TIMELINE TO 2017

1925
Shannon Scheme Commenced

1927
ESB Established under the Electricity (Supply) Act

1946
Rural Electrification

1975
ESB International Established

1992
Entered the GB Generation Market

1998
First Wind Farm

2001
Electric Ireland Established

2010
Acquired Northern Ireland Electricity Networks (NIE Networks) ecars Launched

2015
SIRO launched

2017
Entered the GB Supply Market

CONNECTING TO OUR FUTURE
ESB is making a stand for Ireland’s future, a future powered by clean, sustainable, reliable and affordable electricity. ESB is investing in low-carbon generation, it is expanding and enhancing the grid to accommodate more distributed energy resources and empowering customers to take more control of their energy use.

Investment in renewal of networks and smart networks
In 1927, ESB’s first managing director, Thomas McLaughlin, had the foresight to understand the far-reaching consequences of a national hydroelectric scheme for our fledgling nation. Thus, Ardnacrusha was born, which paved the way, in 1946, for the rural electrification of 400,000 rural homes in Ireland and the transformation of the country into a strong, vibrant economy.

The diversification of generation brought employment and investment to the Midlands in the 1950s and 1960s, and, in the late 80s and the 90s – helped to reduce the nation’s growing dependency on oil as a source of electricity generation. As ESB embarks on its most ambitious programme to date – transitioning to a carbon-free energy supply by 2050 – we celebrate the courage and drive embodied by McLaughlin and all who supported his vision, as we strive to create a more sustainable Ireland for all.

We welcome requests, comments and enquiries relating to this report and to sustainability. Please email our mailbox: sustainability@esb.ie or our Sustainability Coordinator: brian.gray@esb.ie

www.esb.ie
Twitter: @ESBGroup
LinkedIn: https://www.linkedin.com/company/esb
YouTube: https://www.youtube.com/user/ESBVideo
About this Report
This report is aimed at customers, investors, analysts, policy makers, the public and other stakeholders, internal and external to ESB Group. It aims to address the sustainability issues of greatest concern to these stakeholders and to our business strategy.

Our reporting is guided by the principles of materiality, inclusiveness and responsiveness. We use leading standards and methodologies for measuring and reporting impacts, such as the Greenhouse Gas Protocol, CDP and the Global Reporting Initiative (GRI). Further details on GRI indicators are available in the report appendices.

This report has been prepared in accordance with the GRI Standards. Core option and has been independently assessed by DNV GL against this option.

Scope of Report
This report covers the fiscal and calendar year 2017, which has been approved by ESB Group’s Sustainability Committee. This report pertains to the full activities of ESB and its subsidiary companies, including NIE Networks, hereinafter referred to as ESB Group, and has been prepared in accordance with GRI Standards Sustainability Reporting Guidelines, as well as the GRI Electric Utilities Sector Supplement.

The report content is based on the output from a materiality process, including both operational and strategic engagements with internal and external stakeholders.

The 2017 Sustainability Report meets our commitment to report annually on our Sustainability performance.

Where scope boundaries pertain to specific material aspects of the business, this is detailed in the specific sections of the report.

Readers of this report may also view the ESB Group Annual Report 2017 https://www.esb.ie/who-we-are/investor-relations/annual-reports. Together these reports illustrate a coherent picture of ESB Group activity, how we are embedding sustainability and how sustainability supports our corporate strategy.

The alignment of our activities with the principles and broad direction of the UN Sustainable Development Goals, an alignment which is highlighted where relevant throughout the report.
1.1 CHIEF EXECUTIVE’S REVIEW

WHAT WERE THE MAIN ACHIEVEMENTS AND ISSUES IN 2017?

A number of significant achievements across the Group in 2017 - which was our 90th
Anniversary year. In our generation business Carrington Power, our combined cycle gas
turbine (CCGT) plant near Manchester, which was commissioned in 2016, performed strongly
in its first full year of operation and our programme of investment in renewable energy saw
the commissioning of four new wind farms totaling 95 MW. We also significantly advanced the
construction of Tillyburn Power, a 40MW waste biomass plant being developed on a
joint venture basis near London, with commercial operations expected in Q1 2018.

That said it has also been a challenging year for our
generation business which has taken impairments on a number of its generating units. This is as a
result of expected significant changes in how the all-island wholesale electricity market will operate,
as well as continued downward pressure on energy margins.

ESB Networks and Northern Ireland Electricity Networks (NIE Networks) put in an excellent
performance in 2017 for their combined 3.1 million customers, most notably during Storm Ophelia in
October when power was restored to 385,000 homes and businesses in the Republic of Ireland
(ROI) and to 57,000 homes and businesses in Northern Ireland (NI). Both ESB Networks and NIE
Networks continued to develop, operate and maintain their networks while at the same
time facilitate new connections in line with their Licence obligations. Renewables connections
now total almost 4GW in ROI and 1GW in NIE. For NIE Networks, a very significant development was the
finalisation of the new regulatory price determination for the period October 2017 to
March 2024.

In July 2017 Electric Ireland, ESB’s retail arm, automatically applied enduring long term savings of
up to 85% to nearly 1 million of its ROI customers. Electric Ireland also delayed the introduction of
unavoidable price increases until February 2018 (after the winter period).

In 2017 ESB also achieved a satisfactory financial performance given the challenging energy market conditions, with an EBITDA and Operating Profit of €1,276 million and €450 million respectively (pre-
exceptional items). During 2017 ESB invested €867 million and the dividend for 2017 amounted to €90 million, bringing total dividends paid over the
past decade to over €1.4 billion.

WHAT FOR YOU ARE THE MAIN FEATURES OF ESB’S STRATEGY TO
2030 (STRATEGY 2030) RECENTLY APPROVED BY THE BOARD?

At I believe that ESB must be a dynamic agent of change and progress in society, creating a brighter future for the customer and the communities we serve.

It was with this purpose that we were established 90 years ago in 1927 and it remains thus. Today we will
fulfill this by leading the transition to reliable, affordable, low-carbon energy.

Strategy 2030 highlights the importance of being adaptable in a time of unprecedented change, of having a
presence of scale across the utility value chain and of maintaining the financial strength of ESB. Strategy
2030 sets out five strategic objectives:

1. Put customers’ current and future needs at the centre of all our activities
2. Produce, connect and deliver clean, secure and affordable energy
3. Develop energy services to meet evolving market needs
4. Grow the business while maintaining ESB’s financial strength
5. Deliver a high performance culture that supports innovation and collaboration

Through our diverse businesses across the ROI, NI and Great Britain (GB) we aim to meet customer energy needs by bringing the best of our capabilities together to deliver integrated and value-driven solutions for a low-carbon world.

WHAT IS THE SCALE OF INVESTMENT NEEDED TO DELIVER THIS AMBITIOUS STRATEGY?

At 2017 our capital investment was over €850
million. ESB anticipates significant capital investment, in the order of €1 billion on average each year, to deliver Strategy 2030. This level of investment in our networks, our generation fleet and in our customer offerings will ensure we can lead the transition to a low-carbon energy future.

THERE IS A GREAT DEAL OF POLITICAL AND REGULATORY UNCERTAINTY. HOW DOES ESB ADAPT TO THESE DEVELOPMENTS?

A number of strategic challenges including political and regulatory uncertainty. These include:

- the introduction of the new Integrated Single Electricity Market (lSEM) in ROI and NI that comes into operation in May 2018. It will introduce significant market changes including a new capacity market, 
- the new regulatory price determination for the period October 2017 to March 2024.

Given ESB’s position as ROI’s leading energy utility, with diverse businesses across the energy value chain, its stable business profile, consistently solid financial performance, credit ratings and our core capabilities, ESB is well positioned to adapt to these challenges and uncertainties.

HOW WILL ESB BE POSITIONED TO MEET THE CHALLENGES OF NEW AND DISRUPTIVE TECHNOLOGIES THAT ARE AFFECTING ALL BIG UTILITIES?

A key objective of Strategy 2030 is to ensure that ESB is well positioned to meet the challenges of new and disruptive technologies - through investing in smart networks, in modern low carbon and renewable generation and in customer offerings focussed on distributed energy and digital technologies - we will enable a low carbon energy future and develop new areas of value creation. A key component of our Strategy 2030 is that our investment across the value chain will also enable the widespread electrification of heating and transport thereby placing low-carbon electricity at the heart of a low-carbon society.

Of course the capabilities of ESB employees are critical to achieving this ambition. In 2017, ESB continued to invest in training and development and targeted recruitment to build the capabilities and skills necessary to position ESB to successfully deliver Strategy 2030.

CHIEF EXECUTIVE’S REVIEW

Leading the transition to reliable, affordable, low-carbon energy.

ESB’s Chief Executive, Pat O’Doherty, answers questions on the 2017 results and on ESB’s 2030 Strategy.

Pat O’Doherty
Chief Executive

Esbs Sustainability Report 2017 - Connecting To Our Future

1 March, 2018

In recent years, ESB has redoubled its commitment to safety with a focus on strengthening and developing ESB’s safety culture. How is this progressing?

A Safety is central to everything we do in ESB – safety of staff, of customers and the public. ESB’s Safety Leadership Framework sets the highest standards for safety in all our work processes and we monitor and improve compliance with these standards on a constant basis. Comprehensive Safety Improvement Plans are in place across all areas of our business and are regularly reviewed. Our Stay Safe, Stay Clear Campaign in 2017 was very successful in raising public awareness of electricity network safety issues.

Did ESB maintain its corporate responsibility programme in 2017?

A Over the past decade, ESB has awarded over €10 million to community-based projects in the areas of suicide prevention, educational disadvantage and homelessness through our ESB Generations Fund. In 2017, we developed new strategic partnerships with Aware on their Beat the Blues Programme and with Dublin Institute of Technology’s (DIT) Access to Apprenticeship Programme. We also invested in communities through our sponsorship programme which prioritises support for STEAM (science, technology, engineering, art and maths), sport and cultural initiatives.

Looking ahead to 2018 and beyond, what do you see as the main challenges?

A The operating environment for ESB will remain challenging in 2018. In addition to continuing with policy and regulatory changes, we will remain competitive, improve innovation and accessibility in energy services and market integration. We will also continue to invest in new technologies which can help decarbonise our energy system. We will continue to invest in training and development of our employees to ensure we have the skills and expertise to deliver the strategic objectives set out in our Strategy 2030.
1.2 HIGHLIGHTS

**SHAREHOLDERS**

Dividend of €60 million for 2017

**CUSTOMERS**

Average savings of up to 8.5% for residential ROI customers

Customer satisfaction of 95%

Reconnected 442,000 customers in the aftermath of Storm Ophelia

**IRISH ECONOMY**

ESB invested €867 million in energy infrastructure and other investments during 2017

Over 7,700 employees

Over €3 million was disbursed across a range of community initiatives

**ENVIRONMENT**

17.15 TWh of renewables generated in 2017

4 new wind farms commissioned during 2017, adding 95MW of renewable capacity

Energy efficiency schemes have delivered 196GWh of energy savings for customers in 2017

1.3 ESB AT A GLANCE

**BUSINESS SEGMENT**

Generation and Wholesale Markets (G&WM) | ESB Networks | Northern Ireland Electricity Networks (NIE Networks) | Electric Ireland | Other Segments

**DESCRIPTION**

Electricity Generation | Electricity Transmission and Distribution | Electricity Supply | Innovation and Internal Service Providers

**REVENUE**

€1,406M | €1,058M | €272M | €1,734M | €297M

**CAPITAL EXPENDITURE**

€128M | €501M | €143M | €9M | €86M

**REGIONS OF OPERATIONS**

ROI, NI, GB | ROI, NI | EI, MIDDLE EAST, ASIA, AFRICA

**SCALE OF OPERATIONS**

10 thermal stations, 4 hydro and pumped storage stations, 22 windfarms | 84 depots, yards, stores and vehicle workshops | 14 depots, yards, stores and offices | 4 office locations | 41 offices and stores across ROI, NI, GB and internationally

**AVERAGE EMPLOYEE NUMBERS**

1,005 | 3,347 | 1,288 | 386 | 1,764

**STRATEGIC FOCUS**

Developing a low carbon portfolio, creating cleaner power using sustainable generation | Building smarter and more resilient networks, putting the customer in control of their energy, facilitating the connection of renewables | Bringing sustainable and competitive energy solutions to all our customers | Bringing leadership, energy solutions to all our customers, innovating for the future.
1.4 BUSINESS MODEL

Our Purpose ’Create a Brighter Future for the customers and communities we serve, by leading the transition to reliable, affordable, low-carbon energy.’

Capital Inputs
Manufactured Capital
- 5,822 MW of generation capacity
- Over 229,000 kms of network across ROI and NI

Financial Capital
- BBB+ credit rating (stand-alone)
- Total net assets €3.7 billion
- Liquidity of €1.9 billion

Intellectual Capital
- Promotion of innovation
- Corporate governance structure

Human Capital
- 7,790 employees
- Employee development programmes
- Safety Leadership Strategy

Social and Relationship Capital
- Over 1.25 million customers
- Over 400,000 hours recorded on volunteering programmes

Natural Capital
- 739 MW of renewable generation

Generate
ESB develops, operates and trades the output of ESB’s electricity generation assets. The portfolio consists of 5,822 MW of thermal and renewable generation assets across ROI, NI and GB, with a further 173 MW under construction.

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

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

Outputs
Customers
- Customer satisfaction 96%
- 34% residential market share
- Average residential customer savings of 8.5%
- 42% generation market share
- Reconnected 442,000 customers after Storm Ophelia

Shareholder
- Dividend of over €1.4 billion over the last decade
- Return on capital employed 4.8%
- €1.3 billion EBITDA

Irish Economy
- Invested €867 million
- Contributes €2 billion to economy
- Over €10 million disbursed over a range of community based initiatives over the last decade

Underpinned by Our Values

WE'RE COURAGEOUS
WE'RE TRUSTED
WE'RE CARING
WE'RE DRIVEN

Driving the Delivery of 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
1.5 STRATEGY AND PROGRESS

STRATEGY 2030

ESB’s Strategy to 2030 (Strategy 2030) follows on from Strategy 2025 and is anchored in ESB’s ambition to create a brighter future by leading the transition to reliable, affordable, low-carbon energy. It sets out a path to achieve this ambition in a way that will also ensure that ESB continues to grow as a successful business and maintains the financial strength to invest in a low-carbon future at the necessary pace and scale. It also recognises the potential for new business growth arising from the transition.

Strategy 2030 highlights the importance of being adaptable, responsible and adept in an era of unprecedented uncertainty with a presence of scale across the utility value chain, and a mix of regulated and unregulated businesses, while maintaining a strong investment grade credit rating.

In recognising that business has a key role to play in sustainable development, ESB’s strategic objectives align closely with a number of the UN Sustainable Development Goals and their associated KPI’s.
1.6 GOVERNANCE

ESB, in pursuit of its governance objectives, complies with the Code of Practice for the Governance of State Bodies 2016 (the State Code). ESB also complies on a voluntary basis, to the maximum extent possible, given ESB is a statutory corporation, with the UK Code and with the Irish Corporate Governance Annex. In this way, ESB adheres as closely as possible to listed company governance standards.

ESB continuously reviews and updates its policies and procedures to ensure compliance with the State Code and reports annually on such compliance to the Audit and Risk Committee.

ESB values its reputation and maintaining best practise governance arrangements is an important aspect of ESB business performance. ESB has adopted its own Code of Ethics, which sets out our approach to responsible and ethical business behaviour. The underlying principle of the Code of Ethics is that employees best serve ESB by adhering to the highest standards of integrity, loyalty, fairness and confidentiality and by meeting all legal and regulatory requirements. The Code of Ethics is reviewed annually by the Board and published on the ESB intranet.

The Code of Ethics and the underlying principle of the Code of Ethics is that employees best serve ESB by adhering to the highest standards of integrity, loyalty, fairness and confidentiality and by meeting all legal and regulatory requirements. The Code of Ethics is reviewed annually by the Board and published on the ESB intranet.

The Board Committee on Health Safety and Environment oversees and provides governance on the implementation of the sustainability strategy and facilitate detailed consideration of sustainability matters on behalf of the Board.

An Environment and Sustainability Committee is chaired by the Executive Director Group People and Organisational Development and made up of senior managers from each business unit. The Environment and Sustainability Committee is responsible for approval of the environment and sustainability programme to deliver on the corporate strategy and for providing leadership on environment and sustainability in each business unit.

The committee meets four times a year to review progress and overall group performance against the strategy. The committee also oversees assurance on environmental management through receiving reports from an Environment and Sustainability Management Group, made up of business unit Sustainability and Environment Co-ordinators and Managers.

1.7 MATERIALITY APPROACH

ESB works in the very heart of every community across Ireland. Being embedded in this way, brings a broad span of exposure to and engagement with a wide range of stakeholders. In our purpose of creating a brighter future for the people we serve, we recognise that electricity is an enabler of societal and economic wellbeing and a pathway to a decarbonised society. Understanding the expectations, concerns and interests of our stakeholders is front and centre in delivering on those expectations and to help shape a brighter future. From the consolidated engagements and inputs into the various stakeholder channels and a formal stakeholder engagement process, we identify the most material topics raised by these internal and external stakeholders. The stakeholder grouping with which we engage are detailed in section 1.8 of this report. From this process, the most material topics are identified and form the bulk of the disclosures in this report, as per the materiality matrix below. Disclosures focus on the most material issues identified in the top right quadrant. As robust reporting and data sets are established, disclosures will expand to include other issues of importance within the matrix and newly emerging material issues.

Materiality Matrix 2017

Stakeholder Engagement

As a business we manufacture and distribute electricity to every business and household on the island of Ireland. As such we have a strong and visible interface with every community to which we provide electricity. Stakeholder engagement is central to the success of our business activities. Stakeholder engagement takes place at all levels of society, from the policy makers right down to the local community group and ranges in focus from national to community level interests.

From the consolidated engagements and inputs into the various stakeholder channels and the formal stakeholder engagement process outputs, members of the stakeholder engagement group, together with the Sustainability Committee hold a materiality workshop every 2 years to help prioritise the issues emanating from the various internal and external stakeholder engagement channels and to formulate the issues output from these engagements into a list of prioritised material issues.
MOVING TOWARDS GREATER STAKEHOLDER INVOLVEMENT

In achieving its accreditation to the new ISO 14001 standard, NIE Networks has been working increasingly with key stakeholder groups within the environmental sector to the benefit of its processes and employee training. The updated ISO standard sets stakeholder engagement as a requirement. This encourages companies to listen and respond to other companies and organisations that they impact.

The company’s director led Environmental Management Committee determined that the key objective of stakeholder engagement was to form partnerships with environmental stakeholders which would be useful for all parties. Initially a breakfast session was held to bring key stakeholders up to speed with the work that NIE Networks was currently doing and its plans for the future followed by a discussion on how we could improve. A number of key projects were driven from this process which form part of the environmental programme for the incoming years. These are:

- Memorandum of Understanding with the Department for Communities’ Historic Environment Division
- Sharing and updating information on mapping systems
- Focus on biodiversity training
- Memorandum of Understanding

In June 2018, NIE Networks and DoC’s Historic Environment Division agreed on additional protection for archaeological heritage through a Memorandum of Understanding agreement. This signed protocol sets out ways the two organisations can work together to secure Protected Places, Areas of Significant Archaeological Interest and Registered Parks, Gardens and Demesnes of Special Historic Interest. The agreement focuses on protecting these areas when NIE Networks is carrying out electricity network construction and maintenance.

Sharing and updating information on mapping systems

Following the workshops, we realised that there is lots of environmental information which isn’t always held centrally such as information on ancient woodlands and recent sightings of protected species. We also realised that NIE Networks holds relatively unique environmental information from impact assessments that it carries out. Most environmental impact assessments are on one specific area of land. Due to the nature of building overhead electricity lines, often the company’s impact assessments will look at narrow corridors across kilometres of countryside providing a unique insight.

This has led to a partnership with Centre for Environmental Data and Recording (CeDAR) whereby information is shared to continually update NIE Networks and CeDAR mapping systems. This collaboration is creating more up to date environmental mapping which can be used by anyone in Northern Ireland.

Focus on biodiversity training

When building and maintaining lines and cables, particularly in rural areas, NIE Networks’ employees need to be familiar with how their work can impact on animals and birds and their habitats. For example, as the company cuts back trees and branches from overhead lines along year round, their work can have an impact during bird nesting season. Employees are trained to look for birds’ nests and on what they should do if they find one. During 2018, we have formed a partnership with Ulster Wildlife to create an easy identification handbook of protected species. The guide will provide information on the species and also tell-tale signs on how to identify potential habitats. At NIE Networks we believe that we have made a step change in collaboration working with environmental organisations which have brought considerable benefits and added value to our overall environmental programme.

ESB-BACKED FREE ELECTRONS ACCELERATOR: IRISH START-UP MAKES THE TOP 12

This past March, 12 international start-ups have been selected to participate in the ESB-backed Free Electrons Accelerator programme. Free Electrons is the world’s first accelerator programme that connects energy start-ups with global utilities. Irish company Climate is part of this prestigious group. More than 450 energy start-ups from 51 countries applied to be part of the accelerator programme. The 12 winners will now have the opportunity to work with leading global energy utilities including ESB to refine and test its products in international markets with the potential to reach 73 million customers located in 40 countries.

Speaking to The Irish Times about the Free Electrons Accelerator, Paul Mulvaney, Executive Director of ESB Innovation, said: “ESB is focused on developing new energy-efficient and renewable solutions for the customer. For instance, through our innovation hubs, X exchange site at Drogheda Labs, we continue to explore radical and disruptive ideas in the energy space. We are delighted to support and host the selected companies and European investors for the Dublin module in June. It is a win-win situation whereby the start-ups benefit from access to new markets while ESB and the other utilities have the opportunity to trial and market new services to their customer base”.

The aim of the free electrons programme is to drive the next generation of ideas in clean energy, energy efficiency, electric mobility and on-demand customer services.
1.9 ASSOCIATIONS AND EXTERNAL INITIATIVES

CHARTERS TO WHICH THE ORGANISATION SUBSCRIBES
- Code of Practice for the Governance of State Bodies
- Bettercoal Code
- UK Corporate Governance Code
- Irish Corporate Governance Annex
- The Prompt Payment Code of Conduct
- The Energy Engage Code

PRINCIPAL ASSOCIATIONS TO WHICH THE ORGANISATION BELONGS
ESB plays an active role in many associations, both at a board level and as an active member. Playing an active role in such external associations is central to the development of key staff, the promotion of engineering skills, developing common approaches on national policy, promoting diversity and inclusion in society as well as broad involvement in electrical industry associations.

- Association for Higher Education Access and Disability (AHEAD)
- Business In The Community (BITC) Ireland
- Bettercoal
- Business in the Community NI
- Chambers Ireland
- Chartered Institute of Professional Development
- CHAdeMO Association
- Corporate Leadership Council
- Confederation of British Industry (CBI)
- Diversity Charter of Ireland
- Electricity Association of Ireland (EAI)
- Electric Power Research Institute (EPRI)
- Energy Networks Association
- Energy UK EV Task Force
- Engineers Ireland
- Eurelectric
- Institute of Engineering and Technology
- Institute of Directors
- Institute of Customer Service
- Irish Wind Energy Association (IWEA)
- Irish Business and Employers Confederation (IBEC)
- Irish Marketing Institute
- Low Carbon Vehicle Partnership
- National Irish Safety Organisation (NISO)
- NI Chamber of Commerce
- National Energy Action
- Open Charge Alliance
- Society of the Irish Motor Industry
- The Society of Motor Manufacturers & Traders (SMMT)
- The Mediators Institute of Ireland
- Ulster Wildlife
2.1 Managing Investment and Growth
2.2 Using our Profits in a Sustainable Way
2.3 Indirect Economic Impacts
2.4 Anti-Corruption
2.1 MANAGING INVESTMENT AND GROWTH

INTRODUCTION

ESB’s Strategy to 2030 (Strategy 2030) follows on from Strategy 2025 and is anchored in ESB’s ambition to create a brighter future by leading the transition to reliable, affordable, low-carbon energy. It sets out a path to achieve this ambition in a way that will also ensure that ESB continues to grow as a successful business and maintains the financial strength to invest in a low-carbon future at the necessary pace and scale. It also recognises the potential for new business growth arising from the transition (ESB), like many other companies, is facing a number of strategic financial challenges. Over the next three years these include:

- Increased volatility and downward pressure in generation energy margins in both I-SEM and Great Britain (GB);
- Increased regulatory challenge of our networks businesses including the requirement to deliver stretching targets under their respective regulatory contracts;
- Increased and intense retail competition in both the Republic of Ireland (ROI) and the United Kingdom (UK); and
- Increased uncertainty in our macro environment triggered by events such as Brexit and other global socio-political developments.However, these developments are also presenting opportunities for ESB, particularly in the delivery of smart reliable electricity networks that enable more connection of renewable generation and support the electrification of heat and transport, transitioning to a balanced low-carbon generation portfolio in ROI and the UK and the development of services, where we can bring value-driven solutions to our customers and enable the transition to reliable, affordable low-carbon energy.

DELIVERING ECONOMIC IMPACT

Investment in our network infrastructure accounts for 74% of total capital expenditure in 2017, delivering infrastructure projects in Northern Ireland and the Republic of Ireland, which will facilitate the projected growth in renewable generation, the increasing penetration of electric vehicles connecting on the network, the promotion of electrification of heat and the increasing deployment of smart metering and connected devices and IoT. Renewable generation asset development focusses on the all-islands market of Ireland and the United Kingdom, where we continue to implement the strategy of delivering a balanced portfolio of thermal and renewable generation in the all-islands market. Development efforts are focused on accelerating investment in renewable energy in order to reduce the carbon intensity of the portfolio, supporting the transition to reliable, affordable, low-carbon energy.

INVESTMENT PROGRAMME

Capital expenditure totalled €867 million in 2017. This is a decrease of €30 million on 2016 investment levels. Capital investment in the networks businesses continued in 2017 with €44 million (74% of total capital investment) invested in the networks infrastructure in ROI and Northern Ireland (NI). This expenditure includes €90 million investment in renewables and an increase in the asset retirement obligations capitalised of €25 million set out in note 26 to the financial statements. Capital investment of €95 million in other segments includes the progression of other strategic projects for the Group including the redevelopment of the Fitzwilliam Street Head Office and preparation for I-SEM. ESB expects to continue significant capital investment in the order of €1 billion on average each year, to deliver Strategy 2030. This level of investment in our networks, our generation fleet and in our customer offerings will ensure we can lead the transition to a low-carbon energy future.

CAPITAL EXPENDITURE

<table>
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<th>Year</th>
<th>ESB Networks</th>
<th>G&amp;WM</th>
<th>NIE Networks</th>
<th>Other Segments</th>
<th>Total</th>
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<td>501</td>
<td>128</td>
<td>143</td>
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</table>

ENGAGING COMMUNITIES

All infrastructure development is subject to appropriate planning authority approval, including the undertaking of Environmental Impact Assessment, as required. Operational procedures for works in and adjacent to SACs or where particular environmental or biodiversity risks may be identified, are in place and subject to on-going review. Community needs assessment is undertaken as part of the broader regulatory engagement process, which culminates with a price review determination, incorporating specific asset development programmes which form the basis of investment programmes for our regulated assets.

REGULATED INVESTMENT

Within our networks businesses, the capital and maintenance programmes are delivered in accordance with established regulatory contracts. Regulatory price reviews are undertaken at set intervals with the relevant energy regulator. ESB carefully and continuously monitors all of these strategic financial opportunities and challenges and takes prudent financial actions, including management of the significant capital programmes, as appropriate, to enable the delivery of Strategy 2030 while maintaining ESB’s financial strength.

Oversight

The Board has overall responsibility for risk management and internal control. The main financial risks faced by the Group related to liquidity, foreign exchange, interest rates, commodity price movements and operational risk. Policies to protect the Group from these risks, and other risk areas, such as credit risk, are regularly reviewed, revised and approved by the Board.

ESB AND BORD NA MÓNA LAUNCH CO-DEVELOPMENT AGREEMENT TO PROVIDE SOLAR ENERGY FOR 150,000 HOMES

ESB and Bord na Móna have announced a co-development agreement to develop solar power in four locations in Roscommon, Offaly and Kildare, which will provide renewable energy to power the equivalent of 150,000 homes.

The joint venture will access part of Bord na Móna’s land bank in strategic locations across the Midlands which is suitable for large-scale solar energy projects and brings together the expertise of two leading commercial semi-state companies in renewable energy with significant projects that support Ireland’s energy transition. Currently, in Ireland, renewable energy is predominately generated from the wind. It is Government policy to introduce more diversity in the renewable energy portfolio by promoting other technologies such as biomass, wave, tidal and solar energy. The co-development agreement is well positioned to support Government energy policy and to aid Ireland reach future renewable energy targets.
2.2 USING OUR PROFITS IN A SUSTAINABLE WAY

**INVESTMENT**
Investing almost €1 billion per annum to facilitate a more sustainable energy environment as well as supporting economic growth through providing, safe and reliable electricity supply to homes and businesses.

- **€867 MILLION**

**EMPLOYMENT**
Making a long-term commitment to employees, giving them the time to build their skills and the opportunity to advance their careers. Supporting jobs through contractor and supplier service contracts.

- **130 APPRENTICES AND GRADUATES RECRUITED IN 2017**

**TAXES**
Annual payments across various headings.

- **OVER €500 MILLION**

**RETURN TO THE SHAREHOLDER**
ESB targets an annual dividend of 40% of adjusted profits after tax.

- **€60 MILLION FOR 2017**

**DEBT INVESTORS**
Annual interest and repayments.

- **€650 MILLION**

**SUPPORTING COMMUNITIES**
Seek to empower and enrich the lives of individuals and communities through the corporate social responsibility programme.

- **€10 MILLION OVER THE LAST DECADE**

**RESIDENTIAL CUSTOMER SATISFACTION**
Developing new and innovative products and services for customers aimed at improving customer experience and empowerment.

- **95%**
2.3 INDIRECT ECONOMIC IMPACTS

<table>
<thead>
<tr>
<th>Summarised Income Statement</th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue and other operating income</td>
<td>€3,262</td>
<td>€3,247</td>
</tr>
<tr>
<td>Operating costs</td>
<td>(2,773)</td>
<td>(2,660)</td>
</tr>
<tr>
<td>Operating profit</td>
<td>490</td>
<td>597</td>
</tr>
<tr>
<td>Exceptional items</td>
<td>(276)</td>
<td>(276)</td>
</tr>
<tr>
<td>Operating profit after exceptional items</td>
<td>214</td>
<td>597</td>
</tr>
<tr>
<td>Total finance costs</td>
<td>(211)</td>
<td>(198)</td>
</tr>
<tr>
<td>Fair value movements on financial instruments</td>
<td>(5)</td>
<td>(190)</td>
</tr>
<tr>
<td>Share of equity accounted investments loss</td>
<td>(8)</td>
<td>(15)</td>
</tr>
<tr>
<td>Profit/(loss) before tax</td>
<td>(10)</td>
<td>194</td>
</tr>
<tr>
<td>Tax charge</td>
<td>(23)</td>
<td>(8)</td>
</tr>
<tr>
<td>Profit/(loss) after tax</td>
<td>(22)</td>
<td>186</td>
</tr>
</tbody>
</table>

**REVENUE**

Revenue and other operating income before exceptional items of €3,262 million has increased by €15 million compared to 2016 (€3,247 million).

The increase is driven by higher revenue in Generation and Wholesale Markets (G&W&M) due to a full year of running at Carrington Combined Cycle Gas Turbine (CCGT) Plant in Great Bitter (GB) and increased regulated income in ESB Networks offset by lower revenues in Electric Ireland as a result of lower volumes and price reductions.

**INDIRECT ECONOMIC IMPACTS**

Investments in the generation portfolio are focused on accelerating investment in renewable energy in order to reduce the carbon intensity of the portfolio and support the transition to reliable, affordable, low carbon energy. Investments in the networks business in Republic of Ireland focused on the reinforcement and construction of new network, while also committing significant investment to maintaining existing network. NIE Networks focused on the delivery of its network investment programme (NIPPS) to achieve reliability of supply and ensure the safety of the network for customers, as well as continuing investment to facilitate the connection of additional renewable generation and the replacement of customer meters.

**CONNECTING TO OUR FUTURE**

**G&W&M** are working on a range of activities to transition along the path to a low-carbon future. The Tilbury biomass plant is one of those projects – it will help reduce the carbon intensity of ESB’s generation and increase the renewable energy available to customers. It is being built on a brownfield site at the Port of Tilbury, UK. The plant is ideally situated near the London catchment area, so transportation is optimised, minimising the overall carbon footprint. The 45 MW facility will convert waste wood to energy, generating enough green electricity to power almost 100,000 homes. The fuel is waste wood that would otherwise be sent to landfill, and it is collected locally. Tilbury started construction in May 2015 and is currently being commissioned, with commercial operations expected in Q1 2018. Tilbury is a joint venture between ESB and the Green Investment Group. The plant is being constructed and operated by a consortium between Biomeasure Waik & Scandinavia Co a/s and Aalborg Energie Technic a/s who also have a minority shareholding in the project. Stobart Biomass will provide the waste wood for fuel.

Our networks businesses, ESB Networks and NIE Networks, are both regulated utilities and investment programmes are agreed under price review arrangements with their respective utility regulators, the Commission for Regulation of Utilities (CRU) and the Utility Regulator of Northern Ireland. ESB Networks’ efforts to accelerate investment in renewable generation and to support the growth and adoption of energy efficient technologies and practices, support Ireland’s national efforts to meet EU targets and the aspirations of the 2015 Paris Agreement.

**Procurement Practices**

ESB is in compliance with all applicable procurement rules and guidelines as set out in the Utilities Directive and ESB’s procurement procedures.

ESB’s Supply Chain is key to our business success and meeting ESB’s sustainability goals. Corporate policy requires us to ensure that our strategic goals are achieved and corporate governance assured through the application of ESB’s Supplier Charter and Requirements for Third-Parties Document, which establish clear standards in relation to:

- Conduct of business
- Health & safety
- Environment
- Ethics, bribery & anti-corruption
- Employment standards and modern slavery.

All relevant procurement policies are made publicly available via the ESB Group website; www.esb.ie/who-we-are/procurement

Within the extended supply chain for supplies and services, all new supplier to the ESB Group shall apply ESB’s Supplier Charter and Requirements for Third-Parties.

**MONITORING SUPPLY CHAIN PERFORMANCE**

Any incidents related in relation to supply chain performance, findings from supplier evaluations or Contractor Employer Standards audits, which might indicate concerns for ESB to address through ESB’s procurement procedures and may result in, potential for termination of contracts.

**Future Outlook**

Strategy 2030 seeks to grow ESB’s Generation Trading Supply (GTS) business in ROI, NI and GB. As ROI, NI and GB maintain their commitment to the decarbonisation of electricity generation, ESB continues to capture opportunities for investment in energy assets as older and more carbon intensive generation is replaced. The decarbonisation of heat, transport and agriculture by means of electrification should grow these opportunities further.

Subsequent to the Brexit vote the Regulatory Authorities in ROI and NI jointly reaffirmed their commitment to the Integrated Single Electricity Market (SIM) project, which maintains a single, harmonised, wholesale all-island market. GB remains the closest and only electrically-connected market to ROI and NI, so the ability to trade energy freely has an important value, not only for ESB but for these economies. In summary, notwithstanding the uncertainty related to Brexit, the UK energy sector continues to provide a pipeline of growth opportunities in proximate and interconnected markets. ESB will continue to monitor and manage the current and emerging Brexit related impacts.

**ESB NETWORKS LAUNCHES INNOVATION STRATEGY**

ESB Networks formally launched its Innovation Strategy at its inaugural conference held in the Mansion House.

The strategy sets out how ESB Networks will meet the challenges of the changing energy landscape, deploying new technology, engineering and innovation tools to facilitate the transition to a low-carbon future.

ESB Networks has designed eight roadmaps to continue to drive change. These roadmaps focus on connecting renewables, boosting customer engagement, further developing the electrification of heat and transport, optimising the current network infrastructure, creating flexibility within the network, making the network more resilient, and driving operational excellence across the organisation. The innovation strategy includes investment in state-of-the-art control centres in Dublin and Cork; and investment in line sensors, fault indicators, augmented reality and 3D laser scanning to help control the network and repair faults remotely. Speaking at the Innovation Strategy launch, Marguerite Sayers, Managing Director of ESB Networks, said: "The challenge for us is to integrate increasing amounts of renewable generation onto the system and also to support the electrification of heat and transport – both of which are fundamental to meeting our national carbon emission target. However, we need to do so while maintaining our safety standards and delivering value, service and reliability to our customers. We are undertaking a whole suite of smart network research projects and trials – some on our own and some with technology partners – to see how best we can facilitate all of the new demands on the network at the least cost and while also enhancing service levels".

Marguerite Sayers, Minister of State Sean Kyne T.D and Claire Byrne, who were at the event.

ESB Sustainability Report 2017 - Connecting To Our Future

Marguerite Sayers, Minister of State Sean Kyne T.D and Claire Byrne, who were at the event.
2.4 ANTI-CORRUPTION

Anti-corruption

Good governance provides the foundation for long-term value creation and is a core focus for the ESB Board of Directors and in line with the UK Corporate Governance Code 2018 (the UK Code), their duties include responsibility for the long-term success of the Group, providing leadership and direction for the business as a whole, and supporting and challenging management to get the best outcomes for ESB and its stakeholders. ESB, in pursuit of its governance objectives, complies with the Code of Practice for the Governance of State Bodies 2016 (the State Code). ESB also complies on a voluntary basis, to the maximum extent possible, with the UK Code and with the Irish Corporate Governance Annex. In this way ESB adheres as closely as possible to listed company governance standards. The Department of Public Expenditure and Reform (DPER) issued a revised State Code in August 2016. In November 2017, DPER issued A Guide to the Implications for the Annual Financial Statements and the Annual Report in order to clarify the definition and location of certain additional disclosures. The 2016 State Code applies to ESB for the first time for the financial year to 31 December 2017. ESB has put in place the appropriate measures to comply with the State Code, which sets out the governance framework established by the Government for the internal management and the internal and external reporting relationships of State Bodies. ESB continuously reviews and updates its policies and procedures to ensure compliance with the State Code and a report on such compliance is made annually to the Audit and Risk Committees. The Board is satisfied that ESB has complied with the requirements of the State Code in fiscal year 2017. A report is issued annually to the Minister for Communications, Climate Action and Environment which confirms compliance with the requirements of the State Code. ESB has also adopted its own Code of Ethics, which sets out our approach to responsible and ethical business behaviour. The underlying principle of the Code of Ethics is that employees best serve ESB by adhering to the highest standards of integrity, loyalty, fairness and confidentiality and by meeting all legal and regulatory requirements. The Code of Ethics is reviewed annually by the Board and published on the ESB intranet. Group Internal Audit investigates any reported breaches and updates the Audit and Risk Committees. Full details on the governance frameworks practiced within ESB Group are available in ESB’s Annual report 2017.

ESB’s approach to enterprise risk management, including the risk of corruption and fraud, is detailed in the risk report section of the Annual Report 2017. The oversight and control of this process is exercised by the Board Audit and Risk Committees. Amongst the issues considered by the board subcommittees during 2017 were;

DUTY ACTIVITIES CARRIED OUT IN 2017

Compliance, Whistle-Blowing and Fraud
- Reviewed the adequacy and security of the arrangements for employees and contractors to raise concerns, in confidence, about possible wrongdoing in financial reporting or other matters
- Reviewed the procedures and policies for preventing and detecting fraud and were informed of any instances of fraud
- Reviewed the adequacy and security of the arrangements for raising concerns confidentially about possible wrongdoing in financial reporting or other matters
- Reviewed the controls and procedures in place to provide assurance of compliance with statutory obligations
- Reviewed the procedures and policies for preventing and detecting fraud and were informed of any instances of fraud
- Considered ESB Code of Ethics
- Approved the statement on the UK Modern Slavery Act
- Received an update on GDPR in advance of implementation in 2018

ESB complies with the State Code, which sets out the principles of corporate governance, which the Boards of State Bodies are required to observe. ESB also complies with the corporate governance guidelines and other obligations imposed by the Ethics in Public Office Act, 1995, the Standards in Public Office Act, 2001 and the Regulation of Lobbying Act, 2015.

ESB complies as far as possible and on a voluntary basis to the UK Code and the Irish Annex. The Board retains the overall responsibility for internal control and risk management. During 2017, the Board has directly and through the delegated authority to the Audit and Risk Committee, reviewed the effectiveness of the Group’s system of internal control covering financial, operational and compliance controls and risk management systems for 2017 and will ensure a similar review is performed in 2018.

ESB’s code of Ethics guides the behaviour of all employees in all their business dealings. On commencing work with ESB, all employees are inducted on ESB’s code of ethics and annually each employee is reminded to review the code, make any relevant disclosures and declarations to the company and reaffirm their commitment to abide by the code of Ethics.

There were no reported incidents of corruption or termination of contracts due to corruption for employees or contractors during 2017.

NOTES
3.1 Occupational Health and Safety Management
3.2 Training and Education
3.3 Diversity through People
3.4 Community Engagement
3.5 Public Safety
3.6 Customer Privacy
3.7 Risk Management Framework
3.8 Energy Utility Sector Specific Disclosures
3.1 OCCUPATIONAL HEALTH AND SAFETY

ESB’s Board, management and employees are committed to protecting the health and safety of employees, customers, contractors and the people it serves, their safety is always considered first in business actions and activities. ESB believes that all operational processes can be designed and operated in a safe manner. This belief guides its approach to safety across all business activities and is reinforced through strong and visible leadership throughout the Group. This belief is underpinned by ESB’s core values of being Courageous, Caring, Driven and Trusted.

SAFETY MANAGEMENT SYSTEM

The safety programme in 2017 continued to focus on the implementation of the Safety Leadership Strategy based on the four pillars of Leadership, Competence, Compliance and Engagement. Each business area models its annual health and safety programmes and annual safety improvement plans on these four pillars. Health, safety and wellbeing performance is managed through a key performance indicator process. ESB has formal agreements in place with trade unions covering all aspects of health and safety responsibilities of ESB and staff. All ESB staff are represented in formal joint management-worker health and safety committees that monitor, advise and respond to health and safety matters. This is underpinned by ESB’s Safety Health and Environmental Reporting system (SHIELD), which facilitates the reporting of incidents, near miss and good catch. A network of safety representatives and safety advisors on the ground act as both oversight and a point of contact for all concerns and grievances.

MANAGING HEALTH & SAFETY PERFORMANCE

Health, safety and wellbeing performance is managed through a key performance indicator process. The effectiveness of health and safety management systems is tested on a regular basis via a programme of both internal and independent external management system audits, the maintenance and improvement of a certified management system, oversight and a point of contact for all concerns and grievances.

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3.1 OCCUPATIONAL HEALTH AND SAFETY

At ESB, we are woven into the fabric of the communities we serve. We know these communities, and the people who are a part of them, so we care about their futures. We also care about ourselves and each other, keeping safety in mind, always. We want to look the next generation in the eye, knowing that we have done all we can to leave a positive legacy and build a Brighter Future for everyone.

Our approach to the management of safety and health governs all activities that are undertaken by employees and/or contractors on ESB Group premises or indeed where work is being undertaken on behalf of ESB Group companies.

ESB’s Board, management and employees are committed to protecting the health and safety of employees, customers, contractors and the people it serves, their safety is always considered first in business actions and activities. ESB believes that all operational processes can be designed and operated in a safe manner. This belief guides its approach to safety across all business activities and is reinforced through strong and visible leadership throughout the Group.

Risk Assessment is the basis for the identification and management of hazards that may occur during the course of work.

The Chief Executive has overall responsibility for the management of health, safety and wellbeing in ESB. The ESB Group Safety Statement, as approved by the Board, sets out the overall policy and general arrangements in ensuring the health, safety and wellbeing of all employees. Functional responsibility is shared with all senior management and, in turn, with each manager, supervisor, team leader and employee. The Health, Safety and Environment Committee supports the Board’s monitoring and governance of health, safety and wellbeing. ESB has formal agreements in place with trade unions covering all aspects of health and safety responsibilities of ESB and staff. All ESB staff are represented in formal joint management-worker health and safety committees that monitor, advise and respond to health and safety matters.

All ESB business units have safety management systems in place, many of which are certified to the OHSAS 18001:2007 standard or equivalent. ESB rigorously enforces safety policies and standards to achieve the ultimate target of everyone returning home safely from work each and every day.

With a focus on the implementation of the Safety Leadership Strategy based on the four pillars of Leadership, Competence, Compliance and Engagement, each business area models its annual health and safety programmes and annual safety improvement plans on these four pillars. Health, safety and wellbeing performance is managed through a key performance indicator process.

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Safety programmes are driven by our Safety Leadership Strategy based on the four pillars of Leadership, Competence, Compliance and Engagement. Each business area models its annual health and safety programmes and annual safety improvement plans on these four pillars. Health, safety and wellbeing performance is managed through a key performance indicator process. ESB has formal agreements in place with trade unions covering all aspects of health and safety responsibilities of ESB and staff. All ESB staff are represented in formal joint management-worker health and safety committees that monitor, advise and respond to health and safety matters. This is underpinned by ESB’s Safety Health and Environmental Reporting system (SHIELD), which facilitates the reporting of incidents, near miss and good catch. A network of safety representatives and safety advisors on the ground act as both oversight and a point of contact for all concerns and grievances.

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INJURY TYPES

Total different types of LTI’s

- Repeated strain
- Force injury
- Other injuries
- Noise
- Fall of persons
- Slips, trips or falls at the same level
- Impact or pressure
- Drowning
- Fire
- Other

Table: Types of Injuries Suffered by Slips, Trips & Falls

<table>
<thead>
<tr>
<th>Type of Injury</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slips, trips or falls at the same level</td>
<td>30%</td>
</tr>
<tr>
<td>Impact or pressure</td>
<td>20%</td>
</tr>
<tr>
<td>Drowning</td>
<td>10%</td>
</tr>
<tr>
<td>Fire</td>
<td>5%</td>
</tr>
<tr>
<td>Other</td>
<td>5%</td>
</tr>
<tr>
<td>Noise</td>
<td>10%</td>
</tr>
<tr>
<td>Fall of persons</td>
<td>10%</td>
</tr>
<tr>
<td>Drowning</td>
<td>5%</td>
</tr>
<tr>
<td>Impact or pressure</td>
<td>5%</td>
</tr>
</tbody>
</table>

INJURY CAUSES

The number of lost time injuries (LTIs) in 2017 was 63 (29 employee and 34 contractors compared to 72 in 2016 and 58 in 2015). The majority of these injuries were of low severity, ESB continues to focus on reducing risks in the business that give rise to injurious incidents. The most common causes of LTIs are slips and trips, handling, lifting and the use of tools and equipment. Reducing LTIs continues to be a key focus for the Group, Improvement plans, projects, training and auditing programmes, with a focus on injury prevention, are maintained. ESB does not report injuries by gender. ESB Group endeavours to report on injurious incidents and manage work hazard risk to group safety policies to better serve and demonstrate senior leadership commitment to safety and improve safety awareness and engagement.

ESB completed a pilot of a new programme designed to drive a renewed commitment to the elimination of all incidents and injuries in ESB. The Safety Culture Transformation Programme was initially implemented in the higher risk businesses of ESB Networks and Generation and Wholesale Markets (G&W/M). Because of its success, this programme will now be implemented across all of ESB. The implementation process will take over 2 years to cover all the high risk areas.

ESB continued to make progress in 2017 on improving its safety performance through delivery of key improvement projects in ESB Networks and G&W/M. In 2017, ESB closed all 18 aged projects while G&W/M closed 8 from 7 aged projects.

ESB simplified and harmonised its approach to group safety policies to better serve and support ESB in their compliance with relevant legislation.

In recognition of the diversity of employees and their wellbeing needs, ESB continued to provide a range of health and wellbeing programmes to employees. ESB also launched a new online health and wellbeing tool called POWR (Positive Occupational Wellbeing Resource). The main benefit to POWR is that it reaches out to a wider audience. By the end of 2017, there were over 1,000 staff registered on POWR. This is a great achievement and this will continue through 2018 with a target of having 2,000 registered users on POWR.

A consolidated safety and health law register and compliance tool has been implemented for all ESB businesses. Work has been completed on the establishment of eight centres of competence to maintain compliance with relevant legislation and introduce best practice where possible across the key business areas. These include; Road Safety, Electrical Safety, Safe Work at Height, Health and Wellbeing, Workplace Safety, Contractor Safety, Process Safety and Public Safety.

Public safety actions during 2017 focused on TV, radio and social media campaigns to raise public awareness of the dangers of fallen wires and underground cables for the general public, public, farming and construction sectors, and those involved in leisure activities with potential for accidental contact with electricity wires. These campaigns were repeated throughout the duration of Storm Ophelia. The existing farmer stakeholder arrangement with the Irish Farmers Journal was augmented with a partnership with the Construction Industry Federation (CIF).

EMPLOYEE HEALTH & WELLBEING

ESB is proactively focusing on prevention and keeping employees well by providing opportunities for them to lead healthier and more active lives. While it is recognised that stress may be an integral part of everyday life, the availability of active workplace resilience programmes are crucial to supporting employees in being psychologically strong enough to deal with these challenges while minimising the impact on their wellbeing. Some of the programmes and initiatives available to ESB employees during the year were:

- Seminars and workshops on mental health for teams, eating for energy, back care and financial management.
- Cardio-vascular screening which was offered to all employees.
- An Elevation Programme for the promotion of local proactive initiatives by ESB Health Champions.

The launch of an online occupational health Journal was augmented with a partnership with the Irish Farmers Journal on their wellbeing. Some of the programmes and initiatives are crucial to supporting employees in being psychologically strong enough to deal with these challenges while minimising the impact on their wellbeing. Some of the programmes and initiatives available to ESB employees during the year were:

- Seminars and workshops on mental health for teams, eating for energy, back care and financial management.
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KEY INITIATIVES AND PROGRAMMES IMPLEMENTED OR CONTINUED IN 2017

- All ESB business units have health and safety management systems in place, many of which are externally verified and certified to the International CHASAS 18001 standard or equivalent. In 2017, no major non-conformances were recorded by external 18001 audits at ESB.
- ESB is focused on embedding good catch reporting throughout the organisation. A good catch is when a person positively intervenes after seeing something unsafe. Good catches are a key element in helping ESB achieve world class performance. In 2017, the Good Catch target was exceeded. This is the second year in a row that the target was exceeded. This approach will continue in 2018 to drive less incidents and improve safety awareness and engagement.
- ESB extended the monthly senior manager safety conversations to the next level of management in 2017. These risk focused conversations are in place to demonstrate to employees senior leadership’s commitment to safety. In 2017, the target was not achieved, however there was an improvement on the 2016 performance from 60% to 74% against a target of 80%. This approach will continue in 2018 to demonstrate senior leadership commitment to safety and improve safety awareness and engagement.
- ESB completed a pilot of a new programme designed to drive a renewed commitment to the elimination of all incidents and injuries in ESB. The Safety Culture Transformation Programme was initially implemented in the higher risk businesses of ESB Networks and Generation and Wholesale Markets (G&W/M). Because of its success, this programme will now be implemented across all of ESB. The implementation process will take over 2 years to cover all the high risk areas.
- ESB continued to make progress in 2017 on improving its safety performance through delivery of key improvement projects in ESB Networks and G&W/M. In 2017, ESB closed all 18 aged projects while G&W/M closed 8 from 7 aged projects.
- ESB simplified and harmonised its approach to group safety policies to better serve and support ESB in their compliance with relevant legislation.
- In recognition of the diversity of employees and their wellbeing needs, ESB continued to provide a range of health and wellbeing programmes to employees. ESB also launched a new online health and wellbeing tool called POWR (Positive Occupational Wellbeing Resource). The main benefit to POWR is that it reaches out to a wider audience. By the end of 2017, there were over 1,000 staff registered on POWR. This is a great achievement and this will continue through 2018 with a target of having 2,000 registered users on POWR.
- ESB has formal agreements in place with trade unions covering all aspects of health and safety activities and responsibilities of ESB and employees (i.e. 100%). All ESB employees are represented in formal joint management-worker health and safety committee structures that monitor, advise and respond to health and safety matters. Safety Representatives are appointed to represent employees in any required discussions with management.
- ESB’s proactive programmes are focused on prevention and keeping employees well by providing opportunities for them to lead healthier and more active lives. While it is recognised that stress may be an integral part of everyday life, the availability of active workplace resilience programmes are crucial to supporting employees in being psychologically strong enough to deal with these challenges while minimising the impact on their wellbeing. Some of the programmes and initiatives available to ESB employees during the year were:
- Seminars and workshops on mental health for teams, eating for energy, back care and financial management.
- Cardio-vascular screening which was offered to all employees.
- An Elevation Programme for the promotion of local proactive initiatives by ESB Health Champions.

EMPLOYEE ASSISTANCE PROGRAMME (EAP)

EAP officers have provided support and information via their confidential service to more than 1,000 employees during the year.

PROACTIVE HEALTH PROGRAMME

ESB’s proactive programmes are focused on prevention and keeping employees well by providing opportunities for them to lead healthier and more active lives. While it is recognised that stress may be an integral part of everyday life, the availability of active workplace resilience programmes are crucial to supporting employees in being psychologically strong enough to deal with these challenges while minimising the impact on their wellbeing. Some of the programmes and initiatives available to ESB employees during the year were:

- Seminars and workshops on mental health for teams, eating for energy, back care and financial management.
- Cardio-vascular screening which was offered to all employees.
- An Elevation Programme for the promotion of local proactive initiatives by ESB Health Champions.
3.2 TRAINING AND EDUCATION

As we embark on our renewed ambition, ESB needs to ensure we have the skills needed to make this happen. The demographics of our workforce are such that over the coming 10 years we will lose 28% of our people to normal retirement. As a result of this we are currently in a period of renewal. In order to manage the transfer of knowledge, to ensure continuity in critical roles and to plan for future resources, ESB operates cohesive resource planning.

DELIVERY OF SKILLS DEVELOPMENT

There are a number of integrated human resource processes embedded in the organisation which ensures that ESB delivers its Strategy 2030.

RESOURCE PLANNING

Strategic resource planning in ESB is aligned to Strategy 2030 and financial budgets with the aim of defining future resource requirements. The process identifies the resource numbers, skills and capabilities necessary for the successful delivery of Strategy 2030. During the process any gaps between the current numbers and capability and future requirements are identified, and future-facing resourcing strategies are agreed and implemented.

EMPLOYEE AND MANAGER DEVELOPMENT

ESB is committed to the ongoing development of its employees and managers. Developing employee and managers capability is strategically important as ESB continues to meet the opportunities and challenges of operating in complex and different business environments. People are at the core of ESB’s Performance and Development Process is focused on building capability and a high performance culture, and provides a platform for the identification and delivery of targeted learning and development solutions. As part of our Employee Value Proposition we have developed a Career Hub for use by all employees across ESB. The Hub supports employees in identifying the skills and competencies needed across a range of functions and ensures that their career development aligns with the current and future business needs of the organisation.

KEY INITIATIVES IN 2017 INCLUDED:

- Continual evolution and improvement of the Management Development Framework.
- The Future Leaders programme, which equips managers to be capable and inspiring leaders, was rolled out across ESB.
- A new ESB Career Framework has been developed, underpinned by a new digital Career Hub.
- The Human Resource Management for Line Managers Programme, fully accredited by the Chartered Institute of Personnel and Development (CIPD) for 15 years, continues to be a highly successful manager development initiative.
- Programmes to empower Managers to engage and motivate employees in Strategy 2030 and newly articulated Values were delivered.
- ESB continues to support employees and managers with coaching, continual professional development (CPD), external accreditation and external programmes in business schools in Ireland and abroad.

GRADUATE AND APPRENTICE RECRUITMENT AND DEVELOPMENT

70 new recruits, from a variety of disciplines, began a graduate programme in 2017. The development programme includes a centrally managed induction event, work assignments, off-the job business specific training, personal skills development and mandatory training, supported by a mentoring relationship. ESB also recruited 60 new apprentices in 2017 as part of its strategic goal to add at least 300 apprentices to the Group between 2015 and 2020.

PROGRAMS FOR UPGRADING EMPLOYEE SKILLS AND TRANSITION ASSISTANCE PROGRAMS

ESB is committed to the ongoing development of its employees and managers. Developing employee and managers capability is strategically important as ESB continues to meet the opportunities and challenges of operating in complex and different business environments. People are at the core of Strategy 2030, and ESB is committed to providing opportunities for rewarding careers linked to the delivery of Strategy 2030. ESB’s Performance and Development Process is focused on building capability and a high performance culture, and provides a platform for the identification and delivery of targeted learning and development solutions.

PERFORMANCE AND CAREER DEVELOPMENT REVIEWS

All employees (100%) are part of an annual performance management process, goal setting and career development process, which is deployed across the business.

TIME TO COUNT

ESB, in common with many other Irish companies, need access to employees with strong science, technology, maths and literacy skills and all of these are based on getting young children off to the best possible educational start.

Following our successful involvement with Business in the Community Ireland’s national Time to Read programme, ESB committed to supporting BITCI to pilot a programme supporting numeracy called Time to Count. It provides a structured opportunity for business volunteers to provide support on numeracy skills to primary school children. Time to Count aims to support the Department of Education and Skills national strategy on literacy and numeracy.

- To build children’s confidence around numbers
- To foster children’s enjoyment of numbers
- To reinforce children’s conceptual understanding of numbers
- To support the development of children’s flexibility and perseverance in mathematical problem solving

The participating children were in 3rd class. Company volunteers spent 40 minutes every week with the children during the 10 week pilot. The sessions took place in the children’s normal classroom and used specially chosen numeracy games and materials which were only used in these sessions.

The participating children were in 3rd class. Company volunteers spent 40 minutes every week with the children during the 10 week pilot. The sessions took place in the children’s normal classroom and used specially chosen numeracy games and materials which were only used in these sessions.

Volunteers were trained to ensure that the programme had consistency and integrity, which are key factors in any programme involving children. There was a marked improvement observed by the teachers in achieving the stated aim’s and objectives of the programme.

Summarising, it would appear that schools saw the programme as a meaningful addition to their education offering with improvements in numeracy being observed. The companies saw it as a really effective employee volunteering programme. Volunteers felt they had imparted some level of mathematics knowledge and love, while feeling rewarded and satisfied that they made a difference in someone’s life.

THOUSANDS APPLY TO BE AN ESB NETWORKS APPRENTICE

The ESB Networks apprenticeship recruitment programme for 2017 was one of the most highly subscribed, with 5,650 applicants, up 70pc from 2016.

- 5,650 applicants overall
- 4x increase in female applicants
- 70pc increase in total applicants

Increase in female applications

This year ESB Networks are equally delighted to welcome a 400pc rise in the amount of women applying to be an ESB Networks Apprentice. This number has risen to 240 women applying in 2017 from 60 in 2016. Customer, Brand & Social Media Manager, Aisling Walsh, commented on the figures: “The 2017 recruitment campaign was slightly different from normal years as we embraced digital media in more ways to really grab the attention of school leavers and shout about how much opportunity an ESB Networks apprenticeship can offer.”
3.3 DIVERSITY THROUGH PEOPLE

EMPLOYEE ENGAGEMENT

ESB views employee engagement as a strategic imperative to inspire and motivate employees to be and give their best at work. ESB’s Employee Engagement Strategy focuses on these key areas: strategic narrative, integrity, employee voice and engaging managers, and these key initiatives were delivered in 2017:

- **Strategic narrative** – a programme to engage and connect employees with Strategy 2030 started its rollout.
- **Integrity** – ESB’s newly articulated core organisational Values of being caring, courageous, trusted and driven – were developed in consultation with employees, and are resonating strongly with people.
- **Employee voice** – This is extremely important in ESB, and through various channels, ESB employees have the opportunity to provide their opinions and engage in conversations. ESB’s new digital workplace, the Hub, together with a vibrant internal social network, has created a safe space for employees to share stories of great projects, initiatives, social activities and opinions openly. The annual Employee Survey gives every employee an opportunity to have an individual and collective voice, which helps to create a dynamic workplace that is stimulating and engaging.
- **Engage managers** – ESB’s managers play a central role in engaging and motivating employees and strategic programmes are being created to equip and empower Managers to do this effectively.

DIVERSITY AND EQUAL OPPORTUNITY

ESB’s firm commitment to working towards a more consciously inclusive workplace continues. Having a diverse and inclusive work environment plays an increasingly important part in ESB’s ability to attract, retain and develop key skills and talent. ESB’s diversity and inclusive policies are regularly reviewed, in line with legislation and best practice and aim to support a culture of inclusion, respect and dignity for the individual in the workplace and for the customers it serves.

We understand that the quality of our workplaces are key to a highly engaged workforce. Inclusion is critical to a positive work environment and a key enabler of diversity. Over the past two years we have been focussed on increasing employee awareness of inclusion by raising awareness of the different communities. Understanding that employees have different needs at different life stages has also been important to the inclusion conversation.

Key components delivered during 2017 included:

- **Proud winners of the Chartered Institute of Personnel and Development (CIPD) Excellence in Diversity Award for ESB’s inspiring and empowering Female Talent Programme**.
- **Continued roll-out and growth of Managing Successful Parenting Transitions Programme which aims to support all working parents and their line managers. Continued roll-out and growth of BeMe@ESB, ESB’s lesbian, gay, bisexual and transgender (LGBT+) Employees and Allies Employee Network.**
- **Continuing to exceed the 3% National Disability Authority (NDA) target of employment of employees with disabilities - 4%.**
- **Pioneering science, technology, engineering, art and maths (STEAM) career options for young females in partnership with Engineers Ireland and supported through internal and external awareness raising programmes and events.**
- **Celebrating diversity of cultures in the workplace with employees from over 35 different countries.**

ESB’s Code of Ethics

At ESB, all our board members and staff adhere to a code of ethics which outlines our approach to responsible business behaviour. The main premise of our Code is that everyone will strive to perform their duties in accordance with the highest standards of integrity, loyalty, fairness and confidentiality and that we will abide by all legal and regulatory requirements.

ESB’s code of Ethics encourages employees in the first instance to report any suspected ethical breach to their Line Manager, as one would with any other concern in the course of duties.

Alternatively, ESB has made available a Confidential Helpline/Web Facility which staff can use to report suspected wrongdoing. This Helpline operates 24 hours a day, 7 days a week. The Helpline offers a safe, confidential and, if necessary, anonymous process.

DIVERSITY THROUGH PEOPLE

<table>
<thead>
<tr>
<th>Year</th>
<th>Employees</th>
<th>Female</th>
<th>Management Level Female</th>
<th>Full Time</th>
<th>Employees with Disabilities</th>
<th>Average Number of Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>7,790</td>
<td>23%</td>
<td>21%</td>
<td>93%</td>
<td>4%</td>
<td>7,790</td>
</tr>
<tr>
<td>2016</td>
<td>7,597</td>
<td>22%</td>
<td>19%</td>
<td>94%</td>
<td>5%</td>
<td>7,597</td>
</tr>
</tbody>
</table>

ESB – PRIDE IN WHO WE ARE

One year on from the launch of BeMe@ESB, ESB’s LGBT+ & Allies Employee Network, members of the Network were joined by over 45 colleagues, allies, friends and family members to participate in 2017 Dublin Pride Parade. Dublin Pride Parade is without doubt the most visible of commitments from so many organisations to LGBT+ Inclusive workplaces.

Throughout May and June, a series of An Ally briefings took place in Head Office, Gateway, ESB Networks Clonmelway, ESB Networks Leopardstown Road and Electric Ireland. This programme is about raising awareness of the experiences and challenges that LGBT+ employees can face in workplace. Philip Kelly, Electric Ireland, is the facilitator of BeMe@ESB ‘I Am An Ally’ Training Programme. The power of the session is having the opportunity to hear from Philip and participants who share their personal journey and experiences in relation to LGBT+ inclusion in workplace, family and society.

Once again, as part of PRIDE week celebrations, the rebranded ESB’s logo and tagline: ESB – PRIDE In Who We Are – reflecting the PRIDE colours, was visible on both internal and external social media channels – website, Twitter, LinkedIn. This rebrand received really positive feedback from ESB staff members as well as from other organisations.

If you are interested in joining, or being an Ally, whether LGBT+ or not, simply email BeMe@esb.ie.

ESB INTERNATIONAL CHAMPIONING THE CAUSE OF WOMEN IN ENGINEERING

On 4-6 April 2017, ESB International hosted its 10th Women In Engineering Programme for Transition Year students. This proactive initiative is aimed at increasing the numbers of women in engineering, highlighting the opportunities that exist for females in a traditionally regarded as a male-dominated discipline. Students from schools across Dublin and beyond participated in the programme, and the Class of 2017 will bring the total numbers who have attended to over 200. Many of these attendees have gone on to study engineering at third level, while a number of those who took part in our first ever programme back in 2007 are now forging successful careers at ESB International.

The three-day programme gives prospective female engineers the opportunity to meet some of ESB International’s successful women in engineering – and hear about the opportunities they’ve had to work around the globe on a range of demanding international projects. They talk about the experiences that form the basis for their career choices that lead them to ESB International.

Speaking about the Programme, Operations Manager of ESB international, Jacinta Ryan, commented: “The Women In Engineering Programme is aimed at maximising the choices that young female students have in engineering. The Programme addresses the gender numbers in engineering, which is the cause of women in engineering”.

Jacinta Ryan, Operations Manager ESB International, and Joyce Farrell, HR Manager ESB International, with the group of this year’s Transition Year students from Women In Engineering Programme.
FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING

Approximately 60% of employees have elected to join a trade union and are directly covered by collective bargaining arrangements, reflecting ESB Group’s position of supporting freedom of association for all employees.

Under the obligations outlined in ESB’s 3rd Party Requirements, all contracting entities are required to allow their staff freedom of association. This is monitored as part of the Contractor Employment Standards (CES) audits which are undertaken across all major contracts each year. In essence 100% of contractor staff should have freedom of association, as long as their employer is abiding by the ESB’s 3rd Party Requirements.

ESB is committed to being a good neighbour and supporting the communities in which it operates. This is part of ESB’s commitment to ensure clear and lasting benefits in the communities which surround its wind farms. Through our Wind Farm Community Fund, ESB makes over €1.1 million available to groups close to wind farms across Republic of Ireland (ROI), Northern Ireland (NI) and Great Britain (GB). ESB is contributing to the development of essential infrastructure and services, and the creation of a brighter future for the residents of its neighbouring rural communities.

ESB engages in all locations where we have identified a potential for the development of an ESB owned or co-owned wind farm. A wind farm community fund manager is responsible for leading the engagement with local communities on the ground and working with those communities to identify suitable projects which can be supported by the wind farm community fund. All such projects are subject to comprehensive Environmental Impact Assessment as part of initial project development.

WIND FARM COMMUNITY FUND

At ESB, we have community funds for all of our operational wind farms across Ireland and the United Kingdom. This is part of our commitment to ensure clear and lasting benefits in the communities where we are present. These funds provide groups with the opportunity to develop and build upon existing local initiatives – large and small – in the following areas:

- Education and training;
- Health, safety and wellbeing;
- Environment and habitat conservation;
- Energy efficiency and sustainability;
- Culture and heritage;
- Recreation and social inclusion.

This is part of ESB’s commitment to ensure clear and lasting benefits in the communities which surround its wind farm locations across Ireland, Northern Ireland & UK, where projects or proposed projects are being developed, or where existing asset infrastructure is being upgraded, repaired or redesigned. As part of project development, each project, as part of an environmental impact assessment, will identify potential hazards and provide for their mitigation prior to commencement of the project works.

GIVING BACK AT RAHEENLEAGH

While Rahenleigh Wind Farm was being built, the project supported the Killarney and Ballymac Development Association in building a community centre. The community benefit fund of the wind farm also supported the local area in installing all-weather pitches at the nearby GAA club, which were officially opened recently by An Taoiseach Leo Varadkar TD and wind farm Project Director Peter O’Hagan.

Rahenleigh started commercial operation in September 2016 and is a joint venture between ESB and Collis. (See the ESB Hub for more details.)
3.5 PUBLIC SAFETY

The safety of the public in using our services is of huge importance to us. The key focus of our public safety programme concerns the risk management of people coming into contact with our network, plant and equipment. Our on-going network refurbishment programme continues to have a significant and beneficial impact on public safety. While ESB is not responsible for public safety beyond the customer’s meter, we deliver regular public safety campaigns to alert the general public to the potential dangers posed by electricity.

While ESB is not responsible for public safety beyond the customer’s meter, we deliver regular public safety campaigns to alert the general public to the potential dangers posed by electricity.

Public awareness around the dangers of coming into contact with live electricity are regularly promoted. With the increasing frequency of extreme weather events, data associated with fallen power lines in particular are emphasised. Other public safety programmes include: ESB rigorously address the risks arising from our generation activities, in particular head and tail races associated with hydro-electric power stations, as well as swimming in reservoirs. ESB’s plant and equipment is operated in line with international standards and regulation, including standards dealing with the risk of harm associated with electric and magnetic fields. Initiatives aimed at the “at risk” groups, including construction, farming and leisure.

Public safety programmes for children, including school visits. Public safety information circulated through the National Customer Contact Centre with safety bulletins and other content mailed in response to specific requests. Regular public safety campaigns to alert the potential dangers posed by electricity.

RAISING PUBLIC SAFETY AWARENESS

Through public safety awareness campaigns such as stay safe stay clear. Awareness is one of the key factors to ensure that the public and customers and users of electricity in general can keep safe by being aware of the potential dangers of electricity and how to avoid them.

The reach of the various public safety awareness campaigns are monitored via the various media channels to ensure an adequate level of public reach.

Public Safety awareness campaigns are run regularly to highlight particular safety issues that pertain to the time of year or the nature of particular events, such as storms.

Public safety programmes for children, including school visits. Public safety information circulated through the National Customer Contact Centre with safety bulletins and other content mailed in response to specific requests. Regular public safety campaigns to alert the potential dangers posed by electricity.

PROMOTING BACK TO SCHOOL ROAD SAFETY WITH THE RSA

For the seventh year running, the RSA and ESB Networks distributed free high-visibility vests to every child starting school in September. To date, this partnership has provided 800,000 children throughout the country with high-visibility vests. Schools can now register online for the RSA’s ‘Back to School’ road safety packs, which will be sent to primary schools nationwide over the coming months.

3.6 CUSTOMER PRIVACY

As a key public utility, ESB collects and processes large volumes of data about its customers, employees and a range of other business partners. Much of this data is considered to be data that identifies or concerns individuals, also known as Personal Data. ESB is subject to various legal requirements protecting the rights of data subjects. ESB regards the responsible handling of Personal Data as a key value in its customer-centric strategy, in addition to compliance with its legal obligations. ESB respects the rights and freedoms of our customers, employees and others who trust us with their Personal Data. Protecting the privacy and security of this information is a top priority for ESB.

The policy also applies to all information systems used by ESB, including all undertakings in which ESB has a controlling interest, wherever located and for whatever purpose used, and whether operated by ESB or by an outside processor on its behalf.

All suspected or actual personal data breaches must be immediately reported in accordance with ESB’s data breach management process, where they are subject to investigation and review in line with the governance structures of the organisation, including reporting to the Board Audit and Risk Committees.

SUBSTANTIATED COMPLAINTS CONCERNING BREACHES OF CUSTOMER PRIVACY AND LOSSES OF CUSTOMER DATA (419-1)

i. complaints received from outside parties and substantiated by the organization; ii. complaints from regulatory bodies. 3 ii. Total number of identified leaks, thefts, or losses of customer data;
The effective management of risks and opportunities supports the development of ESB’s strategy while protecting the interests of its stakeholders. ESB recognizes that its activities comprising of electricity generation, transmission, distribution and supply have environmental impacts and that it is its responsibility to manage these impacts in a manner that provides a high level of protection for our natural environment and contributes to the sustainable development of our economy.

ESB’s activities are undertaken in line with its environmental strategy, which provides a high level of protection for our natural environment.

The impact of I-SEM on the wholesale market design remains under review.

<table>
<thead>
<tr>
<th>DEVELOPMENTS IN 2017</th>
<th>IMPACT OF I-SEM ON THE WHOLESALE MARKET DESIGN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ongoing consideration of options for a Moneypoint power station in the Midland stations at Lough Ree and West Offaly.</td>
<td></td>
</tr>
<tr>
<td>Key regulatory directions issued by the Commission for Regulation of Utilities (CRU) in relation to the delivery of smart metering.</td>
<td></td>
</tr>
<tr>
<td>Discussion initiated by the Northern Ireland Utility Regulator regarding the harmonisation of the retail market.</td>
<td></td>
</tr>
<tr>
<td>The OiVMM team engaged in assessments to establish the DS3 services required to facilitate increased levels of renewables on the Republic of Ireland (RoI) and Northern Ireland (NI) networks and the appropriate contracting arrangements to deliver those services.</td>
<td></td>
</tr>
</tbody>
</table>

**RISKS & COMPLIANCE**

The markets in which ESB operates are subject to a high degree of regulatory and legislative intervention at both national and EU level. Changes can have a significant effect on the profitability of ESB’s assets. Any ongoing uncertainty on market structure and the regulatory and policy framework can make any ongoing ambiguity on market structure affect the profitability of ESB’s assets. Any changes to the legal and compliance framework can have a significant effect on the profitability of ESB’s assets. Any ongoing ambiguity on market structure can result in regulatory action, damage to reputation, financial costs (including fines) and adverse impact on operations.

**THE RISK MATERIALISATION:**

- Amended capital and operating cost plans to align with regulatory outcomes.
- Re-evaluate scale and scope of GB Supply Market Entry.
- Report regulatory non-compliance and implement actions to resolve any issues.
- Activate communications plans to deal with any issues that may arise.

**DEVELOPMENTS IN 2017**

- Continued to monitor compliance with legislative and regulatory obligations.
- Ongoing training provided to ESB and ESB subsidiary company directors.
- Activate communications plans to update key stakeholders.
- Review the adequacy of current policies and procedures.
- Roll-out additional awareness training if required.
- Review incidents and ensure actions identified are implemented.
- Share learning across the organisation.

**RISK MATERIALISATION:**

- Consideration of impact on a case-by-case basis.
- Activate communications plans to update key stakeholders.
- Review the adequacy of current policies and procedures.
- Roll-out additional awareness training if required.
- Review incidents and ensure actions identified are implemented.
- Share learning across the organisation.

**OPERATIONAL ENERGY CONSUMPTION**

<table>
<thead>
<tr>
<th>Thermal Generation (GWh)</th>
<th>2017</th>
<th>2016</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coal</td>
<td>13,091</td>
<td>12,607</td>
<td>13,104</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>31,581</td>
<td>18,809</td>
<td>19,079</td>
</tr>
<tr>
<td>Oil</td>
<td>300</td>
<td>553</td>
<td>637</td>
</tr>
<tr>
<td>Peat</td>
<td>4,253</td>
<td>4,629</td>
<td>4,876</td>
</tr>
<tr>
<td>Operational Primary Energy (equivalent in kWh)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>2016</td>
<td>Baseline,</td>
<td></td>
</tr>
<tr>
<td>Electricity</td>
<td>53,480,805</td>
<td>64,538,479</td>
<td>95,765,501</td>
</tr>
<tr>
<td>Thermal</td>
<td>4,988,783</td>
<td>2,827,693</td>
<td></td>
</tr>
<tr>
<td>Transport</td>
<td>56,146,927</td>
<td>54,148,236</td>
<td></td>
</tr>
</tbody>
</table>

**ECONOMIC PERFORMANCE**

**ENVIRONMENTAL TOPICS**

**APPENDICES**

**3.8 ENERGY UTILITY SECTOR SPECIFIC DISCLOSURES**

**INSTALLED CAPACITY, BY ENERGY SOURCE AND REGULATORY REGIME IN MW (EU1).**

<table>
<thead>
<tr>
<th>Fuel Source &amp; Year</th>
<th>Republic of Ireland</th>
<th>Northern Ireland</th>
<th>Great Britain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coal</td>
<td>2,025</td>
<td>402</td>
<td>1,231</td>
</tr>
<tr>
<td>Coal</td>
<td>2,025</td>
<td>402</td>
<td>1,231</td>
</tr>
<tr>
<td>Coal</td>
<td>865</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Coal</td>
<td>865</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Peat</td>
<td>228</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Peat</td>
<td>228</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>OiL</td>
<td>0</td>
<td>53</td>
<td>0</td>
</tr>
<tr>
<td>OiL</td>
<td>0</td>
<td>53</td>
<td>0</td>
</tr>
<tr>
<td>Wind</td>
<td>261</td>
<td>73</td>
<td>125</td>
</tr>
<tr>
<td>Wind</td>
<td>261</td>
<td>73</td>
<td>125</td>
</tr>
<tr>
<td>Hydro</td>
<td>293</td>
<td>100</td>
<td>125</td>
</tr>
<tr>
<td>Hydro</td>
<td>293</td>
<td>100</td>
<td>125</td>
</tr>
<tr>
<td>Solar</td>
<td>512</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Solar</td>
<td>512</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Solar</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Solar</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Note 1: Hydro included pumped storage capacity.

Note 2: ESB does not disclose its primary output by energy source and regulatory regime in MWh. Due to the nature of all island market structures, disclosure of this nature is deemed to be commercially sensitive to a level where it may provide competitors with significant commercial insights and advantage. Energy inputs to the thermal generation process are reported below, as is required by legislation in Ireland.
## EU3 NUMBER OF RESIDENTIAL, INDUSTRIAL INSTITUTIONAL CUSTOMERS

### Connections to the Network

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RESIDENTIAL, INDUSTRIAL &amp; INSTITUTIONAL CUSTOMERS (EU3)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Republic of Ireland</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential</td>
<td>2,057,339</td>
<td>2,057,339</td>
</tr>
<tr>
<td>Small Business</td>
<td>184,6211</td>
<td>184,747</td>
</tr>
<tr>
<td>Medium Business</td>
<td>92,074†</td>
<td>89,358</td>
</tr>
<tr>
<td>Large Energy User (distribution connected)</td>
<td>1779†</td>
<td>1,527</td>
</tr>
<tr>
<td>Transmission connected</td>
<td>19</td>
<td>28</td>
</tr>
<tr>
<td>Transmission connected with embedded generation</td>
<td>60</td>
<td>46</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Customer connections</td>
<td>870,000</td>
<td>860,000</td>
</tr>
<tr>
<td>Residential</td>
<td>92.66%</td>
<td>92%</td>
</tr>
<tr>
<td>Commercial &amp; Industrial</td>
<td>7.34%</td>
<td>8%</td>
</tr>
</tbody>
</table>

**DISCONNECTIONS (REPUBLIC OF IRELAND)**

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Disconnections</td>
<td>2,650</td>
<td>2,700</td>
</tr>
<tr>
<td>Disconnection Rate</td>
<td>24 per 10,000 customers</td>
<td>24 per 10,000 customers</td>
</tr>
<tr>
<td>Vacant Disconnections</td>
<td>36%</td>
<td>36%</td>
</tr>
<tr>
<td>Reconnection within 48 hours</td>
<td>100% of non-vacant</td>
<td>100% of non-vacant</td>
</tr>
</tbody>
</table>

**CUSTOMER MINUTES LOST**

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESB Networks</td>
<td>140.3</td>
<td>144</td>
</tr>
<tr>
<td>NE Networks</td>
<td>119</td>
<td>121†</td>
</tr>
</tbody>
</table>

**ACCESS TO ELECTRICITY SUPPLY**

<table>
<thead>
<tr>
<th></th>
<th>Republic of Ireland</th>
<th>Northern Ireland</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

**COMPLAINTS**

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESB Networks</td>
<td>2,933</td>
<td>2,761</td>
</tr>
<tr>
<td>NE Networks</td>
<td>3</td>
<td>0‡</td>
</tr>
<tr>
<td>Electric Ireland</td>
<td>1,948</td>
<td>1,948</td>
</tr>
</tbody>
</table>

Notes on Customer Disclosures;
1. Including embedded generation
2. Including embedded generation and unmetered public lighting
3. Including embedded generation
4. The average durations of interruptions (planned and fault) for all customers during 2017
5. Complaints classified as stage 2 by Customer Council NI
6. NE Networks CiML 2016 and Complaints restated following clarifications

## EU4 LENGTH OF ABOVE AND UNDERGROUND TRANSMISSION AND DISTRIBUTION LINES BY REGULATORY REGIME

<table>
<thead>
<tr>
<th></th>
<th>ESB Networks (Length in Kms)</th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Republic of Ireland</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distribution</td>
<td>98,679</td>
<td>98,298</td>
<td></td>
</tr>
<tr>
<td>LV - OHL</td>
<td>13,599</td>
<td>13,372</td>
<td></td>
</tr>
<tr>
<td>LV - Underground</td>
<td>37,398</td>
<td>37,465</td>
<td></td>
</tr>
<tr>
<td>10kV - Overhead</td>
<td>8,213</td>
<td>8,146</td>
<td></td>
</tr>
<tr>
<td>20kV - Overhead</td>
<td>45,968</td>
<td>45,730</td>
<td></td>
</tr>
<tr>
<td>38kV - Overhead</td>
<td>1,649</td>
<td>1,583</td>
<td></td>
</tr>
<tr>
<td>58kV - Overhead</td>
<td>5,753</td>
<td>5,751</td>
<td></td>
</tr>
<tr>
<td>110kV - Overhead</td>
<td>1,110</td>
<td>1,016</td>
<td></td>
</tr>
<tr>
<td>110kV - Underground</td>
<td>414</td>
<td>537</td>
<td></td>
</tr>
<tr>
<td>Northern Ireland</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NE Networks</td>
<td>2017</td>
<td>2016</td>
<td></td>
</tr>
<tr>
<td>Distribution</td>
<td>47,000 (34% underground)</td>
<td>47,000 (34% underground)</td>
<td></td>
</tr>
<tr>
<td>Transmission</td>
<td>2,200 (9% underground)</td>
<td>2,200 (9% underground)</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
* 2016 figures reflect update on decommissioned and retired cables

**Notes**

- Including embedded generation
- Including embedded generation and unmetered public lighting
- Including embedded generation
- The average durations of interruptions (planned and fault) for all customers during 2017
- Complaints classified as stage 2 by Customer Council NI
- NE Networks CiML 2016 and Complaints restated following clarifications
4.1 ENERGY MANAGEMENT

Energy Management and energy efficiency makes our economy more competitive, while helping to lower our greenhouse gas (GHG) emissions and maximising our economic competitiveness. Energy efficiency is the foundation of a sustainable economy and is at the heart of many of the efforts being undertaken across the ESB Group to address aspects of energy efficiency, be it from the network perspective, at customer end use or through the development of a new high efficiency generation plant.

ESB Group recognises the importance of being an exemplar and leveraging the connection we have with the communities where we work, to bring the energy efficiency discussion centre stage in the thoughts and actions of people at a domestic, community, industry and national level. ESB Group delivers energy efficiency programmes to new and existing energy customers via its retail businesses Electric Ireland and ESB Energy. These programmes enable customers to improve the energy performance of their homes and businesses to reduce both running costs and environmental impact. For the regulated network businesses, ESB Networks and ESB Networks, energy efficiency programmes on the network assets are subject to and part of regulatory price review work programmes, which are agreed at set time periods in conjunction with the respective energy regulators.

ENERGY EFFICIENCY PROGRAMME

In ESB Group, energy efficiency is identified as a strategic priority within the Brighter Future strategy. It is cascaded into business unit and business plans, factored into long-term asset planning, incorporated into our customer-facing energy services offers, included in our regulatory price review submissions, as part of the multifaceted approach across the breadth of the business. For employees, energy efficiency is brought to life through our focus on energy efficiency within our operations and how behavioural change can contribute to energy efficiencies in both building energy and vehicle fuel consumption.

As a commercial semi-state owned entity (95% state owned), ESB is committed to supporting and being exemplar in the delivery of Ireland’s 2020 public sector targets. Under this legislation, Irish public sector bodies and commercial semi-state bodies are required to deliver a 33% reduction in their Total Primary Energy Requirement by 2020. These strategies and actions are helping ESB deliver this obligation. As a commercial semi-state owned entity, ESB is committed to supporting and being exemplar in the delivery of Ireland’s 2020 public sector targets, as governed by regulation SI426/2014. Under this legislation, Irish public sector bodies and commercial semi-state bodies are required to deliver a 33% reduction in their Total Primary Energy Requirement by 2020.

TABLE: ENERGY CONSUMPTION WITHIN THE ORGANISATION GRI 302-1

<table>
<thead>
<tr>
<th>Thermal Generation (GWh)</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coal</td>
<td>10,091</td>
<td>12,807</td>
<td></td>
</tr>
<tr>
<td>Natural Gas</td>
<td>21,981</td>
<td>18,839</td>
<td></td>
</tr>
<tr>
<td>Oil</td>
<td>300</td>
<td>553</td>
<td></td>
</tr>
<tr>
<td>Peat</td>
<td>4,253</td>
<td>6,629</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Operational (Primary Energy equivalent in kWH)</th>
<th>2017</th>
<th>2016</th>
<th>Baseline¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>53,449,805</td>
<td>64,530,479</td>
<td>96,785,391</td>
</tr>
<tr>
<td>Thermal</td>
<td>4,986,783</td>
<td>2,827,693</td>
<td></td>
</tr>
<tr>
<td>Transport</td>
<td>56,146,927</td>
<td>54,148,236</td>
<td></td>
</tr>
</tbody>
</table>

Energy Performance Indicator (EPI)

<table>
<thead>
<tr>
<th>EPI</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPI of Total Energy (kWh/2018)</td>
<td>20,852,01</td>
<td>22,692</td>
</tr>
<tr>
<td>EPI of Total Energy (kWh/2019)</td>
<td>20,852,01</td>
<td>22,692</td>
</tr>
<tr>
<td>EPI of Total Energy (kWh/2019)</td>
<td>30,414</td>
<td></td>
</tr>
</tbody>
</table>

Table Notes and Clarifications:

1. Baseline 2008 for Operational energy consumption (excluding generation)
2. Energy by fuel source (generation) in GWh current year and comparison years.
3. Operational Energy (disclosed as Primary Energy Equivalent) in kWh for electrical and thermal energy for buildings and transport fuel.

Energy Performance Indicator metric kWh/FTE current year, comparison year and baseline year.

Delta and SEAI conversion factors are utilised to calculate energy consumption.

"The adoption of electric heat pumps and electric vehicle charging points by Durkan Residential is a reflection of the awareness we are building around the positive contribution that electrification of heat and transport can make to delivering a better quality of life for all. Our ambition at ESB is that by 2020 all developers will have embraced this approach and that consequently all new homes will be All Electric," said Brian Montayne who heads ESB’s retail division.

REDDUCTION OF OPERATIONAL ENERGY CONSUMPTION (302-4)

Operational energy reduction has delivered a 31.6% improvement against the baseline performance to end of 2017. Performance is in line with regulation SI426/2014, with ESB Group committed to delivering on the 33% improvement target by end 2020.

REDUCTIONS IN ENERGY REQUIREMENTS OF PRODUCTS AND SERVICES (302-5)

The Irish Government has enlisted the assistance of ESB to deliver a 20% Energy saving by 2020 and has introduced an Energy Efficiency Obligation scheme (EEOS).

The Energy Efficiency Incentive, first introduced in 2014, is designed to incentivise customers to install energy efficiency measures to SEAI standards by giving them a credit on their energy bill. This incentive, along with SEAI’s grants make it even more cost effective for home owners to install energy efficiency measures.

During 2017 projects delivering 40GWh of Primary Energy Equivalent (PEE) savings were delivered to the residential sector.

Smart Energy Services, established to help large energy users (such as industrial and commercial) to reduce their energy costs through energy management and efficiency projects, delivered additional 154GWh PEE in energy savings to the non-residential sector.

ESB Smart Energy Services is a customer services business that endeavours to grow its energy services offerings and customer base in Ireland and the UK. On-site generation by large energy users is a rapidly growing market and one where ESB Smart Energy Services intends to become a leading player in Ireland and the UK.

THE ALL-ELECTRIC PASSIVE HOME – NO LONGER A DISTANT DREAM!

FEATURES OF THIS ALL-ELECTRIC HOME INCLUDE:

• An electric heat pump, providing all the heat and hot water needed.
• All homes pre-wired for an exterior electric vehicle charging point.
• A dual tariff meter promoting the use of off-peak night electricity with an exclusive offer of Smarter Pay as You Go with free night rate electricity for those home buyers choosing Electric Ireland as their energy provider.
• Structural future proofing, which will facilitate installation of Solar PV in the future. As the costs of Solar PV and battery storage continue to fall, these houses will allow homeowners to become ‘prosumers’ (producers and consumers) of energy in the near future.
4.2 BIODIVERSITY

MANAGING OPERATIONAL IMPACTS ON BIODIVERSITY
Managing work that has the potential to impact on biodiversity is a key aspect of ESB Group’s approach to environmental management. ESB’s Environmental Management Systems’ structure provides the mechanism by which the necessary local statutory authorisations, operational procedures and improvement measures and programmes are developed and maintained. All proposed structural developments are screened at an early stage of planning to determine whether a Nature Impact and/or Environmental Impact Assessment are required. Biodiversity impacts are considered in all areas where existing assets or new assets are planned within close proximity to special areas of conservation, as set out by The Birds and Habitats Directives. In such cases the directives stipulate the procedures and obligations in relation to nature conservation management in member states in general for such areas. Correspondingly, specific work instructions and methods exist to ensure the conservation of biodiversity during and following such works.

THE MANAGEMENT APPROACH AND ITS COMPONENTS 103-2

The Natura 2000 network in the Republic of Ireland is made up of sites, which include Special Areas of Conservation (SAC), Special Protection Areas (SPA), candidate Special Areas of Conservation (cSAC) and proposed Special Protection Areas (gSPA). A number of initiatives have been developed to address biodiversity, including incorporating biodiversity aspects into existing environmental management systems, adopting biodiversity guidelines for HV substations, biodiversity action plans, the preparation of Networks job sites addressing design work in close proximity to Natura 2000 sites and National Monuments and the preparation, with EirGrid (Transmission System Operator), of draft ecology guidelines for electricity power lines. If a project or plan (either new development or works to existing structures) is located within or adjacent to a Natura 2000 site, then screening for Appropriate Assessment is mandatory. No works within a Natura 2000 site, no matter how small the scale, should proceed without being screened for Appropriate Assessment first. NIE Networks has around 3,500 kilometres of 11kV (or below) overhead line in natural/heritage protected sites. These are all mapped on its systems. NIE Networks mapping tools have been extended to include historic environment sites.

The company has a duty to protect all designated areas in the course of its day to day operations and has a management process in place as part of its Environmental Management System to enforce this. As set out in ESB’s Group Policy Statement on Environmental Management and Sustainability, ESB recognises that its activities comprising electricity generation, transmission, distribution and supply have environmental impacts and that it is its responsibility to manage these in a way that provides a high level of protection for our natural environment and contributes to the sustainable development of our economy.

EVALUATING THE EFFECTIVENESS OF THE MANAGEMENT OF BIODIVERSITY

The estimated extent of ESB Group assets within designated sites in Republic of Ireland and Northern Ireland is set out in the table below. Examples of these types of site include Areas of Outstanding Natural Beauty (AONB), Areas of Special Scientific Interest (ASSI), Special Protection Areas (SPA) and Special Areas of Conservation (SAC). The company prepares a biodiversity action plan to mitigate impacts on habitats and species affected by its operations. ESB has incorporated biodiversity requirements into the Environmental Management Systems for all ESB businesses.

OPERATIONAL SITES OWNED, LEASED, MANAGED IN, OR ADJACENT TO, PROTECTED AREAS AND AREAS OF HIGH BIODIVERSITY VALUE OUTSIDE PROTECTED AREAS 304-1

<table>
<thead>
<tr>
<th>Republic of Ireland (Assets inside SAC, SPA, NHA, PNHA Areas)</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lf Stations (Nm)</td>
<td>2907</td>
<td>287</td>
</tr>
<tr>
<td>38kV to 400kV CHL (m)</td>
<td>12,330</td>
<td>12,687</td>
</tr>
<tr>
<td>38kV to 400kV Cabla (m)</td>
<td>1,519</td>
<td>1,591</td>
</tr>
<tr>
<td>Northern Ireland (Assets inside SAC, SPA, NHA, PNHA Areas)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11kV or below (km)</td>
<td>3,500</td>
<td>3,500</td>
</tr>
</tbody>
</table>

Notes: 1. Includes addition of lands owned by Hydro stations and 10kV and 33kV substations.

SIGNIFICANT IMPACTS OF ACTIVITIES, PRODUCTS, AND SERVICES ON BIODIVERSITY 304-2

No works within a Natura 2000 site, no matter how small the scale, should proceed without being screened for Appropriate Assessment first. When determining a proximity to a Natura 2000 site, special consideration should be given to watercourse linkages that may have the potential to be impacted by a project as any impact visited upon the watercourse can be transported downstream to another location. All proposed structural developments will be screened at an early stage of planning to determine whether a Nature Impact and/or Environmental Impact Assessment are required. The company has a duty to protect all designated areas in the course of its day to day operations and has a management process in place as part of its Environmental Management System to enforce this. Designation of protected areas takes place in accordance with European and NI legislation and once it is confirmed by Northern Ireland Environment Agency (NIEA).

IUCN RED LIST SPECIES AND NATIONAL CONSERVATION LIST SPECIES WITH HABITATS IN AREAS AFFECTED BY OPERATIONS 304-4

Where an IUCN Red list species or species of national conservation concern is identified as being impacted by a project at assessment stage e.g. ecological impact assessment, environmental impact assessment or Appropriate Assessment under the Habitats Directive, appropriate mitigation measures are put in place to avoid or reduce significant impacts.

4.3 EMISSIONS

EMISSIONS COMMITMENT

ESB is committed to delivering carbon-neutral electricity in Europe by 2050, and to ensuring a consistently priced, reliable electricity supply throughout the integrated European energy market. We believe that it is essential that EU climate policy supports competitiveness by promoting reductions of greenhouse gas emissions in a cost-effective manner through the use of the EU Emissions Trading Scheme (ETS) market mechanism. ESB supports a strong EU ETS system as the best way to provide affordable, reliable and sustainable electricity to the EU economy.

Under our corporate Brighter Future strategy, ESB Group aspires to lead the transition to a low carbon society. All aspects of our operational emissions play a part in that aspiration, with emissions from generation being the key focus.

Electricity is a clean energy vector. Users do not emit any carbon when they consume electricity, while carbon emissions at the point of generation are capped and are progressively being reduced under the EU ETS. In its ability and commitment to become carbon neutral by 2050, the electricity industry can lead the drive to decarbonise Europe.

REDUCING EMISSIONS

Our aim is to deliver a balanced low carbon generation portfolio with an increasing proportion of the capacity accounted for by renewables such as on and offshore wind, solar PV and biomass. The strategy envisages growth in the UK and asset renewal in Ireland. ESB is also actively participating in the commercialisation of other forms of renewable energy generation such as wave energy.

ESB’s thermal generation portfolio operates within the confines of the EU Emissions Trading Scheme (ETS) and Scope 1 generation emissions are subject to an operating licence, external verification and reporting to the relevant competent authority, which is dependant on the jurisdiction that the pants operates in. The relevant competent authorities are the Environmental Protection Agency (EPA), Northern Ireland Environment Agency (NIEA) and the Environmental Agency for England and Wales (EA).

ESB no longer has carbon allowances under the EU ETS scheme. Once final verification of emissions is confirmed by the competent authorities, ESB is required to procure the carbon credits to account for carbon emitted.

In terms of the management of any emissions related complaints, each business unit operates an independent Environmental Management System (EMS), which is certified to ISO 14001 and subject bespoke verification auditing. A management process is established within each EMS to manage the organisation’s response to complaints of an environmental nature.

EMISSIONS BASELINES

The baseline year chosen for reporting of the CO2 emissions is 2005, the year when the formal reporting for the EU Emission Trading Scheme (ETS) started. Each installation operates in accordance with a greenhouse gas permit which authorises the site to emit greenhouse gases (CO2). This permit is issued by the competent authority once they are satisfied that an operator can comply with the legislation and is capable of monitoring and reporting of the emissions. The monitoring and reporting of the CO2 is carried out in accordance with the EU Commission regulation 860/2012 and is verified by an accredited external verifier, which must also comply with Commission Regulation 600/2012. The methodology used for determining the CO2 emissions is based on a calculation approach which primarily uses fuel usage and fuel analysis. The source of the emissions factors is derived from Ireland’s Specific Emission Factors or back calculated from the CO2 calculation.

SCOPe 1 GHG EMISSIONS GRI 305-1

Direct (Scope 1) GHG emissions Emissions are reported on an equity share basis for thermal assets. All thermal assets operate under licence and all their emissions are subject to measurement and independent external verification. No biogenic: CO2 is reported for 2017, as Tilbury Port 40MW waste wood biomass plant had yet to enter commercial operation.

SCOPe 2 GHG EMISSIONS 305-2

No significant changes in emissions recalculations for 2017.
4.3 EMISSIONS

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ireland</td>
<td>7,070,714,000</td>
<td>8,325,843</td>
<td>14,630,000</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>971,196</td>
<td>910,852</td>
<td></td>
</tr>
<tr>
<td>Britain</td>
<td>1,724,095</td>
<td>1,001,761</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GHS Emissions Scope 1, 2 &amp; 3 (tonnes CO₂-e)</th>
<th>2017</th>
<th>2016</th>
<th>Baseline (2006)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premises Energy</td>
<td>983</td>
<td>579</td>
<td></td>
</tr>
<tr>
<td>Vehicle Transport</td>
<td>17,265</td>
<td>16,578</td>
<td></td>
</tr>
<tr>
<td>Scope 1</td>
<td>23,905</td>
<td>3,301</td>
<td></td>
</tr>
<tr>
<td>Premises Energy</td>
<td>12,888</td>
<td>14,178</td>
<td></td>
</tr>
<tr>
<td>Scope 2</td>
<td>875</td>
<td>838</td>
<td></td>
</tr>
<tr>
<td>Premises Energy</td>
<td>5,132</td>
<td>5,326</td>
<td></td>
</tr>
<tr>
<td>Vehicle Transport</td>
<td>4,189</td>
<td>802</td>
<td></td>
</tr>
</tbody>
</table>

Total GHS emissions (tonnes CO₂-e) | 9,830,912 | 10,279,335 |

Other Emissions (tonnes)b | 2017 | 2016 | Baseline (2006) |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx</td>
<td>6,050</td>
<td>6,274</td>
<td>21,585</td>
</tr>
<tr>
<td>SOx</td>
<td>2,621</td>
<td>2,767</td>
<td>25,400</td>
</tr>
<tr>
<td>Dust</td>
<td>219</td>
<td>233</td>
<td>1,127</td>
</tr>
</tbody>
</table>

Carbon Intensity from Generation | 538g CO₂-e/kWh | 580g CO₂-e/kWh | 670g CO₂-e/kWh (2006) |

Notes on Emissions
1. Carrington BH4MV CCGT, near Manchester, entered commercial operations during 2016, increasing overall generation capacity.
2. Data incomplete, only reflects partial reporting from business areas, due to unavailability of data at time of reporting.
3. Data includes NE Networks business unit premises, fleet, staff travel and SF6.
4. All Generating emissions are subject to verification under EU ETS and are reported to national environmental agencies annually.
5. Figures for 2016 and 2017 under 'Other Emissions' are restated due to a reporting error in the 2016 report, where multiples of thousands were misreported.
6. Emissions table addresses GRI Standards 305-1, 305-2, 305-3, 305-4, 305-5, 305-6, 305-7

GENERATION & WHOLESALE MARKETS: GENERATING A BRIGHTER FUTURE

BACKGROUND/THE CHALLENGE
Generation and Wholesale Markets (G&WM) focuses on building energy-generating assets, generating electricity from a range of fuel sources (wind, hydro, coal, peat, gas and solar) and trading the output to suppliers in Ireland and Great Britain.

Through ESB’s Brighter Future strategy, G&WM is charged with transforming itself from using predominantly fossil fuel to 50% renewables and more than halving its carbon intensity by 2030. At the same time, the team needs to continue providing system services which support Ireland and Britain in delivering on the national carbon reduction targets.

HOW HAS G&WM BEEN WORKING TOWARDS THESE TARGETS DURING 2017?
With that long-term challenge firmly in mind, we’ve continued to implement the strategy of delivering a balanced portfolio of thermal and renewable generation in the all-islands market.

Why focus on both thermal and renewable as we pursue a low-carbon future? Simply put, we need some highly-efficient and responsive thermal generation to provide a secure supply both to support ambitious national renewables growth and also to be there on those days when the sun doesn’t shine or the wind doesn’t blow. So – what follows outlines our progress in both areas during 2017.

INVESTING IN OUR EXISTING ASSETS
We continued to make significant investments (to the value of €55 million) in our existing generation portfolio, with overhauls in Aragla, Lough Ree, Turlough Hill and Dublin Bay stations. We also completed a refurbishment programme across our entire group of hydro stations – the original green energy generation.

NEW THERMAL OPPORTUNITIES
We also continued to develop options for flexible gas engine plants at Carrington, near Manchester, as well as developing a potential combined cycle gas turbine plant at Knottingley in Yorkshire.

ACCELERATING OUR RENEWABLES INVESTMENT
Meanwhile, we also focused on accelerating our investment in renewable energy to help reduce the carbon intensity of our portfolio, supporting the transition to a reliable, secure and affordable low-carbon future.

Because diversity of energy sources is key to security of supply, we spread our efforts across a range of renewable opportunities during 2017, including:

ONSHORE WIND
We increased our renewable portfolio by 95MW, with four wind farms starting commercial operation: Crooklitter (12.5MW) and Flahertys (15MW), both in N, plus Moneypoint (17MW) and Garebay (52MW) in ROI.

These wind farms were all built as part of an innovative framework approach to help accelerate the expansion of our wind portfolio. As part of that same framework, our wind team continued construction on Castlepook Wind Farm, a 36MW joint venture with Coillte and they started construction on a 115MW wind farm in Grousemount, Co Kerry, as well as developing a site at Oweninny as a joint venture with Bord Na Mona (Phase 1: 43.5MW), with construction expected to start in early 2018.

We also continued development of up to 700 MW of wind generation in Scotland, in conjunction with Centrica and with REG Holdings.

OFFSHORE WIND
We progressed early-stage development and due-diligence work carried out on various offshore opportunities off the coast of ROI, NI and GB.

ENERGY FROM WASTE
We completed construction on a 40MW waste wood to energy plant at Tilbury in London, which is also scheduled to go into commercial operation from early 2018. We also continued development work on a pipeline of potential energy-from-waste facilities in GB.

SOLAR
Our focus on solar also continued, with a number of potential projects progressing with our partners Terra Solar. We also saw the start of joint ventures with Bord na Mona (for up to 600MW of solar development in the Midlands) and Kingspan (Solar in N).

WHAT’S NEXT?
At the end of 2017, our renewables portfolio stood at 780MW – which puts us well on our way to rebalancing our portfolio and delivering substantial reductions in our carbon intensity. Over the coming months and years, we will continue to focus on growing our renewables portfolio. We look forward to our first step into offshore wind and we will continue to develop flexible assets and grow our ability to support national ambition by delivering a greater range of systems services to enable the transition to a low-carbon future.
INTEL GOES 100% RENEWABLE TO POWER 360-ACRE LEIXLIP CAMPUS

Intel has a long relationship with ESB ever since it first opened its Leixlip campus in 1989. Since 1 Jan 2016 Intel is now powered by 100% indigenous renewable electricity.

Ireland is the first major Intel location outside of the US to have bought 100% independently certified renewable electricity. This forms part of Intel Ireland’s multi-faceted approach to reduce its impact on the environment and to reinforce its commitment as a global energy sustainability champion.

Speaking at an announcement, ESB Chief Executive, Pat O’Doherty commented that: “The Electric Ireland agreement with Intel is an example of how we seek to place our customer at the centre of this low-carbon future, powered by clean reliable and affordable electricity”, Intel is the largest consumer of electricity in Ireland and now it is also the largest voluntary private purchaser of indigenous renewable energy in Ireland.

TESCO-ESB PARTNERSHIP WINS GREEN RETAILER OF THE YEAR

By Ronan Geoghegan, Customer Solutions Manager, ESB Smart Energy Services.

As part of Smart Energy Services (SES) partnership with Tesco, ESB entered the Green Awards a few months ago and were successful in claiming the Green Retailer of the Year category on 21st February. Based on the partnership with ESB, Tesco was also nominated in the Green Large Organisation of the Year. To get confirmed or otherwise directly by the organization or otherwise directly confirmed.

Attended at the awards from Tesco and ESB. Back Row L to R: James Todd (ESB SES), Andrew Carey (Tesco) and Gerard Keenaghan (ESB SES). Front Row L to R: Ronan Geoghegan (ESB SES), Patrick Duffy (Tesco), Denis O’Leary (ESB Manager of Smart Energy Technologies) and Dave O’Shea (ESB Innovation marketing).

In line with our overall focus of being a responsible corporate citizen, there has been a concerted effort to minimise the impacts from our operations, including waste. The focus on the area of waste management has led to improved segregation, handling of hazardous waste streams and higher levels of reuse and recycling, including the identification of new streams of reuse for waste products. Staff commitment and involvement in appropriate segregation, waste reduction and improved reuse is central to our improving waste management performance. Framework contracts with key waste services providers have also increased our level of oversight and assurance of proper and legally compliant disposal methods being employed by waste contractors and ensuring the maximum possible levels of waste are diverted from landfill and that all waste streams are handled appropriately.

4.4 EFFLUENTS AND WASTE

<table>
<thead>
<tr>
<th>Waste Type</th>
<th>ESB Networks</th>
<th>NIE</th>
<th>GAWM (ROI)</th>
<th>GAWM (GB) (NI)</th>
<th>Electric Ireland</th>
<th>BSC</th>
<th>ESBI TOTAL 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Hazardous (tonnes)</td>
<td>9,686</td>
<td>2,086</td>
<td>1,296</td>
<td>1,502</td>
<td>37</td>
<td>225</td>
<td>76</td>
</tr>
<tr>
<td>Hazardous (tonnes)</td>
<td>1,256</td>
<td>1,345</td>
<td>613</td>
<td>117</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Total (tonnes 2017)</td>
<td>6,224</td>
<td>3,431</td>
<td>1,910</td>
<td>1,619</td>
<td>37</td>
<td>227</td>
<td>77</td>
</tr>
</tbody>
</table>

Notes to Waste Disposal data provided;
1. Zero waste reported for the following categories (Recovery, including energy recovery, incineration (mass burn), deep well injection, on-site storage, organisational defaults of waste disposal contract).
2. Information provided by the waste disposal contractor for the purposes of collating waste volumes and categories
3. All hazardous waste as identified in the table above is handled and managed by approved and licensed hazardous waste management contractors, including all transport of hazardous waste materials.

ANNUAL ASH TOTALS GENERATION & WHOLESALE MARKETS

Emissions abatement technology to reduce greenhouse gas emissions and support efforts to ensure compliance with the EU Industrial Emissions Directive, from Moneypoint coal-fired generating station has been installed. The abatement technology includes flue gas desulphurisation (FGD) equipment to reduce sulphurous oxide (SOx) emissions and selective catalytic reduction (SCR) equipment to reduce nitrogen oxides (NOx) emissions. The FGD and SCR equipment is installed individually on each of the three generating units at Moneypoint, with the further addition of common plant to serve all three units. A FGD by-product is produced through the abatement process.

<table>
<thead>
<tr>
<th>Station</th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moneypoint</td>
<td>40,019</td>
<td>157,118</td>
</tr>
<tr>
<td>Lough Rea</td>
<td>57,819</td>
<td>32,178</td>
</tr>
<tr>
<td>West Offaly</td>
<td>48,566</td>
<td>45,979</td>
</tr>
<tr>
<td>Total Ash</td>
<td>114,404</td>
<td>236,275</td>
</tr>
<tr>
<td>FGD By Product</td>
<td>71,004</td>
<td>108,161</td>
</tr>
</tbody>
</table>

All hazardous waste as identified in the table above is handled and managed by approved and licensed hazardous waste management contractors, including all transport of hazardous waste materials.

There were no significant spills reported during 2017. (GRI 306-3).
4.5 ENVIRONMENTAL COMPLIANCE

ESB is committed to the highest standards of environmental management and to proactively addressing the challenges of climate change. We implement programmes across our operations to promote energy and resource efficiency, and develop new environmentally driven product and process innovation and new business opportunities. We believe that continued sustainable business success is built on maintaining excellent relationships with all stakeholders. As a major Irish utility with significant presence in the all-island (Republic of Ireland and Northern Ireland) market, and a growing presence in the Great Britain energy market, ESB is focused on maintaining the highest levels of environmental management and sustainability in all aspects of its operations in order to minimise environmental impacts and enhance the reputation of ESB as an exemplar organisation.

ENVIRONMENTAL MANAGEMENT
Our Environmental Policy to environmental risk and ensuring our operational businesses operate in line with ISO14001 practices, puts the precautionary principle at the heart of our approach to managing and mitigating our potential impacts.

ESB recognises that our activities comprising of electricity generation, distribution and supply have environmental impacts and that it is our responsibility to manage these impacts in a manner that provides a high level of protection for our natural environment and contributes to the sustainable development of our economy. Responsibility for environmental management in ESB proceeds from the Board through the Chief Executive, to all senior management and in turn to each manager, supervisor, team leader and member of staff.

The Board Health Safety and Environment Committee are responsible for oversight of company strategy, policy and compliance in health, safety and environmental matters and for advising the Board on health, safety and environmental matters. The Executive Director Team (EDT) are ultimately responsible for embedding sustainability and the implementation of effective environmental management within their areas of responsibility. ESB Group requires robust and responsive methods for handling any grievances that may arise from the general public or any other societal stakeholder, be they general complaints or complaints of an environmental nature.

ENVIRONMENTAL COMPLAINTS
ESB’s website (www.esb.ie), sets out a variety of channels for reporting directly to the main customer facing businesses in the ESB Group; to ESB Networks and Electric Ireland, as does NIE Networks website (www.nienetworks.co.uk). The process for each of these public facing business units is underpinned by a customer charter and code of practice, a complaints handling procedure, all with clear performance expectations stated publicly, as well as a regulatory obligation to report in certain circumstances:

- ESB NETWORKS LTD
ESB Network has a customer charter outlining 12 customer distribution service guarantees. A National Customer Care Centre also acts as a first point of contact.

- NIE NETWORKS
NIE aims to provide a first-class service and value for money to all its customers. Its customer charter, code of practice and customer care helpline are accessible via the company website.

- ELECTRIC IRELAND
Electric Ireland is committed to offering a quality service. Their service commitment is to treat all customers with courtesy and respect, to try and clearly understand customer needs and to act as quickly as possible. Electric Ireland’s service standards are based on five Customer Codes: The Code of Practice on Customer Billing and Disconnection, The Code of Practice on Vulnerable Customers, The Complaints Handling Code of Practice, The Code of Practice on Marketing and Sign Up, and The Code of Practice on Pay As You Go Metering.

Other avenues to register complaints are environmental complaints include: Reporting to local authorities and the Environmental Protection Agency for IPPC licensed generating stations.

ENVIRONMENTAL PERFORMANCE

<table>
<thead>
<tr>
<th>Category</th>
<th>2017</th>
<th>2016</th>
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<tbody>
<tr>
<td>Environmental Prosecutions</td>
<td>1</td>
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<tr>
<td>Enforcement Notices</td>
<td>0</td>
<td>0</td>
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<td>Environmental Complaints</td>
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<tr>
<td>- ESB Networks</td>
<td>8</td>
<td>14</td>
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<td>- NIE Networks</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>- G&amp;WM</td>
<td>27</td>
<td>5</td>
</tr>
</tbody>
</table>

Notes: 1. Moneypoint Generating Station (G&WM) prosecuted by EPA in Ireland for site drainage issues, identified in 2016, prosecution in 2017.

ENVIRONMENTAL COMPLIANCE 2017 GRI 307
No prosecutions were brought against ESB group companies during 2017 for alleged or actual breaches of environmental legislation occurring during the year.

As highlighted in the table above, Moneypoint Generating Station were prosecuted in 2017 for a site drainage issue which was identified by the EPA during 2016.
5.1 Independent GRI Standards Option Check
5.2 GRI Standards Cross Referencing Table
5.3 Glossary of Terms
5.1 INDEPENDENT GRI STANDARDS OPTION CHECK

GRI Standards Option Check Independent Assessment

DNV GL Business Assurance Services UK Ltd (‘DNV GL’) was engaged by the Electricity Supply Board (‘ESB’) to carry out an independent review of ESB’s declaration against the Global Reporting Initiative (‘GRI’) made in their Sustainability Report 2017 (‘the Report’).

The Report has been independently assessed by DNV GL as being in accordance with the ‘Core’ option of the GRI Standards 2016.

DNV GL’s independent review confirms that the required set and number of disclosures for the ‘Core’ option have been addressed in ESB’s reporting.

The GRI Cross Reference Table within the Report’s appendix demonstrates a valid representation of the disclosures, in accordance with GRI Standards 2016 requirements.

This statement does not provide an opinion on ESB’s sustainability performance in 2017 nor on the quality of information in the Report. DNV GL has not been engaged by ESB on any other commitments in 2018 which could compromise the independence of our opinion on ESB’s GRI declaration.

20th December 2018, London.

For and on behalf DNV GL Business Assurance Services UK Ltd

Shaun Walden
Principal Consultant

<table>
<thead>
<tr>
<th>Reference</th>
<th>Disclosure</th>
<th>Location</th>
<th>Notes on Disclosure</th>
</tr>
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<tbody>
<tr>
<td>102-1</td>
<td>Name of the Organisation</td>
<td>Sec. 1</td>
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<tr>
<td>102-2</td>
<td>Activities, brands, products, and services</td>
<td>Sec 1.3</td>
<td>ESB Head Office, Gateway Two, East Wall Road, Dublin, D03 A995, Ireland</td>
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<tr>
<td>102-3</td>
<td>Location of headquarters</td>
<td>GRI Cross Reference Table, Cover</td>
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<td>102-4</td>
<td>Location of operations</td>
<td>Sec 1.3, 3.3</td>
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<tr>
<td>102-5</td>
<td>Ownership and legal form</td>
<td>Cover</td>
<td></td>
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<tr>
<td>102-6</td>
<td>Markets served</td>
<td>Sec 1.3</td>
<td></td>
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<td>102-7</td>
<td>Scale of the Organisation</td>
<td>Sec 1.3, 3.3</td>
<td></td>
</tr>
<tr>
<td>102-8</td>
<td>Information on employees and other workers</td>
<td>Sec 3.3</td>
<td></td>
</tr>
<tr>
<td>102-9</td>
<td>Supply chain</td>
<td>Sec 2.3</td>
<td></td>
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<tr>
<td>102-10</td>
<td>Significant changes to the organisation and its supply chain</td>
<td>Report</td>
<td>There were no significant changes to the organisation's structure and operations during 2017. An additional 95MW of wind capacity was added to the generation portfolio, with a further 173MW under construction.</td>
</tr>
<tr>
<td>102-11</td>
<td>Precautionary Principle or approach</td>
<td>Sec 3.7</td>
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<td>102-12</td>
<td>External initiatives</td>
<td>Sec 1.9</td>
<td></td>
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<td>102-13</td>
<td>Membership of associations</td>
<td>Sec 1.9</td>
<td></td>
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<tr>
<td>102-14</td>
<td>Statement from senior decision-maker</td>
<td>Sec 1.1</td>
<td></td>
</tr>
<tr>
<td>102-15</td>
<td>Values, principles, standards, and norms of behaviour</td>
<td>Sec 1.4</td>
<td></td>
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<tr>
<td>102-18</td>
<td>Governance structure</td>
<td>Sec 1.6</td>
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<tr>
<td>102-40</td>
<td>List of stakeholder groups</td>
<td>Sec 1.8</td>
<td></td>
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<tr>
<td>102-41</td>
<td>Collective bargaining agreements</td>
<td>Sec 3.3</td>
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<tr>
<td>102-42</td>
<td>Identifying and selecting stakeholders</td>
<td>Sec 1.7, 1.8</td>
<td></td>
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<tr>
<td>102-43</td>
<td>Approach to stakeholder engagement</td>
<td>Sec 1.7, 1.8</td>
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<tr>
<td>102-44</td>
<td>Key topics and concerns raised</td>
<td>Sec 1.8</td>
<td></td>
</tr>
<tr>
<td>102-45</td>
<td>Entities included in the consolidated financial statements</td>
<td>Annual Report 2017</td>
<td>Note 33 / pg 183 to Financial Statements, ESB Annual Report 2017 lists all subsidiary, equity accounted investees and associate undertakings.</td>
</tr>
<tr>
<td>102-46</td>
<td>Defining report content and topic Boundaries</td>
<td>Sec 1, pg 6</td>
<td></td>
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<tr>
<td>102-47</td>
<td>List of material topics</td>
<td>Sec 1.7</td>
<td></td>
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<td>102-48</td>
<td>Restatements of information</td>
<td>Sec 3.8, 4.3</td>
<td></td>
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<tr>
<td>102-49</td>
<td>Changes in reporting</td>
<td>There were no significant changes to the organisation's structure and operations during 2017. An additional 95MW of wind capacity was added to the generation portfolio, with a further 173MW under construction.</td>
<td></td>
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<tr>
<td>GRI SPECIFIC DISCLOSURES</td>
<td>Reference</td>
<td>Disclosure</td>
<td>Location</td>
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<tr>
<td>--------------------------</td>
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<td>103-1 Direct Economic</td>
<td>Topic boundary</td>
<td>Sec 2.1</td>
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<td>103-2 Direct Economic</td>
<td>Explanation of management approach</td>
<td>Sec 2.1</td>
<td></td>
</tr>
<tr>
<td>103-3 Direct Economic</td>
<td>Evaluation of management approach</td>
<td>Sec 2.1</td>
<td></td>
</tr>
<tr>
<td>201-3</td>
<td>Defined benefit plan obligations and other retirement plans</td>
<td>Annual Report 2017</td>
<td>Annual Report 2017</td>
</tr>
<tr>
<td>302-1</td>
<td>Energy consumption within the organisation</td>
<td>Sec 4.1</td>
<td>Current electricity supply on the island of Ireland does not differentiate between renewable and non-renewable sources at end use, unless by specific arrangement with an electricity supplier. With the exception of a small amount (14,000MWh) of on site solar generation, all electrical and thermal energy consumed was from non renewable sources.</td>
</tr>
<tr>
<td>302-2</td>
<td>Energy consumption outside of the organisation</td>
<td>Sec 4.1</td>
<td>Conversion factors used are set annually be SEAI and Defra.</td>
</tr>
<tr>
<td>302-3</td>
<td>Energy intensity</td>
<td>Sec 4.1</td>
<td>kWh/FTE is the indicator reported on</td>
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<td>302-4</td>
<td>Reduction of energy consumption</td>
<td>Sec 4.1</td>
<td></td>
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<tr>
<td>302-5</td>
<td>Reduction in energy requirements of products and services</td>
<td>Sec 4.1</td>
<td></td>
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<td>303-1</td>
<td>Biodiversity</td>
<td>Topic boundary</td>
<td>Sec 4.2</td>
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<td>303-2</td>
<td>Explanation of management approach</td>
<td>Sec 4.2</td>
<td></td>
</tr>
<tr>
<td>303-3</td>
<td>Evaluation of management approach</td>
<td>Sec 4.2</td>
<td></td>
</tr>
<tr>
<td>304-1</td>
<td>Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas</td>
<td>Sec 4.2</td>
<td>All areas detailed are terrestrial protected areas.</td>
</tr>
<tr>
<td>304-4</td>
<td>IUCN Red List species and national conservation list species with habitats in areas affected by operations</td>
<td>Sec 4.2</td>
<td></td>
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<tr>
<td>103-1</td>
<td>Emissions</td>
<td>Topic boundary</td>
<td>Sec 4.3</td>
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<td>Explanation of management approach</td>
<td>Sec 4.3</td>
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<td>103-3</td>
<td>Evaluation of management approach</td>
<td>Sec 4.3</td>
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<tr>
<td>305-4</td>
<td>GHG emissions intensity</td>
<td>Sec 4.3</td>
<td></td>
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<tr>
<td>-------</td>
<td>------------------------</td>
<td>---------</td>
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<tr>
<td>305-5</td>
<td>Reduction of GHG emissions</td>
<td>Sec 4.3</td>
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<td>305-6</td>
<td>Emissions of ozone-depleting substances (ODS)</td>
<td>Sec 4.3</td>
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<td>305-7</td>
<td>Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions</td>
<td>Sec 4.3</td>
<td></td>
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<tr>
<td>103-1</td>
<td>Effluents and Waste</td>
<td>Topic boundary</td>
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<td>Effluents and Waste</td>
<td>Explanation of management approach</td>
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<td>103-3</td>
<td>Effluents and Waste</td>
<td>Evaluation of management approach</td>
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<td>306-3</td>
<td>Significant spills</td>
<td>Sec 4.4</td>
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<tr>
<td>306-4</td>
<td>Transport of hazardous waste</td>
<td>Sec 4.4</td>
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<td>103-1</td>
<td>Occupational Health &amp; Safety</td>
<td>Topic boundary</td>
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<td>Occupational Health &amp; Safety</td>
<td>Explanation of management approach</td>
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<td>Occupational Health &amp; Safety</td>
<td>Evaluation of management approach</td>
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<td>403-1</td>
<td>Occupational health and safety management system</td>
<td>Sec 3.1</td>
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<tr>
<td>403-2</td>
<td>Hazard identification, risk assessment, and incident investigation</td>
<td>Sec 3.1</td>
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<td>403-3</td>
<td>Occupational health services</td>
<td>Sec 3.1</td>
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<td>403-4</td>
<td>Worker participation, consultation, and communication on occupational health and safety</td>
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<td>403-5</td>
<td>Worker training on occupational health and safety</td>
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<td>403-6</td>
<td>Promotion of worker health</td>
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<td>403-8</td>
<td>Workers covered by an occupational health and safety management system</td>
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<tr>
<td>403-9</td>
<td>Work-related injuries</td>
<td>Sec 3.1</td>
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<td>403-10</td>
<td>Work-related ill health</td>
<td>Sec 3.1</td>
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<td>403-1</td>
<td>Workers representation in formal joint management–worker health and safety committees</td>
<td>Sec 3.1</td>
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<tr>
<td>403-2</td>
<td>Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities</td>
<td>Sec 3.1</td>
<td></td>
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<tr>
<td>403-3</td>
<td>Workers with high incidence or high risk of diseases related to their occupation</td>
<td>Sec 3.1</td>
<td></td>
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<tr>
<td>403-4</td>
<td>Health and safety topics covered in formal agreements with trade unions</td>
<td>Sec 3.1, 3.3</td>
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<td>103-1</td>
<td>Training and Education</td>
<td>Topic boundary</td>
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<td>Training and Education</td>
<td>Explanation of management approach</td>
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<tr>
<td>103-3</td>
<td>Training and Education</td>
<td>Evaluation of management approach</td>
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<tr>
<td>404-3</td>
<td>Percentage of employees receiving regular performance and career development reviews</td>
<td>Sec 3.2</td>
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<td>103-1</td>
<td>Community Engagement</td>
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<td>Community Engagement</td>
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<td>103-3</td>
<td>Community Engagement</td>
<td>Evaluation of management approach</td>
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<tr>
<td>413-1</td>
<td>&quot;Operations with local community engagement, impact assessments, and development programs&quot;</td>
<td>Sec 2.1, 3.4</td>
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<td>103-1</td>
<td>Topic boundary</td>
<td>Sec 3.5</td>
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<td>Explanation of management approach</td>
<td>Sec 3.5</td>
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<td>103-3</td>
<td>Evaluation of management approach</td>
<td>Sec 3.5</td>
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<tr>
<td>416-1</td>
<td>Assessment of the health and safety impacts of product and service categories</td>
<td>Sec 3.5</td>
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<tr>
<td>416-2</td>
<td>Incidents of non-compliance concerning the health and safety impacts of products and services</td>
<td>Sec 3.1, 3.5</td>
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<tr>
<td>103-1</td>
<td>Topic boundary</td>
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### Sector Specific Disclosures

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<thead>
<tr>
<th>Reference</th>
<th>Disclosure</th>
<th>Location</th>
<th>Notes on Disclosure</th>
</tr>
</thead>
<tbody>
<tr>
<td>G4-10</td>
<td>Report on total contractor workforce (contractor, subcontractor, independent contractor) by employment type, employment contract and regulatory regime.</td>
<td>Sec 3.3</td>
<td>Contractor workforce numbers are not gathered for all individual contracts. Numbers reported reflect regular contractors working on ESB Networks sites, NIE Networks sites, major construction and overhaul projects and facility service providers.</td>
</tr>
<tr>
<td>G4-11</td>
<td>Report on percentage of contractor employees (contractor, sub-contractor and independent contractor) working for the reporting organization covered by collective bargaining agreements by country or regulatory regime.</td>
<td>Sec 3.3</td>
<td>Under the obligations outlined in ESB’s 3rd Party Requirements, all contracting entities are required to allow their staff freedom of association. This is monitored as part of the Contractor Employment Standards (CES) audits which are undertaken across all major contracts each year. In essence 100% of contractor staff should have freedom of association, as long as their employer is abiding by the ESB 3rd Party Requirements; however, this data is not reported on as part of CES.</td>
</tr>
<tr>
<td>SS EU1</td>
<td>Installed capacity, broken down by primary energy source and by regulatory regime.</td>
<td>Sec 3.8</td>
<td>ESB does not disclose net primary output by energy source and regulatory regime in MWh. Due to the nature of all island market structures, disclosure of this nature is deemed to be commercially sensitive to a level where it may provide competitors with significant commercial insights and advantage.</td>
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<tr>
<td>SS EU2</td>
<td>Net energy output broken down by primary energy source and by regulatory regime.</td>
<td>Sec 3.8</td>
<td>ESB does not disclose net primary output by energy source and regulatory regime in MWh. Due to the nature of all island market structures, disclosure of this nature is deemed to be commercially sensitive to a level where it may provide competitors with significant commercial insights and advantage.</td>
</tr>
<tr>
<td>SS EU3</td>
<td>Number of residential, industrial, institutional and commercial customer accounts.</td>
<td>Sec 3.8</td>
<td>ESB does not disclose net primary output by energy source and regulatory regime in MWh. Due to the nature of all island market structures, disclosure of this nature is deemed to be commercially sensitive to a level where it may provide competitors with significant commercial insights and advantage.</td>
</tr>
<tr>
<td>SS EU4</td>
<td>Length of above and underground transmission and distribution lines by regulatory regime.</td>
<td>Sec 3.8</td>
<td>ESB does not disclose net primary output by energy source and regulatory regime in MWh. Due to the nature of all island market structures, disclosure of this nature is deemed to be commercially sensitive to a level where it may provide competitors with significant commercial insights and advantage.</td>
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<tr>
<td>SS EU5</td>
<td>Allocation of co2e emissions allowances or equivalent, broken down by carbon trading framework.</td>
<td>Sec 4.3</td>
<td>ESB does not disclose net primary output by energy source and regulatory regime in MWh. Due to the nature of all island market structures, disclosure of this nature is deemed to be commercially sensitive to a level where it may provide competitors with significant commercial insights and advantage.</td>
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<tr>
<td>SS EU10</td>
<td>Planned capacity against projected electricity demand over the long term, broken down by energy source and regulatory regime.</td>
<td>Sec 2.3 Future Outlook</td>
<td>ESB does not disclose net primary output by energy source and regulatory regime in MWh. Due to the nature of all island market structures, disclosure of this nature is deemed to be commercially sensitive to a level where it may provide competitors with significant commercial insights and advantage.</td>
</tr>
<tr>
<td>SS EU12</td>
<td>Transmission and distribution losses as a percentage of total energy.</td>
<td>Cross Reference Table</td>
<td>ESB Networks and NIE Networks are the licensed Distribution System Operators and are not responsible for operation of the transmission system. Losses reported by ESB Networks (0.35% for 2017, comprising Technical at 0.78% and Commercial at 0.35%) are a key part of the work programme agreed with the energy regulator in ROI, the CRU. NIE Networks programme of works agreed with UReg does not include a significant works programme for rural upgrading of network to reduce losses, and is therefore deemed not to be material to NIE Networks.</td>
</tr>
<tr>
<td>SS EU25</td>
<td>Number of injuries and fatalities to the public involving company assets, including legal judgments, settlements and pending legal cases of diseases.</td>
<td>Sec 3.1</td>
<td>ESB does not disclose net primary output by energy source and regulatory regime in MWh. Due to the nature of all island market structures, disclosure of this nature is deemed to be commercially sensitive to a level where it may provide competitors with significant commercial insights and advantage.</td>
</tr>
<tr>
<td>SS EU26</td>
<td>Percentage of population unserved in licensed distribution or service areas</td>
<td>Cross Reference Table</td>
<td>100% of the population of ROI and NI have access to an electricity supply</td>
</tr>
<tr>
<td>SS EU27</td>
<td>Number of residential disconnections for non-payment, broken down by duration of disconnection and by regulatory regime</td>
<td>Sec 3.8</td>
<td></td>
</tr>
<tr>
<td>SS EU28</td>
<td>Power outage frequency</td>
<td>Sec 3.8</td>
<td>Reported as Customer Minutes Lost (CML) in ROI as required by the CRU. In NJ, System Average Interruption Frequency Index (SAIFI) reporting methodology is employed by NIE Networks as required by UR (Northern Ireland)</td>
</tr>
<tr>
<td>SS EU29</td>
<td>Average power outage duration</td>
<td>Sec 3.8</td>
<td>Reported as Customer Minutes Lost (CML) in ROI, as required by the CRU. In NJ, System Average Interruption Frequency Index (SAIFI) reporting methodology is employed by NIE Networks as required by UR (Northern Ireland)</td>
</tr>
</tbody>
</table>

### GLOSSARY OF TERMS

<table>
<thead>
<tr>
<th>Abbreviated Term</th>
<th>Explanation</th>
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<tbody>
<tr>
<td>BWR</td>
<td>Business Working Responsibility Award</td>
</tr>
<tr>
<td>CCGT</td>
<td>Combined Cycle Gas Turbine</td>
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<tr>
<td>CDP</td>
<td>Carbon Disclosure Protocol</td>
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<tr>
<td>CER</td>
<td>Commission for Energy Regulation</td>
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<tr>
<td>Coillte</td>
<td>Coillte is a commercial company operating in forestry, land based businesses, renewable energy and panel products and owns over 1 million acres of forest on behalf of the Irish Government</td>
</tr>
<tr>
<td>Colleges</td>
<td>UL – University of Limerick, UCD – University College Dublin, TCD – Trinity College Dublin, NUI – National University of Ireland, DIT – Dublin Institute of Technology, QUB – Queen’s University Belfast, UCC – University College Cork</td>
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<tr>
<td>DCCAE</td>
<td>Department of Communications, Climate Action and Environment</td>
</tr>
<tr>
<td>DfE</td>
<td>Department for the Economy (NI, replaces DETI)</td>
</tr>
<tr>
<td>DAERA</td>
<td>Department of Environment and Rural Affairs (NI)</td>
</tr>
<tr>
<td>DTTAS</td>
<td>Department of Transport, Tourism and Sport</td>
</tr>
<tr>
<td>EAI (INEAI)</td>
<td>Electricity Association of Ireland</td>
</tr>
<tr>
<td>Eirgrid</td>
<td>Republic of Ireland System Operator</td>
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<tr>
<td>EPA</td>
<td>Environmental Protection Agency</td>
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<tr>
<td>EPRI</td>
<td>Electricity Power Research Institute</td>
</tr>
<tr>
<td>Eurelectric</td>
<td>The Union of the Electricity Industry - EURELECTRIC is the sector association which represents the common interests of the electricity industry at pan-European level</td>
</tr>
<tr>
<td>EV</td>
<td>Electric Vehicle</td>
</tr>
<tr>
<td>HSA</td>
<td>Health and Safety Authority</td>
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<tr>
<td>IBEC</td>
<td>Irish Business and Employer Association</td>
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<tr>
<td>IFA</td>
<td>Irish Farmers Association</td>
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<tr>
<td>IPPCL</td>
<td>Integrated Pollution Prevention and Control Licence</td>
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<tr>
<td>IWEA</td>
<td>Irish Wind Energy Association</td>
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<tr>
<td>LTI</td>
<td>Lost Time Injury (in ESB defined as being absent from work on the next planned shift/day)</td>
</tr>
<tr>
<td>NOx, SOx</td>
<td>Nitrous Oxides, Sulphur Dioxides</td>
</tr>
<tr>
<td>NHA/PNHA/SAC/SPA</td>
<td>National Heritage Area, proposed NHA, Special Area of Conservation, Special Protection Area</td>
</tr>
<tr>
<td>NPWS</td>
<td>National Parks and Wildlife Service</td>
</tr>
<tr>
<td>RAB</td>
<td>Regulated Asset Base</td>
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<tr>
<td>SEAI</td>
<td>Sustainable Energy Authority of Ireland</td>
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<tr>
<td>SONI</td>
<td>System Operator Northern Ireland</td>
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<tr>
<td>UR</td>
<td>Utility Regulator of Northern Ireland</td>
</tr>
<tr>
<td>VGB</td>
<td>European technical association for power and heat generation - a voluntary association of companies for which power and heat generation is the basis of their business</td>
</tr>
<tr>
<td>WITS</td>
<td>Women in Technology and Science</td>
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</tbody>
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