i.e. with net income result).

4. Pro forma.

5. Market share determined by grid length.

6. Weighted average by grid length.

# Energy Networks – Financial overview



	2019 <sup>1</sup>			
€m	Germany	Sweden	CEE/Turkey <sup>2</sup>	Total
Adjusted EBITDA <sup>3</sup>	3,717	692	950	5,359
Adjusted EBIT <sup>3</sup>	2,438	539	605	3,582
Investments (cash-effective)	2,254	313	582	3,149
Regulatory D&A <sup>4</sup>	1,028	268	689	1,985

1. Pro forma.

2. Turkey and Slovakia included as an at-equity participation (i.e. with net income result).

3. Adjusted for non operating effects.

4. Turkey and Slovakia 100% view.

# Energy Networks – Earnings components



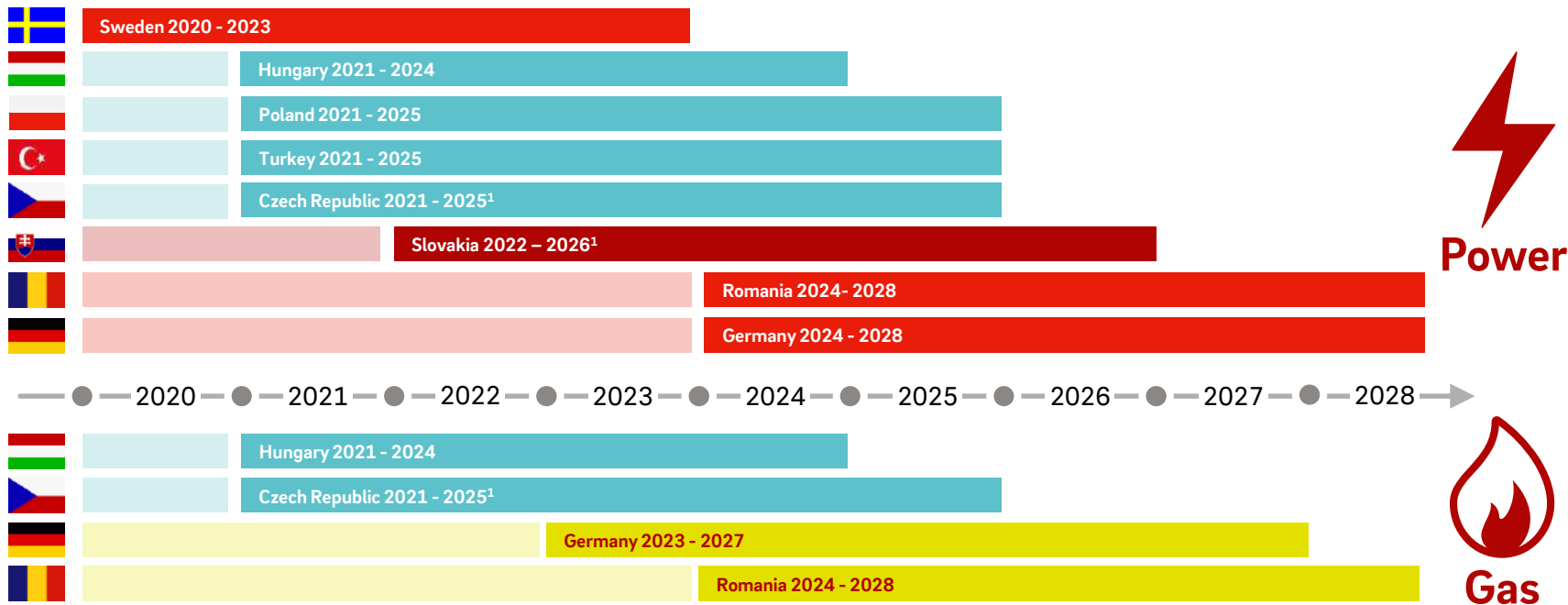
2019 <sup>1</sup>	Germany	Sweden	CEE <sup>2</sup>
<b>Total EBITDA (€ bn)</b>	<b>3.7</b>	<b>0.7</b>	<b>0.8</b>
<b>Components of total EBITDA ( %)</b>			
Grid business	77	99	97
thereof regulatory depreciation	28	39	52
Other incl. additional business	15	1	3
Income from participations	8	0	0

2019 <sup>1</sup>	Germany	Sweden	CEE <sup>2</sup>
<b>Total EBIT (€ bn)</b>	<b>2.4</b>	<b>0.5</b>	<b>0.5</b>
<b>Components of total EBIT ( %)</b>			
Grid business	77	99	95
Other incl. additional business	10	1	5
Income from participations	13	0	0

1. Pro forma.

2. CEE figures include Czech, Hungary, Romania and Poland.

# Energy Networks – Upcoming regulatory periods



1. Length of upcoming regulatory period still under discussion.

# Content

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# Energy Networks Germany – Business overview



Germany	2018	2019		2018	2019
<b>Grid length</b>			<b>Grid conduct</b>		
Power ('000km) <sup>1</sup>	697	705	Wheeling volumes power (TWh) <sup>2</sup>	245	238
Market share (%)	38	38	Wheeling volumes gas (TWh)	172	173
Gas ('000km) <sup>1</sup>	102	103	<b>RAB power &amp; gas (€ bn)<sup>3</sup></b>	<b>21.3</b>	<b>21.9</b>
Market share (%)	20	20			

## Major shareholdings

Avacon AG	61.5%	
Bayernwerk AG	100%	
E.DIS AG	67.0%	
envia Mitteldeutsche Energie AG	58.6%	+ 1 share
HanseWerk AG	66.5%	
innogy Westenergie GmbH	100%	
Lechwerke AG	89.1%	
Süwag Energie AG	77.6%	
VSE AG	50%	+ 1 share

1. Preliminary figures.

2. Wheeling Volumes include High Voltage (110kV).

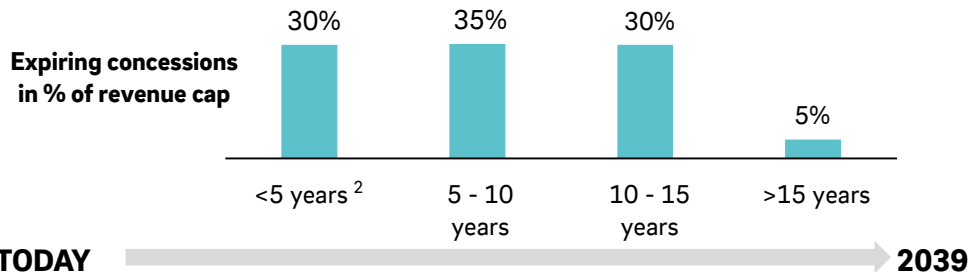
3. Pro forma RAB not applicable for current regulatory period in power and gas; applicable RAB for current regulatory period is RAB of 2015 (gas): €4.5bn / 2016 (power): €16.7bn.

# Energy Networks Germany – Concessions business

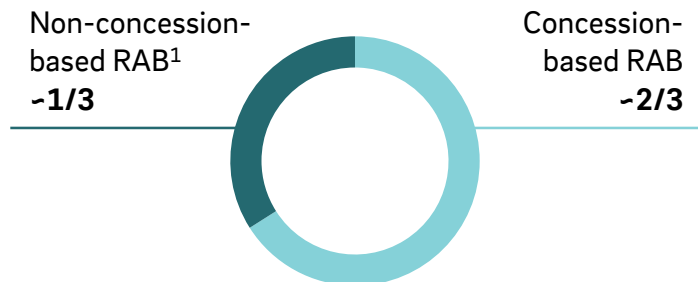


## Good track record in the past

- The German networks business holds more than **9,000** concessions
- The German networks business is based on long-term concessions granted by municipalities in the network area
- Maximum period of concession contract is **20 years**



## Existing concessions



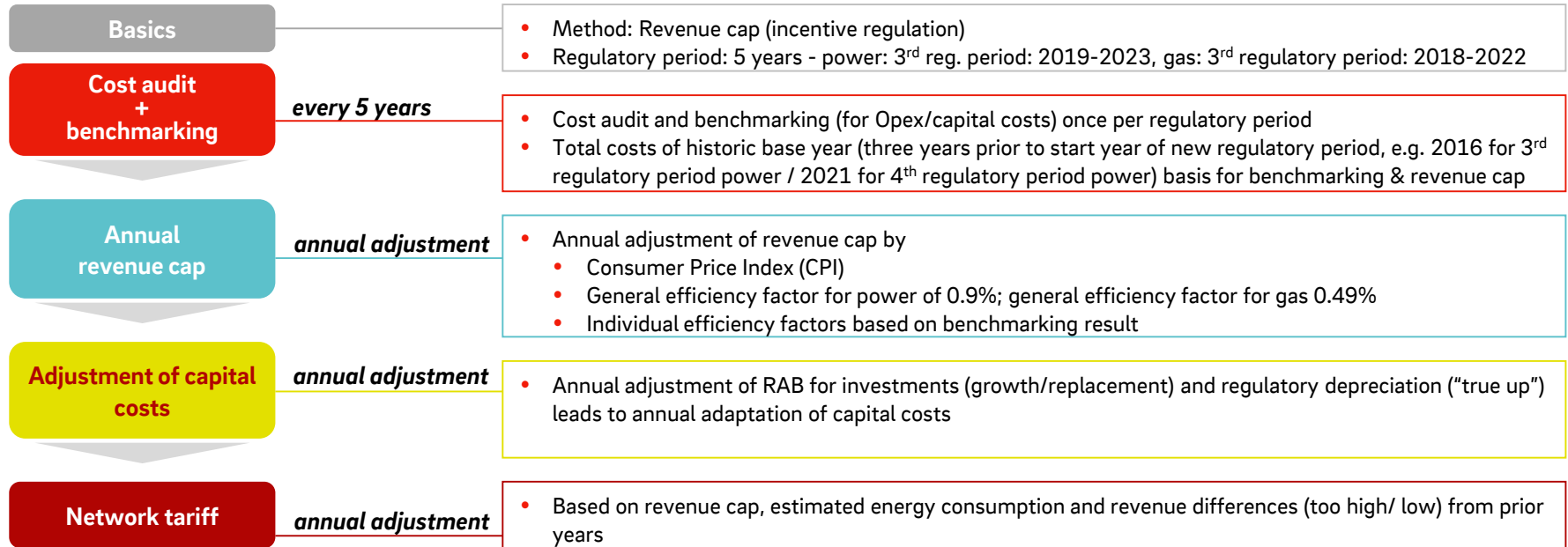
1. Includes for example 110 kV grid and meters.

2. Includes currently open concessions.

# Energy Networks Germany – Regulatory environment power & gas



## Process steps of regulatory system<sup>1</sup>

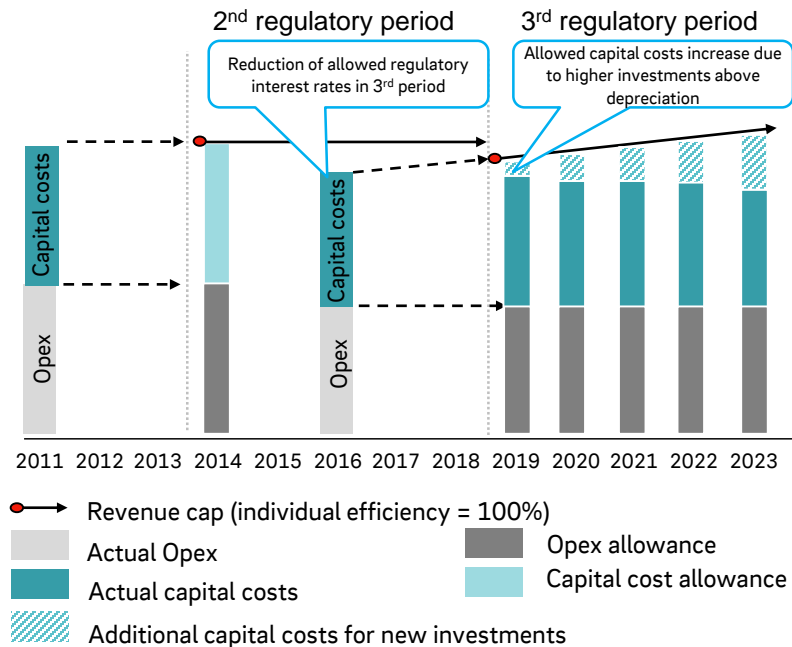


1. Please note, that the information provided is a simplified version of the German regulatory framework.

# Energy Networks Germany – Regulatory schedule



## Power distribution<sup>1</sup> - illustration



## Commentary

### 3<sup>rd</sup> regulatory period:

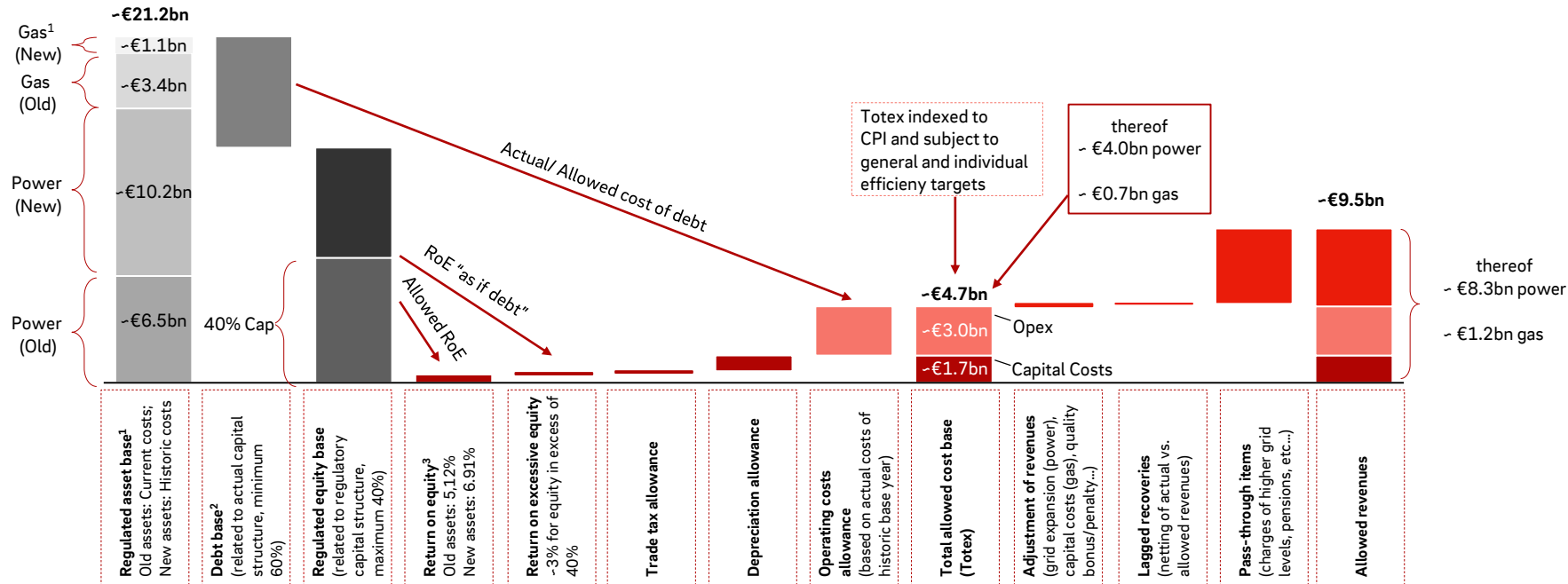
- Opex of base year 2016 are basis for allowed revenues from 2019 onwards<sup>1</sup>
- Annual adjustment of RAB for investments (growth/replacement) and regulatory depreciation ("true up") leads to annual adaptation of capital costs
- Capital costs of base year 2016 for investments from 2007 to 2016 are kept constant in the 3<sup>rd</sup> regulatory period as interim solution due to change of regulatory system

1. For gas the base year for the third regulatory period is 2015. The third regulatory period started in 2018.

# Germany – Building blocks of allowed revenues



## Schematic illustration for 2019 (power & gas)



1. Old assets are those capitalized before January 1, 2006. New assets are those capitalized after January 1, 2006. Old assets are indexed up to 40% with asset-specific indices to determine the current costs. Relevant asset base for calculation of allowed return in 2019 is 2016 for power and 2015 for gas.

2. Debt base consists of non-interest and interest bearing capital.

3. Return on equity rate is post trade tax and pre corporate tax.

# Energy Networks Germany – Determination of regulatory returns



Regulatory returns in German power networks			2nd regulatory period			3rd regulatory period <sup>4</sup>		
Equity return	New assets <sup>1</sup>	Old assets <sup>1</sup>	Total	New assets <sup>1</sup>	Old assets <sup>1</sup>	Total		
Asset share	32%	68%	100%	53%	47%	100%		
Base rate	3.80%	2.24%		2.49%	1.04%			
Market premium	4.55%	4.55%		3.80%	3.80%			
Beta	0.38	0.38		0.40	0.40			
Levered Beta	0.79	0.79		0.83	0.83			
Equity return after tax	7.40%	5.84%		5.64%	4.19%			
Equity return pre tax	10.49%	8.27%		8.00%	5.94%			
Equity return pre corporate tax	9.05%	7.14%		6.91%	5.13%			
Cost of debt (for equity above 40%)								
pre tax	3.98%			2.72%				
post tax	2.81%			1.92%				
WACC <sup>2</sup>								
pre tax	6.58%	5.70%	5.98%	4.83%	4.01%	4.45%		
post tax	4.64%	4.02%	4.22%	3.41%	2.83%	3.14%		
Tax rate	29.53%			29.53%				
Corporate tax	15.83%			15.83%				
Trade tax	13.70%			13.70%				
Financing structure <sup>3</sup>								
Equity	40%			40%				
Debt	60%			60%				

1. Old assets are those capitalized before January 1, 2006. New assets are those capitalized after January 1, 2006. Old assets are indexed up to 40% with asset-specific indices to determine the current costs.

2. Weighted average cost of capital. The German regulator does not use a WACC-approach. The pro-forma WACC can be used to compare German regulatory returns internationally. In Germany, the regulator determines an allowed return on equity (RoE). This RoE is applied to the regulated equity base (RAB + current assets - debt base).

3. Interest free liabilities (such as construction grants) not considered.

4. E.ON DSO filed an appeal against BNetzA decision.

# Energy Networks Germany – Results from participations 2019



Company	Contribution to E.ON result 2019 <sup>1</sup> (€m)
<b>Energy Networks</b>	
<b>At equity consolidation</b>	<b>219</b>
RheinEnergie AG	34
Dortmunder Energie- und Wasserversorgung GmbH	15
Städtische Werke Magdeburg GmbH & Co. KG	12
GASAG AG	11
Rhein-Main-Donau GmbH	10
REWAG Regensburger Energie- und Wasserversorgung AG & Co. KG	8
AVU Aktiengesellschaft für Versorgungs-Unternehmen	8
Other	121
<b>At cost consolidation</b>	<b>85</b>
SERVICE plus GmbH	7
Other	78

1. Pro forma.

# Content

1	E.ON Group	2 - 8
2	<b>Energy Networks</b>	<b>9 - 45</b>
	• Germany	16 - 23
	<b>Sweden</b>	<b>24 - 26</b>
	• CEE & Turkey	27 - 45
3	Customer Solutions	46 - 61
4	Non-Core	62 - 73
5	Financials	74 - 78

# Energy Networks Sweden – Business overview



Sweden <sup>1</sup>	2018	2019		2018	2019
<b>Grid length</b>			<b>Grid conduct</b>		
Power ('000km)	138	138	Wheeling volumes power (TWh)	37	36
Market share (%)	25	25	Wheeling volumes gas (TWh)	-	-
Gas ('000km)	-	-	<b>RAB power &amp; gas (€bn)<sup>2</sup></b>	<b>3.7</b>	<b>3.8</b>
Market share (%)	-	-			

## Major shareholdings

E.ON Energidistribution AB 100%

1. Disposal of gas grid in 2018; preliminary figures for 2019.

2. RAB figures converted at a SEK/EUR rate of 10.26 (2018) and 10.59 (2019); RAB value for 2018 only shows Power RAB.

# Energy Networks Sweden — Regulatory environment power



## Overview

### Basics

- Method: Revenue cap
- Regulatory period: 2020-2023
- Next regulatory period: 2024-2027
- Photo year for Opex allowance: Four year average
- Inflation adjustment: Opex

### Cap formula<sup>1</sup>

- Revenue cap =  
(Controllable costs x (PI - efficiency factor)) + non-controllable costs +  
(age adjusted value (number of recognized assets and planned assets x  
regulatory standard prices)) x WACC + depreciation<sup>2</sup> +/- quality  
adjustment

## Key Cost factors

- Regulatory return (WACC) on RAB (pre-tax, real): 2.16%<sup>3</sup>
- RAB set once a period by the regulator based on standard prices applied to recognized historic assets; annual adjustment based on inflation, planned assets, minus disposals and depreciation
- Depreciation period for power lines, cables is ~50 years, stations is ~40 years and ~10 years for meters and IT-systems

### Opex

- Historical average costs 2014-2017 indexed to 2018
- Opex annually adjusted for inflation (PI)
- Inflation factor (PI) is the customer price index
- Efficiency factor: 1% p. a.
- Non-controllable costs are pass-through costs reflected in the revenue cap

## Other important factors

- Quality adjustment considers outages above 3 minutes and below 12 hours and incentives for grid losses
- Most RES<sup>4</sup> connections are cash neutral

1. The cap formula is an E.ON internal interpretation of the national regulatory framework.

2. Average regulatory depreciation (2019-2021): ~€ 239 m p. a.

3. WACC for prior regulatory period 2016-2019: 5.85%.

4. Renewables.

# Content

1	E.ON Group	2 - 8
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	• Sweden	24 - 26
	<b>CEE &amp; Turkey</b>	<b>27 - 45</b>
3	Customer Solutions	46 - 61
4	Non-Core	62 - 73
5	Financials	74 - 78

# Energy Networks Czech Republic – Business overview



Czech Republic <sup>1</sup>	2018	2019
<b>Grid length</b>		
Power ('000km)	66	66
Market share (%)	28	28
Gas ('000km)	5	5
Market share (%)	6	6

	2018	2019
<b>Grid conduct</b>		
Wheeling volumes power (TWh)	14	14
Wheeling volumes gas (TWh)	3	3
<b>RAB power and gas (€ bn)<sup>2</sup></b>	<b>1.7</b>	<b>1.8</b>

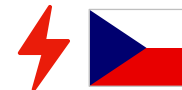
## Major shareholdings

E.ON Distribuce, a.s.	100%
Local Energies, a.s.	100%

1. Preliminary figures for 2019.

2. RAB figures converted at a CZK/EUR rate of 25.65 (2018) and 25.67 (2019).

# Energy Networks Czech Republic — Regulatory environment power



## Overview

### Basics

- Method: Revenue cap
- Regulatory period: 2016-2020
- Next regulatory period<sup>1</sup>: 2021-2025
- Photo year for Opex allowance<sup>2</sup>: Three year average (based on past practice; the laws do not provide an explicit mechanism)
- Inflation adjustment: Opex

### Cap formula<sup>3</sup>

- Revenue cap =  
 $(\text{Controllable costs} + \text{non-controllable costs})^4 \times (\text{PI} - \text{efficiency factor}) + (\text{RAB} \times \text{WACC}) + \text{depreciation}^5 + \text{Quality bonus/ malus} + \text{Market factor}$

## Key cost factors

### Capex

- Regulatory return (WACC) on RAB (pre-tax, nominal): 7.95%
- Depreciation period for power lines is 40 years
- Annual adjustments of RAB for depreciation and planned investments (no time lag)

### Opex

- Historical average costs 2012-2013
- Opex annually adjusted for inflation (PI)
- Inflation factor (PI) for Opex is 70% business service price index + 30% (CPI+1%)
- General efficiency factor: 1.0% annually
- Individual efficiency factor: 0% for the current regulatory period

## Other important factors

- 80% of customer contributions to investment costs deducted from allowed revenues with 20 year time distribution

1. Not legally set, anticipated based on past experience.

2. Proposal for the next regulatory period.

3. The cap formula is an E.ON internal interpretation of the national regulatory framework.

4. Regulator doesn't distinguish between controllable and noncontrollable costs.

5. Average regulatory depreciation (2019-2021) for power and gas: ~ €137m p. a.

# Energy Networks Czech Republic — Regulatory environment gas



## Overview

### Basics

- Method: Revenue cap
- Regulatory period: 2016-2020
- Next regulatory period<sup>1</sup>: 2021-2025
- Photo year for Opex allowance<sup>2</sup>: Three year average (based on past practice; the laws do not provide an explicit mechanism)
- Inflation adjustment: Opex

### Cap formula<sup>3</sup>

- Revenue cap =  
 $(\text{Controllable costs} + \text{non-controllable costs})^4 \times (\text{PI} - \text{efficiency factor}) + (\text{RAB} \times \text{WACC}) + \text{depreciation}^5 + \text{Market factor}$

## Key cost factors

### Capex

- Regulatory return (WACC) on RAB (pre-tax, nominal): 7.94%
- Depreciation period for gas pipes is 40 years
- Annual adjustments of RAB for depreciation and planned investments (no time lag)

### Opex

- Historical average costs 2012-2013
- Opex annually adjusted for inflation (PI)
- Inflation factor (PI) for Opex is 70% business service price index + 30% (CPI+1%)
- General efficiency factor: 1.0% annually
- Individual efficiency factor: 0% for the current regulatory period

## Other important factors

- 80% of customer contributions to investment costs deducted from allowed revenues with 20 year time distribution

1. Not legally set, anticipated based on past experience.

2. Proposal for the next regulatory period.

3. The cap formula is an E.ON internal interpretation of the national regulatory framework.

4. Regulator doesn't distinguish between controllable and noncontrollable costs.

5. Average regulatory depreciation (2019-2021) for power and gas: ~ €137m p. a.

# Energy Networks Hungary – Business overview



Hungary <sup>1</sup>	2018	2019		2018	2019
<b>Grid length</b>			<b>Grid conduct</b>		
Power ('000km)	129	130	Wheeling volumes power (TWh)	36	36
Market share (%)	79	79	Wheeling volumes gas (TWh)	15	15
Gas ('000km)	18	18	<b>RAB power and gas (€ bn)<sup>2</sup></b>	<b>2.5</b>	<b>2.5</b>
Market share (%)	23	23			

## Major shareholdings

E.ON Dél-dunántúli Áramhálózati Zrt.	100%
E.ON Észak-dunántúli Áramhálózati Zrt.	100%
E.ON Tiszántúli Áramhálózati Zrt.	100%
E.ON Dél-dunántúli Gázhálózati Zrt.	99.96%
E.ON Közép-dunántúli Gázhálózati Zrt.	99.84%
ELMŰ Nyrt.	98.94%
ÉMÁSZ Nyrt.	97.05%

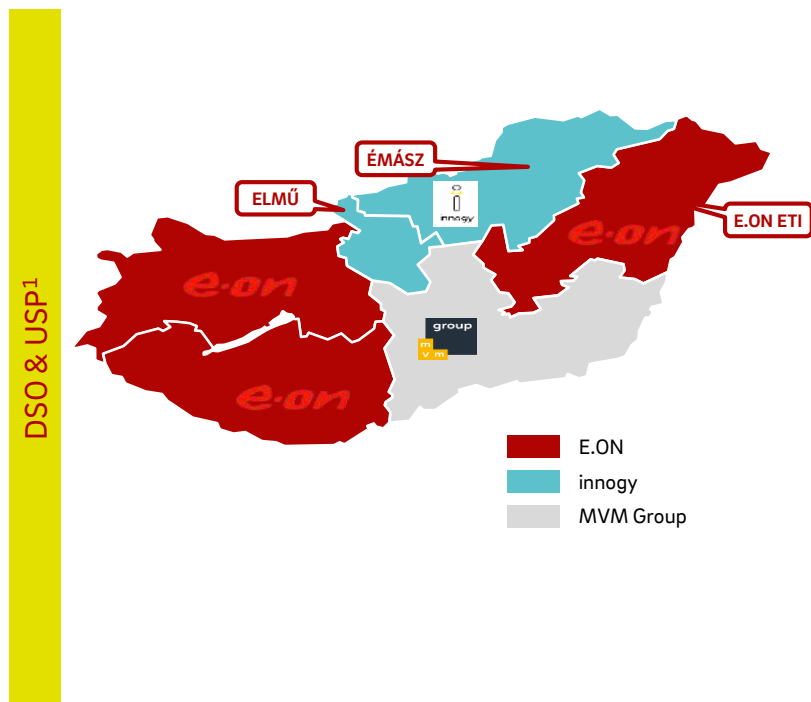
1. Preliminary figures for 2019.

2. RAB figures converted at a HUF/EUR rate of 318.89 (2018) and 325.30 (2019).

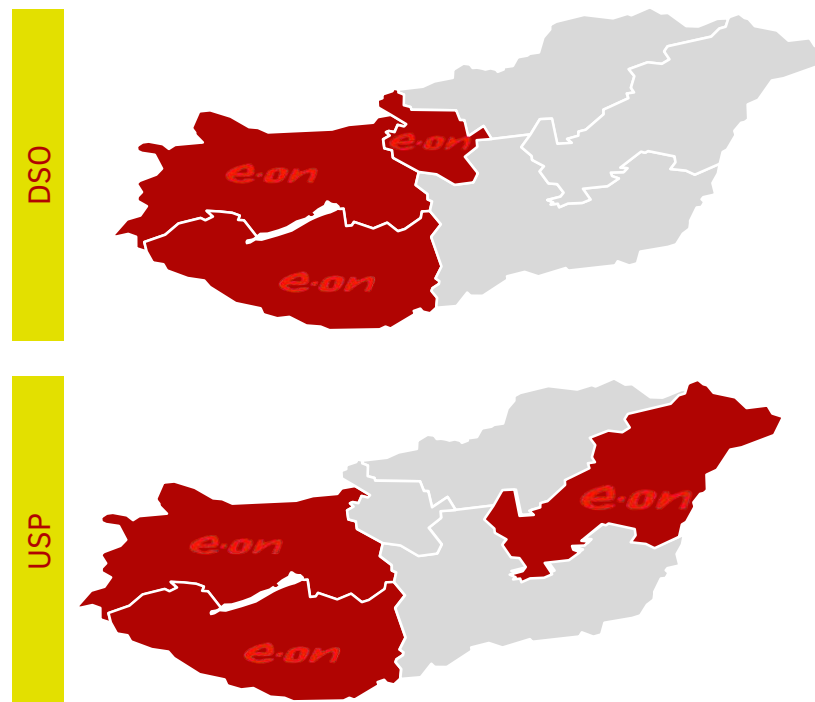
# Energy Networks Hungary – Restructuring overview



## Before Transaction



## After Transaction



1. Universal Service Provider.

# Energy Networks Hungary – Regulatory environment power



## Overview

### Basics

- Method: Price cap<sup>1</sup>
- Regulatory period: 2017-2020
- Next regulatory period: 2021-2024
- Photo year for Opex allowance: The year two years prior to the start year of the new regulatory period
- Inflation adjustment: Opex; RAB

### Cap formula<sup>2</sup>

- Price cap<sup>3</sup> =  
(Allowed controllable costs + non-controllable costs + (RAB x WACC) + depreciation<sup>4</sup> ± quality bonus/malus ± investment bonus/malus ) / forecasted volume<sup>5</sup>

### Other important factors

- Quality factor for unplanned SAIDI<sup>6</sup>, SAIFI<sup>6</sup> and an outage rate min. level defined. Sanctions possible if non-compliant in 3-years average
- Additional revenues granted for RES integration and connection of economy boosting investments (i.e. connection of industry parks)
- Public utility tax (125 HUF/meter) and "Robin Hood tax" (31% of tax base) not recognized in network tariffs

## Key cost factors

### Capex

- Regulatory return (WACC) on RAB (pre-tax, real): 4.69%
- Annual adjustments of RAB for inflation and depreciation
- Smart grid investments get a 1.1 return multiplier
- Depreciation period for power lines is 37 years

### Opex

- Historical costs 2015
- Opex annually adjusted for inflation (CPI) and required efficiency (X)

1. Price-cap-like system; modified with actual quantity acceptance with two year time lag.  
2. The cap formula is an E.ON internal interpretation of the national regulatory framework.  
3. Accepted tolerance +/- 2%.  
4. Average regulatory depreciation (2019-2021) for power and gas: ~ € 196m p. a.  
5. Actual volumes from year N-2 is used as forecast.  
6. System Average Interruption Duration Index, System Average Interruption Frequency Index.

# Energy Networks Hungary – Regulatory environment gas



## Overview

### Basics

- Method: Price cap
- Regulatory period: 2017-2020<sup>1</sup>
- Next regulatory period: 2021-2024<sup>1</sup>
- Photo year for Opex allowance: The year two years prior to the start year of the new regulatory period
- Inflation adjustment: Opex; RAB

### Cap formula<sup>2</sup>

- Price cap =  
 $(\text{Allowed controllable costs} + \text{non-controllable costs} + (\text{RAB} \times \text{WACC}) + \text{depreciation}^3) / \text{forecasted volume}^4$

## Key cost factors

### Capex

- Regulatory return (WACC) on RAB (pre-tax, real): 4.62%
- Annual adjustments of RAB for inflation and depreciation
- Depreciation period for gas pipes is 40 years

### Opex

- Historical costs 2015
- Opex annually adjusted for inflation (CPI), additional yearly cost adjustment

## Other important factors

- Public utility tax (125 HUF/meter of grid) and “Robin Hood tax” (31% of tax base) not recognized as eligible costs in the network tariffs

1. Gas-year starts 1<sup>st</sup> of October.

2. The cap formula is an E.ON internal interpretation of the national regulatory framework.

3. Average regulatory depreciation (2019-2021) for power and gas: ~ €196m p. a.

4. Actual volumes from year N-2 is used as forecast.

# Energy Networks Poland – Business overview



Poland <sup>1</sup>	2018	2019
<b>Grid length</b>		
Power ('000km)	17	18
Market share (%)	2	2
Gas ('000km)	-	-
Market share (%)	-	-

	2018	2019
<b>Grid conduct</b>		
Wheeling volumes power (TWh)	8	8
Wheeling volumes gas (TWh)	-	-
<b>RAB power and gas (€ bn)<sup>2</sup></b>	<b>0.7</b>	<b>0.7</b>

## Major shareholdings

innogy Stoen Operator Sp. z o.o. 100%

1. Preliminary figures for 2019.

2. RAB figures converted at a PLN/EUR rate of 4.26 (2018) and 4.3 (2019).

# Energy Networks Poland – Regulatory environment power



## Overview

### Basics

- Method: Price cap
- Regulatory period: 2016-2020
- Next regulatory period: 2021-2025
- Photo year for Opex allowance: Seven years average
- Inflation adjustment: Opex

### Cap formula<sup>1</sup>

- Price cap =  
[Controllable costs x (1+RPI - efficiency factor) + non-controllable costs<sup>2</sup>  
+ (RAB x WACC x Q x WR) + depreciation<sup>3</sup> + grid losses] / (forecasted  
volumes)

## Key cost factors

### Capex

- Risk free rate and WACC set yearly (pre-tax, nominal ): 6.015% for 2019
- Annual adjustment of RAB for inflation and depreciation and investments of prior year minus non-refundable resources
- Depreciation period for power lines, cables and stations is 40 years, 1 year for meters and 5 years for IT-systems

### Opex

- Historical average costs 2008-2014 indexed to 2015
- Opex annually adjusted for inflation (RPI with N-2)
- Efficiency factor set by Regulator for regulatory period: 1.49%

## Other important factors

- Q - Quality regulation for SAIDI, SAIFI and connection time (set for 2018 – 2025)
- WR - regulatory factor-used by the Regulator (min-value: 0.9 x return on RAB, max-value: 1.1 x return on RAB)

1. The cap formula is an E.ON internal interpretation of the national regulatory framework.

2. Including TSO costs, non DSO & TSO costs (RES, CHP, transition, capacity fees) and taxes.

3. Average regulatory depreciation (2019-2021): - €82m p. a.

# Energy Networks Romania – Business overview



Romania <sup>1</sup>	2018	2019		2018	2019
<b>Grid length</b>			<b>Grid conduct</b>		
Power ('000km)	81	82	Wheeling volumes power (TWh)	6	6
Market share (%)	17	17	Wheeling volumes gas (TWh)	27	26
Gas ('000km)	22	23	<b>RAB power and gas (€ bn)<sup>2</sup></b>	<b>0.8</b>	<b>0.8</b>
Market share (%)	44	45			

## Major shareholdings

Delgaz Grid SA 56.5%

1. Preliminary figures for 2019.

2. RAB figures converted at a RON/EUR rate of 4.65 (2018) and 4.75 (2019).

# Energy Networks Romania – Regulatory environment power



## Overview

### Basics

- Method: Price cap tariffs basket with actual volume acceptance (1 year time lag)<sup>1</sup>
- Regulatory period: 2019-2023
- Next regulatory period: 2024-2028
- Photo year for Opex allowance: Previous period of the new regulatory period with regulatory benchmark
- Inflation adjustment: Opex; RAB

### Cap formula<sup>2</sup>

- Price cap =
- $[(\text{Operation costs \& Maintenance}) \times (1 - \text{efficiency factor}) + \text{Personnel} + \text{HS\&E costs} + \text{Grid Losses costs} + \text{Non-controllable costs} + (\text{RAB} \times \text{WACC}) + \text{depreciation}^3 - \text{revenue from reactive energy}] / \text{forecasted volume}$

### Other important factors

- Efficiency factor does not apply to personnel expenses and HS&E costs
- Automatic compensations for violated quality standards towards customers
- From 2018 onwards no recognition of “Natural monopoly tax” in network tariffs

## Key cost factors

### Capex

- Regulatory return (WACC) on RAB (pre-tax, real): 6.9%<sup>4</sup>
- Adjustments of RAB for inflation (CPI), depreciation and planned investments (no time lag) ex-ante of regulatory period and ex-post with actual investments
- Obligation to achieve a 95% of grid investments included in the annual investment plan approved by regulator
- Depreciation period for power lines is 30 to 40 years

### Opex

- Historical costs and annual correction of allowed costs
- Opex annually adjusted for inflation (CPI)
- Obligation to achieve 90% on maintenance plan
- General efficiency factor: max 2 % p. a.
- Opex outperformance: 40% of gained efficiency is kept by DSO, but no more than 5% of EBIT

1. Tariff cap increase at max. 7% on average tariffs and max 10% on each voltage level (based on current tariffs methodology for 4th Regulatory Period 2019-2023).

2. The cap formula is an E.ON internal interpretation of the national regulatory framework.

3. Average regulatory depreciation (2019-2021) for power and gas: ~ €62 m p. a.

4. 5.66% Jan-Mar 2019; 6.9% as of April 2019; valid by end of April 2020; it is expected to receive a new WACC from Regulator.

# Energy Networks Romania – Regulatory environment gas



## Overview

### Basics

- Method: Revenue cap<sup>1</sup>
- Regulatory period: 2019-2023<sup>2</sup>
- Next regulatory period: 2024-2028<sup>2</sup>
- Photo year for Opex allowance: The year prior to the start year of the new regulatory period
- Inflation adjustment: Opex; RAB

### Cap formula<sup>3</sup>

- Revenue cap =  
[(Operations + Maintenance costs) x (1+CPI - efficiency requirements) + (Personnel + HS&E costs) x (1+CPI) + Grid Losses + non-controllable costs + (RAB x WACC) + depreciation<sup>4</sup>]

### Other important factors

- Efficiency factor does not apply to personnel expenses and HS&E costs
- Automatic compensations for violated quality standards towards customers
- From 2018 onwards no recognition of "Natural monopoly tax" in network tariffs

## Key cost factors

### Capex

- Regulatory return (WACC) on RAB (pre-tax, real): 6.9%<sup>5</sup>
- Adjustments of RAB for inflation (CPI), depreciation and planned investments (no time lag) ex-ante of regulatory period and ex-post with actual investments
- Depreciation period for gas pipes is 30 to 40 years

### Opex

- Historical costs 2018<sup>6</sup> and annual correction of allowed costs
- Opex annually adjusted for inflation (CPI)
- General efficiency factor: max 1% p. a.
- Opex outperformance: 40% of gained efficiency is kept by DSO

1. Regulatory revenue will be adjusted based on the difference between approved and actual volumes distribution revenues from prior year (a net effect of both volumes and tariffs).

2. Gas-year starts 1<sup>st</sup> of July.

3. The cap formula is an E.ON internal interpretation of the national regulatory framework.

4. Average regulatory depreciation (2019-2021) for power and gas: ~ €62m p. a.

5. 5.66% Jan-Mar 2019; 6.9% as of Apr 2019; valid by end of April 2020; it is expected to receive a new WACC from Regulator.

6. Incl. benchmarking and additional substantiated costs.

# Energy Networks Slovakia – Business overview



Slovakia <sup>1</sup>	2018	2019		2018	2019
<b>Grid length</b>			<b>Grid conduct</b>		
Power ('000km)	38	39	Wheeling volumes power (TWh)	10	10
Market share (%)	49	49	Wheeling volumes gas (TWh)	-	-
Gas ('000km)	-	-	<b>RAB power and gas (€ bn)</b>	<b>0.6</b>	<b>0.6</b>
Market share (%)	-	-			

## Major shareholdings

Západoslovenská distribučná a.s. 49%

1. Preliminary figures for 2019.

# Energy Networks Slovakia – Regulatory environment power



## Overview

### Basics

- Method: Price cap
- Regulatory period: 2017-2021
- Next regulatory period<sup>1</sup>: 2022-2026
- Photo year for Opex allowance: 2010
- Inflation adjustment: Opex

### Cap formula<sup>2</sup>

- Price cap per voltage level<sup>3</sup> =  
 $(\text{Opex allowance} \times (1 + \text{core inflation} - \text{efficiency factor}) + (\text{RAB 2010 YE} \times \text{WACC}) + \text{depreciation (from RAB 2010 YE} + \text{from planned Capex for next year)}^4 - \text{revenues from connections \& recovery of illegal consumption \& exceeding reserved capacity} \pm \text{correction on depreciation (from planned vs. actual Capex)}) / \text{forecasted volume}$

### Other important factors

- Automatic compensations for violated quality standards towards customers

## Key cost factors

### Capex

- Regulatory return (WACC pretax, nominal) on RAB: set annually; 6.04% for 2019
- RAB: Depreciated asset base based on external value appraisal of assets, investments and depreciation prepared by Slovakian regulator
- Depreciation period for power lines is 30 (LV) to 35 years (MV, HV)

### Opex

- Historical costs 2010
- Opex annually adjusted for inflation
- Inflation factor for Opex is core inflation, however escalation index  $(1 + \text{core inflation} - \text{efficiency})$  cannot be below 1.0
- Efficiency factor (applied to Opex): 3.5% p. a.

1. Length of upcoming regulatory period still under discussion.  
2. The cap formula is an E.ON internal interpretation of the national regulatory framework.  
3. Price caps for high voltage (110 kV), medium voltage (22 kV) and low voltage (0.4 kV).  
4. Average regulatory depreciation (2019-2021): -€92m p. a.

# Energy Networks Turkey – Overview



## Enerjisa Enerji (networks & retail):

- #1 Distribution network operator by grid length
- #1 Energy supplier by customer number



232,000 km  
networks



9.9m retail  
customers

# Energy Networks Turkey – Financial overview



<b>Enerjisa Enerji (networks &amp; retail)<sup>1</sup></b>	<b>2018</b>	<b>2019</b>
<b>Revenues (TRL m)</b>	<b>18,347</b>	<b>19,453</b>
<b>EBITDA + capex reimbursement<sup>2</sup> (TRL m)</b>	<b>4,864</b>	<b>4,427</b>
<b>Net Income (TRL m)</b>	<b>748</b>	<b>1,034</b>
<b>E.ON share of 50% in Jan 18 &amp; 40% since Feb 18 (€ m)<sup>3</sup></b>	<b>57</b>	<b>64</b>
Acquisition related depreciation charges (run rate)	-5	-5
FX hedges and other	0	0
<b>Equity result (€ m)<sup>4</sup></b>	<b>52</b>	<b>60</b>

1. 100% Enerjisa view.

2. Capex reimbursements refer to cash effective amortization of the regulatory asset base, but due to the application of IFRIC 12 (accounting for concessions) not recognized as income under IFRS. To facilitate the comparability of Enerjisa's earnings across the sector, of which the peers may recognize regulatory amortization as income, the non-IFRS KPI "Operational Earnings" defined as EBITDA plus Capex reimbursements is applied. Includes one-offs.

3. Quarter end FX spot rates applied. Enerjisa Enerji ownership before IPO (Feb-2018) 50%.

4. Differences may occur due to rounding.

# Energy Networks Turkey – Networks and Retail



Networks	2018	2019
Power grid length ('000km) <sup>1</sup>	227	232
Market share (%) <sup>1</sup>	20	20
Wheeling Power (TWh)	46	46
RAB (€ bn) <sup>2</sup>	1.1	1.3
RAB (TRL bn)	6.9	8.4

Retail	2018	2019
Power sales (TWh)	41.1	36.1
Market share (%) <sup>1</sup>	17	15
# of customers	9.6	9.9
Market share (%) <sup>1</sup>	23	22

1. Latest available data as of end of 2019.

2. RAB figure converted at a TRL/EUR rate of 6.0 (2018, end of period) and 6.7 (2019, end of period).

# Energy Networks Turkey — Regulatory environment networks & retail



## Networks

Regulatory - WACC (Pre-tax real, local currency)

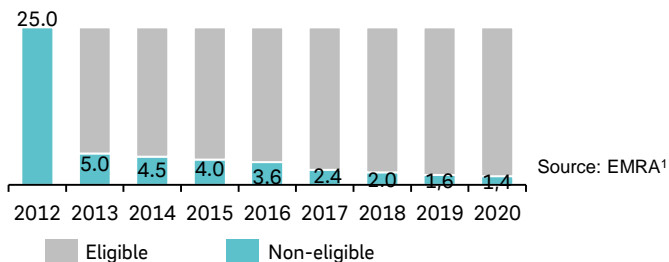
**13.6%**

## Regulatory incentive framework

- 3<sup>rd</sup> regulatory period: 2016-2020
- Return on RAB (RAB 2019: TRL 8.4bn)
- Opex outperformance
- Theft & loss allowance outperformance

## Retail

Evolution of market liberalization - eligibility threshold (MWh p.a.)



## Partially liberalized energy market

- Above a certain consumption threshold, customers can choose their own energy supplier (eligible customers)
- Below the consumption threshold, customers are bound by regulated tariffs (non-eligible customers)
- Eligibility limit for regulated tariff consistently reduced.
- Continued liberalization expected, opening up new market and profit pools.
- Last resort tariff further reduced for industrials with consumption from >10GWh to >7GWh in 2020

1. Energy Market Regulatory Authority (Turkey).

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# Customer Solutions – Business overview

## What we do

- Customer Solutions includes energy sales, energy infrastructure and solutions for industrial customers and cities, as well as growth businesses such as Future Energy Home and e-Mobility
- The product offering ranges from power and gas sales to district and local area heating solutions, on-site generation, virtual power plants, energy efficiency, smart metering, e-Mobility, home heating, energy management, PV + battery etc.
- The business addresses the needs of three main customer groups: B2C, industrial customers, as well as cities, quarters and real estate developers<sup>3</sup>
- 32,400 employees work in Customer Solutions



2019	Germany	UK	Benelux	Italy	Sweden	Poland	Czech Rep.	Hungary	Romania	Slovakia <sup>1</sup>	Croatia <sup>2</sup>	Slovenia <sup>2</sup>	Turkey <sup>4</sup>	Total
# of customers (m)	14.2	9.6	4.3	0.9	0.8	1.0	1.2	4.7	3.2	1.0	0.2	0.04	9.9	51
Power sales (TWh)	213.1	75.7	19.4	9.9	13.3	5.6	16.4	26.5	5.5	6.0	1.1	0.2	36.1	428.8
Gas sales (TWh)	163.5	106.7	71.1	11.4	5.0	0.8	9.5	9.5	25.3	3.0	1.0	0.01	n/a	406.8

1. Consolidated on a 49% basis in adjusted EBIT/Net Income of E.ON Financial Statements. Figures shown here: 100% view.

2. Customer Solution Business; consolidated within Energy Networks of E.ON Financial statements.

3. City energy solutions addresses the business to municipalities, cities and districts.

4. 100% view.

# Customer Solutions — at a glance

## Leveraging customer solutions beyond energy sales



### Energy Retail:

- 51m<sup>1</sup> customers in 15 countries
- Market leading position with 4x Top 1 and 6x Top 3 positions

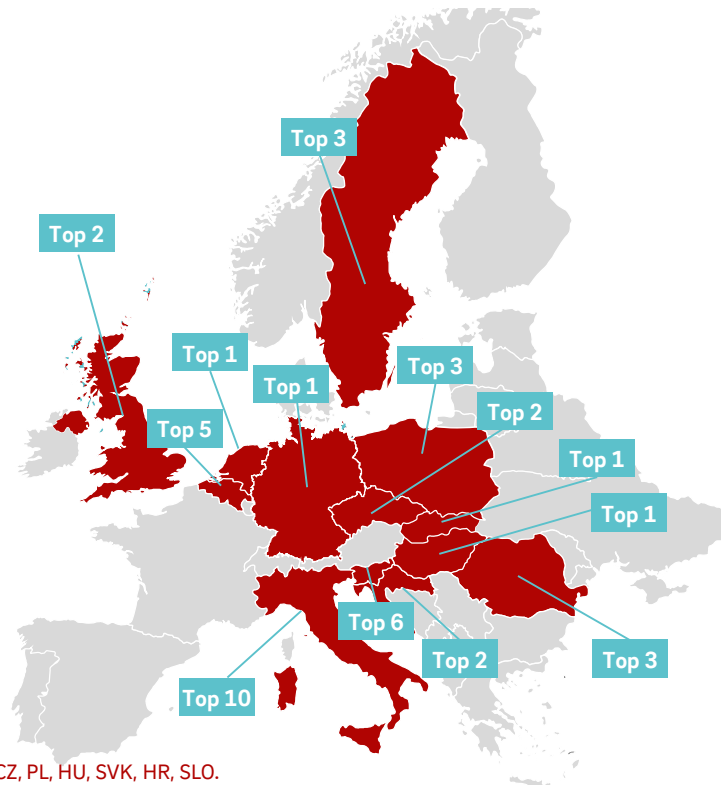


- Decentral Energy Infrastructure<sup>3</sup> with growing contribution



- City Energy Solutions (CES) with market share of 10% in Sweden and 8% in Germany<sup>4</sup>

## E.ON's market position in Energy retail<sup>2</sup>



1. Incl. Turkey and Denmark.

2. Reflects positioning on both power and gas market for UK, DE, NL, BE, IT, RO; only power market for SWE, CZ, PL, HU, SVK, HR, SLO.

3. Including B2B Solutions and City Energy Solutions.

4. Market share based on volumes sold. The market share for Germany is projected based on the E.ON figure.

# Customer Solutions — Financial overview



€ bn	2019 <sup>1</sup>				
	Germany	UK	Benelux	Other <sup>3,4</sup>	Total
Adjusted EBITDA <sup>2</sup>	646	-10	192	296	1,124
Adjusted EBIT <sup>2</sup>	484	-180	125	97	526
Investments (cash-effective)	226	211	90	481	1,008

1. Pro forma.

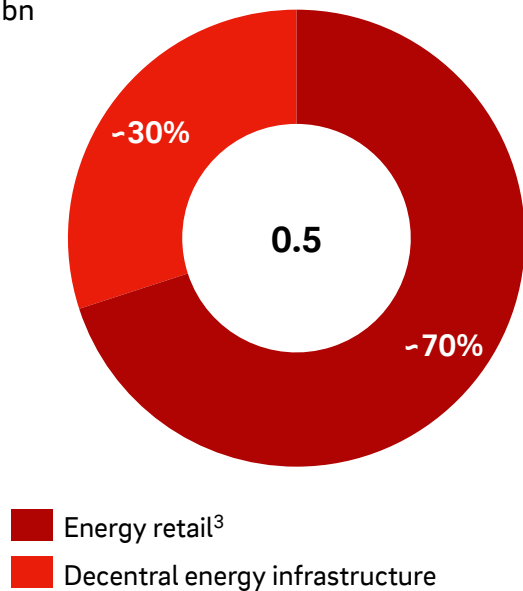
2. Adjusted for non operating effects.

3. Other including Sweden, Romania, Hungary, Czech Republic, Poland, Italy.

4. Customer Solution Business of Slovenia and Croatia is consolidated within Energy Networks of E.ON Financial statements.

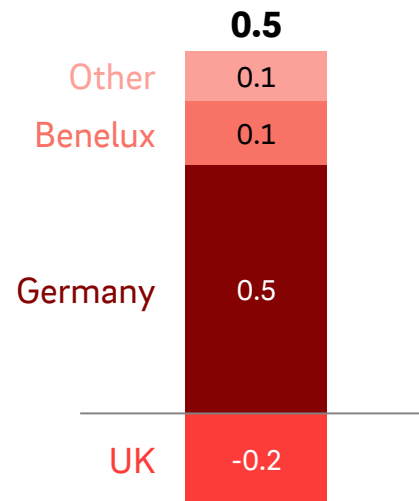
# Customer Solutions – Financial overview

Adjusted EBIT<sup>1</sup> 2019<sup>2</sup> by customer segment  
€ bn



1. Adjusted for non operating earnings; slight differences may occur due to rounding.
2. Pro forma.
3. Including New Solutions (Future Energy Home and e-Mobility).

Adjusted EBIT<sup>1</sup> 2019<sup>2</sup> by country  
€ bn



# Energy retail – Germany & UK



Germany	2018	2019
Power sales (TWh) <sup>1</sup>	218.8	213.1
# of E.ON customers - power (m)	11.7	11.9
# of customers total market - power (m) <sup>2</sup>	46.1	46.1
Market share (%)	25	26
Gas sales (TWh) <sup>3</sup>	127.8	163.5
# of E.ON customers - gas (m)	2.1	2.3
# of customers total market - gas (m) <sup>2</sup>	12.3	12.4
Market share (%)	17	18

Our brands in the market:



1. Combined view including E.ON and innogy for both 2018 and 2019.
2. According to report from Bundesnetzagentur "Monitoringbericht 2018" and "Monitoringbericht 2019".
3. Combined view including E.ON and innogy for both 2018 and 2019. Increase of 7 TWh Gas in 2019 by back sale deals.

UK	2018	2019
Power sales (TWh) <sup>1</sup>	70.8	75.7
# of E.ON customers - power (m)	6.5	5.9
# of customers total market - power (m) <sup>2</sup>	29.8	30.0
Market share (%)	22	20
Gas sales (TWh)	83.2	106.7
# of E.ON customers - gas (m)	4.2	3.7
# of customers total market - gas (m) <sup>2</sup>	24.0	24.1
Market share (%)	17	16

Our brands in the market:



1. Combined view including E.ON and innogy for both 2018 and 2019.
2. Source: Cornwall Energy - Residential accounts & small B2B meters from 31.10.2018 & 31.10.2019.

# Energy retail — Benelux & Italy



Benelux <sup>1</sup>	2018	2019
Power sales (TWh)	14.4	19.4
# of E.ON customers - power (m)	2.3	2.3
# of customers total market - power (m)	9.3	9.3
Market share (%)	24	25
Gas sales (TWh)	52.7	71.1
# of E.ON customers - gas (m)	1.9	2.0
# of customers total market - gas (m)	7.7	7.6
Market share (%)	25	26

Our brands in the market:

essent

powerhouse<sup>®</sup>

energiesdirect.nl

Italy	2018	2019
Power sales (TWh)	8.3	9.9
# of E.ON customers - power (m)	0.3	0.4
# of customers total market - power (m)	15.3	17.0
Market share (%)	2	2
Gas sales (TWh)	11.3	11.4
# of E.ON customers - gas (m)	0.5	0.5
# of customers total market - gas (m)	21.2	21.6
Market share (%)	2	2

Our brands in the market:

e.on

1. Customer Solution Businesses of The Netherlands and Belgium.

# Energy retail — Sweden & Poland



Sweden	2018	2019
Power sales (TWh)	15.8	13.3
# of E.ON customers - power (m)	0.8	0.8
# of customers total market - power (m) <sup>1</sup>	5.4	5.4
Market share (%)	15	14
Gas sales (TWh)	6.3	5.0
# of E.ON customers - gas (m)	0.01	0.01
# of customers total market - gas (m) <sup>1</sup>	0.04	0.03
Market share (%)	35	28

Our brands in the market:



1. Latest available estimate by Swedish official statistics, Statistiska Central Byrån.

Poland	2018	2019
Power sales (TWh)	5.4	5.6
# of E.ON customers - power (m) <sup>1</sup>	1.0	1.0
# of customers total market - power (m) <sup>2</sup>	17.6	17.6
Market share (%)	5	5
Gas sales (TWh)	1.0	0.8
# of E.ON customers - gas (m)	0.0	0.0
# of customers total market - gas (m) <sup>2</sup>	7.0	7.0
Market share (%)	0.01	0.01

Our brands in the market:



1. Customer base for innogy includes segment B2B Solutions.

2. Reflects most recent figure as per 2018.

# Energy retail — Czech Republic & Hungary



Czech Republic	2018	2019
Power sales (TWh)	14.0	16.4
# of E.ON customers - power (m) <sup>1</sup>	1.0	1.0
# of customers total market - power (m) <sup>2</sup>	6.0	6.0
Market share (%) <sup>1</sup>	17	17
Gas sales (TWh)	9.4	9.5
# of E.ON customers - gas (m) <sup>1</sup>	0.2	0.2
# of customers total market - gas (m) <sup>2</sup>	2.8	2.8
Market share (%)	8	8

Our brands in the market:

**e.on**

1. In 2018 all customer segments are included.
2. Reflects most recent figure as per Q3 2019.

Hungary <sup>1</sup>	2018	2019
Power sales (TWh)	26.8	26.5
# of E.ON customers - power (m) <sup>2</sup>	4.7	4.7
# of customers total market - power (m) <sup>3</sup>	5.6	5.6
Market share (%) <sup>4</sup>	83	83
Gas sales (TWh)	9.0	9.5
# of E.ON customers - gas (m) <sup>2</sup>	0.02	0.02
# of customers total market - gas (m) <sup>3</sup>	3.5	3.5
Market share (%)	0.0	0.5

Our brands in the market:

**e.on** elmű·émász

[Link to restructuring Hungary](#)

1. Combined view including E.ON and innogy for both 2018 and 2019.
2. Customer base for innogy includes segment B2B Large .
3. Actual data for B2C segment (2018-2019) based on Hungarian Central Statistical Office data.
4. Market share overstated as innogy customer base contains SME and B2B Solutions.

# Energy retail — Romania & Slovakia



Romania	2018	2019
Power sales (TWh)	5.6	5.5
# of E.ON customers - power (m) <sup>1</sup>	1.4	1.4
# of customers total market - power (m) <sup>2</sup>	9.0	9.1
Market share (%) <sup>3</sup>	15	16
Gas sales (TWh)	26.9	25.3
# of E.ON customers - gas (m) <sup>1</sup>	1.7	1.8
# of customers total market - gas (m) <sup>2</sup>	3.9	3.9
Market share (%) <sup>3</sup>	45	45

Our brands in the market:



1. Data for 2018 has been restated.
2. Available data as per June 2019.
3. Data for 2018 has been restated. Market data as per June 2019.

Slovakia	2018	2019
Power sales (TWh)	6.0	6.0
# of E.ON customers - power (m) <sup>1</sup>	0.9	0.9
# of customers total market - power (m) <sup>2</sup>	2.5	2.6
Market share (%)	37	36
Gas sales (TWh)	2.7	3.0
# of E.ON customers - gas (m) <sup>1</sup>	0.1	0.1
# of customers total market - gas (m) <sup>2</sup>	1.5	1.5
Market share (%)	5	5

Our brands in the market:



1. Retail/SME customer definition includes active metering points since 2018.
2. Market data on number of metering points from latest DSO annual reports.

# Energy retail — Croatia & Slovenia



Croatia <sup>1</sup>	2018	2019
Power sales (TWh)	0.9	1.1
# of E.ON customers - power (m)	0.2	0.2
# of customers total market - power (m)	2.0	2.0
Market share (%)	8	8
Gas sales (TWh)	0.7	1.0
# of E.ON customers - gas (m)	0.04	0.04
# of customers total market - gas (m)	3.0	3.0
Market share (%)	1	1

Our brands in the market:

**e.on**

1. Customer Solution Business of Croatia.

Slovenia <sup>1</sup>	2018	2019
Power sales (TWh)	0.2	0.2
# of E.ON customers - power (m)	0.03	0.04
# of customers total market - power (m)	5.0	5.0
Market share (%)	1	1
Gas sales (TWh)	0.01	0.01
# of E.ON customers - gas (m)	0.001	0.001
# of customers total market - gas (m)	n/a	n/a
Market share (%)	n/a	n/a

Our brands in the market:

**e.on**

1. Customer Solution Business of Slovenia.

# Decentral Energy Infrastructure – City Energy Solutions

## City Supply



- **Large-scale city heating & cooling solutions** (e.g. in Malmö, Stockholm, Hamburg)
- Growth opportunities through new connections to established district heating networks and new grids (e.g. Stockholm Högbytorp)

- Typical duration 20-40 years
- Typical TCV<sup>1</sup> €0.1–1.0bn

## City Quarter Solutions



- **Sustainable city districts** with integrated heating & cooling solutions based on maximum of renewables (e.g. Kronsberg, Hannover; Kidbrooke Village, London)
- Growth opportunities through new-build and retrofit of large areas or districts in cities

- Typical duration 20-40 years
- Typical TCV<sup>1</sup> €10-100m

## Single Site Solutions



- Decentralized, sustainable **local energy solutions** (office buildings – e.g. Passauer Str., Berlin, shopping malls or hospitals)
- Growth opportunities through new-build and retrofit of large single sites in cities

- Typical duration 10-20 years
- Typical TCV<sup>1</sup> €1-20m

# Decentral Energy Infrastructure – B2B Solutions

## Energy Generation Solutions



### Onsite Generation and Supply

- Offering of solutions for generating Power, Heat (LTHW, steam) and Cooling under different commercial models like PPA, leasing or DB(O)
- Typical underlying technologies: CHP, boilers, Organic Rankine Circle (ORC), Solar PV, Ground Sourced Heat Pumps, Absorption and Compressor Chillers
- Investigation of technologies without commercial maturity in B2B yet like Wind Turbines, Pyrolysis or Solvent Recovery

## Energy Management Solutions



### Manage energy consumption – Faster and better decisions with effective Digital Solutions & Value Added services

- Optimization of energy and manufacturing processes with AI through partnership with Sight Machine for digital value-added services
- Cost reduction via digital platform, e.g. by data-based steering of energy consumption
- Remote optimization to enable energy savings and asset reliability
- Lighting, HVAC, BEMS, Battery & Electrical as stand-alone or integrated solutions

## Energy Consulting



### Designing and delivering integrated energy solutions

- Running an energy audit to identify savings potential
- Optimizing of energy usage by designing a detailed action plan based on the insights with individual integrated energy solutions

# New Growth Businesses — Future Energy Home

## PV & Storage



- Market leading position in residential PV in Europe
- Over 30.000 new residential solar systems sold in 2019
- Growth above market across countries
- Increased installation capacities through acquisitions
- E.ON SolarCloud user base significantly increased in Germany and Czech

## Home Heating



- Market leading position in several European markets
- Over 1.1m active service contracts and over 80.000 units sold
- Growth above market across countries
- Continuous portfolio development including launch of E.ON Branded Boiler in Italy, re-design of service and maintenance offerings
- Improved the customer experience with >50 bottom-up NPS scores

## E.ON Home



- Launch of a secure, smart and efficient home energy management solution to help customers increase comfort at home and save energy
- Available in Germany, UK, Italy and Sweden

# New Growth Businesses — E.ON e-Mobility

## e-Mobility Solutions



- Business with strong growth above market level despite the early market stage
- Lighthouse project with BMW in Germany to install and operate >4k charging points, offer green power and charging solutions at home, working sites of BMW and on the road
- Continuous portfolio development of corporate fleet solutions with partner ALD, as well as charging at home offerings
- Co-operations with other OEMs, such as VW to develop mobile quick-chargers and Nissan to develop vehicle-to-grid solutions

## Infrastructure



- >9,000 active public charge points across Europe
- Infrastructure in 11 European countries, market leading in Germany and Denmark

# Decentral Energy Infrastructure in figures

Heat networks as part of City Energy Solutions	2018	2019
<b>Germany</b>		
Heat sales (TWh) <sup>1</sup>	3.2	6.6
Market share (%) <sup>2</sup>	5	8
# of connected households (k) <sup>1</sup>	140	324
<b>Sweden</b>		
Heat sales (TWh) <sup>3</sup>	5.1	5.0
Market share (%) <sup>2</sup>	8	9
# of connected households (k)	370	370
<b>UK</b>		
Heat sales (TWh) <sup>4</sup>	0.8	0.6
Market share (%)	15	21
# of connected households (k)	24	32
<b>Total</b>		
Heat sales (TWh)	9.1	12.2
# of connected households (k)	534	726

1. Value for 2019 including the innogy heating business.

2. Market share based on volumes sold. The market share for Germany is projected based on the E.ON figure.

3. Value for 2018 restated.

4. Value for 2019 affected by site closures in IG.

B2B Solutions	2018	2019
<b>On-site Generation (incl. industrial generation) (MW)<sup>1</sup></b>	<b>1,318</b>	<b>1,258</b>
Thereof Germany <sup>2</sup>	701	594
Thereof UK	474	488
Thereof Italy	87	98
Thereof Belgium <sup>2</sup>	50	50
Thereof Russia	6	6
<b>Energy Efficiency (# sites connected)<sup>3</sup></b>	<b>8,783</b>	<b>8,821</b>
Thereof Germany	232	182
Thereof UK	8,448	8,534
Thereof France	103	105
<b>Flexibility (MW)</b>	<b>463</b>	<b>833</b>
Thereof Germany	230	600
Thereof UK	233	233

1. Includes Czech Republic.

2. Incl. partially owned sites.

3. Definition for connected sites standardized across all markets.

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# PreussenElektra – Business Overview



## What we do:

- PreussenElektra covers our nuclear generation activities in Germany
- The German nuclear exit, which was decided in 2011, will result in the closure of our nuclear fleet by 2022
- 1,900 people work at PreussenElektra

- Active and operated by PreussenElektra
- Shut down
- Decommissioning
- ⊙ Headquarters PreussenElektra



German nuclear power plants active/in operation

Power plant	Total capacity MW	E.ON share %	Pro rata MW	Accounting MW	Total production TWh	Pro rata production TWh <sup>1</sup>	Accounting production TWh <sup>2</sup>	Start up year	Closure of plant
Isar 2	1,410	75.0	1,058	1,058	11	9	9	1988	2022
Brokdorf	1,410	80.0	1,128	1,410	10	8	10	1986	2021
Grohnde	1,360	83.3	1,133	1,360	10	8	10	1985	2021
<b>Total</b>	<b>4,180</b>		<b>3,319</b>	<b>3,828</b>	<b>31</b>	<b>27</b>	<b>30</b>		

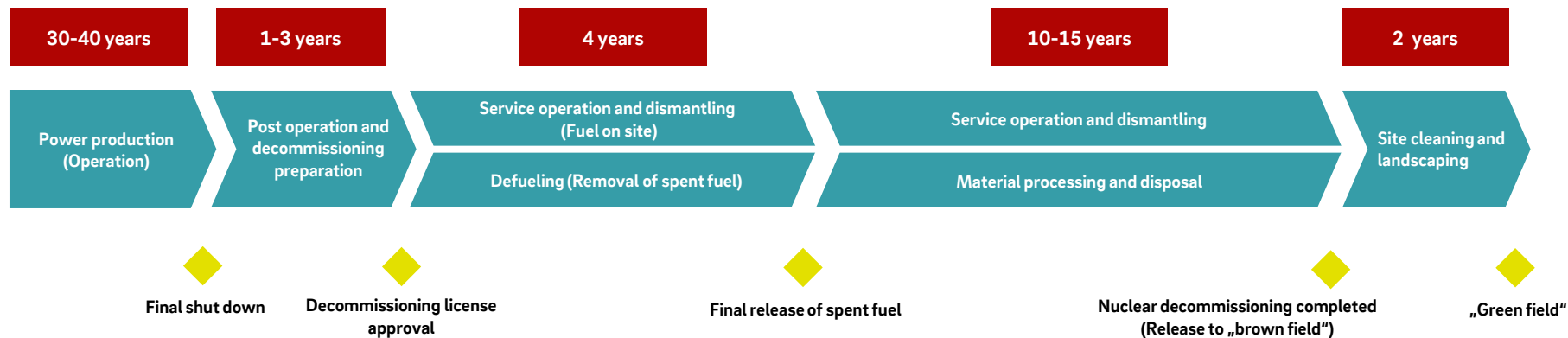
1. Totals include production from Gundremmingen C and Emsland before they were transferred to RWE as part of transaction.

2. Totals include production from Gundremmingen C before it was transferred to RWE as part of transaction.

# PreussenElektra – Decommissioning (Process overview)

## Decommissioning of a nuclear power plant<sup>1</sup>

### Shut down phases



1. Generic view, site specific differences likely.

# PreussenElektra – Financial Highlights

## Financials

€ m	2018	2019
<b>Revenues</b>	<b>1,370</b>	<b>1,174</b>
<b>Adjusted EBITDA<sup>1</sup></b>	<b>556</b>	<b>543</b>
<b>Adjusted EBIT<sup>1</sup></b>	<b>399</b>	<b>292</b>
<b>Investments (cash-effective)<sup>2</sup></b>	<b>15</b>	<b>148</b>








Nuclear power sales (TWh)	2018	2019
<b>Owned generation (accounting view)</b>	<b>31.2</b>	<b>30.1</b>
<b>Purchases</b>	<b>8.1</b>	<b>2.5</b>
thereof jointly owned power plants (E.ON has minority interest)	1.4	0.9
thereof third parties (long term contracts)	6.7	1.6
<b>Total power procurement</b>	<b>39.3</b>	<b>32.6</b>
Station use, line loss	-0.1	-0.1
<b>Power sales</b>	<b>39.2</b>	<b>32.5</b>

1. Adjusted for non operating effects.

2. Pro forma.

# PreussenElektra – Decommissioning (site overview)

## German nuclear power plants shut down

	Capacity MW	E.ON share %	Shut down year	Start of decommissioning	Current phase	Progress of decommissioning
<b>E.ON as operator</b>						
Würgassen	670	100	1995	1997	Decommissioning	
Stade	640	67	2003	2005	Decommissioning	
Isar 1	878	100	2011	2017	Decommissioning	
Grafenrheinfeld	1,275	100	2015	2018	Decommissioning	
Unterweser	1,345	100	2011	2018	Decommissioning	
<b>E.ON as minority shareholder</b>						
Brunsbüttel	771	33	2011	2018	Decommissioning	
Krümmel	1,364	50	2011	2020	Shut down	



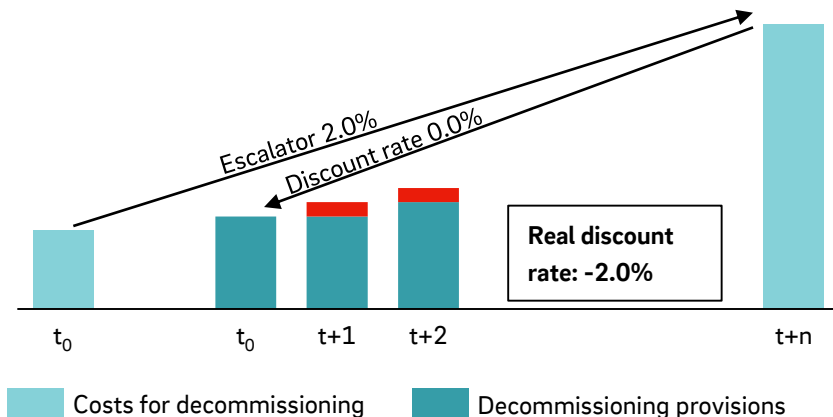
Shut down (first step in decommissioning process)



Decommissioning in final phase

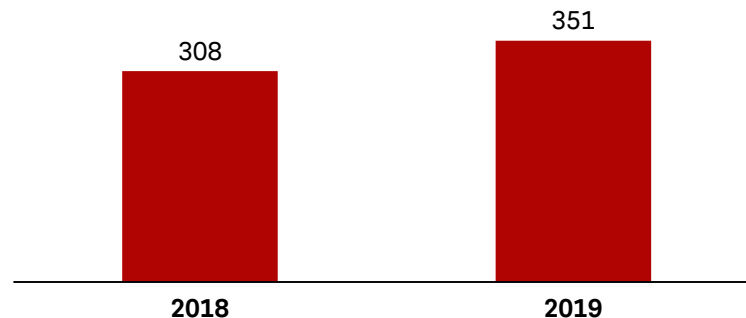
# PreussenElektra – Decommissioning (provisions mechanics)

Schematic illustration of provision building at E.ON<sup>1</sup>



Provision utilization for German nuclear

€ m



Current cost approach<sup>3</sup> used for AROs<sup>4</sup> that apply negative real interest rates

1. Disregarding any provision utilization in the decommissioning provision.
2. Currently zero according to discount rate.
3. Actual amount of the obligations as per year-end 2019 excl. effects of discounting and cost increases.
4. Asset Retirement Obligation.

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# Generation Turkey – Financial overview

## Enerjisa Üretim (Generation & Trading)



Enerjisa Üretim (generation & trading) <sup>1</sup>	2018	2019
Revenues (TRL m)	5,253	6,559
EBITDA (TRL m) <sup>2</sup>	1,386	2,404
Net Income (TRL m)	17	1,172
E.ON share of 50% (€ m) <sup>3</sup>	1	93
Acquisition related depreciation charges (run rate)	-18	-19
FX hedges and other	0	0
Equity result (€ m)	-17	74

1. 100% Enerjisa Üretim view.

2. Includes one-offs.

3. Quarter end FX spot rates applied.



# Generation Turkey – Asset overview (1)

Assets Enerjisa Üretim <sup>1</sup>						
Power plant	Type	Generation capacity (MW)	Production (GWh)	Start-up year	Revenue stream	Remuneration per MWh
In operation						
Bandırma-I	Gas	936	2,512	2010	Market prices; capacity mechanism <sup>2</sup>	
Bandırma-II	Gas	607	2,441	2016	Market prices; capacity mechanism <sup>2</sup>	
Kentsa	Gas	40	0	1997		
Tufanbeyli	Coal/Lignite	450	2,709	2016	Market prices; capacity mechanism <sup>2</sup> ; lignite incentive <sup>3</sup>	TRL301
Menge	Hydro	89	207	2012	FIT <sup>4</sup>	\$73
Köprü	Hydro	156	444	2013	FIT	\$73
Kuşaklı	Hydro	20	48	2013	FIT	\$73
Dağdelen	Hydro	8	35	2013	FIT	\$73
Kandil	Hydro	208	619	2013	FIT	\$73
Sarıgözel	Hydro	103	353	2013	FIT	\$73
Hacınoğlu	Hydro	142	423	2011	FIT	\$73

1. All assets are 100% owned by Enerjisa Üretim.

2. Capacity mechanism implemented starting 2018. Budget for allocation & strike price will be set quarterly by state-owned transmission company.

3. 7-years PPA starting in 2018 with state-owned wholesaler (TETAS). For 2020, starting price is at 322TL/MWh indexed to inflation & USD/TRL development for 2.1TWh1. A corridor between 50\$ and 55\$/MWh is applied.

4. Feed-in-tariff.

# Generation Turkey – Asset overview (2)

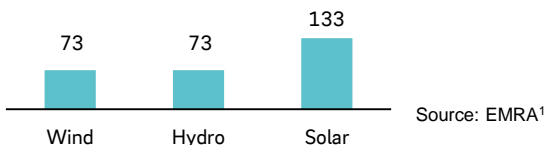
Power plant	Type	Assets Enerjisa Üretim <sup>1</sup>		Start-up year	Revenue stream	Remuneration USD/MWh
		Generation capacity (MW)	Production (GWh)			
Çambaşı	Hydro	44	127	2013	FIT	\$73
Kavşakbendi	Hydro	191	785	2014	FIT	\$73
Arkun	Hydro	245	628	2014	FIT	\$73
Yamanlı II	Hydro	82	342	2016	FIT	\$73
Doğançay	Hydro	62	174	2017	FIT	\$73
Çanakkale	Wind	30	80	2011	FIT	\$73
Dağpazarı	Wind	39	101	2012	FIT	\$73
Bares	Wind	143	491	2013	FIT	\$73
Karabük	Solar	7	10	2017	FIT	\$133
Bandırma	Solar	2	3	2017	FIT	\$133
<b>Total in operation</b>		<b>3,602</b>	<b>12,532</b>			

1. All assets are 100% owned by Enerjisa Üretim.

# Generation Turkey – Regulatory Environment

## Renewables (Feed in Tariff)

USD denominated (USD/MWh)



## Local lignite incentive

TRL denominated - inflation and FX indexed with dollar denominated corridor (TRL/MWh)



## Capacity mechanism

Gas & local lignite power plants

## Incentive framework

- Stable cash flows from USD-denominated feed-in tariffs (for 10 years)
- Annual flexibility to opt for either feed in tariffs or market prices
- Higher feed in tariff if for power plant parts manufactured in Turkey
- Renewables additionally benefit from participation in the balancing market

## Incentive framework

- Lignite incentive set up in 2016 to foster local energy
- 7-years PPA starting in 2018 with state-owned wholesaler (TETAS). For 2020, starting price is at 322TL/MWh indexed to inflation & USD/TRL development for 2.1TWh<sup>2</sup>. A corridor between 50\$ and 55\$/MWh is applied.
- Stable cash flows from TRL-denominated incentive with a USD denominated corridor.

## Incentive framework

- Capacity mechanism starting from 2018.
- Allocation of budget and strike set quarterly. Local sources are prioritized.

### Average power prices in Turkey<sup>3</sup>

2018: 231 TRL/MWh → 49 USD/MWh<sup>4</sup>

2019: 260 TRL/MWh → 46 USD/MWh<sup>4</sup>

1. Energy Market Regulatory Authority (Turkey).

2. TETAS can increase volume up to 40%.

3. Sources: EPIAS.

4. Converted at a TRL/USD rate of and 4.7 (average) for 2018 and 5.65 (average) for 2019.

# Content

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# Relevant at-equity participations of E.ON

Company	Description	E.ON share <sup>1</sup> %	At equity contribution to E.ON proforma result 2019 (€ m)
<b>Energy Networks</b>			
<b>Germany</b>			
RheinEnergie AG	Municipal utility (power, gas, heat, water) in the city of Cologne	20.0	34.2
Dortmunder Energie- und Wasserversorgung GmbH	Municipal utility (power, gas, heat, water) bzw. (energy, water) in the city of Dortmund	39.9	15.4
Städtische Werke Magdeburg GmbH & Co. KG	Municipal utility (energy, water) in the city of Magdeburg	26.7	12.4
Gasag Berliner Gaswerke Aktiengesellschaft	Utility (power, gas, energy services) in the city of Berlin	36.9	10.8
Rhein-Main-Donau GmbH	Utility (water) in Landshut	22.5	10.2
REWAG Regensburger Energie- und Wasserversorgung	Municipal utility (energy, water) in the city of Regensburg	35.5	8.4
AVU Aktiengesellschaft für Versorgungs-Unternehmen	Utility (energy, water) in Ennepe-Ruhr-Kreis	50.0	8.0
<b>CEE&amp;Turkey</b>			
Západoslovenská energetika a.s.	Integrated utility in Slovakia (distribution and retail)	49.0	55.5
Enerjisa Enerji A.Ş.	Integrated utility in Turkey (distribution and retail)	40.0	59.8
<b>Customer Solutions</b>			
ŠKO-ENERGO FIN, s.r.o.	Electricity generation company (main customer: Škoda Auto)	42.5	4.9
Kemkens B.V.	Energy service company	49.0	4.2
<b>Non-core business (PreussenElektra)</b>			
Uranit GmbH <sup>2</sup>	Uranit GmbH is a holding company holding 33% of Urenco Ltd. Urenco Ltd. is an international company active in uranium mining, conversion, enrichment and fabrication.	50.0	49.0
Enerjisa Üretim	Integrated utility in Turkey (generation)	50.0	74.2

1. Direct and indirect share.

2. Uranit GmbH is a joint venture between RWE AG and E.ON SE.

# E.ON's Financials<sup>1</sup> – 2019

## Adjusted EBITDA<sup>1</sup>

€ m	FY 2019 <sup>2</sup>
Energy Networks	5,359
Germany	3,717
Sweden	692
CEE & Turkey	950
Customer Solutions	1,124
Benelux	192
Germany	646
UK	-10
Other	296
Corporate Functions/Other	-203
Non-core business	617
<b>Total</b>	<b>6,897</b>

## Adjusted EBIT<sup>1</sup>

€ m	FY 2019 <sup>2</sup>
Energy Networks	3,582
Germany	2,438
Sweden	539
CEE & Turkey	605
Customer Solutions	526
Benelux	125
Germany	484
UK	-180
Other	97
Corporate Functions/Other	-340
Non-core business	366
<b>Total</b>	<b>4,134</b>

1. Adjusted for non operating effects.

2. Pro forma.

# E.ON's Financials<sup>1</sup> – 2019

## OCFbIT

€ m	FY 2019 <sup>2</sup>
Energy Networks	4,255
Germany	2,455
Sweden	718
CEE & Turkey	1,082
Customer Solutions	378
Benelux	84
Germany	71
UK	128
Other	95
Corporate Functions/Other	-657
Non-core business	313
<b>Total</b>	<b>4,289</b>

## Investments (cash-effective)

€ m	FY 2019 <sup>2</sup>
Energy Networks	3,149
Germany	2,254
Sweden	313
CEE & Turkey	582
Customer Solutions	1,008
Benelux	90
Germany	226
UK	211
Other	481
Corporate Functions/Other	130
Non-core business	148
<b>Total</b>	<b>4,435</b>

1. Adjusted for non operating effects.

2. Pro forma.

# E.ON's Financials<sup>1</sup> – 2019

## At-equity contribution to adjusted EBITDA/EBIT<sup>1</sup>

€ m	FY 2019 <sup>2</sup>
Energy Networks	349
Germany	219
Sweden	0
CEE & Turkey	130
Customer Solutions	22
Benelux	4
Germany	6
UK	0
Other	12
Corporate Functions/Other	70
Consolidation	-1
Non-core business	125
<b>Total</b>	<b>565</b>

## Profit & Loss

€ m	FY 2019 <sup>2</sup>
<b>Adjusted EBITDA<sup>1</sup></b>	<b>6,897</b>
Depreciation/amortization recognized in Adjusted EBIT	-2,763
<b>Adjusted EBIT<sup>1</sup></b>	<b>4,134</b>
Economic interest expense (net)	-1,252
<b>Adjusted EBT<sup>1</sup></b>	<b>2,882</b>
Income Taxes on Adjusted EBT	-760
% of Adjusted EBT	26%
Non-controlling interest on results of operations	-484
<b>Adjusted Net Income<sup>1</sup></b>	<b>1,638</b>

1. Adjusted for non operating effects.

2. Pro forma.

# **Appendix**

**Facts and Figures 2020**

# Glossary & List of Abbreviations

AI	Artificial Intelligence	IT	Information Technology	TRL	Turkish Lira
ARO	Asset Retirement Obligation	JV	Joint Venture	TSO	Transmission System Operator
B2B	Business to Business	km	Kilometer	TWh	Terawatt hours
B2C	Business to Consumer	LTHW	Low Temperature Hot Water Boilers	UK	United Kingdom
BEMS	Building Energy Management System	LV	Low Voltage	USP	Universal Service Provider
Benelux	Belgium, Luxemburg and The Netherlands	MV	Medium Voltage	VPP	Virtual Power Plant
Capex	Capital Expenditures	MW	Megawatt	WACC	Weighted Average Cost of Capital
CEE	Central and Eastern Europe	NPS	Net Promoter Score	YE	Year End
CES	City Energy Solutions	O&M	Operation & Management		
CHP	Combined Heat and Power	OEM	Original Equipment Manufacturer		
CPI	Consumer Price Index	Opex	Operating Expenditures		
CS	Customer Solutions	ORC	Organic Rankine Circle		
CZK	Czech Koruna	p.a.	per annum		
D&A	Depreciation and Amortization	PI	Price Index		
DB(O)	Design, Build & Operate	PLN	Polish Zloty		
DSO	Distribution System Operator	PPA	Power Purchase Agreement		
EBIT	Earnings before interest and taxes	PV	Photovoltaic		
EBITDA	Earnings before interest, taxes, depreciation and amortization	RAB	Regulated Asset Base		
EMRA	Energy Market Regulatory Authority (Turkey)	RES	Renewables		
FIT	Feed-in-tariff	RoE	Return on Equity		
FX	Foreign Exchange	RON	Romanian Leu		
GW	Gigawatt	RPI	Retail Price Index		
GWh	Gigawatt hours	SAIDI	System Average Interruption Duration Index		
hrs	hours	SAIFI	System Average Interruption Frequency Index		
HS&E	Health, Safety and Environment	SME	Small and medium-sized enterprises		
HUF	Hungarian Forint	TCV	Total Contract Value		
HV	High Voltage	Totex	Total allowed cost base		

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Energy for  
generations

# LEADING THE WAY TO A BRIGHTER FUTURE



ESB is a leading Irish vertically integrated utility operating across the electricity market, from generation through transmission and distribution, to supply of customers, with an expanding presence in Great Britain's generation and supply markets. In addition, we extract further value at certain points along this chain by supplying gas and using our networks to carry fibre for telecommunications.

## Strategy Innovation and Transformation

Strategy, Innovation and Transformation's purpose is to set and manage the strategic direction of ESB, to influence energy policy and regulation and drive business transformation across ESB group to lead the transition to a low carbon future.

We will continue to work collaboratively across ESB to develop and implement our Strategy, drive cross-company transformation projects and incubate new cross value chain innovations from concept to business case before releasing to the business to scale

### Generation Trading



"ESB develops, operates and trades the output of ESB's electricity generation assets. The portfolio consists of 5,564 MW of thermal and renewable generation assets across ROI, NI and GB, with a further 158 MW under construction

### Networks



ESB builds, manages and maintains the transmission and distribution network in ROI and NI. Over 229,000 KM of Network.

### Customer Solutions



Supplying electricity, gas and energy services to customers in ROI, NI and GB.

### Engineering and Major Projects



To deliver the major projects and engineering required for ESB to lead the transition to reliable, affordable, low-carbon energy both at home and internationally"

### Enterprise Services

Enterprise Services is responsible for providing business critical processes and services to the rest of ESB Group through its two delivery arms, Business Operations and IT Delivery; and responsible for leading the digital transformation of ESB Group, and ensuring excellent IT system availability including management of cyber security risks.

## Our Purpose

Is to 'Create a **Brighter Future** for the customers and communities we serve, by leading the transition to reliable, affordable, low-carbon energy.'

## Our Objectives



PUT CUSTOMERS' CURRENT  
AND FUTURE NEEDS AT THE  
CENTRE OF ALL OUR  
ACTIVITIES



PRODUCE, CONNECT  
AND DELIVER CLEAN,  
SECURE AND  
AFFORDABLE ENERGY



DEVELOP ENERGY  
SERVICES TO MEET  
EVOLVING MARKET  
NEEDS



GROW THE BUSINESS  
WHILE MAINTAINING  
ESB'S FINANCIAL  
STRENGTH



DELIVER A HIGH-  
PERFORMANCE  
CULTURE THAT  
SUPPORTS  
INNOVATION AND  
COLLABORATION

Through our diverse businesses across the Republic of Ireland, Northern Ireland and Great Britain we aim to meet customer energy needs by bringing the best of our capabilities together to deliver innovative and value driven solutions for a low-carbon world

## Business environment factors that significantly impact on the ESB Strategy



### Climate and Energy Policy

The Republic of Ireland (ROI) and the UK have set targets for the proportion of electricity to be produced from renewable sources of 40% and 30%, respectively by 2020. progressive decarbonisation of its energy system, targeting 80% reduction by 2050

### Advances in Technology

Technological advances will enable a greater level of electricity production, storage and control, either directly by customers, or by service providers controlling and managing energy demand on their behalf.

### Changing Customer Preferences

Customer's ongoing expectations regarding secure, affordable and increasingly low-carbon energy.

### Emergence of New Business Models

ESB sees advances in technology, energy and regulatory policy combined with changing customer preferences giving rise to a range of new business models.

### Brexit

Notwithstanding the uncertainty related to Brexit the UK energy sector continues to provide a pipeline of growth opportunities in proximate markets

# Innovation Priorities

## Generation Trading



New Low Carbon Assets  
Asset Optimisation  
Autonomous Trading  
Data Analytics  
System Services

## Networks



Electrification of Heat & Transport  
Flexibility on our Networks  
Operational Excellence  
Connecting Renewables  
Asset Optimisation  
Network Resilience

## Customer Solutions



Home Care  
Mobility  
Connected/Smart Homes  
Distributed Solar  
Energy Efficiency

## Engineering and Major Projects



Battery Storage  
Flexible Power Generation  
Biomass  
Preventive and Predictive Analytics

Blockchain

Hydrogen

Machine Learning Artificial Intelligence

IoT

Advanced Analytics

Cyber Security





## Australia's leading energy retailer

4.2 million gas, electricity and LPG customer accounts



## Ensuring domestic gas supply

Delivering around 30% of all gas on the east coast with APLNG



## Driving future energy innovation

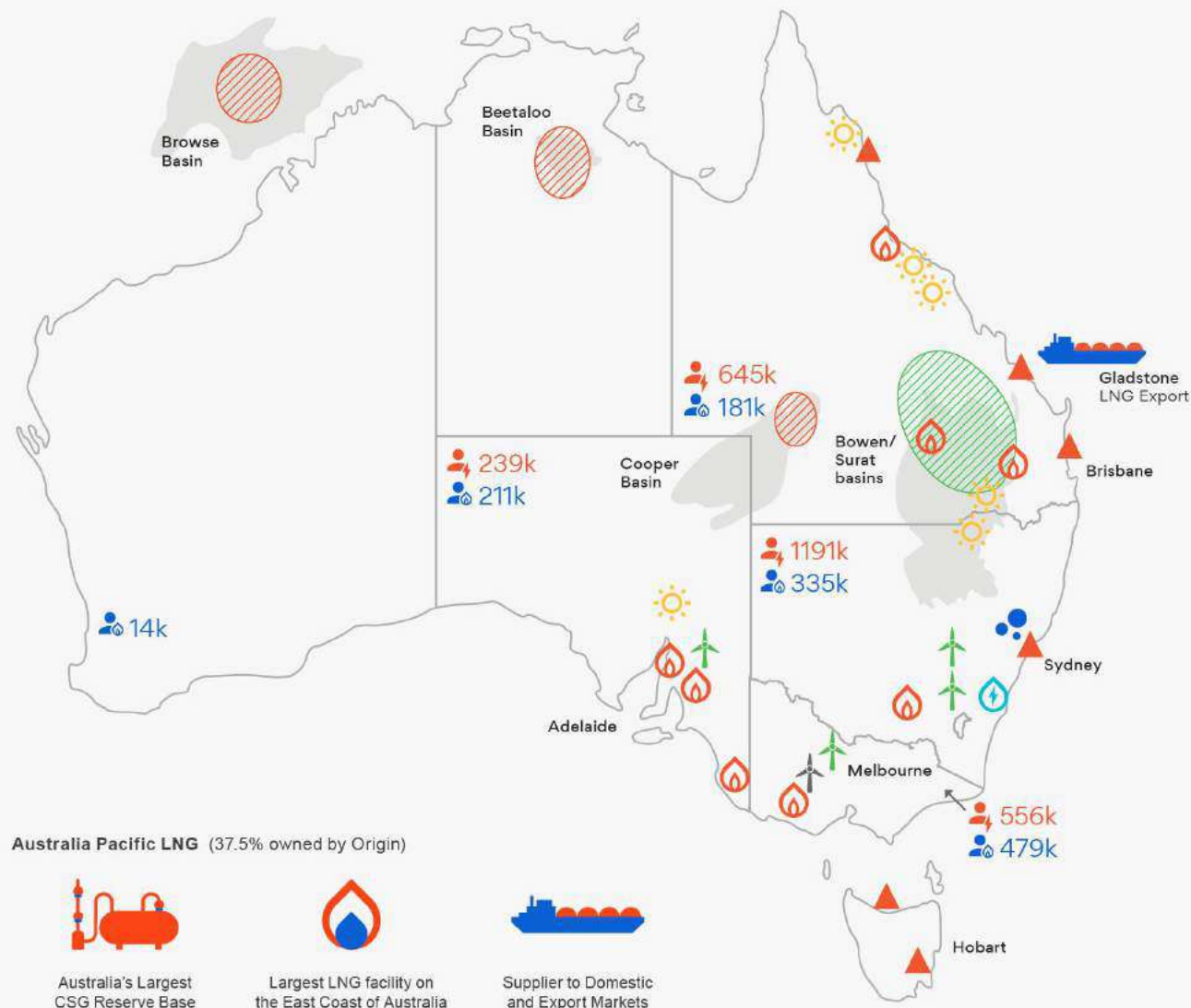
Investing in new technology, start-ups and future fuels



## Powering Australia

Almost 7,500 MW of gas, coal and renewables generation and storage across the east coast

# One of Australia's leading energy companies



## Where we operate

### Generation

- Gas
- Pumped hydro
- Solar (contracted)
- Wind (contracted)
- Coal
- Under construction

- LPG seaboard terminal

- Electricity customer accounts
- Natural gas customer accounts

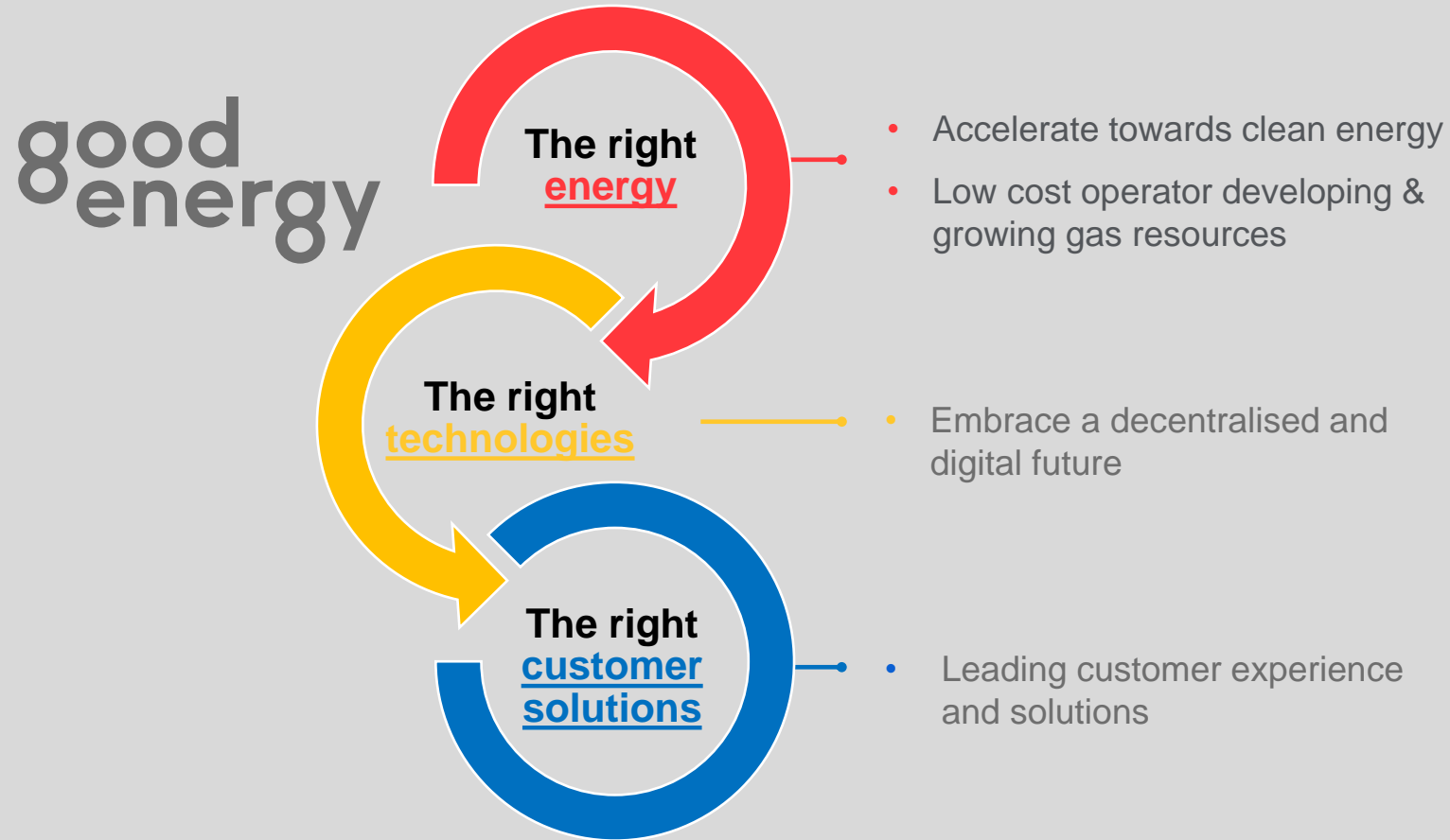
### Exploration & production acreage

- Origin upstream acreage
- APLNG upstream acreage
- Production facility
- APLNG pipeline

Origin also has a presence in California's **Silicon Valley** to better connect us to the global epicentre of digital innovation, and an LPG business throughout the Pacific islands

# Strategy to deliver value in the future energy world

Connecting customers to the energy and technologies of the future



# Based on our strategic priorities we are looking for innovative ideas in the following areas

## Accelerate towards clean energy

- ✓ Innovations that improve the integration of renewables into the existing transmission / distribution network and market structures
- ✓ Integrated inverter / battery solutions for business customers
- ✓ Solutions for the integration of behind the meter assets, compatibility with BMS systems and major asset brands

## Embrace a decentralised and digital future

- ✓ Data and algorithms to analyse competitor behaviour and optimise our energy trading portfolio accordingly
- ✓ Propensity modelling of customer take up of batteries and electric vehicles
- ✓ Low cost hardware for customer homes that send sensor data

## Leading customer experience and solutions

- ✓ How might non-tech-savvy consumers make their home smart and connected
- ✓ How can energy companies build deep engagement and trust with customers?
- ✓ Data Driven Business Models

## Open Innovation

- ✓ New ideas that we haven't thought of !

## Broad Categories of Interest

Customer Solutions /  
Experience B2B & B2C

Energy Storage

Energy Management

Clean Energy

Energy Efficiency

Mobility

IoT

AI / Machine Learning

Connectivity/Communication  
Solutions

# Origin is open for innovation business



Energy markets around the world are transforming and Australia is no exception

The continued penetration of distributed assets, combined with the rise of IoT devices, are changing the way our customers use energy

Origin believes significant opportunity exists in the transformative impact of decarbonisation, decentralisation and digitisation on the energy sector

**Innovation is at the heart of seizing this opportunity**

- ✓ We have been **scouting** and **evaluating** hundreds of start ups across a wide range of areas
- ✓ We have been **trialling** a number of technologies and solutions across a range of areas - smart home, IoT devices, storage, demand response, virtual power plants, energy management, AI/machine learning
- ✓ We have **partnered** with and **invested** in a number of start ups in the areas of energy management, renewables, storage, digital rights management, distributed transactions
- ✓ We have a mandate to continue these activities in order to find the right technologies and solutions for our customers



**FREE  
ELECTRONS**

