

Business Models for Energy Efficiency Projects in Industry

September 30th 2020

e.on

E.ON at a glance

Group EBIT^{1,2}
€ bn

4.1

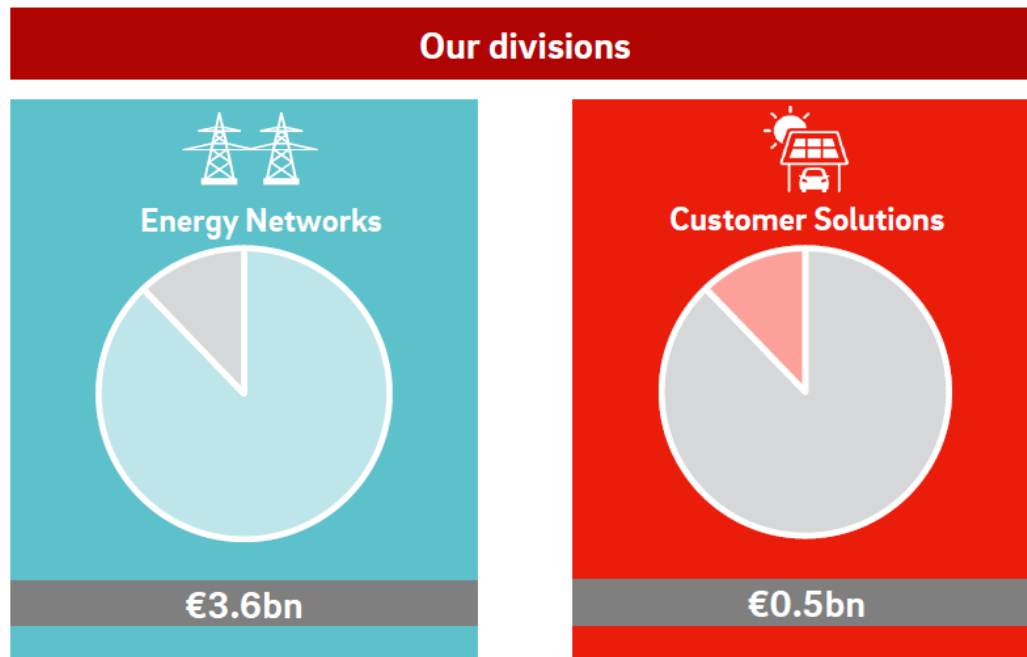
Adj. Net Income^{1,2}
€ bn

1.6

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

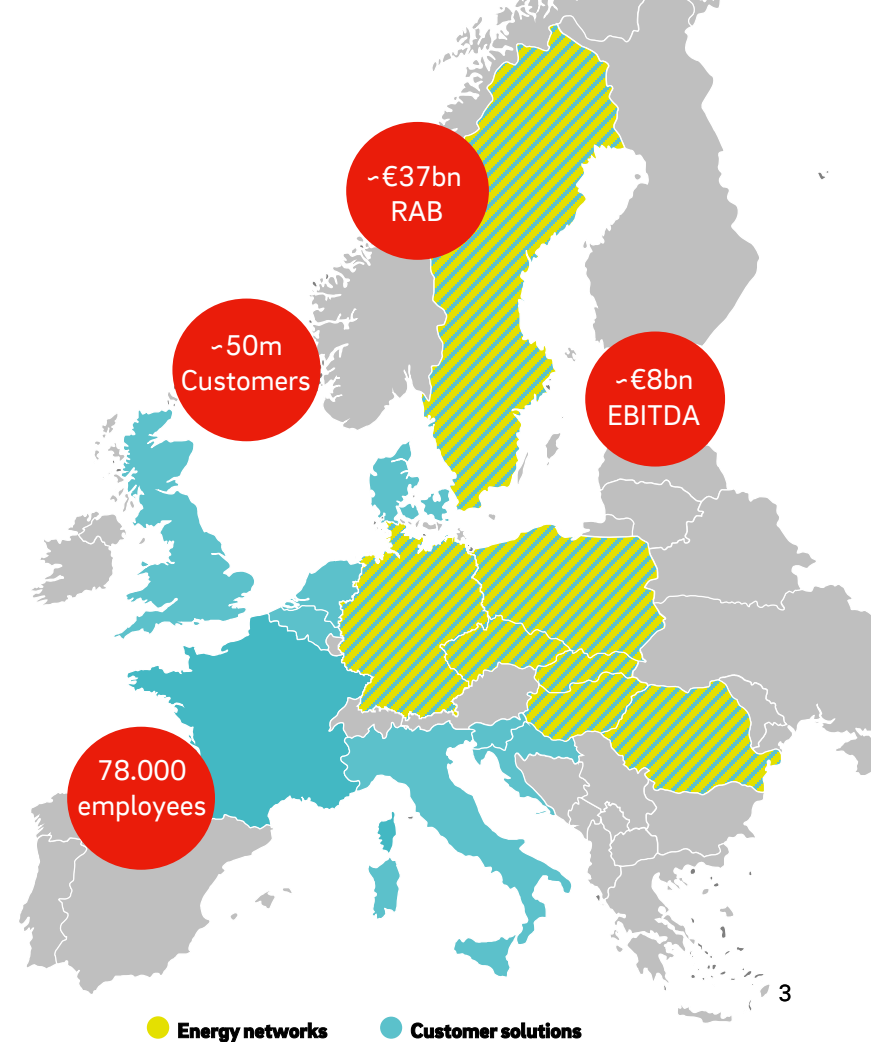
Core EBIT¹ 2019²

Our divisions



E.ON to Become the Forerunner of the Decentralized Energy World in Europe

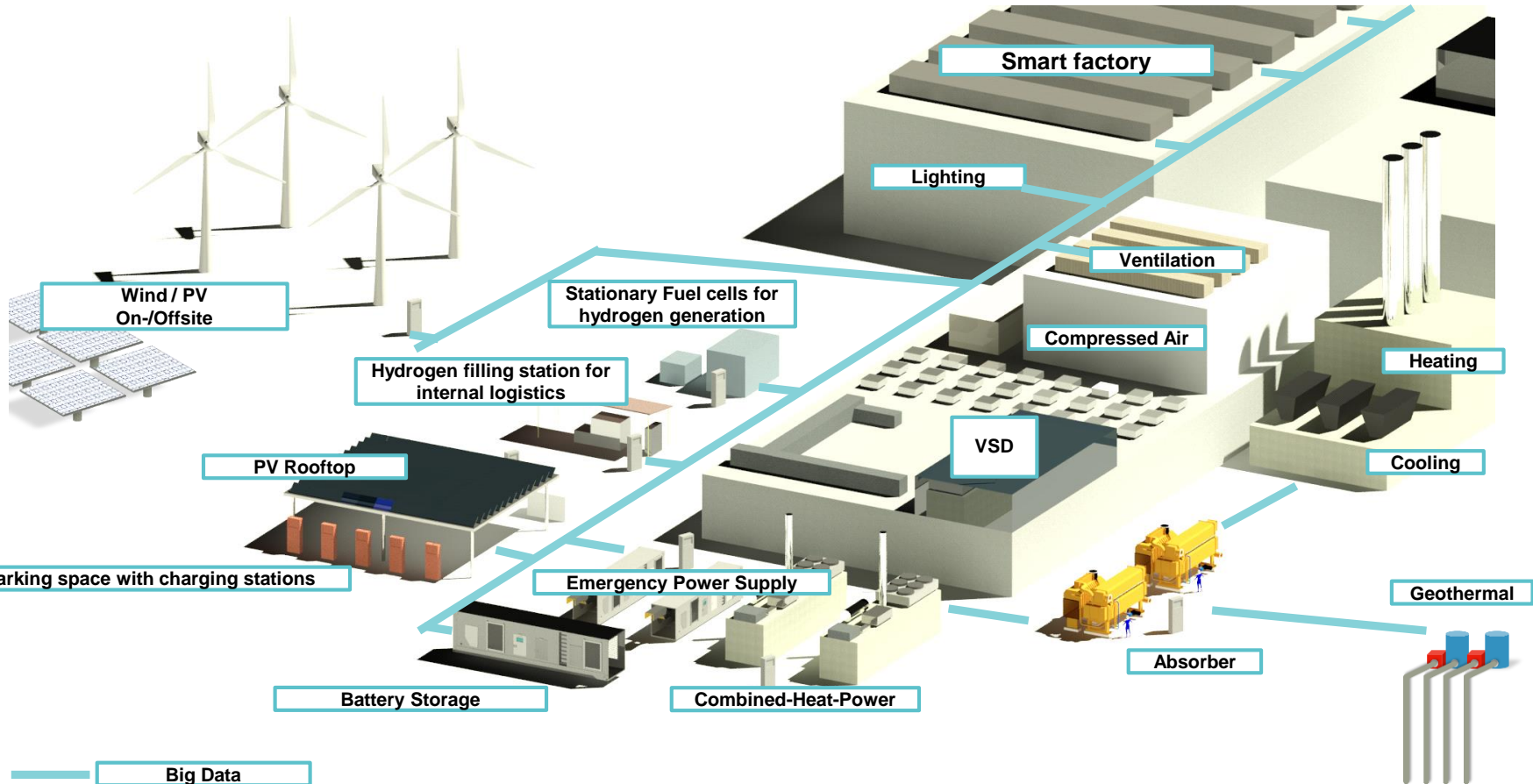
- Energy networks and Customer Solutions
- Present in 16 European countries
- ~50 million customers
- EBITDA ~8 bn€
- ~78.000 employees



● Energy networks

● Customer solutions

E.ON Business Solutions for industrial customers



How to overcome the major barriers for energy projects in industry?

Investments focused on core process \Rightarrow Limited availability of **CAPEX**

High requirement on **profitability** \Rightarrow ROI of max. 3 years

Limited internal **capabilities** (experts and time) for development of projects

Requirements for suitable business models

Financing concept which allows **off-balance** treatment (IFRS16) + potential subsidies

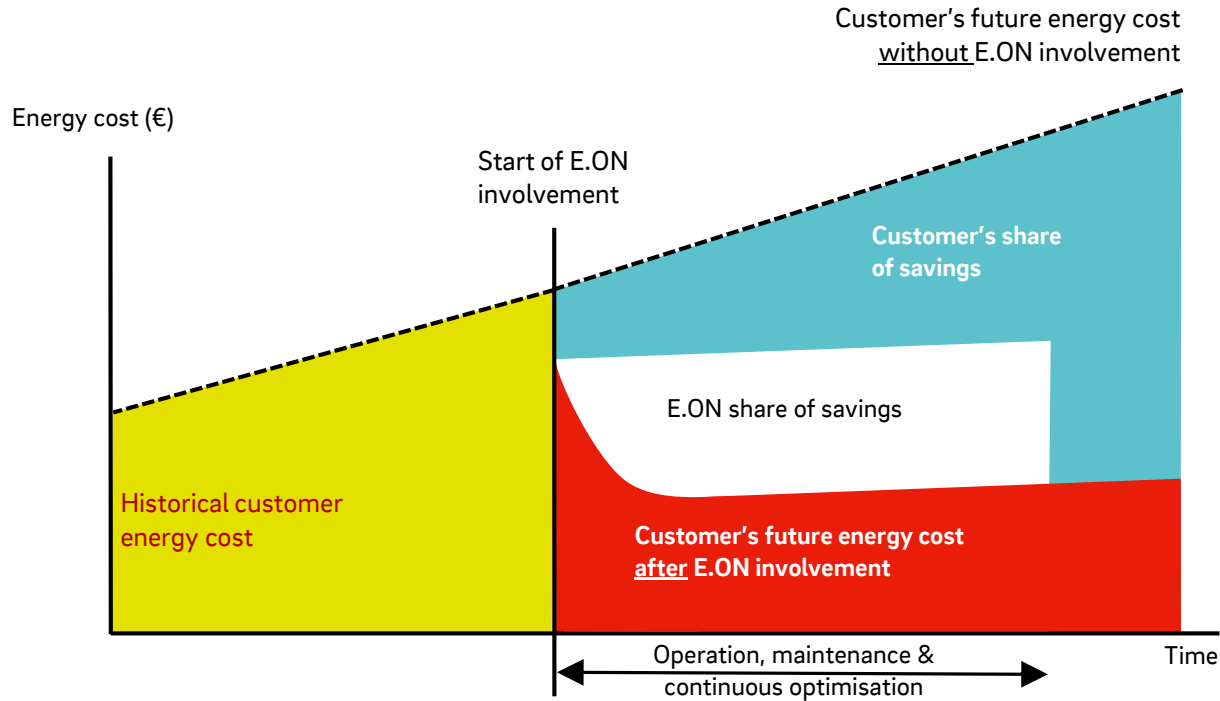
Garanties on **energy performance** and savings

Integrated offer covering engineering, project implementation and operations

Characteristics of business models for energy solutions

| | Classical internal project development | Design & Build | Leasing | Energy Performance Contract (« EPC ») | Power/ Heat Purchase Agreement (« PPA ») |
|----------------------------------|--|------------------|--------------------------------|---------------------------------------|--|
| Scope | Procurement of equipment and installation services | Turn-key project | Turn-key project and financing | Saved kWh | Delivered kWh |
| Integrated Offer | ✗ | ✓ | ✓ | ✓ | ✓ |
| No CAPEX requirement | ✗ | ✗ | ✓ | ✓ | ✓ |
| Immediate positive cash flow | ✗ | ✗ | ✓ | ✓ | ✓ |
| Off-balance treatment | ✗ | ✗ | ✗ | ✓ | ✓ |
| Guarantees on energy performance | ✗ | ✗ | ✗ | ✓ | ✓ |

Energy Performance Contract



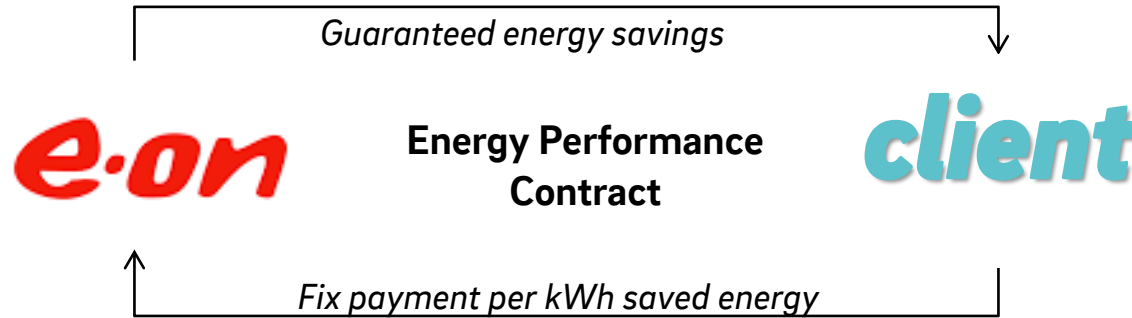
- E.ON analyses the potential energy savings, designs and implements the most efficient solutions
- E.ON implements and finances the energy performance projects → *no CAPEX*
- Off-balance treatment: *E.ON's fee = OPEX = energy & maintenance savings*
- Energy savings guaranteed: if the performance is not reached → E.ON refunds the difference

You get guaranteed savings, without investment and with an off-balance treatment

One company covering all steps of the value chain:



Energy Performance Contract: responsibilities & commitments



Our commitment

- Guaranteed energy savings over contract duration
- Design, realization as turn-key and O&M of the necessary installation
- Financing by E.ON with off-balance character ¹⁾
- Takes risk for technology, installation and performance

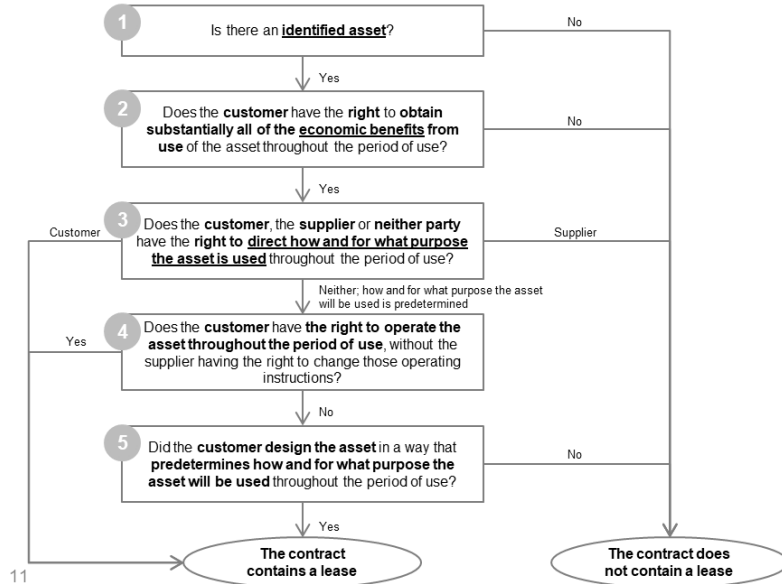
Customer commitment

- Pays fixed price per kWh saved
- Commits to key parameters of operations (e.g. operating hours)
- Keeps lever of optimizing power/gas prices

¹To be aligned and confirmed by customer's auditor

In order to avoid a negative impact on the customer's balance sheet the contract needs to be qualified as "off-balance"








Criteria for « off-balance » character (IFRS16)



- Since 1/1/2019 the new accounting standard IFRS16 stipulates that leasing contracts (financial and operational) have to be shown on the balance sheet of the leasing taker
- Service contracts (like EPC or PPA) can keep under certain conditions their off-balance character

Source: International Accounting Standards Board, IFRS 16 Leases; *as of 01.01.2019 to replace IAS 17 and IFRIC 4

Service contracts in combination with subsidy schemes are an efficient way to support a carbon reduction strategy in industry

| | Solution | Service contract |
|-------------------|---|------------------|
| Energy Efficiency | Lighting  | EPC |
| | VSD  | EPC |
| | HVAC  | EPC |
| Green Power | ORC  | PPA |
| | PV  | PPA |
| Green Heat | Waste Heat Recovery  | PPA or EPC |
| | Biomass Boiler  | PPA |



Levers from subsidies (example France)

- White Certificates (“Certificats d’Economie d’Energie”) + additional upside in case of EPC contract
- Heat Fund (“Le Fonds Chaleur”)
- COVID emergency program (“France Relance”): Call for projects: Decarbonization of industry



ArcelorMittal

Our customer

The world's leading integrated steel and mining company.

Our solutions

- **Energy Performance Contract:**
Design, financing, implementation, operation & maintenance
- **Large scale lighting** project (> 200 000 m²) : replacement of inefficient highbays with LED highbays & controls in areas with high temperature
 - Improvement of lighting levels (x3)
 - 64 % reduction of energy & maintenance costs
 - 4,2 GWh/a maximized & guaranteed power savings
- **Heat recovery** of fumes on a galvanisation furnace > 2 MW lost
 - 16 GWh/a of natural gas guaranteed savings

FRANCE

Video

16 GWh/a guaranteed
natural gas savings

8,2 GWh/a guaranteed
power savings

Annual CO₂ savings of
~4 000 t



Pilkington Automotive Deutschland



Our customer

Pilkington Automotive belongs to the Japanese NSG Group: One of the world's leading manufacturers of glass products for architectural, automotive and technical glass.

Our solution

- Installation of a **LED** lighting system
- Optimisation of **HVAC** (Heating, Ventilation and Air-Conditioning)
- Installation of a **CHP**
- Performant building energy management system
- **Heat recovery** in washing process
- Renewal of the cooling towers and circulator pumps

Awarded by German
Energy Agency DENA

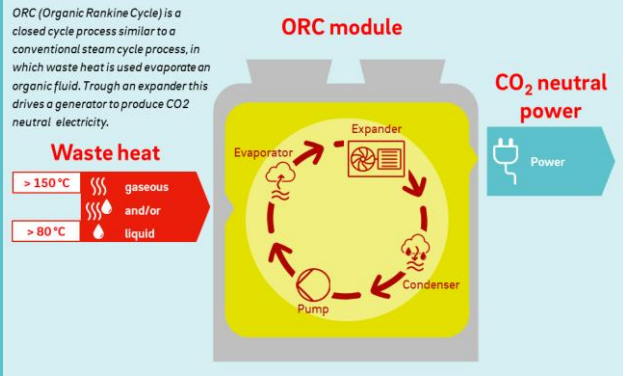
**Reduction of energy
costs by 500 k€ p.a.**

**Annual CO₂ savings
of 1,700 t (-50%)**

**500 k€ (40%)
reduction of energy
cost**

E.ON – Next generation ORC

Working principle



Technical advantages

- **High availability** – only 24h of maintenance per year, low maintenance costs, no major overhaul
- **Excellent part load performance** – works efficiently at low temperatures (> 80 °C) and/or fluctuating heat flows
- **Safe** – non-flammable and non-toxic working fluid
- **Durable** – long-lasting design (120.000 Bh) and proven operations (> 200 modules; > 1,5 Mio. Bh)
- **Swift commissioning** – possible within 24 hours
- **Modular design** – extendable at any time

Commercial model

From conventional energy consumption ...



External
Electricity supply

Waste heat not used

- ✗ No cost reduction
- ✗ No CO₂ saving

... to clean energy production



Reduced need for external
electricity supply

CO₂ neutral electricity
production

- ✓ CO₂ saving
- ✓ Continuous cost savings from day 1



Drive sustainability

Use your waste heat to produce
100% clean energy and reduce
your CO₂ footprint.



Save money

Significantly decrease your
electricity cost by producing clean
energy. No investment required -
benefit from financing solutions and
save money from day 1.



Plug and play

Modular and compact unit design
allows swift installation and
commissioning with very limited
interruption on processes.

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