



E.ON Business Deep Dive - Renewables

December, 2015

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Agenda

E.ON Renewables Position

E.ON Renewables Business Approach

Market Trends

E.ON Renewables highlights



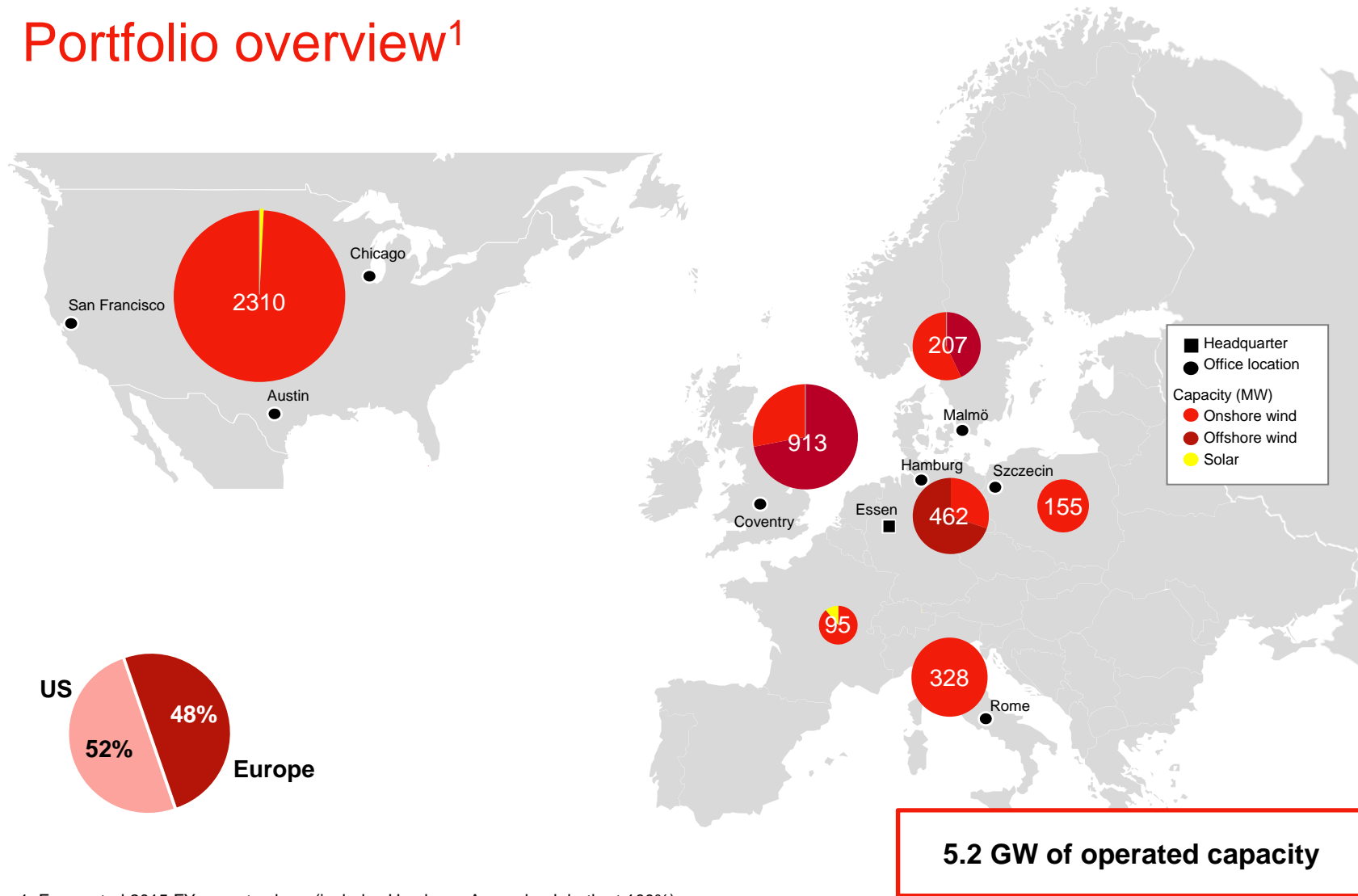
- 4.5 GW diversified portfolio (average age of 8 years) across Europe & US¹
- Global #2 in offshore wind
- Global #12 in onshore wind
- Multi-technology developer, constructor, operator and asset partner with broad international footprint
- 12.3 TWh electricity produced in 2014
- € 823 m EBITDA generated in 2014

1. Owned portfolio, forecasted 2015 FY pro-rata share (includes Humber + Amrumbank both at 100%)

Since 2007 E.ON has built a top-tier renewables player

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Portfolio overview¹



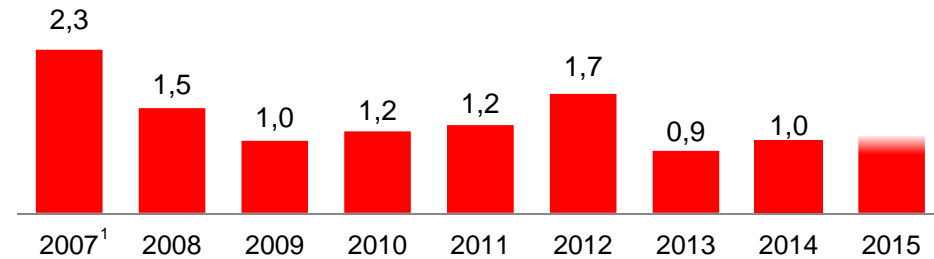
1. Forecasted 2015 FY pro-rata share (includes Humber + Amrumbank both at 100%)

We own a diversified renewables portfolio of 4.5 GW across Europe and US

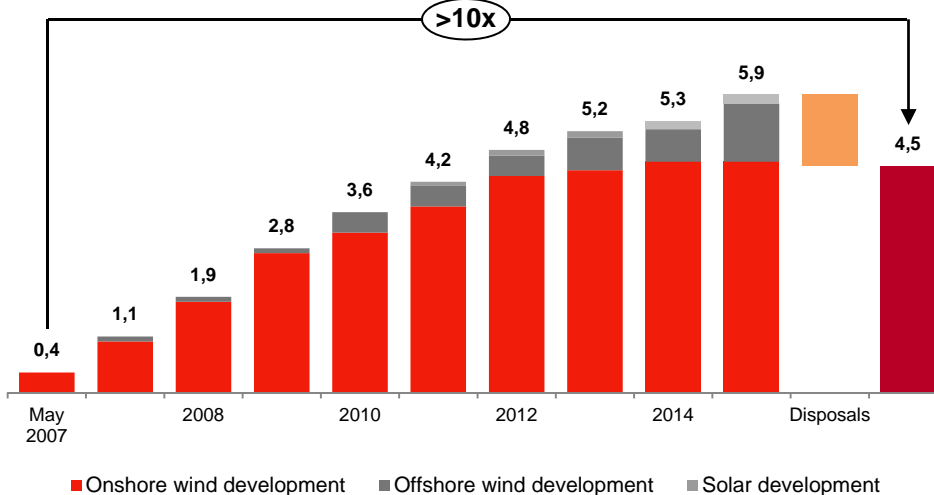


Investments in renewables

Investments (bn€)



Capacity built (GW)



Key facts

- Total investments of ~11bn (gross) in new capacity since inception of EC&R
- In the first four years focus largely on onshore wind, since then an increased share in offshore wind
- Portfolio has grown 10 times since July 2007, despite recently tighter capex situation
- Strict investment discipline applied with IRRs exceeding WACC by more than a defined minimum hurdle
- 1.4 GW disposed through capital rotation and strategic country exits

1. Including equity and debt for the acquisitions of E2I and Airtricity

E.ON has a proven track-record based on > €10bn successful investments since setup of EC&R in 2007

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Track-record

Key facts

- 5.9 GW of capacity built since 2007
- Extensive construction expertise
 - > 50 projects delivered
 - > 90% of projects delivered in budget and on time
- 2 offshore projects constructed in parallel (CODs in 2015)
- Grandview I (211 MW US onshore wind) completed within 180 days (FID to COD)
- Competitive edge in development: top-class site assessment
- In-house O&M workforce trained to industry standards

→ **Excellent execution capabilities on back of continuous development of new projects**

1. 100% of Capex
2. PV capacity in MW DC (Direct Current)

Project examples



London Array, the world's largest offshore wind farm
COD: Q2 2013
Capex¹: € 2400m
E.ON share: 30 %
Capacity: 630 MW



Grandview I, onshore wind farm in Panhandle, Texas
COD: Q4 2014
Capex¹: € 331m
E.ON share: 50%
Capacity: 211 MW



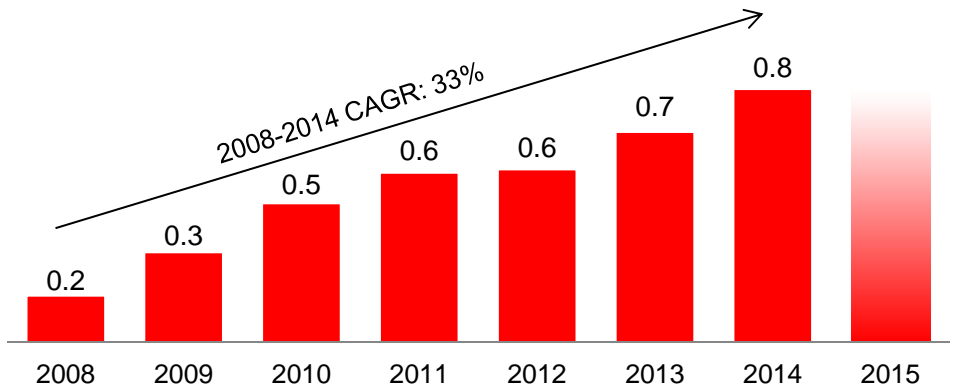
Maricopa West, PV park in Kern County, California
COD: Q4 2015
Capex¹: € 55 m
E.ON share: 100 %
Capacity²: 28 MW

We deliver outstanding performance based on our expertise and capabilities

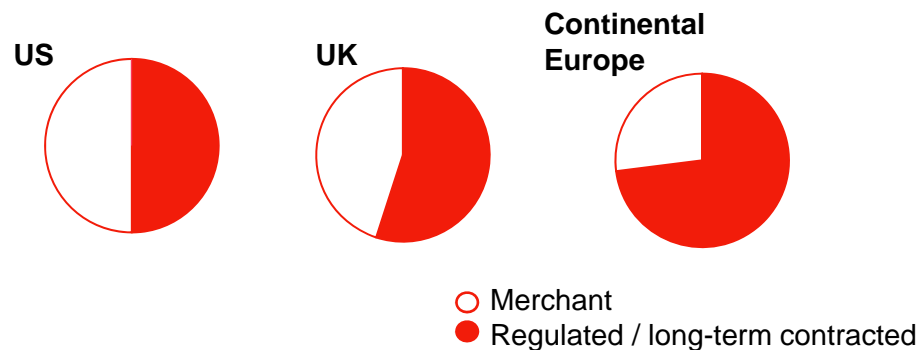
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Earnings

EBITDA Development (€bn)



Revenue Mix 2015



Key facts

- EBITDA growing since inception with a CAGR of 33%
- Growth pace fastest in the phase 2007-2010
- Since then capital rotation and disposals slightly impacted earnings development
- Strong capex focus on offshore in 2013-2015
- Majority of earnings supported by regulated / long-term contracted revenues ~60%
- ~25% of 2015 EBITDA in US onshore, ~40% in Europe offshore and rest in Europe onshore

Earnings have grown continuously over past 7 years

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E.ON key success factors and portfolio approach

E.ON Key Success Factors in Renewables

Access to premium sites

Cost competitiveness and end-to-end process excellence

Scale advantage
(supported by partnering and capital rotation)

E.ON Portfolio Approach in Renewables

Focus on attractive technologies

Capture attractive remuneration schemes across different markets in stable countries

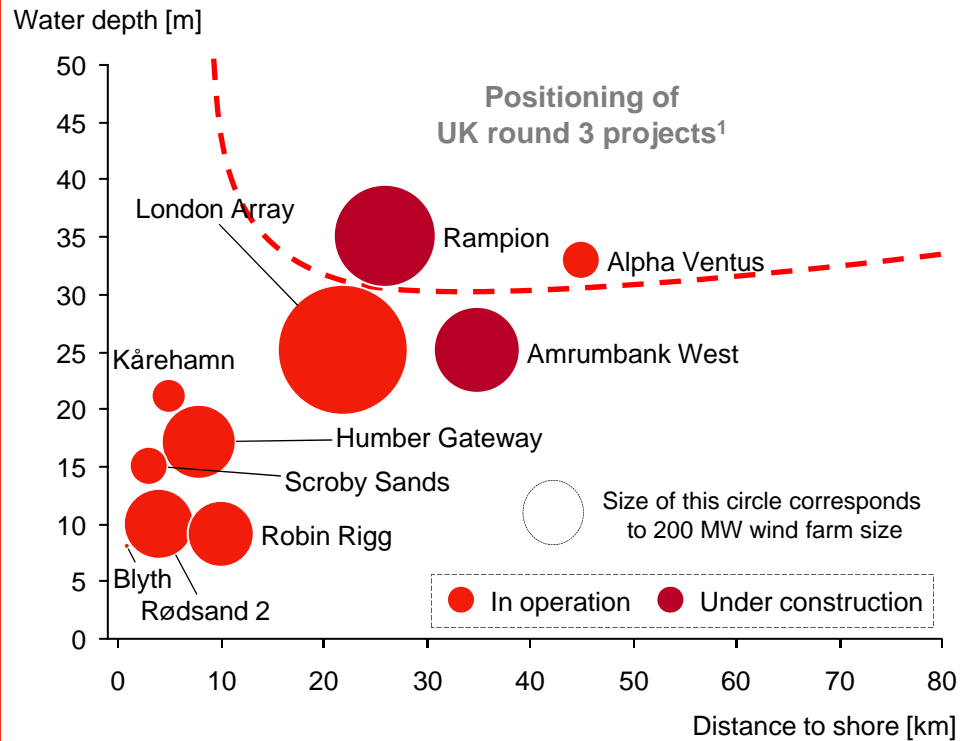
Prudent and disciplined capital allocation

We have a holistic and value creating approach to renewables

The logo for E.ON, featuring the lowercase letters 'e.on' in white on a red rectangular background.

Site selection

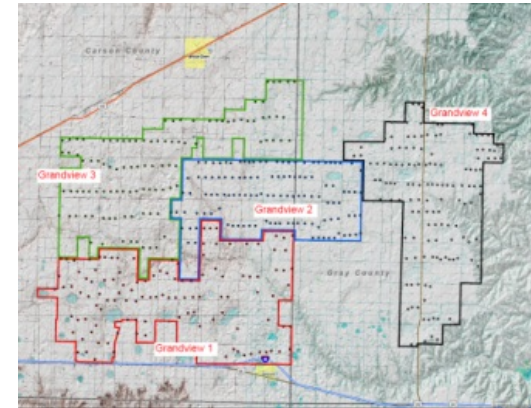
Examples – offshore wind



Start with near shore, shallow water projects before moving to deeper water, far shore projects

1. Source: Renewables UK, 4COffshore

Example – Grandview (Texas, US)



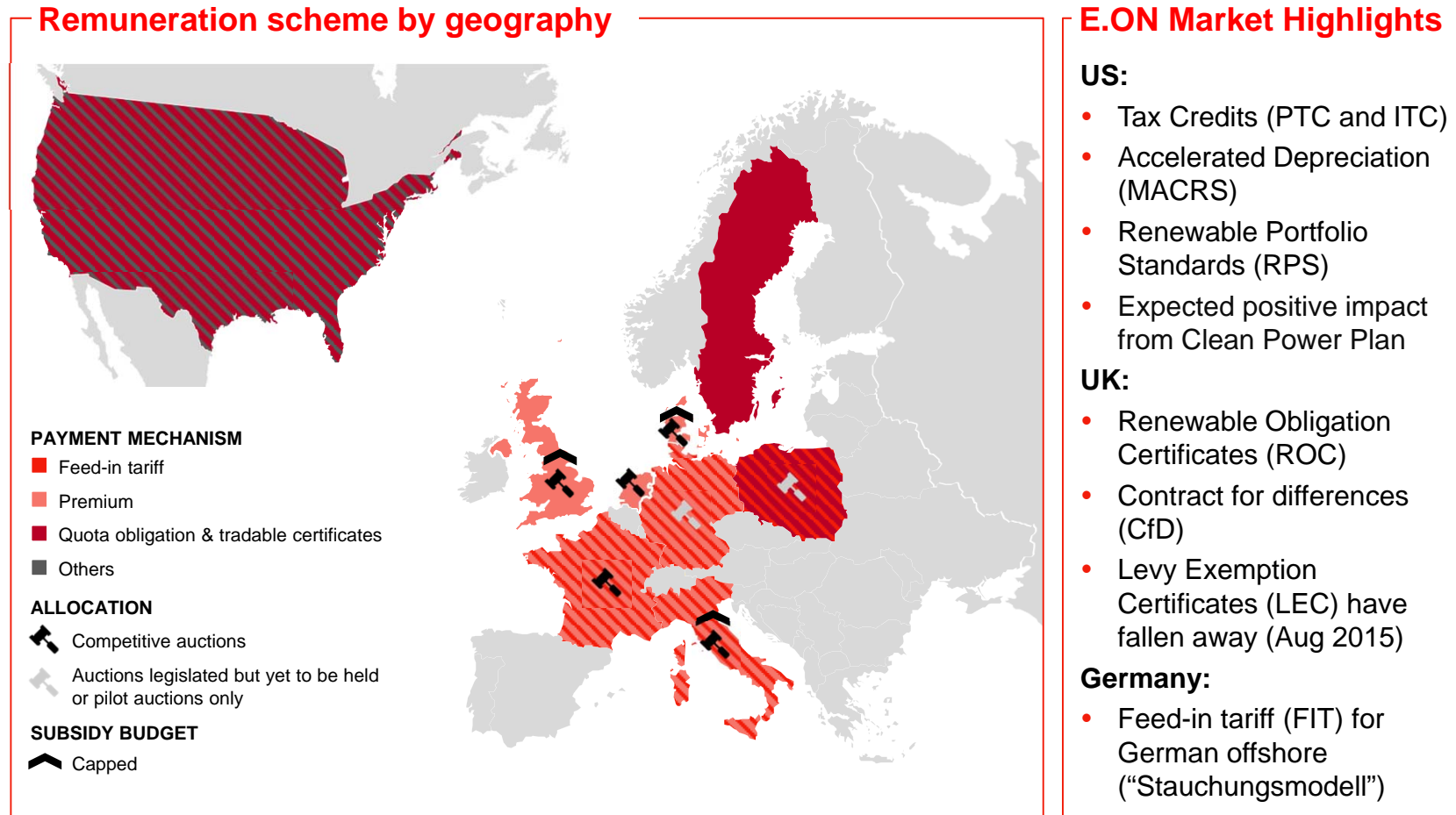
Site layout

- Grandview secured by early analysis of the grid expansion program in Texas in 2010
- Potential size of the site: ~ 1.0 GW (211 MW already built and 200 MW under construction)
- Avg. load factor: >50%

Attractive site selection with improved economics

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Current regulatory regimes and frameworks

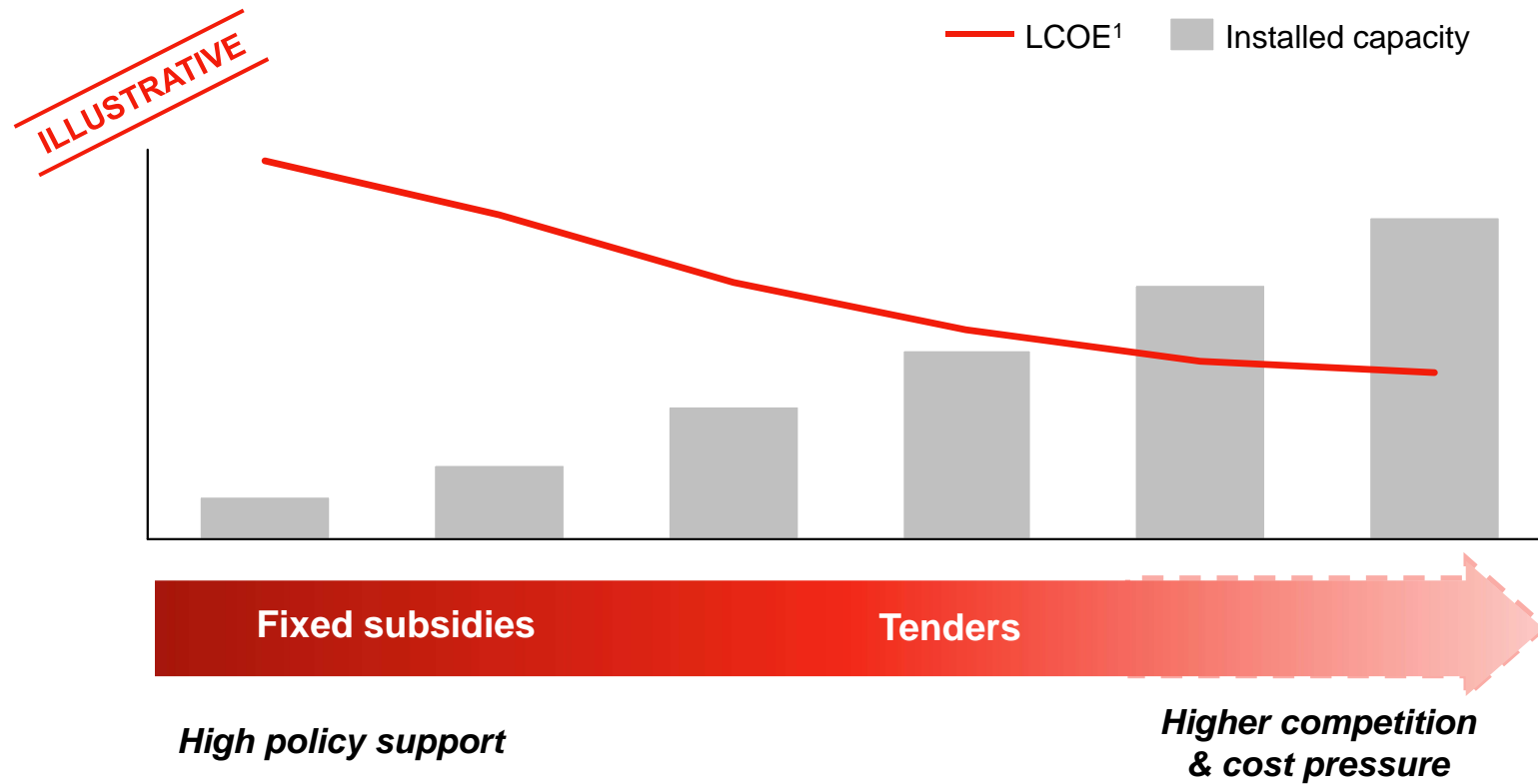


Source: Bloomberg

Attractive regulatory regimes and policy support still prevailing in our core markets



Industry learning curve



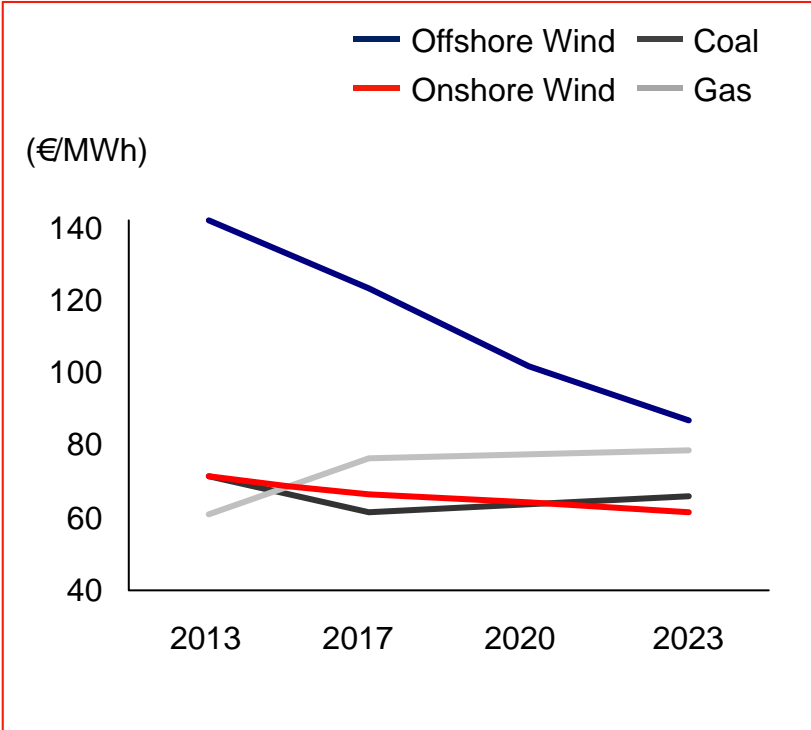
1. Levelized Cost Of Electricity

As markets mature and competitiveness increases, operational excellence will remain key for sustainable, profitable growth

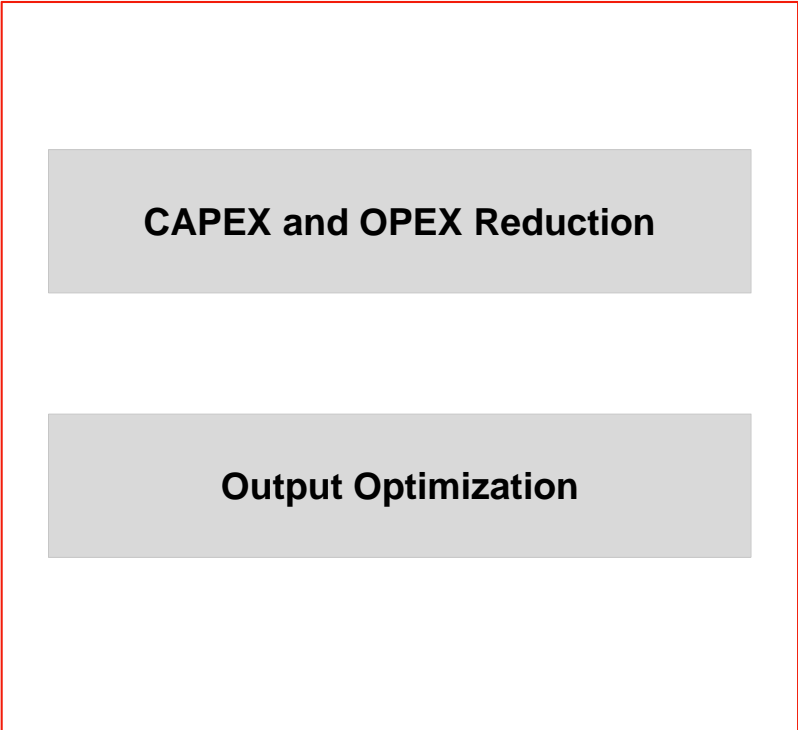


LCOE development trends

LCOE global trend¹



LCOE key drivers



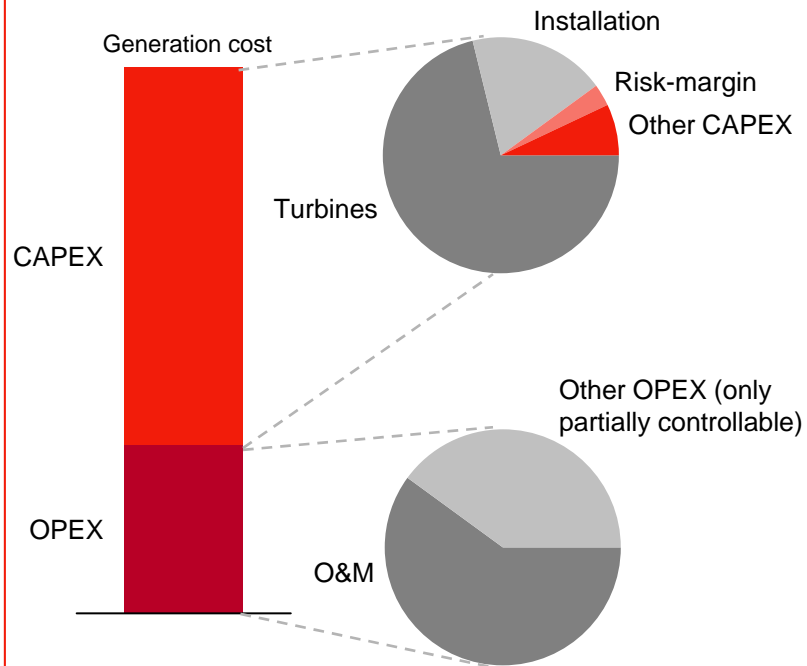
1. Assumed conversion rate €/\$ = 1.12. Average of China, India, US and Europe
Source: Stiftung (Offshore Wind), Bloomberg New Energy Finance (Onshore Wind, Coal, Gas)

Wind LCOE competitive with other technologies



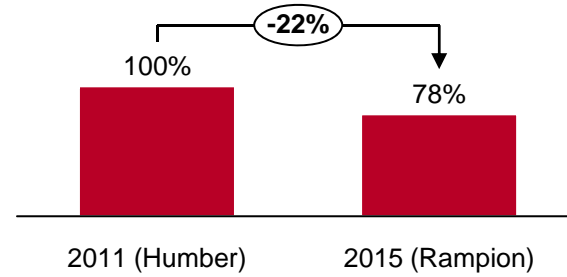
LCOE development at E.ON

Cost Structure – Example of onshore wind

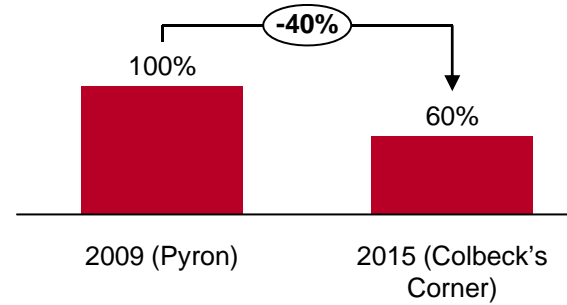


E.ON project LCOE examples (€/MWh)¹

Offshore



Onshore



1. At final investment decision (FID).

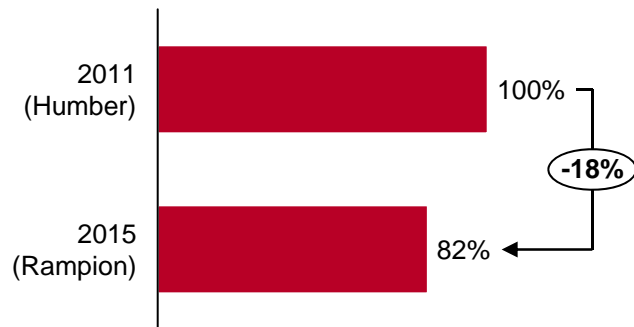
-10% CAPEX reduction equates to ~110 bps IRR increase



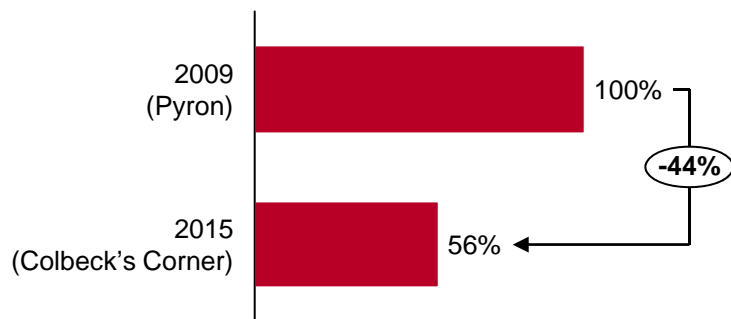
CAPEX reduction

CAPEX/MWh examples¹

Offshore



Onshore North America



1. At final investment decision (FID).

CAPEX reduction levers

Optimized design

- LCOE-driven layout (optimizing wind yield and installation costs)
- Fit for purpose design/selection of components (site specific economically optimal wind turbine types)
- Standardized and integrated process

Rigorous application of procurement best practices

- Central procurement applying optimized procurement strategy
- Increased supplier choice/competition by proactive supplier development, involvement of global suppliers, e-auctions
- Bundling and volume effect of a long term charter

Project / construction management excellence

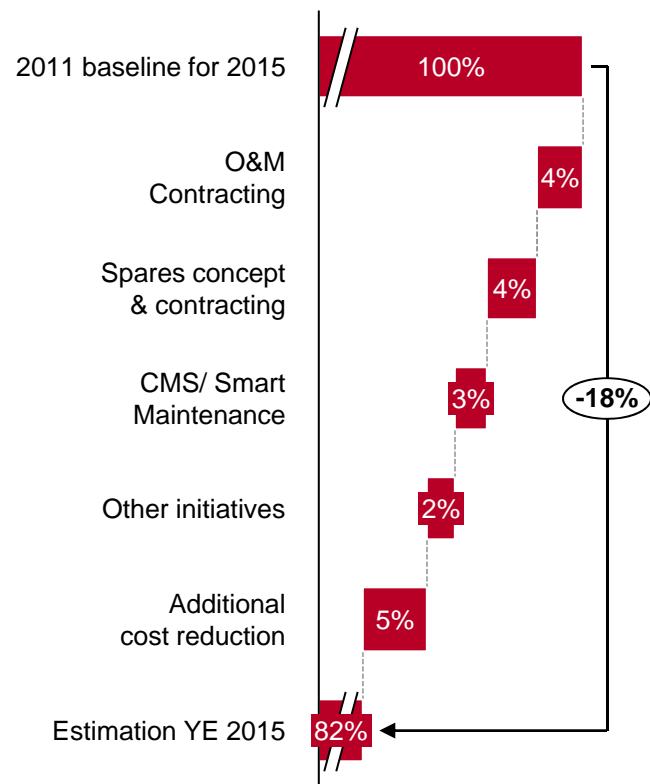
- Recent examples: Completed latest two offshore projects (combined 500 MW) and latest US onshore project (200 MW) on time and budget

We continuously drive down required capital by optimizing design, procurement and construction

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OPEX reduction

O&M cost containment – Onshore¹



O&M levers

O&M improvement measures

- O&M contracting and concept: Roll-out of self-perform and mixed team sites; break-out of full service contracts into standard contract modules
- Spares concept and contracting: Application of global framework for major components and own purchase of consumables
- Smart Maintenance: Retrofit with Condition Monitoring System and development of a predictive maintenance strategy
- Other initiatives

Additional potential due to active asset management concepts by

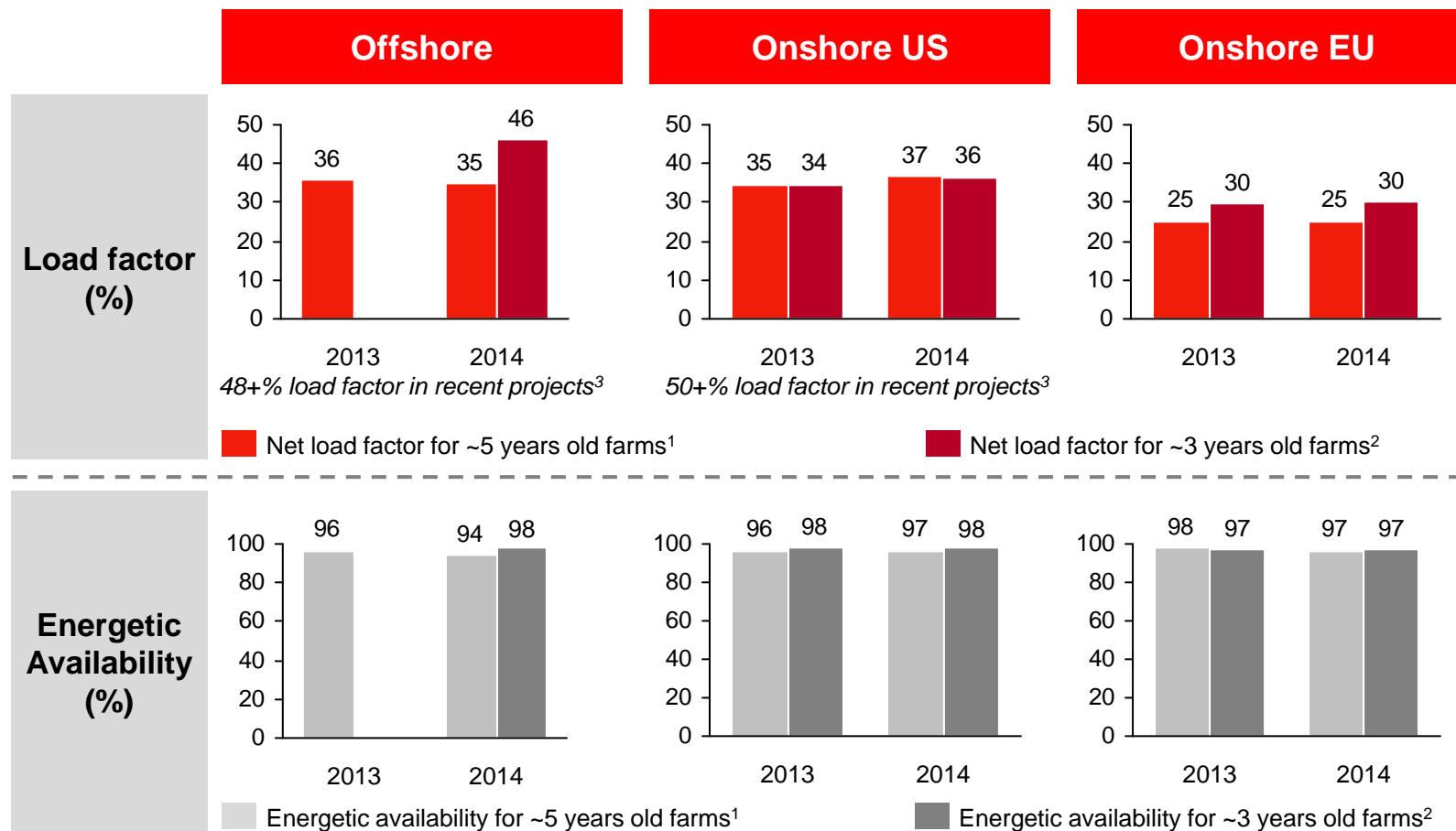
- Further contract re-negotiation
- Other initiatives

1. Based on portfolio as per 2011 baseline for 2015.

Operation & maintenance as key lever for OPEX reduction



Load factor and availability

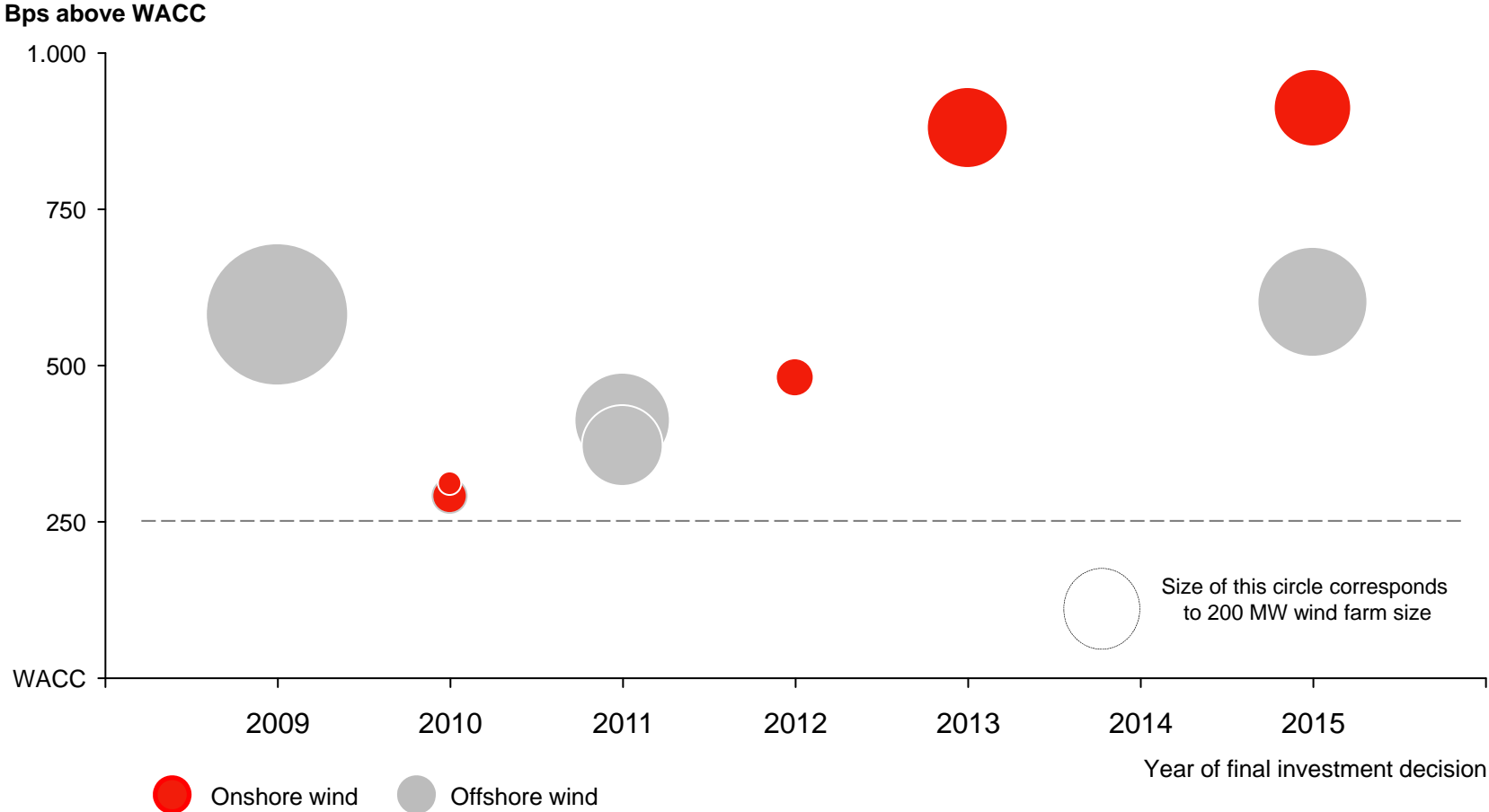


1. COD in 2009-2010; 2. COD in 2011-2012 (onshore) and in 2013 (offshore)
 3. Offshore: Ambrumbank West; Onshore: Grandview 1 and Colbeck's Corner

We have excellent performances in terms of both availability and load factors



IRR vs WACC spreads examples



Attractive returns above WACC plus hurdle



Additional value creation

Partnering

- Third party investors, especially in large-scale projects, increase flexibility and support a diversified portfolio development
- Partnering supports economies of scale and further development of E.ON capabilities while at the same time developing relationships with long-term valuable partners
- Partnering allows for shared construction & operational risks and smoother earnings profile
- E.ON generates additional income as construction manager and operator of the sites
- Strategic partners offer complementary capabilities, allowing to reduce LCOE and risks as well as enhancing success rate in tenders


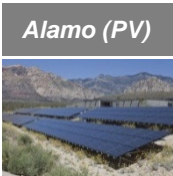



Third Party Services

- Offering full scale operations, maintenance, asset & energy mgmt. services to third party asset owners
- Unique value proposition towards customers as E.ON's experience and capabilities in building & operating renewable farms is strong
- Emergence of new financial players as well as small/ mid-sized wind farm owners without in-house technical competencies seeking steady cash flow and lower risk profile
- Leveraging global experience and portfolio allows E.ON to takeover and manage risks on customer's behalf
- Asset-light business model and economies of scale (e.g. technical support, procurement) by increasing operational portfolio with customer sites
- Natural and complementary business model to partnering

Partnering & Third Party Services allow risk diversification and further leveraging our capabilities

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Capital recycling

Transaction type	Main rationale	Past transactions
Partnering	<ul style="list-style-type: none"> Reduce exposure to cluster and regulatory risks of large projects Increase flexibility and support a diversified portfolio development Additional value from Third Party Services 	 <p>Cap: 400 MW Sold: 49.9% Year: 2015</p>
Build to sell	<ul style="list-style-type: none"> Lock-in value upside especially from US PV Rapid monetization of created value 	 <p>Cap¹: 24 MW Sold: 100% Year: 2015</p>
Capital rotation of operational assets	<ul style="list-style-type: none"> Advance monetization of value from existing projects to fund new ones Additional value from Third Party Services 	 <p>Cap: 433 MW Sold: 50% Year: 2012</p>  <p>Cap: 207 MW Sold: 80% Year: 2013</p>  <p>Cap: 406 MW Sold: 80% Year: 2014</p>

1. PV capacity figures in MW DC (Direct Current)

Successful capital recycling has contributed to E.ON's renewables development in the past

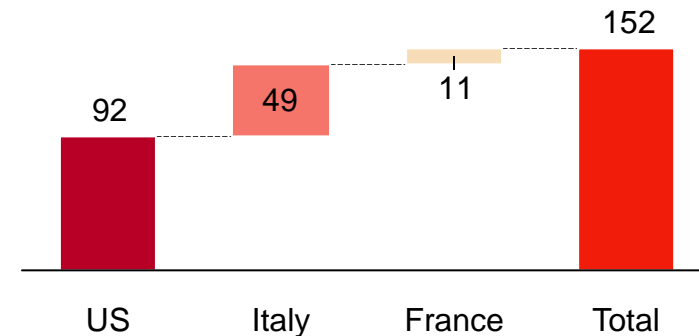


PV projects & initiatives

Key facts

- PV project delivery experience of >150 MW (14 projects), including development and construction
- Current geographical focus in US
- ~90% of the projects delivered on time and on budget
- In the past, focus on build to sell
- Highly standardized development and engineering to ensure end-to-end process excellence and off-the-shelve PV project delivery
- Professional Energy Marketing enables participation in tenders and RFPs

Capacity built¹ (MW)



Recent projects¹ (built & sold)

Alamo



Size: 24 MW
COD: May '15
Buyer: Dominion

Maricopa West



Size: 28 MW
COD: Nov '15
Buyer: Dominion

1. Until end 2015. All capacity figures in MW DC (Direct Current)

E.ON can rely on existing capabilities and experience also in solar PV



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E.ON Renewables Position

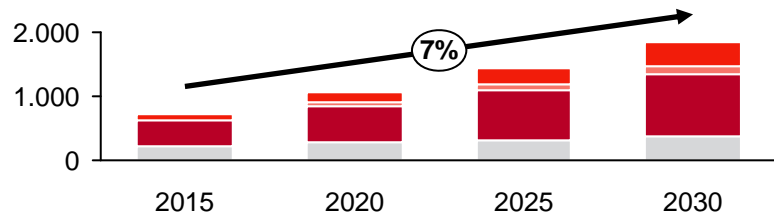
E.ON Renewables Business Approach

Market Trends

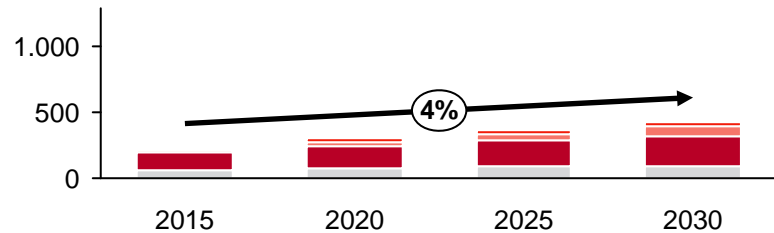
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Market trends – renewable capacity growth

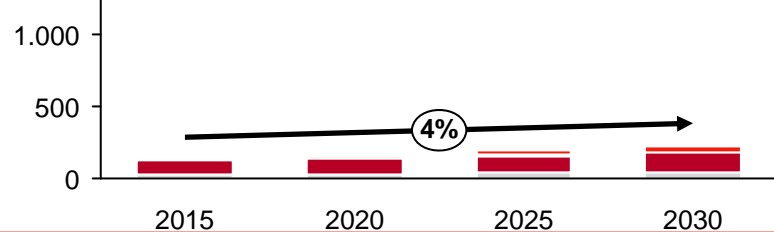
Global¹ (GW)



EU¹ (GW)



US¹ (GW)



Global growth trends

Recent market development

- Wind & Solar cover largest share of capacity additions with focus on emerging markets
- Largest markets for Wind & Solar until 2020: China, India, United States, Germany, Japan

Investments in Solar and Wind

- > \$300bn of global renewable investments per annum expected for the next 25 years

Key drivers for future growth

- Competitiveness: Renewables cost decreasing
- Security of supply: Fuel independence
- Industrial policy: Local content requirements
- Climate change: Low-carbon generation
- Competitiveness of storage

1. Installed capacity, excluding large-scale hydro; Growth expressed as CAGR
Source: IHS

Utility PV Offshore wind Onshore wind Others

Renewables energy market growing fast, especially in Wind and Solar PV

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E.ON key strengths

Proven track record in the most attractive technologies across different markets

Cost competitiveness & process excellence as well as best site selection and scale

Solid position and grow path in core markets

Well positioned to further benefit from continuous growth in renewables

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Appendix

Current regulatory regimes and frameworks (cont'd)

UK

Offshore

- ROC per MW
- Term: 20 years
- Remuneration: Wholesale price plus 1.8-2.0 ROC/MWh based on COD
- Applicable for all E.ON offshore parks in UK¹
- From 2014 move to CfD system (strike price in first auction £114.39-119.89/MWh)

Onshore

- Wholesale price plus ROC (valid until 2016)
- Term: 20 years
- Remuneration: 0.9 ROC
- Applicable for all E.ON onshore
- From Feb. 2015, CfD system (strike price in first auction £79.23-82.50/MWh)

Germany

Offshore

- FIT with direct marketing obligation
- Remuneration (EEG 14):
 - Initial tariff: 154 €/MWh for 12 years (standard) or 194 €/MWh for 8 years (accelerated model)
 - Base tariff: 39 €/MWh
 - Initial tariff extended for deep waters/distance to shore
- Applicable for all E.ON offshore parks in Germany²

Onshore

- FIT with direct marketing obligation
- Term: 20 years plus the year of start of operation (initial tariff for min 5 years followed by base tariff)
- Remuneration (EEG 14):
 - Initial tariff: 89³ €/MWh
 - Base tariff: 49.5 €/MWh
- From 2016: ~0.4% quarterly digression
- Applicable for all E.ON onshore parks in Germany

US

Onshore

- Remuneration based wholesale market or PPA, plus certain incentive features
- Production Tax Credit (\$23/MWh) or Investment Tax Credit (30% of investment) in place for projects completed by 2016
- Renewable Energy Certificate (driven by state-level Renewables Portfolio Standards (RPS))
- Accelerated Depreciation for tax equity investors and developers (MACRS)

Solar

- Remuneration based PPA plus certain incentive features
- Investment Tax Credit (30% of investment) in place for projects completed by 2016 – after drops to 10%
- Renewable Energy Certificate (driven by state-level Renewables Portfolio Standards (RPS))

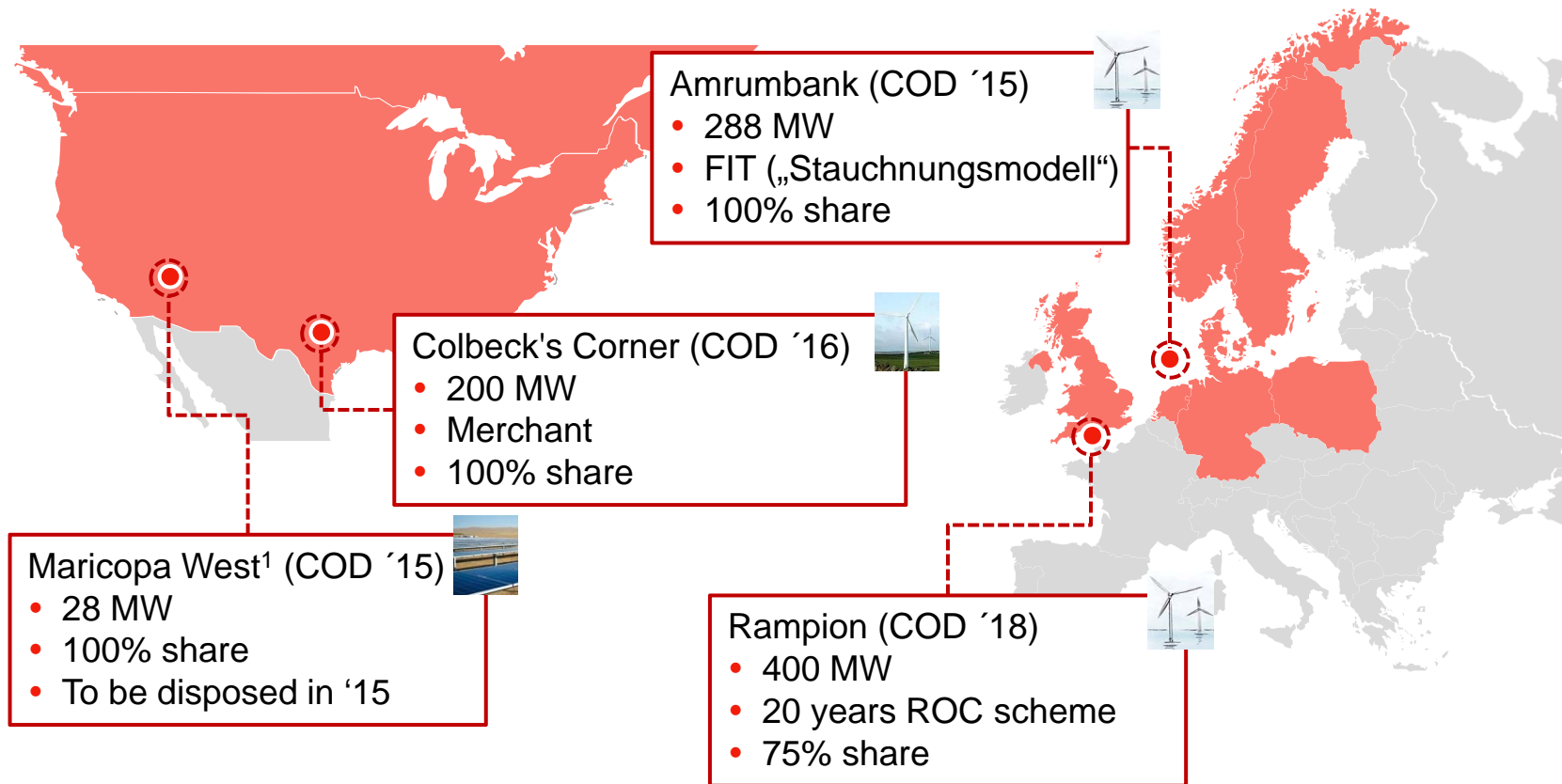
1. Including Rampion
2. Including Amrumbank and Alpha Ventus
3. Base on reference turbine

ROC: Renewables Obligation Certificate; **CfD:** Contract for Difference; **FiT:** Feed-In-Tariff

Capturing attractive regulatory remuneration schemes

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E.ON project examples



■ Countries with projects under development

1. PV capacity in MW DC (Direct Current)

E.ON has diversified portfolio of projects under construction



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