



Energy for
generations

GREEN BOND ROADSHOW PRESENTATION

27th – 30th May, 2019

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CORMAC MADDEN

MANAGER, ENVIRONMENT &
SUSTAINABILITY

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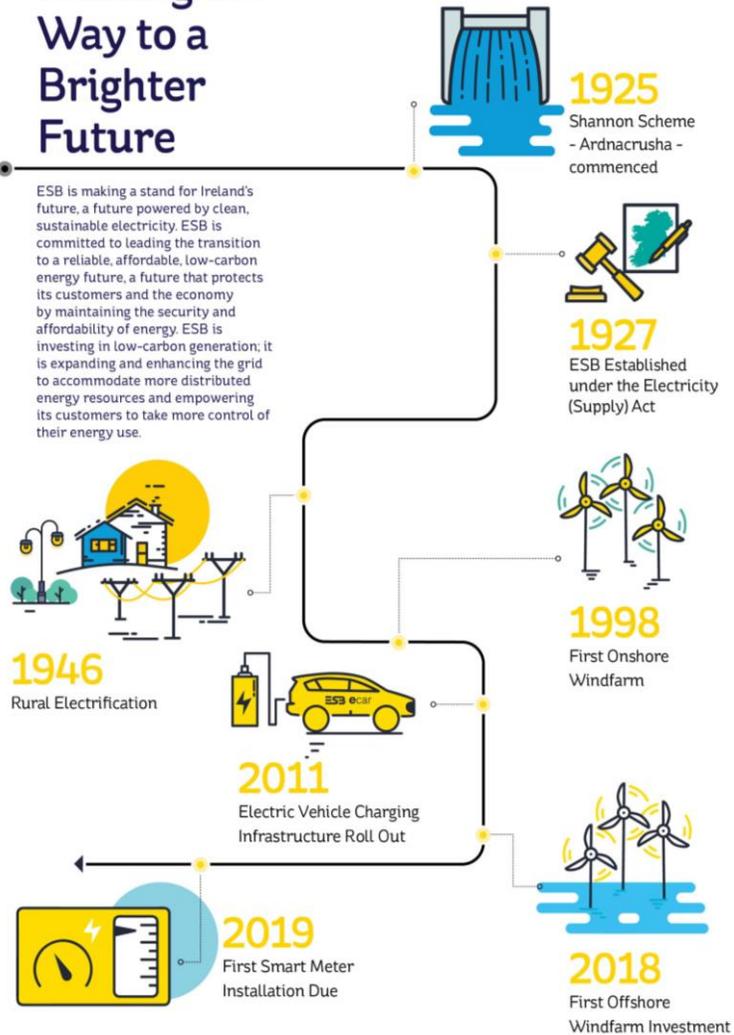
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EXECUTIVE SUMMARY



Leading the Way to a Brighter Future

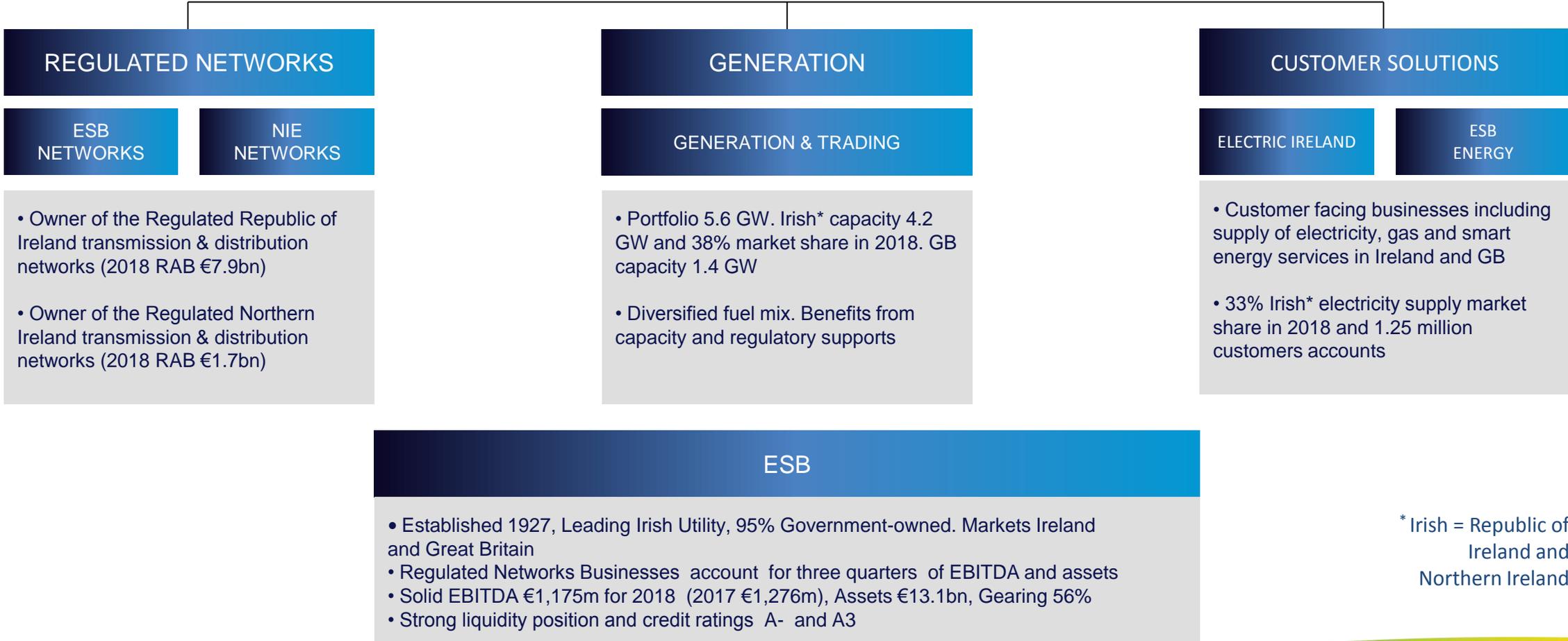
ESB is making a stand for Ireland's future, a future powered by clean, sustainable electricity. ESB is committed to leading the transition to a reliable, affordable, low-carbon energy future, a future that protects its customers and the economy by maintaining the security and affordability of energy. ESB is investing in low-carbon generation; it is expanding and enhancing the grid to accommodate more distributed energy resources and empowering its customers to take more control of their energy use.



- ESB's Brighter Future Strategy, leading Ireland's transition to a low carbon economy.
- The target by 2030 is to have at least 40% of total generation to come from zero-carbon sources.
- Robust Green Bond Framework, fully compliant with the Green Bond Principles and has been reviewed by Sustainalytics*.
- ESB expects to be first Irish corporate to issue a publically offered Green Bond.
- An inaugural medium-long dated EUR-denominated Reg-S Green Bond transaction may follow, subject to market conditions



*in terms of its alignment with relevant industry standards and its robustness and credibility in the meaning of Green Bond Principles ("GBP") 2018.



* Irish = Republic of Ireland and Northern Ireland



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OVERVIEW OF ESB's STRATEGY



ESB's purpose

Create a brighter future for our customers by leading the transition to reliable, affordable, low carbon energy

- Meet customers' energy needs through diverse businesses across energy value chain
- Targeting to increase renewables to 50% of generation capacity (generating 40% electricity) by 2030
- Targeting a 50% reduction in carbon intensity by 2030

Investment Focus

- Smart reliable networks
- Low carbon energy
- New business growth potential



Generation & Trading:

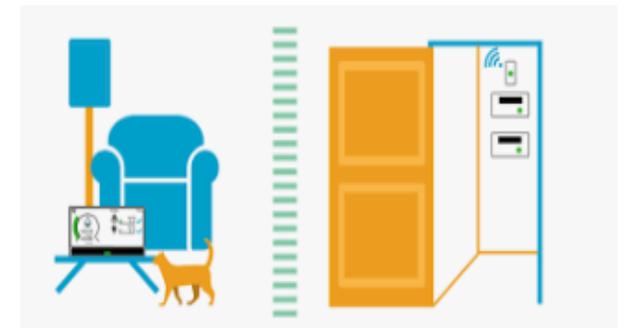
- ESB has taken its first steps into Offshore Wind – Galloper (UK) and Oriel (ROI) investments
- Carbon intensity of generation portfolio reduced by 32% to 454 g/KWh (vs 2005)
- Currently developing options to transition Moneypoint out of coal no later than 2025

Networks:

- Commencement of the roll-out of the National Smart Metering Programme (NSMP)
- 5.5 GW of renewable generation connected to Networks in ROI & NI
- Dingle Project – trialling new technologies

Customer Solutions:

- Electric Ireland’s Smarter Home and All Electric Offer
- Approved €26m capital expenditure to upgrade Electric Vehicle (EV) infrastructure



**CDP score of B- issued to ESB in Feb 2019,
above sector average of C**



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GREEN BOND FRAMEWORK



USE OF PROCEEDS

- The net proceeds from the Green Bond will be used to finance Eligible Green Projects
- Spend on those projects will be included in the next 24 months or has been incurred in the previous 24 months
- Exclusions: Financing any power generation project wholly or partly powered by fossil fuels or nuclear power

EVALUATION & SELECTION

- A dedicated Green Finance Committee has been created to ensure compliance with the Green Bond Framework and oversee the entire issuance process
- The Committee will review proposed projects with respect to the Eligibility Criteria

MANAGEMENT OF PROCEEDS

- In accordance with the evaluation and selection process an amount equal to the Green Bond net proceeds will be allocated to Eligible Green projects
- Unallocated proceeds will be held in cash or cash equivalent

REPORTING

- ESB will produce an Allocation and Impact report at least annually
- This report will be produced until full allocations of the Green Bond proceeds

Eligible Green Project Category	Examples of Potential Projects	Example Impact reporting	Relevant SDG	
Renewable Energy		<ul style="list-style-type: none"> Renewable power - Wind and Solar Infrastructure required to connect renewables to the grid 	<ul style="list-style-type: none"> MW of installed renewables MW of renewables connected Estimated annual GHG emissions avoided / reduced 	  
Energy Efficiency		<ul style="list-style-type: none"> Energy efficiency solutions including smart metering and other technologies designed to manage/reduce demand 	<ul style="list-style-type: none"> Number of smart meters installed Number of customers using smart meters Annual energy savings Capacity of energy storage facilities installed Estimated annual GHG emissions avoided / reduced 	 
Clean Transportation		<ul style="list-style-type: none"> Electric Vehicles Infrastructure to facilitate EV penetration 	<ul style="list-style-type: none"> Number of EV charging points installed or upgraded Number of EV's in ESB Fleet 	
Green Buildings		<ul style="list-style-type: none"> Green Certified Sustainable Buildings 	<ul style="list-style-type: none"> Annual energy savings Certification (BREEAM) Estimated annual GHG emissions avoided / reduced 	

Board Approved *Brighter Future* Strategy



- Green Bond net proceeds to be allocated to Eligible Green projects
- Full allocation to Eligible Projects is expected within 2 years of the Green Bond issuance
- A register and internal controls will be put in place to track the net proceeds on Eligible Green Projects and this will be reported to the Green Finance Committee
- ESB will maintain a minimum level of cash or cash equivalents to the unallocated funds of the Green Bond.
- During the life of the issued Green Bond, if the Eligible Projects are sold, cease to fulfil the Eligibility Criteria, or are otherwise determined to be incompatible with the environmental objectives of the Green Bond Framework, the proceeds will be re-allocated to replacement Eligible Projects that comply with the Eligibility Criteria, as soon as reasonably practicable.





Allocation and Impact Report will be produced annually



Annual reporting covering:

- Total funds distributed per eligible category
- Total funds used for refinancing or allocated to newly financed projects
- Amount unallocated



Eligible Category	Example Impact Metrics
Renewable Energy   	<ul style="list-style-type: none"> • Breakdown of Renewable Energy project by energy type • MW of Installed Renewables • MW renewables connected • MWh Expected annual renewable energy generation • Estimated annual GHG emissions avoided / reduced
Energy Efficiency  	<ul style="list-style-type: none"> • Number of smart meters installed • Number of customers using smart meters • Capacity of energy storage facilities installed • Annual energy savings (kWh) • Estimated annual GHG emissions reduced/avoided
Clean Transportation  	<ul style="list-style-type: none"> • Number of EV charging points installed or upgraded • Number of EV's in ESB Fleet
Green Buildings 	<ul style="list-style-type: none"> • Certification (BREEAM) • Annual energy savings (MWh) • Estimated annual GHG emissions avoided / reduced



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GREEN BOND PROJECTS



- Onshore & Offshore wind
- Connecting Renewables to Grid
- Sustainable Head Office
- Electric Vehicles



- 114 MW Onshore Windfarm
- 38 wind turbines
- 70,000 homes
- 30km of underground 110kV grid connections



BENEFITS OF THE DEVELOPMENT



CLEAN ELECTRICITY
70,000 HOMES

for homes, farms, hospitals, schools and businesses across Ireland.



RATES PAID

by the wind farm to Kerry County Council will support the provision of local services.



STONE AND CONCRETE

used for construction will be sourced from local quarries.



OVER 3.6 M

total value of the Community Benefit Fund to support local projects and amenities/recreational facilities.



SUPPORT THE TRANSITION

from Ireland's reliance on imported fossil fuels to clean, locally generated renewable energy sources. Make a significant contribution towards Ireland's commitment of sourcing 40% of our electricity needs from renewable sources by 2020.



JOBS 70

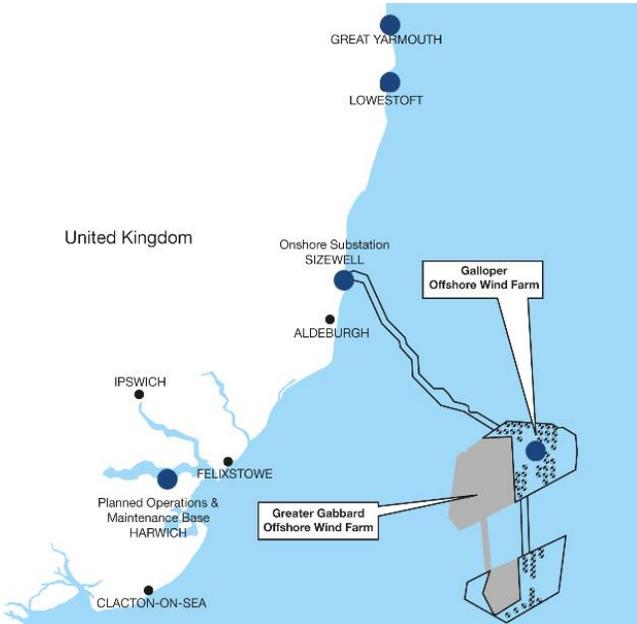
construction jobs at peak employment.



6 FULL TIME JOBS

associated with wind farm maintenance during operational phase.

- 353 MW offshore wind project
- 56 turbine farm to power 380,000 homes
- Acquired 12.5% stake - March 2018
- Commercial Operation - Sept 2018



Galloper Wind Farm / Facts & figures

Galloper Offshore Wind Farm

www.galloperwindfarm.com

⚡ 353MW

Galloper Offshore Wind Farm has an installed capacity of **353MW**.



The amount of power the wind farm has the capacity to generate each year is approximately equal to the annual electricity needs of around **380,700 UK households**.



The wind farm became fully operational in **March 2018**.



A team of 60 will operate and maintain the wind farm, with further long-term jobs with local suppliers.

23 years

The wind farm will have an **operational lifetime of 23 years**.



A new **state-of-the-art** operations and maintenance (O&M) base will be built at **Harwich International Port** in Essex, set for completion in late 2019.

700

700 jobs were created during the wind farm's construction, which was based out of Lowestoft, Suffolk.

120

A further **120 jobs** will be created during the construction of the O&M base.

56

The wind farm comprises **56 Siemens 6.3MW turbines**.

£1.5 billion

The wind farm represents a total investment **£1.5 billion**.

58%

Over Galloper's operating lifetime, **58% of the investment** is expected to be in **UK companies**.

180m

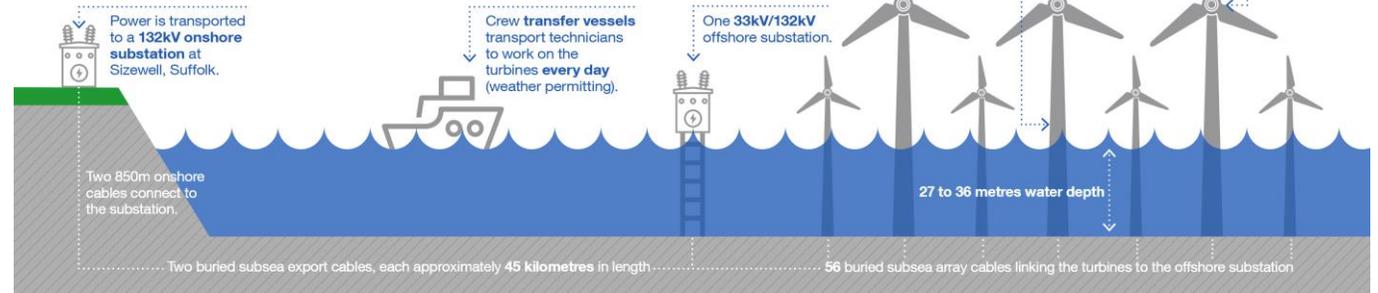
Each turbine has a maximum height of **180 metres**, to the tip of its blade. That's the same as London's iconic Gherkin building.

27km

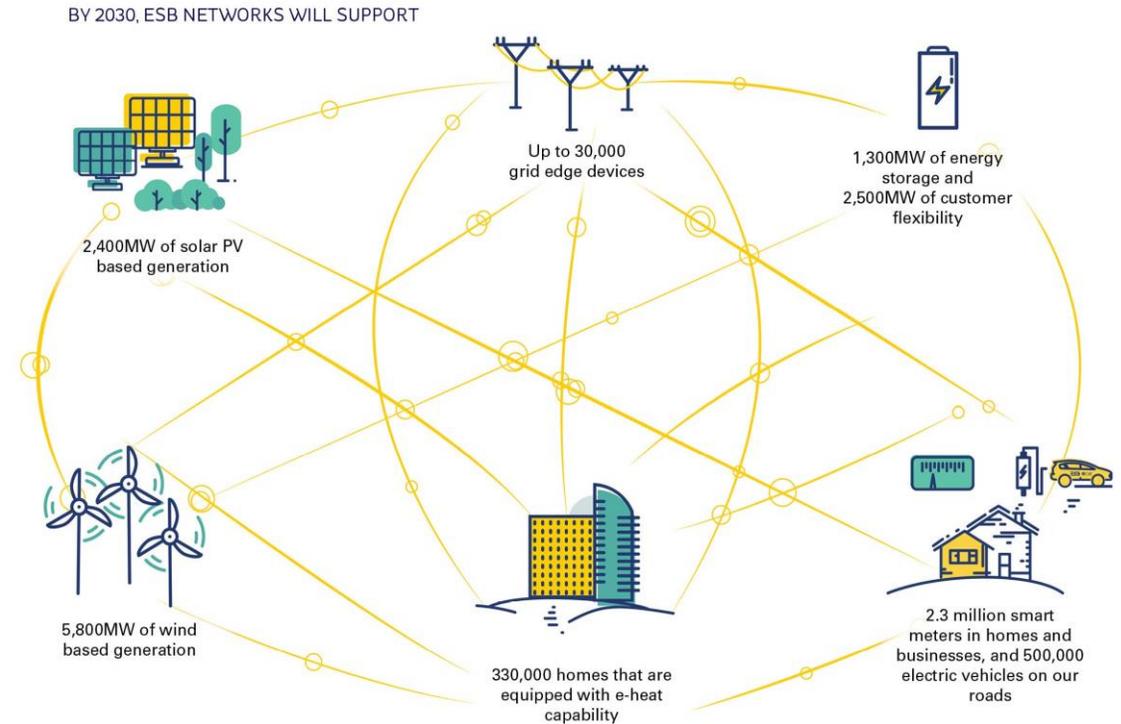
Galloper Offshore Wind Farm is located **27km off the coast of Suffolk**.

75m

Each turbine blade stretches to **75m** in length.



- Enabling connection of renewables and distributed generation to the grid. 5.5GW of renewables currently connected to grid (all Island).
 - Grousemount (114MW) requires 30km underground 110kV grid connections
- 20KV conversion which improves energy efficiency by reducing losses and improving resilience/ performance of Network
- Commencement of the roll-out of the National Smart Metering Programme (NSMP)



Project Fitzwilliam

- New ESB Head Office – 30,000 Sq Meters, 2 Office Blocks
- Target BREEAM Excellent, BER A3
- Near Zero Energy Building
- New building will be 65% more energy efficient than existing building
- Energy & Heating provided by Solar PV and Air Source heat pumps
- Building designed to minimise use of replacement materials.
- Biodiversity - courtyards and roofs will be planted, bee hives will be introduced at roof level
- Sustainable Transport - Extensive facilities for cyclists, Capacity for 59 EV's, Multiple public transport options



Electric Vehicles

- Electric Vehicle Charging Infrastructure rollout 2011
- Recently approved investment to fund the rollout of high powered chargers across ESB ecars network;
- 50 high power charging hubs;
- In addition 50 chargers will be upgraded to fast chargers;
- This will support the Government's ambition to have more than 500,000 EVs on Irish roads by 2030.





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FINANCIAL OVERVIEW



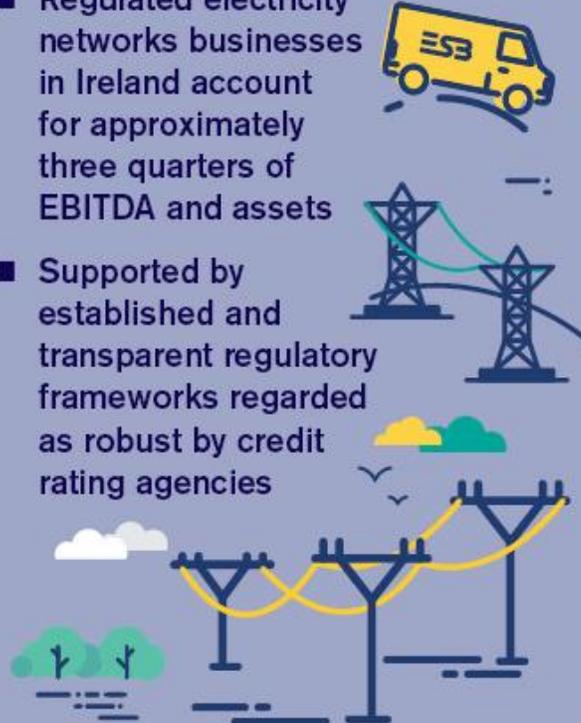
Leading Irish Energy Utility

- 95% Irish Government owned
- Markets - Ireland and Great Britain
- Owns all networks in ROI and NI
- Irish electricity market: 38% share of generation and 33% share of supply in 2018



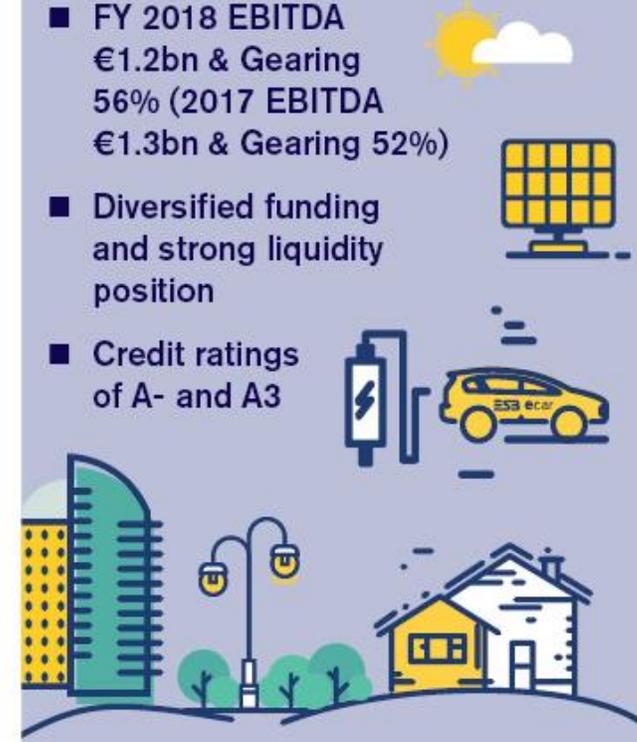
Stable Business Profile

- Regulated electricity networks businesses in Ireland account for approximately three quarters of EBITDA and assets
- Supported by established and transparent regulatory frameworks regarded as robust by credit rating agencies

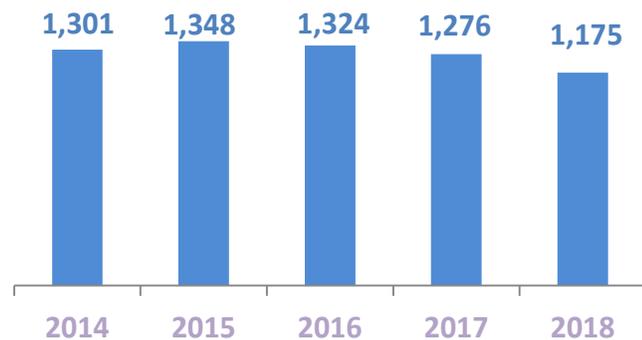


Consistent Financial Performance

- FY 2018 EBITDA €1.2bn & Gearing 56% (2017 EBITDA €1.3bn & Gearing 52%)
- Diversified funding and strong liquidity position
- Credit ratings of A- and A3



EBITDA (€m)



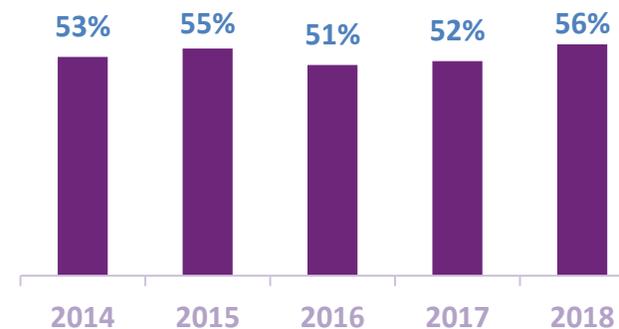
Capital Expenditure (€m)



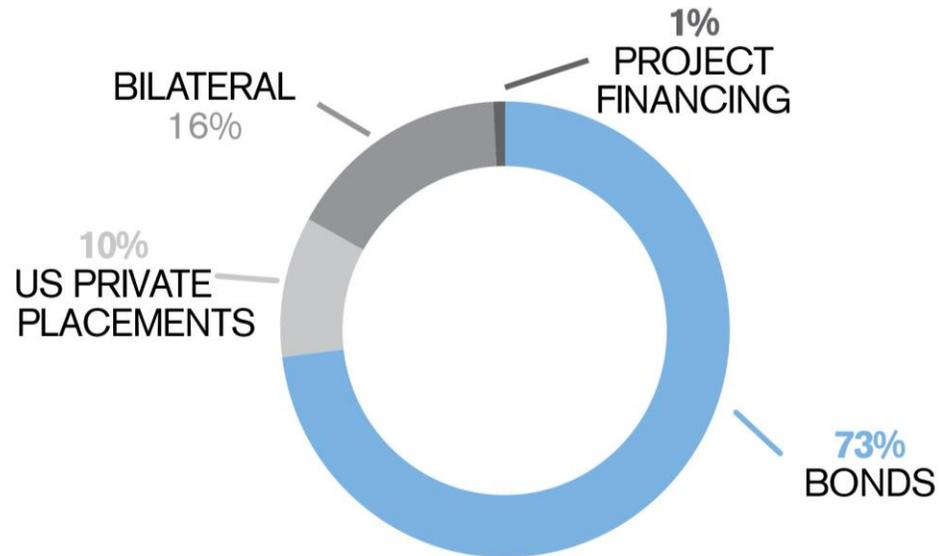
Net Debt (€m)



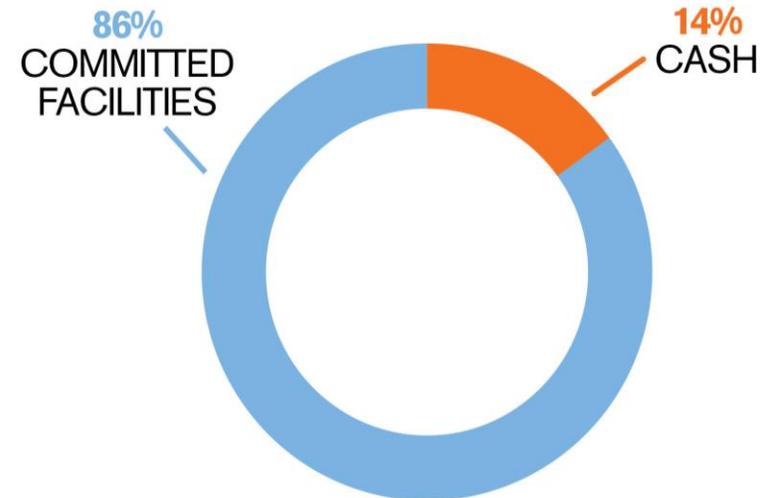
Gearing (%)



**Group Debt 31
December 2018 - €5.1bn**

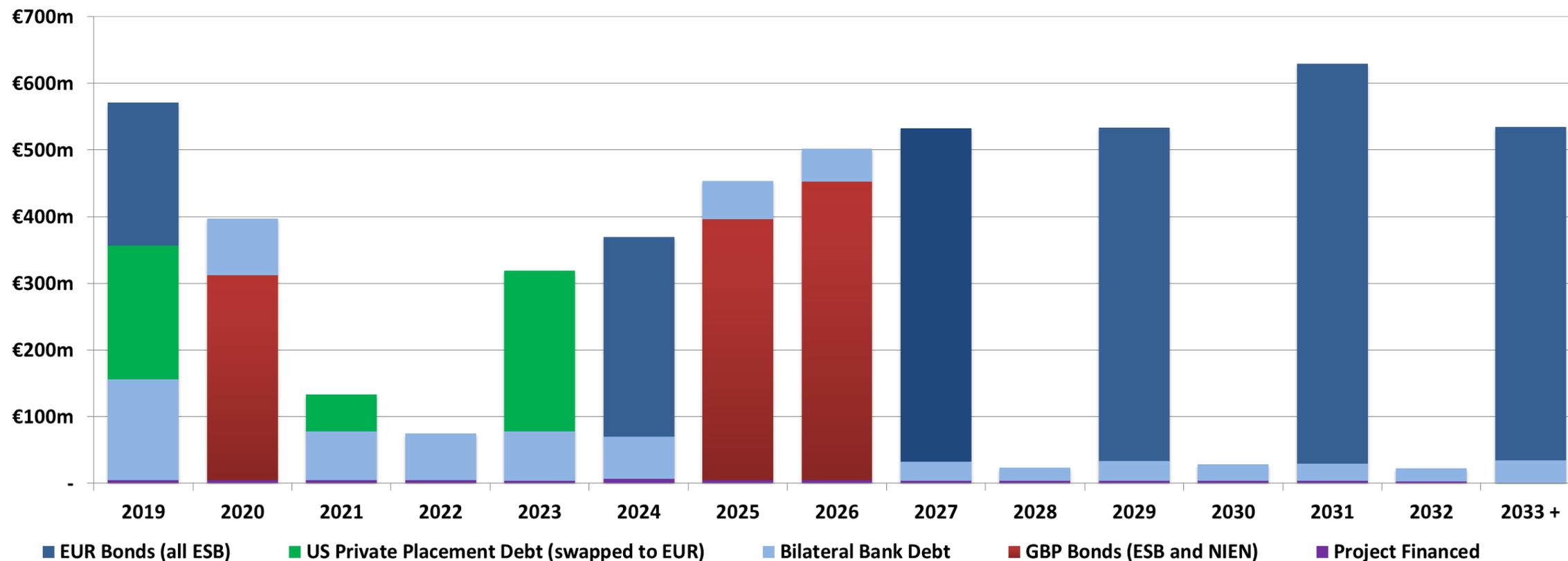


**Available Liquidity 31
December 2018 - €1.6bn**



Included above are 2 bonds issued in 2018:

- NIE Networks £350m bond issued September 2018, maturity October 2025 with 2.5% coupon
- ESB €500m bond issued October 2018, maturity 2033 with a coupon of 2.125%



Note: Excludes Joint Venture Debt

S&P Global
Ratings

A-

(Stable Outlook)
Long Term Rating

MOODY'S
INVESTORS SERVICE

A3

(Stable Outlook)
Long Term Rating



ESB

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