



Energy for
generations

SUSTAINABILITY REPORT 2016

WORKING TOGETHER



WORKING TOGETHER

ESB is making a stand for Ireland's future today; a future powered by clean, sustainable electricity. ESB is committed to finding the best route to a low-carbon future, one that protects its customers and the economy by maintaining energy security and affordability. This means investing in low-carbon generation; expanding and enhancing the grid to accommodate more distributed energy resources and empowering customers to take more control over their energy use. Most importantly, it means working with a wide spectrum of partners from business, academic and community group backgrounds to accelerate the pace of change and to bring customers on a journey to a more sustainable future. ESB believes that by working together, marvellous things are possible.





ABOUT ESB

ESB was established in 1927 as a statutory body in the Republic of Ireland under the Electricity (Supply) Act 1927. With a holding of 95%, ESB is majority owned by the Irish Government. The remaining 5% is held by the trustees of an Employee Share Ownership Plan. As a Strong, Diversified, Vertically Integrated Utility, ESB operates right across the electricity market: from generation, through transmission and distribution to supply of customers, with an expanding presence in the Great Britain generation market. In addition, we extract further value at certain points along this chain; supplying gas, using our networks to carry fibre for telecommunications and more. ESB is a leading Irish utility with a regulated asset base (RAB) of approximately €9 billion, 47% of generation in the all-island market and as a supplier of electricity to approximately 1.4 million customers throughout the island of Ireland. ESB will continue to grow the scale of its generation, trading and supply businesses so that it can compete within the all-islands competitive environment. ESB is focused on providing excellent customer service and maintaining its financial strength. As at 31 December 2016, ESB employed approximately 7,600 people.



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WE WELCOME REQUESTS AND COMMENTS RELATING TO THE REPORT AND OTHER SUSTAINABILITY MATTERS VIA OUR CONTACT MAILBOX: SUSTAINABILITY@ESB.IE OR BY CONTACTING OUR SUSTAINABILITY COORDINATOR: BRIAN.GRAY@ESB.IE

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ABOUT THIS REPORT

Aimed at customers, investors, analysts, policy makers, the public and other stakeholders, both internal and external to ESB Group, our annual sustainability report focuses on those issues of greatest concern to our stakeholders and our business, which drives our strategy, activity and progress onwards.

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 independently assessed by DNVGL to meet application level Core Disclosures against GRI G4.

SCOPE OF REPORT

This report includes data for the fiscal and calendar year 2016, 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 G4 Sustainability Reporting Guidelines, as well as the 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 and we seek to address the issues of greatest material importance to our stakeholders and to ESB.

The 2016 Sustainability Report meets our commitment to report annually on our Sustainability endeavours. (www.esb.ie/docs/default-source/sustainability/esb-sustainability-report-2015)

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 2016 (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 seeks to support our corporate strategy and minimise and mitigate the impacts from our business operations.

We have undertaken an exercise to align our activities with the principles and broad direction of the UN Sustainable Development Goals, an alignment which is highlighted where relevant throughout the report.

REPORT BOUNDARY

In defining the boundary of this report, taking into account all registered entities of ESB Group (see Note 33. ESB Annual Report 2016) (www.esb.ie/who-we-are/investor-relations/annual-reports), we have focused on those entities where ESB has control and those activities that are significant for ESB Group from an economic, environmental and social standpoint.

The businesses outlined in section 3 of this report and their key activities, form the basic boundary of the contents of this report. Given the diverse nature of activities across the business areas of ESB Group, the material issues identified, generally have a specific business unit focus and establish a clear aspect boundary that correlates to the business unit's operational limits themselves.

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Executive Summary, strategy and performance

1.1

Highlights

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Welcome
from Chief
Executive

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Strategy

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Sustainable
Development Goals

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Governance

HIGHLIGHTS

ENVIRONMENT

1.63 TWh RENEWABLES GENERATED IN 2016



ENOUGH POWER TO SUPPLY 325,000 HOMES FOR A YEAR



5% ANNUAL REDUCTION IN CO2 INTENSITY TO 560G CO2e/ kWh



INSTALLATION OF OVER **1,200kW** SOLAR



EXTENSIVE ELECTRIC VEHICLE DRIVING NETWORK IN IRELAND

OPERATIONAL

COMMERCIAL OPERATION OF CARRINGTON **885 MW CCGT** IN MANCHESTER, UK



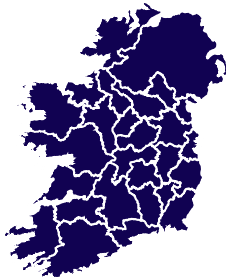
OVER **26,000** NEW CUSTOMER CONNECTIONS



SIRO - BRINGING HIGH SPEED BROADBAND ACCESS TO OVER

50,000 PREMISES AROUND IRELAND

CONTRIBUTION TO THE IRISH ECONOMY OVER



€2 BILLION

CUSTOMER AND MARKET

GENERATION MARKET SHARE **47%**

SUPPLY MARKET SHARE **37%**

6%

PRICE REDUCTION TO RESIDENTIAL ELECTRICITY CUSTOMERS - THIRD PRICE DECREASE IN LESS THAN TWO YEARS

5%

PRICE REDUCTION TO RESIDENTIAL GAS CUSTOMERS - THIRD PRICE DECREASE IN THE LAST EIGHTEEN MONTHS

LAUNCH OF SMART ENERGY SERVICES

196GWh IN ENERGY SAVINGS DELIVERED FOR DOMESTIC, COMMERCIAL AND INDUSTRIAL CUSTOMERS DURING 2016

CORPORATE SOCIAL RESPONSIBILITY



FROM 2014-2016 OVER 28,000 HOMES IN THE ENERGY POVERTY SEGMENT HAVE BENEFITTED FROM ENERGY EFFICIENCY RETROFITS

VOLUNTEERISM

OVER **30,000** VOLUNTEER HOURS HAVE BEEN RECORDED BY EMPLOYEES



CHAMBERS IRELAND OUTSTANDING ACHIEVEMENT IN CSR AWARD 2016



THE ENERGY FOR GENERATIONS FUND DISTRIBUTED OVER **€10 MILLION** IN THE PAST DECADE TO COMMUNITY BASED INITIATIVES IN IRELAND



1.1 WELCOME FROM CHIEF EXECUTIVE, PAT O'DOHERTY

ESB has always worked to create a brighter future for Ireland and the communities we serve around the world. We are committed to maintaining the sustainability and performance of our business, and using our assets so that we can continue to play a positive and progressive role in society. Today, our ambition is to ensure a smooth transition to a low carbon future.

PERFORMANCE IN 2016

2016 was characterised by strong operational performance across all areas of the business, which resulted in an operating profit of €97 million. The successful operation of the new Carrington Plant in 2016 along with excellent plant availability at 93%, resulted in strong performance from the Generation and Wholesale Markets (G&WM) business notwithstanding its challenging operating environment.

The networks businesses continued to successfully deliver significant capital and maintenance programmes in accordance with their regulatory contracts, and Electric Ireland, ESB's retail arm, delivered solid financial performance while maintaining its strong focus on customer service and providing value for all its customers.

This healthy financial performance has enabled ESB to invest €97 million in energy infrastructure during 2016 and to pay a dividend of €16 million bringing total dividends paid over the past 10 years to almost €.5 billion.

CUSTOMER-BASED INNOVATION

ESB innovates to deliver value to our customers and continues to focus on competitive pricing. During 2016, Electric Ireland passed on savings to our customers by reducing standard unit rates for residential electricity customers by 6% from June 2016, the third electricity price decrease in less than two years.

Gas unit prices for our customers were reduced by 5% from October 2016, the third reduction



Pat O'Doherty
Chief Executive

Reducing the carbon intensity of our operations while maintaining energy affordability and security of supply for customers is a priority for ESB.

in residential gas prices in the last 18 months. Electric Ireland was also first to market a new enduring reward product for our loyal customers, which has been widely welcomed by customers. We continue to focus on customer

empowerment and self-service in both Electric Ireland and ESB Networks through new digital service offerings, including a new mobile accessible switching application and new online customer service channels.

DEVELOPING THE WORKFORCE OF THE FUTURE

In a competitive employment market, maintaining the capability and sustainability of our skilled workforce is a priority. 2016 saw ongoing investment in training and development and targeted recruitment to build the skills necessary to deliver value to our customers in a highly competitive and rapidly changing environment. In support of ESB's objectives of business growth and renewal, the focus for 2016 was on embedding the new employment model introduced in 2015 and renewal of the workforce.

For ESB, this maintains the sustainability and integrity of a market based and future-focused pay model and for employees, it delivers positive pay movement and significant opportunities for career development into the future. We are also committed to a diverse and inclusive work environment for all our employees.

RESPONDING TO EXTERNAL MARKET FORCES

Several major forces are driving change in the energy sector, notably climate change, technology enabled customers and market integration. ESB has a track record in adapting to change, and is taking steps to respond in all areas, including growing our generation portfolio, working with partners to accelerate our transition to a low carbon future and offering new energy services to customers to help them use energy more efficiently.

Through our structured innovation programme, we are sourcing and developing new ideas, and during 2016 we developed strategic road maps to develop customer based solutions in several key areas including smart networks, electrification of heat, transport and big data.

TRANSITIONING TO A LOW-CARBON FUTURE

Reducing the carbon intensity of our operations while maintaining energy affordability and security of supply for customers is a priority for

ESB. In this context, we are focusing on four areas: investing in renewable and low-carbon generation; developing the electricity network to support more distributed energy resources; empowering our customers to take more control over their energy use and supporting the electrification of heat and transport to drive the wider decarbonisation of society.

During 2016, our shift towards renewable generation continued with the commissioning of Raheenleagh Wind Farm, a 35 MW wind farm in County Wicklow and the installation of over 1,200 kW of rooftop solar panels through our joint venture with Kingspan. Five more wind farms are currently under construction and our waste wood to energy plant (a joint venture with the UK's Green Investment Bank and Scandinavian equipment suppliers BWSC and AET) at Tilbury Port in Essex, United Kingdom is nearing completion. The growth of renewables on the island of Ireland would not be possible without the significant investment in our networks by ESB Networks and Northern Ireland Electricity Networks (NIE Networks). Total capital expenditure in the two networks' businesses in 2016 was over €500 million to meet current and future demands of all electricity customers.

ESB is also supporting the roll-out of high speed broadband to homes and businesses throughout the country, while Electric Ireland achieved its 2016 energy efficiency targets and continues to develop solutions to help customers reduce their carbon footprint.

PREPARING FOR MARKET INTEGRATION

The integration of the UK and Irish energy markets offers significant opportunities for ESB to grow its business in a much larger market. The strong performance of Carrington since it was commissioned in September 2016 enhances ESB's ability to compete in the UK, and represents potential for further growth in our generation business.

The planned change from the current Single Electricity Market (SEM) to a future Integrated SEM (I-SEM) presents uncertainty and increased complexity, but ESB is well placed to respond to this. Similarly, the ongoing market reforms in Great Britain (GB) present both challenges and opportunities. While Brexit creates uncertainty, the UK energy sector continues to provide a pipeline of growth opportunities and ESB continues to monitor the current and emerging Brexit related impacts as

2016 OPERATING HIGHLIGHTS

- The commissioning of the Carrington Plant, an 885 MW combined cycle gas turbine (CCGT) near Manchester
- Bringing high-speed fibre broadband access to over 50,000 premises in towns around Ireland
- The completion of three new substations in the South West of Ireland to directly support new renewable generation on the system
- Chambers Ireland Outstanding Achievement in Corporate Social Responsibility Award 2016
- Electricity standard unit prices for residential customers reduced by 6% and gas unit prices for residential customers reduced by 5%
- Installation of over 1,200 kW of rooftop solar panels with Kingspan

these become apparent.

SAFETY REMAINS A CORE VALUE

Safety is a core value for ESB and we are working to ensure the safety of our employees, contractors and the general public.

A new public safety campaign, Stay Safe, Stay Clear, was launched in 2016 by ESB Networks, which has succeeded in raising public awareness of how to stay safe around electricity wires.

Internally, the new safety organisation established in 2015 is impacting positively on safety culture across the Group.

WORKING TOGETHER

Collaboration is central to our strategy, as it drives innovation and provides additional resources for new investments. We are partnering with numerous start-ups, academic institutions and multi-national companies across all areas of our business, such as Kingspan and Terra Solar on solar projects, Vodafone on fibre-to-the-building and Endeco on fast frequency response solutions.

The proposed redevelopment of the Fitzwilliam Street Head Office complex will commence in 2017. Working in collaboration with others, ESB is committed to setting the standard for a modern, sustainable office space in Dublin city with a design that is respectful to its history, sensitive to its surroundings and representative of its time.

SUPPORTING COMMUNITIES

Over the past decade, ESB has awarded over €10 million to community-based projects in the Republic of Ireland (ROI) and Northern Ireland (NI) in the areas of suicide prevention, education and homelessness through our Energy for Generations Fund.

We also invest in communities through sponsorships to promote science, technology, engineering and maths as well as sport, arts and cultural initiatives. ESB was delighted to

receive the Chambers Ireland Outstanding Achievement in Corporate Social Responsibility (CSR) Award 2016 for having CSR practices embedded at the core of our business and for our ongoing dedication to community engagement and responsible business practice.

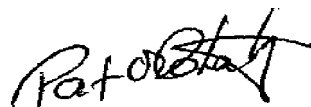
LOOKING AHEAD TO 2017 AND BEYOND

Climate change is one of the biggest challenges facing humanity, and ESB, as Ireland's leading energy company, is conscious of our responsibility to reduce carbon emissions.

Our challenge is to bring customers with us on that journey by finding solutions that maintain energy security and affordability, and developing products and services that directly respond to their needs.

2017 marks the 90 year anniversary of ESB, and we will be marking that milestone by planning ahead to our 100 year anniversary and beyond, working towards a low-carbon future powered by clean electricity.

To align our efforts with the global movement in the fight to combat climate change, we have undertaken an exercise to see how ESB's broader efforts support and contribute towards the delivery of the Sustainable Development Goals, giving our strategy and operational performance a clear pathway to support the direction of the Sustainable Development Goals.



Pat O'Doherty, Chief Executive

1.2 SUSTAINABILITY STRATEGY

ESB's sustainability strategy supports the key pillars of the Corporate strategy and reflects our determination to build a successful business in the long term as we move to decarbonise our generation activities by 2050. ESB is focused on maintaining the highest levels of environmental management and sustainability in all aspects of its operations in order to minimise its impact on the environment and enhance the reputation of ESB as an exemplar organisation.

POWERING A CARBON FREE SOCIETY

- A new Charge Point Management System (CPMS) to enable the real time management of 1200 public charge points has been installed. ESB ecars division are looking at opportunities for the provision of electric vehicle charging services to decarbonise taxis services and longer distance travel by car.
- SIRO (an ESB Vodafone JV) has rolled out high speed broadband Fibre to the Building (FTTB) technology to 17 towns, passing over 40,000 premises during 2016 as part of its first phase deployment of FTTB broadband, with download and upload speeds of 1Gbps.
- Novus Modus invested €3.3million in Endeco, smart grid optimisation solutions technology.
- A new Smart Energy Services business has been established to help large energy users achieve significant energy efficiency enhancements, delivering 152GWh PEE in savings during 2016.

SMART EFFICIENT AND RESILIENT NETWORKS

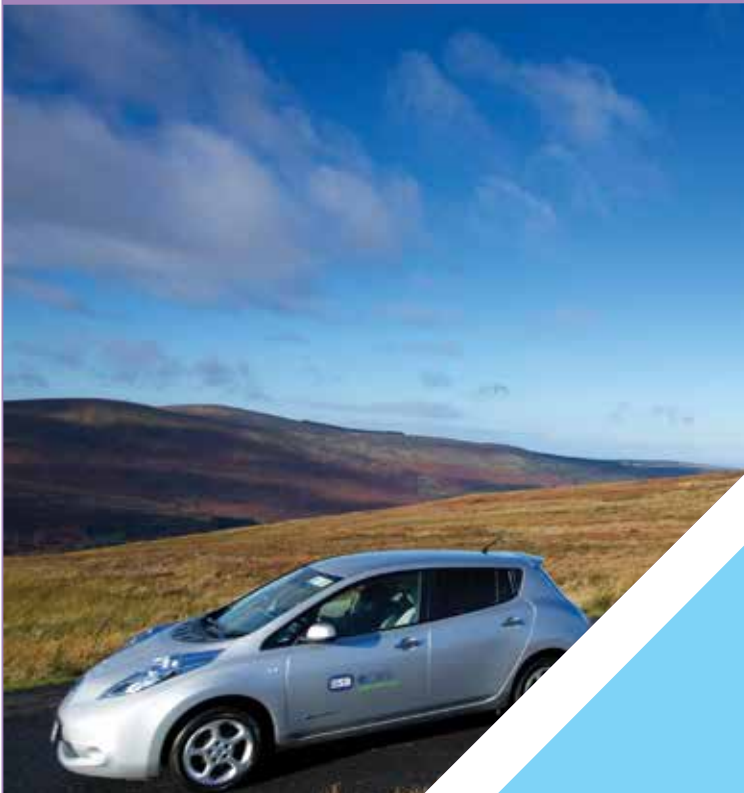
- Over 1,000 MW of renewables were connected to the network on an all island basis during 2016, bringing total renewable connections to 4,250 MW.
- To facilitate our high and growing wind penetration, new and innovative approaches

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PROG



CUSTOMER SOLUTIONS FOR A BRIGHTER FUTURE

- Electric Ireland continued its focus on maintaining affordability by introducing a further 6% electricity price reduction.
- Through the energy efficiency schemes offered to customers, a total of 152



are being implemented to overcome the challenges that come with managing and operating distribution connected wind.

- Smart Networks are providing increased flexibility with new storage technologies (batteries and heat), new flexible loads (eCars and eHeat), Smart ICT systems and the addition of smart metering in homes.



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GRESS



DEVELOPMENT OF LOW-CARBON GENERATION PORTFOLIO

- Carrington CCGT (885MW) entered commercial operation. At 58% efficiency, Carrington will be one of the most efficient thermal plants on the UK energy system. It will produce enough electricity to meet the needs of over one million homes and businesses and, as one the most flexible and efficient plants in the UK, it will help to ensure both security of supply and the transition to a low-carbon energy future.
- Raheenleagh Wind Farm (35 MW) (a JV with Coillte) was successfully completed. G&WM is working in partnership with Coriolis, a wind developer, to develop wind generation options in Scotland. Good progress was made on the construction of Eglishe (15 MW), Crockdun (12.5 MW), Cappawhite (50 MW) and Moneypoint (17 MW) wind farms.
- Funded Solar (a JV with Kingspan) installed over 1,200 kW of new rooftop solar projects. G&WM invested in Terrasolar, an Irish solar development company.
- Tilbury Green Power made good progress on the construction of the 40 MW waste-wood-to-energy plant

GWh PEE of energy savings in the Non-Residential sector were made, adding to the 253GWh delivered to end of 2015.

- Electric Ireland's disconnection rate of 24 per 10,000 customers continues to reduce year on year.

1.3 ALIGNMENT WITH SUSTAINABLE DEVELOPMENT GOALS

GOALS



Adopted in September 2015, the United Nations Sustainable Development Goals (SDGs) comprise 17 goals and 169 associated indicators that address the world's most pressing socio-economic and environmental challenges and offer an opportunity to put the world on a sustainable path. Business has an important role to play in achieving the SDGs and ESB's activities contribute in some way to each of the 17 goals. Based on the nature of our business and our strategic focus, we have identified a number of SDGs that most closely align with the company's priority issues and areas of long-standing commitment;



ESB is on a pathway to deliver a low carbon generation portfolio, whilst seeking to maintain energy affordability and security of supply for customers.



ESB is committed to a diverse and inclusive workplace and investing in and valuing the people working in it. We seek to support and promote access to education, numeracy and literacy and the pursuit of STEM based subjects to develop and broaden the talent pool. Our people strategy focuses on capability development for existing staff and recruiting and retaining staff including new graduate and apprentice recruitment programmes



As well as facilitating renewable connections, ESB's network businesses seek to design in resilience and adaptation measures into asset design and development. ESB continues to pursue efficiency improvements in operational energy, fuel and natural resource usage.

1.4 Governance

ESB in pursuit of its governance objectives complies with the Code of Practice for the Governance of State Bodies (the State Code) and to the maximum extent possible with the UK Corporate Governance Code 2014.

ESB has put in place the appropriate measures to comply with the State Code which sets out the governance framework agreed by Government for the internal management and the internal and external reporting relationships of State Bodies.

FULL DETAIL ON CORPORATE GOVERNANCE IN ESB IS AVAILABLE IN OUR 2016 ANNUAL REPORT;
www.esb.ie/who-we-are/investor-relations/annual-reports

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 Committee.

ESB also conforms as far as possible and on a voluntary basis to the Irish Corporate Governance Annex (the Irish Annex). We do this to adhere as closely as possible to listed company governance standards.

ESB values its reputation and maintaining best practise governance arrangements is an important aspect of ESB business performance.

1.5 GOVERNANCE OF SUSTAINABILITY

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

A Sustainability Committee is chaired by the Executive Director Group People and

‘Good governance provides the foundation for long-term value creation and is a core focus for the ESB Board and for me as Chairman. In this regard, and in line with the UK Corporate Governance Code 2014, (the UK Code), we see our duties as including 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.’ Ellvena Graham, Chairman.

Sustainability and made up of senior managers from each business unit. The Sustainability Committee is responsible for approval of the sustainability strategy and for providing leadership on sustainability in each business unit.

The committee meets regularly 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 Environmental Co-ordinators and Managers.





02

Stakeholder Engagement, Materiality Process and Disclosures

2.1

Stakeholder Engagement Framework

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Internal Stakeholder Engagement

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External Stakeholder Engagement and Stakeholder Matrix

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Materiality Process

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Material Disclosures

2 INTRODUCTION

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 and concerns of our stakeholders is front and centre in our ability to deliver against those expectations and help shape a brighter future.

Our stakeholder engagement channels are embedded into our daily operations— whether it is for access to lands for overhead lines inspections, delivering energy services, generating electricity, maintaining the network, operating our business, regulating our industry, buying and consuming our product and services, or granting a social licence to operate – our shareholder, lenders, partners, suppliers, contractors, employees, regulators, customers and the community all play a role in making our business sustainable.

Gathering, streamlining, understanding and addressing that spectrum of stakeholder inputs, how it impacts on stakeholders and on ESB and prioritising what and how those issues are addressed is of critical strategic importance to the business. We are committed to regular communications with our stakeholders, providing open and transparent channels for input from our stakeholders and responding in a timely manner to stakeholders' concerns about our business.

2.1 STAKEHOLDER ENGAGEMENT FRAMEWORK

In 2016, we commissioned an indepth survey to gain insights into how key stakeholder groups perceive ESB and the role they feel we can play in creating a brighter future for the communities we serve. This has helped to inform the way in which we are executing our corporate strategy to lead the transition to a low carbon future. The research indicated that our stakeholders have a very high level of trust in ESB, and believe that we should take a more visible leadership role in bringing customers on the journey to a low carbon future. This is something that we have already started to do through our sponsorship, CSR and customer engagement activities and will

continue to do through our communications and PR programmes as we move forward.

Streamlining our ongoing stakeholder management activity that is undertaken and managed by stakeholder managers in each business unit across ESB Group is critical to ensuring a coherent approach to these engagements.

Our stakeholder engagement process takes place on a number of strategic, operational and compliance levels across the ESB Group of businesses. We endeavour to engage with stakeholders and the relevant stakeholder groups, as frequently as is viewed necessary, but at least annually, where amongst the strategic and operational discussions, relevant sustainability and environmental issues will also be discussed. Due to the broad nature of our business activities, regulatory controls and ring fencing, individuals within the businesses engage with relevant stakeholder groups via consultations, formal reporting processes, meetings, industry fora, facilitated engagements and 1 on 1 sessions.

The objectives in engaging with our stakeholders in this way are:

- To ensure that our key stakeholders are aware and kept up to date on ESB's progress and challenges
- To develop a shared understanding of the common issues of greatest importance to the stakeholder and to ESB, including specific sustainability issues
- To listen to the concerns and issues of key stakeholders around sustainability in order to address them through our operations
- To build confidence and trust amongst stakeholders in ESB and to demonstrate that ESB is a responsible organisation, that is committed to a pathway to a decarbonised society
- To further develop the relationships that we have with key stakeholders on social, economic and environmental policy issues, as well as compliance, regulatory, operational and future market challenges.

2.2 INTERNAL STAKEHOLDER ENGAGEMENT

ESB is committed to undertaking an independent

and anonymous survey of staff at least every 2 years. This was last undertaken across ESB staff in the Republic of Ireland in 2015 and falls due again in 2017.

The key issues emanating from the 2015 staff survey included;

- A fair and inclusive working environment
- The role of middle and front line managers
- Staff Development
- Managing change positively

During 2016 NIE Networks surveyed its employees, yielding a 75% response rate, which indicated an 81% overall engagement score.

ESB, as an employer, seeks to measure and compare progress and trends with staff opinions as well as providing for comparison with peer organisations.

2.3 EXTERNAL STAKEHOLDER ENGAGEMENT

The broad spectrum of touch points that we have with our external stakeholders is constantly evolving. Although we have formal stakeholder engagement channels and personnel in place to manage daily stakeholder engagement activities, we are increasingly finding that the likes of social media channels are critical to informing and engaging stakeholders in evolving situations, particularly during network fault events, winter storms or periods of intense customer queries.

In 2016, NIE Networks published their business plan for 2017 to 2024. This incorporated the input and feedback we received during an extensive stakeholder engagement process with customers, both business and domestic, to understand their key priorities for the electricity network of the future. Quantitative and qualitative research was carried out through focus groups, interviews, surveys and a 'willingness to pay' assessment. This included face to face interviews with 1,200 domestic customers and telephone interviews with 500 business customers.

NIE Networks is also planning to specifically engage with key environmental stakeholders and interested parties in early 2017.

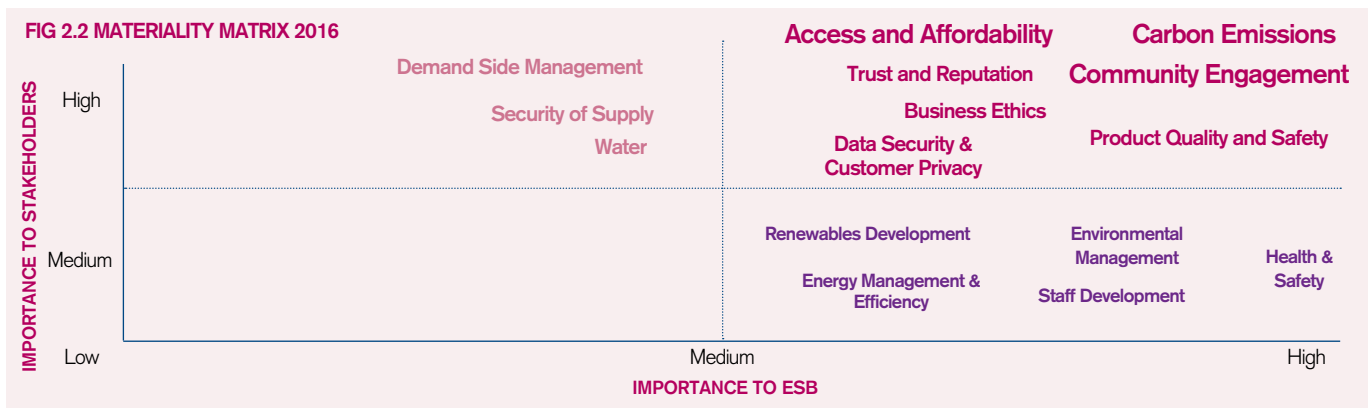
The table below details the spectrum of stakeholders with whom ESB engages on a regular basis.

TABLE 2.1 STAKEHOLDER MATRIX

STAKEHOLDER GROUPING	MEANS OF ENGAGEMENT	SUBJECTS OF ENGAGEMENT	MOST IMPORTANT ISSUES RESULTING
Key Ministers & Government Depts DCCCNr, DfE, DAERA, PER (New ERA), DTTAS	Policy meetings, consultations	Energy policy, policy and regulatory issues, regulatory consultation processes, strategy	Energy policy, maintaining financial strength
Regulatory Bodies (CER, UR, OfGEM, OEIC, EPA, HSA, DoE, NPWS, SEAI, SIPO/DPC/ComReg/RSA (UK and NI equivalents))	Price review meetings, regular scheduled meetings, programme meetings, partnerships	Setting and compliance with licence and permit conditions, pricing and price reviews, work programmes, environment information appeals, planning issues, safety at work	Electricity price, Legal compliance, delivery of work programmes, revenue levels, emissions, construction activities, land, buildings, public safety
Network Operators (Eirgrid, SONI, National Grid)	Scheduled meetings, planning process	Grid connections, work programmes, planning, facilitating renewables	Renewables, network stability, continuity of supply
Industry NGOs (Eurelectric, NEAI, IBEC, AEP, IETA, EAI, Chambers Ireland, British Irish Chamber of Commerce, NI Chamber of Commerce, Dublin Chamber, Cork Chamber)	Consultation processes, programmed meetings	National and EU Energy policy, climate and sustainability policy development, consultations	Policy positions, global climate change issues, competitiveness, security of supply
Sustainability / non-industry NGOs (BITCI & NI, CDP, IIEA, IWEA, IFA, Coillte)	Scheduled meetings, focus groups, member fora, surveys	Land access, work programme, CR programme, performance disclosures	Emissions, corporate responsibility, renewables, planning
Environmental Authorities (EPA, SEAI, DoE)	Licensing process, ongoing dialogue, formal compliance reviews	Licence conditions and compliance, annual reporting, dealing with breaches and complaints	Legal compliance, water conservation, energy efficiency, waste
Engineering & Scientific Research (UCD, ERC, UL, DIT, TCD, NUI, EPRI, SEAI, VGB, QUB, UCC)	Industry fora, partnerships, conferences, technical collaborations, ongoing dialogue	Technology, skills pool, research partnerships, technology deployment	Technical innovation, market disruption, energy efficiency, availability of suitable skills
Public representatives, local authorities	Scheduled meetings, planning process, ongoing dialogue	Planning concerns, building community support	Community engagement, legal compliance
Ratings Agencies	Scheduled review meetings	Economic performance, Performance to Plan, Strategy, funding rounds, Growth programme	Rating, ability to raise debt at manageable interest rate, financial performance
Staff	Team and one-to-one meetings, surveys	Business performance, safe working environment, fair employment and trading practices	Staff engagement, Reward and Recognition, Development
Customers (domestic, commercial, industrial)	Social media, customer contact centres, surveys, via business development team	Price, continuity and quality of supply, energy efficiency services, disconnections	Energy price, disconnections policy, energy efficiency
Suppliers	Tender process, contract review meetings, preliminary market consultations, Meet the Buyer events	Contractual Terms & Conditions, corporate social responsibility, sustainable procurement opportunities / initiatives, Contractor Employments Standards compliance	Contractor Employment Standards compliance. Sustainable procurement opportunities / initiatives

2.4 MATERIALITY

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 external and internal stakeholder engagement channels and to formulate the issues output from these engagements into a list of prioritised material issues.



2.5 MATERIAL DISCLOSURES

OUR PEOPLE

	2016	2015
Average Number of Employees	7,597 ¹	7,305
Female	22%	22%
Management Level Female	19%	19%
Full Time	94%	94%
Permanent Contract	99%	99%
Temporary Contract	1%	1%
Employees with Disabilities	5%	5%
Skilled Craft and General	42%	42%
Non Craft and General	58%	58%
Female Board Members	36%	36%
Third Party Contractor Staff working on behalf of business	3,100 ²	3,300
STAFF BY REGION		
Republic of Ireland	80.5%	81%
Northern Ireland	17.5%	17.5%
Europe	0.1%	0.05%
Middle East	1.4%	1.4%
Asia	0.03%	0.03%
Africa	0.01%	0.01%
Nationalities Employed	35	35

Notes:

1. More than 60% of staff are directly covered by collective bargaining arrangements, reflecting ESB Group's position of supporting freedom of association for all staff.
2. ESB requires Suppliers to comply with all employment legislation in all countries in which they provide goods or services to, or on behalf of ESB, including but not limited to laws relating to the use of child, forced or compulsory labour, non-discrimination, working hours and freedom of association.

AIR EMISSIONS

GHG EMISSIONS SCOPE 1 (TONNES CO ₂ E) FROM THERMAL GENERATION ⁴	2016	2015	BASELINE (2005)
Ireland	8,325,843	8,094,000	14,630,000
Northern Ireland	910,852	960,000	
Britain	1,001,761 ¹	126,000	
GHG EMISSIONS SCOPE 1,2 & 3 (TONNES CO ₂ E)	2016 ³	2015	
SCOPE 1			
Premises Energy	579	250	
Vehicle Transport	16,578	13,367	
Gaseous Emissions SF6	3,301 ²	21,224	
SCOPE 2			
Premises Energy	14,178	12,000	
SCOPE 3			
Premises Energy	838	1,040	
Vehicle Transport	5,325	3,795	
Travel	80 ²	3,523	
Total GHG emissions (tonnes CO₂e)	10,279, 335¹	9,234,974	
OTHER EMISSIONS	2016	2015	BASELINE (2005)
NOx	627,411	678,000	2,159,000
SOx	276,878	388,000	2,540,000
Dust	23,272	19,000	113,000
Carbon Intensity from Generation	560g CO ₂ e/kWh	590g CO ₂ e/kWh	

Notes on Emissions

1. Carrington 885MW 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 NIE 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.

HEALTH & SAFETY

	2016	2015
Staff Fatalities	0	0
Contractor Fatalities	0	0
Staff Lost Time Injuries (LTI)	52	30
Staff LTI Rate (per 100,000hrs)	0.42	0.25
Contractor Lost Time Injuries	20	28
P1a (High Potential Severity Incidents)	301	253
Absenteeism Rate (avg. days/staff)	7.66	7.79
Days lost due to occupational injury	891	667
Public Fatalities due to electricity (Customer side of meter)	0	0
Public Fatalities due to electricity (Network side of meter)	1	1
Safety Incidents on the Network (including Public Safety Incidents)	2080	1510

CUSTOMER

CONNECTIONS TO THE NETWORK	2016	2015
Republic of Ireland		
Residential	2,041,325	2,029,196
Small Business	184,747	185,107
Medium Business	89,358 ¹	25,772
Large Energy User	1,527	1,490
Transmission connected	28	13
Transmission connected with embedded generation	46	58
Northern Ireland		
Total Customer connections	860,000	860,000
Residential	92%	92%
Commercial & Industrial	8%	8%
Disconnections (Republic of Ireland)		
Number of Disconnections	2,700	3,400
Disconnection Rate	24 per 10,000 customers	28 per 10,000 customers
Vacant Disconnections	35%	35%
Reconnection within 48 hours	100% of non-vacant	100% of non-vacant
Customer Minutes Lost		
ESB Networks ²	144	158
NIE Networks ²	124	135
Access to Electricity Supply		
Republic of Ireland	100%	100%
Northern Ireland	100%	100%
Complaints		
-ESB Networks	2761	2201
-NIE Networks ³	1	4
-Electric Ireland	1,948	3,231

Notes on Customer Disclosures;

1. Includes Public Lighting

2. The average duration of interruptions (planned and fault) for all customers during the year

3. Complaints classified as stage 2 to [Consumer Council NI](#)

NETWORK INFRASTRUCTURE

ESB NETWORKS (LENGTH IN KMS)	2016 ¹	2015
Distribution		
- LV - OHL	38,238	38,146
- LV - Underground	13,372	13,274
-10kV - Overhead	37,465	37,898
-10kV - Underground	8,146	8,115
-20kV - Overhead	45,730	45,179
-20kV - Underground	1,583	1,545
-38kV - Overhead	5,751	5,735
-38kV - Underground	1,016	1,061
-110kV - Overhead	537	537
-110kV - Underground	240	240
NIE NETWORKS	2016	2015
Distribution	47,000 (34% underground)	47,000 (34% underground)
Transmission	2,200 (5% underground)	2,200 (5% underground)

Notes:

1. 2016 figures reflect update on decommissioned and retired cables

GENERATION

Installed capacity by regulatory regime & primary energy source in MW

		REPUBLIC OF IRELAND	NORTHERN IRELAND	GREAT BRITAIN
Gas	2015	2,025	402	350
	2016	2,025	402	1,235
Coal	2015	855		
	2016	855		
Peat	2015	226		
	2016	226		
Oil	2015		53	
	2016		53	
Wind	2015	226	73	125
	2016	261	73	125
Hydro ¹	2015	508		
	2016	508		
Solar	2015	0	1	0
	2016	0	1	0

Notes:

1. Hydro (including pumped storage)

ENVIRONMENTAL PERFORMANCE

CATEGORY	2016	2015
Environmental Prosecutions	1 ¹	0
Enforcement Notices		1 ²
Environmental Complaints -ESB Networks	14	6
NIE Networks	0	0
G&WM	5	12

Notes:

1. Moneypoint Generating station (G&WM) prosecuted by EPA in Ireland for discharge and records issues
 2. Relating to waste disposal beneath NIE Networks pylon, NIEA accepted no fault on company.

PRECAUTIONARY PRINCIPLE

ESB's Environmental Policy, <www.esb.ie/acting-responsibly/environment/environmentalinformation>, our approach 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 recognizes that our activities comprising of electricity generation, transmission, 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.

WASTE IN TONNES 2016

WASTE TYPE	ESB NETWORKS	NIE	G&WM (ROI)	ELECTRIC IRELAND	BSC	ESBI	TOTAL 2016	TOTAL 2015
Non-Hazardous (tonnes)	5,384	1,909	8,780	34	333	69	16,509	11,260
Hazardous (tonnes)	1,565	987	936	0	4	0	3,493	2,824
Total (tonnes 2016)	6,949	2,896	9,716	34	337	70	20,002	14,084

Note:

1. The vacation of the Fitzwilliam Head office premises which commenced in Q4 2016, lead to a large increase in waste.

2016 WASTE BY DISPOSAL METHOD

Disposal Method	ESB Networks	NIE	G & WM (ROI)	Electric Ireland	BSC	ESBI	Total 2016	Total 2015
Reuse	476.00	0.00	0.00	0.00	0.00	0.00	476.00	292.75
Recycling	6,318.00	2,832.38	6,517.11	13.11	282.31	58.57	16,021.49	12,033.24
Composting	53.00	0.00	0.00	13.57	40.72	6.65	113.94	114.45
Landfill	102.00	63.69	3,198.87	7.22	14.08	4.71	3,390.57	1,643.50
Disposed of directly by the organization or otherwise directly confirmed	0.00	0.00	235,275.00	0.00	0.00	0.00	235,275.00	235,441

Note:

1. Zero waste for the following disposal categories (Recovery, including energy recovery, incineration (mass burn), deep well injection, on-site storage, organisational defaults of waste disposal contractor).

ANNUAL ASH TOTALS GENERATION & WHOLESALE MARKETS

STATION	2015	2016
Moneypoint	160,595	157,118
Lough Ree	36,729	32,178
West Offaly	38,117	45,979
Total Ash	235,441	235,275
FGD By product	124,212	108,161

BIODIVERSITY

	2016	2015
Republic of Ireland (Assets inside SAC, SPA, NHA, PNHA Areas)		
Lands under ESB control (km ²)	90.7	90.7
LV Stations (No.)	249,000	249,000
38kV to 400kV OHL (km)	12,330	12,330
38kV to 400kV Cable (km)	1,319	1,319
Northern Ireland (OHL/Cable inside natural heritage protected sites)		
11kV or below (kms)	3,500	N/A

AIE REQUESTS

	2016 ¹	2015
New Requests Received	21	18
Granted / Part Granted	5	6
Refused	22	11
OCEI Appealed	8	4

Note 1: ESB and ESB Networks are separate public authorities under Access to Information on the Environment regulations, totals reflect combined figures. 2016 totals include carried over requests from 2015.

OPERATIONAL ENERGY CONSUMPTION

THERMAL GENERATION (GWH)	2016	2015	
Coal	12,807	13,106	
Natural Gas	18,839	13,078	
Oil	553	637	
Peat	4,629	4,676	
OPERATIONAL (PRIMARY ENERGY EQUIVALENT IN KWH)	2016	2015	BASELINE ¹
Electricity	64,539,479	65,554,539	95,785,331
Thermal	2,827,693	2,127,447	
Transport	54,148,236	57,258,145	
Energy Performance Indicator (EnPI)			
kWh/FTE Employee	22,692	23,670	30,414

Note:

1. Baseline 2006 for Operational energy consumption (excluding generation).



STAY SAFE STAY SMART

electric ireland

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6

03

Around the Business

3.1

ESB Group
Overview

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Health, Safety
& Wellbeing

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Our People

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Business

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Innovation

3.1 ESB GROUP OVERVIEW

ESB's main operations are in the Single Electricity Market (SEM), the single wholesale market pool for electricity in the Republic of Ireland (ROI) and Northern Ireland (NI). With its headquarters in Dublin, Ireland, ESB Group maintains an operational presence across many regions of the world, as outlined in Figure 3.1 below;

FIG 3.1 STAFF BY REGION

Republic of Ireland	80.5%
Northern Ireland	17.5%
Europe	0.1%
Middle East	1.4%
Asia	0.03%
Africa	0.01%

ESB operates its business model right across the electricity market from generation, through transmission and distribution to supply of customers, with an expanding presence in the Great Britain generation market. The business model revolves around improving these businesses and developing new business opportunities across the Group that will help to create further value and transition ESB to a low-carbon future.

FURTHER DETAILS OF THE BUSINESS ENVIRONMENT CHALLENGES FACING ESB AND OUR STRATEGY FOR MEETING THESE CHALLENGES IS GIVEN IN OUR ANNUAL REPORT 2016: www.esb.ie/who-we-are/investor-relations/annual-reports PAGE 24

ESB Group operates across the four segments of the electricity market value chain; generation, transmission, distribution and supply. The nature of the business area determines the type of products and services offered, but in the main, the supply business offers electricity and gas to over 1.4 million domestic, commercial and industrial customers. Energy efficiency advice and services are also offered. The Distribution System Operators (ESB

Networks and NIE Networks), operate under a strictly regulated framework, where they provide network maintenance, renewal and extension programmes to boost network resilience, ensure quality and continuity of supply, improve network efficiency and facilitate renewables connections. ESB's generation business is focused on the development, operation and trading of ESB's electricity generation assets, whilst investing to reduce the carbon intensity of our generation plant and increase the role of renewable energy to deliver a low carbon generation portfolio by 2050. The Innovation area acts as a focal point for new ideas and emerging technologies across the ESB Group and is the driver of new growth opportunities and transformation across the organisation, with a view to bringing new business opportunities to commercialisation.

FOR FURTHER INSIGHT INTO THE OPERATIONAL BUSINESS UNITS SPANNING THE ESB GROUP, PLEASE REFER TO THE OPERATING AND FINANCIAL REVIEW SECTION OF THE 2016 ANNUAL REPORT; www.esb.zahramediagroup.com/annual_reports/2016 PAGE 34

ESB'S SUPPLY CHAIN

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 publically available via the ESB Group website; <www.esb.ie/who-we-are/procurement>

ESB's supply chain supports its business operations across the value chain in generation, networks and supply - including its international activities. With an annual procurement spend (excluding fuel) in excess of €71m, we rely on a complex and diverse supply chain in order to provide the services necessary to meet our customer's needs. Of this spend approx.74% is sourced from suppliers within the Republic of Ireland & Northern Ireland, 15% from the UK, and 9% from other EU member states. We currently have approx. 5082 active Tier 1 suppliers, ranging from local SME's & micro companies to large multi-national corporations / contractors, with whom we placed 32,808 purchase orders in 2016.







Contracts range from standard supply type arrangements for consumable items such as stationary, tools & equipment to more complex service / works contracts for generating station & wind farm builds & refurbishments, networks sub-station & overhead line construction, customer billing & metering services and financial & engineering consultancy assignments. Many of these contracts by their nature are labour intensive and it is essential that suppliers maintain a strong culture of corporate responsibility, in addition to good sustainable and environmental practices.

Key to the success of ESB's supply chain is ESB's commitment to building strong and sustainable supplier relationships. ESB's standard procurement practice is competitive tendering or other forms of open competition in compliance with applicable procurement law. Where technical considerations allow, we favour the use of functional and performance-based specifications, supported by International/European standards. All significant contracts are advertised in the Official Journal of the European Union. ESB's aim is to ensure that sustainability is embedded across every function, including procurement where a very significant element of our business operations are transacted electronically with our suppliers.

We are also committed to complying with the terms of applicable late payments legislation and are signatories to the Prompt Payment Code of Conduct. Our standard terms of payment are Nett Monthly Account.

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	€1,327M	€1,019M	€272M	€1,895M	€278M
REGIONS OF OPERATION	 ROI, NI, GB	 ROI	 NI	 ROI, NI	 ROI, NI  EU, MIDDLE EAST, ASIA, AFRICA
SCALE OF OPERATIONS	10 THERMAL STATIONS, 8 HYDRO AND PUMPED STORAGE STATIONS, 22 WINDFARMS	88 DEPOTS, YARDS, STORES AND VEHICLE WORKSHOPS	15 DEPOTS, YARDS, STORES AND OFFICES	4 OFFICE LOCATIONS	41 OFFICES AND STORES ACROSS ROI, NI, GB AND INTERNATIONALLY
AVERAGE EMPLOYEE NUMBERS	981	3,289	1,261	365	1,701
STRATEGIC FOCUS	DEVELOPING A LOW CARBON PORTFOLIO. CREATING CLEANER POWER USING SUSTAINABLE GENERATION	BUILDING SMARTER 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 LEADING EDGE ENERGY SOLUTIONS TO ALL OUR CUSTOMERS. INNOVATING FOR THE FUTURE

3.2 HEALTH SAFETY AND WELLBEING



JERRY O'SULLIVAN
Deputy Chief Executive

“Ensuring a safe working environment for employees, contractors and others working on our sites is at the heart of health and safety management in ESB. Keeping a focus on our safety culture means we can keep improving how we protect each other at work.”

OVERVIEW

ESB is fully committed to protecting the health and safety of employees, contractors and the people it serves. Safety is a core value of the Group and the safety of employees, contractors, customers and the public always comes first.

ESB believes that all operational processes can be designed and operated in an inherently safe manner. This belief guides the approach to safety across all business activities and is reinforced through strong and visible leadership throughout ESB. Pride is taken in safety achievements and an open and proactive health and safety culture is promoted with the full involvement of all.

The Chief Executive has overall responsibility for the management of health and safety in ESB. Functional responsibility is shared with all senior management and, in turn, with each manager, supervisor, team leader and every employee. The Board has a Health, Safety and Environment Committee, which monitors overall health and safety performance of the Group.

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 committee structures 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 an incident and injury free environment.

Our 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 and health, safety and wellbeing performance is managed through a key performance indicator process.

ESB'S SAFETY PERFORMANCE IS UNDERPINNED BY ONGOING INVESTMENT IN SAFETY PROCESSES, SYSTEMS AND CAPABILITY AND AN EMPHASIS ON DEVELOPING AN INCIDENT AND INJURY FREE CULTURE ACROSS THE ORGANISATION.

ESB places a strong emphasis on the prevention and control of risk in the workplace and has an extensive range of policies and procedures in place, including detailed risk assessments covering all areas of risk. ESB does not have any staff involved in occupational activities where there is a high incident or high-risk of specific diseases.

ESB commitment to health and safety is described in our ESB Group Policy and Framework Safety Statement <www.esb.ie/acting-responsibly/staying-safe/esbs-health-safety-policy-and-performance>

HEALTH AND SAFETY PERFORMANCE IN 2016

ESB continued to make progress in 2016 on improving its safety performance through delivery of specific safety strategies in each business area, combined with a focus on key risk areas.

There were no fatalities to employees or contractors arising from ESB activities and many parts of ESB maintained an injury-free environment during 2016. Regrettably, there were two fatalities to members of the public in 2016. These included a road traffic incident in which a member of the public was killed following a collision involving an ESB employee on a work related journey. The second incident was a fatality to a non-ESB contractor who was cutting timber for a third party when they made inadvertent contact with an overhead electricity line.

The number of LTIs in 2016 (72) is an increase on the number recorded in 2015 (58). While 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 use of tools and equipment. LTIs continue to be a key focus for the Group and training programmes are provided to all employees to reduce the risks associated with LTIs. In addition to focusing on LTIs, ESB categorises all injurious incidents and near misses, with a particular focus on high-potential incidents that could lead to more serious outcomes. The most significant safety risks arising from high-potential incidents for ESB remain electricity, driving and transport, working at height and use of tools and equipment.

KEY INITIATIVES IN 2016

LEADERSHIP

- ESB commenced a focused programme of monthly senior manager safety conversations with employees.
- ESB undertook a Safety Culture Change Pilot Programme at four locations. The programme is designed to drive a renewed commitment to the elimination of all incidents and injuries in ESB and has had a positive impact in each pilot location.
- Work continued on the implementation of a new, risk-based health, safety and wellbeing function with centres of competency to drive a best practice approach across all key risk areas.
- A new public safety campaign, Stay Safe, Stay Clear, was launched in 2016 by ESB Networks, which has succeeded in raising public awareness of how to stay safe around electricity wires.

COMPETENCY

- 6 new Centres of Competency were established in 2016. These centres of competency provide advice and support in the management of key risk areas in the business including Driving, Contractor Management, Health & Wellbeing, Electricity, Working at Heights and Process Safety.
- Almost 500 staff have completed the UCD Certificate in Safety & Health at Work programme since being established in 1996. A further 32 staff have commenced the programme in 2016/2017.

COMPLIANCE

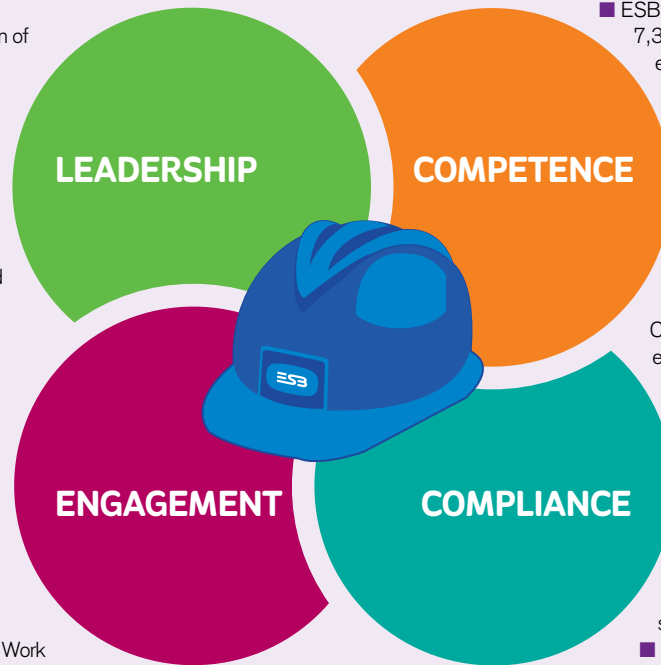
- Work commenced on the development of a new Health Safety and Wellbeing policy and assurance framework. The suite of new corporate policies will be launched in 2017 after extensive consultation.
- Development of new Central Safety Management System as part of major office moves in 2016 involving over 1,000 staff in our Head Office locations.

- Throughout 2016, NIE Networks continued to meet its obligations under Electricity Supply Quality and Continuity (ESQCR) Regulations and general social responsibilities for public safety with various initiatives undertaken.

ENGAGEMENT

- ESB achieved its target of recording over 7,300 Good Catches (one for each employee) in 2016. A Good Catch is when a person positively intervenes after seeing something unsafe.
- Health and safety issues were discussed through an extensive system of safety representatives, safety committees and safety forums throughout the business. The Chief Executive chairs the Chief Executive Health and Safety Committee, with representatives from each business unit, Group of Unions, Board Health Safety and Environment Committee and Executive Director Team. In 2016 the Committee visited Lough Ree Power Station in Roscommon, Electric Ireland offices in Dublin, ESB Networks depot in Sligo and Cappawhite Wind Farm in Tipperary. These events are a strong engagement tool for staff around safety, health and wellbeing issues.

- ESB is strongly committed to supporting employees in maintaining good health and wellbeing. ESB's Health and Wellbeing Programme in 2016 focused on supporting employees to reach their full potential in the workplace through the promotion of good mental, physical and emotional wellbeing.
- In 2016, over 3,000 employees attended one of 153 pro-active programmes. The Employee Assistant Programme supported 636 employees, and the 24hour counselling service supported over 500 employees.



CASE STUDY

CENTRAL SMS

In 2016 ESB completed a project to create a new single Safety Management System for the functions based in Head Office to replace four separate Safety Management Systems in anticipation of the move of over 1,000 staff from Fitzwilliam Street to temporary office accommodation at Gateway buildings in Dublin 3.

This new Central Safety Management System (SMS) went live in October in advance of the first move of staff to the new location and applies to staff in a number of business areas including Business Service Centre, Corporate Centre, Innovation and G&WM staff. The new Central SMS covers over 1,300 staff based at the new Gateway building and 11 other ESB office

locations spread across Ireland and the UK. The new combined Safety Management System has provided a more structured approach to managing safety and health at work across all of the business areas and helps to drive a consistent approach in managing key risk areas. It has also enabled us to identify and adopt a best-practise approach across the business.

CASE STUDY



INCIDENT AND INJURY-FREE PILOTS

ESB recognises that processes, procedures and safety management systems alone will

not ensure the safety of all our staff. ESB wanted to take safety to the next level through a safety culture change programme where leadership and engagement are embedded and where everyone is aligned and committed to ensuring that 'everyone goes home safe everyday'.

To support this ESB undertook an 'Incident and Injury Free' pilot in conjunction with JMJ Associates. Incident and injury free 'is a commitment to the elimination of all incidents, injuries and deaths', it's about caring for one another and demonstrating that care on a daily basis, creating a mind-set intolerant of any level of injury with everybody taking

responsibility for their own safety and the safety of those around them. It is also about developing an attitude of choosing to follow the safety rules rather than having to follow them and about speaking up and expressing concern when you see something unsafe.

Four areas volunteered to get involved namely Aghada/Marina and Dublin Bay Power Stations and two locations in our Networks business Cavan/Lon. The pilot started in April 2016 and one of the key successes of the pilot was the level of engagement from staff in the process and the opportunity for managers to show safety leadership in a more open environment. Each of the pilot sites created local leadership teams made up of staff and managers and together under an IIF framework they began tackling real local safety issues.

Some of the feedback from staff and managers involved in the pilot was:

- 'IIF is good because it is not being pushed at us, we are involved'
- There is a high level of staff engagement and an

appetite for things to change around safety as too many people have been injured'

- 'Actions agreed are visible on notice boards or recorded in Shield'
- 'People you would not have expected to get involved told their safety stories'
- 'IIF providing the space to engage, over time we will get to discussing the real issues'.

The results from the pilot were reviewed in November 2016 and based on the success to date a decision was made to roll a programme out across all of ESB starting with the most at risk staff in Networks and the generation business.



Local staff being trained as IIF facilitators

CASE STUDY

ONESOURCE

ONESOURCE DOCUMENT MANAGEMENT SYSTEM

The OneSource Project was established to provide ESB Networks staff with easy access to the documents they need, to plan and carry out their work safely, every day. In November 2016, the OneSource Project delivered FileHub, our interim document management system. Feedback from our users has been extremely positive with users finding FileHub easy to use with documents accessible when staff need them.

FileHub is a step forward for safety in ESB Networks. Previously our documents were available on our legacy document management system and various other

portals. The feedback from our staff was that accessing the documents they required was not easy. Our aim was to address this issue with FileHub.

Technical experts in our business reviewed & classified each of the documents on the existing systems. A large number of documents were either retired or migrated to FileHub, using their new classifications, which makes them easy to access using FileHub's enhanced search facility. FileHub has been a significant achievement towards improving safety in ESB Networks. Having safe work practices, which are documented in our policies, company standards, procedures and guides, improves the safety of work ESB Networks. The ESB Networks business is currently developing 14

handbooks - comprising policies, company standards, procedures and guides - for key activities carried out by ESB Networks staff. These documents are being developed to a new OneSource standard. During 2017 FileHub will be replaced by the OneSource Document Management System. OneSource will have all the functionality of FileHub and will also provide an increased range of search options. It will support collaboration & feedback from our staff and be available to all our Network Technicians on mobile devices.

FileHub has significantly improved the accessibility of documents in ESB Networks, supporting us to work safer every day.

CASE STUDY

CARRINGTON POWER STATION – SAFETY THROUGH LEADERSHIP, COMPETENCE, COMPLIANCE & ENGAGEMENT

2016 saw the completion of Carrington Power Station, an 885MW Combined Cycle Gas Turbine (CCGT) power station in Manchester UK.

The project consisted of the construction of an 885MW CCGT plant and 3km of Natural Gas pipeline. Over 5 million construction man-hours were completed on the project over an 8 year period from site investigation work in 2008 through enabling works in 2010 & 2011, the construction of the gas pipeline in 2012 and the construction of the main plant in the period 2013 to 2016. First fire was safely achieved on the 22nd March 2016 and the plant went into full operation on the 18th of September. This was the culmination of over 10 years work by large number of people across the ESB Group.

THE REAL SUCCESS OF CARRINGTON WAS THE EXCELLENT HEALTH SAFETY AND WELLBEING PERFORMANCE ON THE PROJECT DRIVEN BY THE STRONG COLLABORATION BETWEEN ESB AND OUR PARTNERS ON THE PROJECT WITH A VISION OF SAFETY EXCELLENCE SHARED BY ALL.

Over the 8-year development period where over 5 million construction man-hours were completed there were 10 lost time injuries on the project of which only 2 were in the high severity category. The remainder were lower severity injuries. A huge focus on reporting resulted in over 3000 Good Catches and nearly 13000 audit observations being recorded and managed on the project. Other key drivers of health, safety and wellbeing success on a project of this scale and complexity were

- Removing health and safety risks in early concept and development phase through design and enabling works.
- A commitment to safety by ESB, with a comprehensive specification for Health, Safety and Wellbeing in contracts.
- Engagement with the Project Partners throughout the procurement process to ensure a shared understanding of requirements.
- Project partners demonstrating strong leadership at the highest level with a shared vision for everybody.
- An active safety leadership team consisting of senior managers from the project teams.
- Collaboration and engagement on Safety Health and Wellbeing between ESB and our Project Partners.
- Strong relationships at all levels both onsite and offsite.
- Clear reporting with a focus on proactive measures in the areas of Good Catch reporting and audit observations.

Carrington Power Station has received a number of awards in recognition of its strong safety performance by a number of organisations in the Health, Safety, Environmental and Sustainability arena including

- Shortlisted by the UK National Corporate Social Responsibility Awards (CSR) in the Innovation for Workplace Practices category for a project on Workplace Innovations. The UK National (CSR) Awards celebrates business excellence and innovation in Corporate Responsibility and Sustainability across a broad range of disciplines including Carbon Impact, Community Development, Staff Welfare, Energy, Education and Leadership in the UK
- Winner of the British Safety Council Sword of Honour. The British Safety Council Sword and Globe of Honour awards represent the pinnacle of achievement in the world of health, safety and environmental management. Each year, business sites that have achieved a five star result following one of the council's Five Star Audits are invited to apply for this prestigious award.



Working at Height exercise in Carrington

CASE STUDY

NIE NETWORKS – MANAGING OCCUPATIONAL ILL HEALTH RISKS

NIE Networks work closely with Occupational Health Advisors in developing an Annual Health Surveillance Programme. The programme is essential for:

- Detecting ill-health effects at an early stage
- Providing data to help evaluate health risks
- Enabling employees to raise concerns about how work affects their health
- Highlighting lapses in workplace control measures providing feedback to the risk assessment
- Providing an opportunity to reinforce training and education of employees

Human Resources and Health, Safety and Environment work in partnership to develop the programme along with our Occupational Health (OH) Advisors. The OH statistics are reviewed on a quarterly basis by the Health and Safety Management Committee.

Whether an employee is at work or absent from work due to ill health, our strategy is to engage with the employee at the earliest stage. OH and Welfare specialists engaged in this area provide caring, professional and specialist advice and use sickness absence records as a primary indicator to assess our top OH risks. When analysed with our OH Advisors, conditions such as stress, anxiety and depression emerged as the main issues to focus on followed closely by Musculoskeletal Disorders (MSD).

NIE embarked on a series of awareness training programmes throughout 2016,

all of which were facilitated by external independent advisers. These included:

- Personal Resilience training provides a better awareness of stress factors, how to deal with change, and provides cognitive tools for positive thinking.
- Mental Toughness training is aimed at 'front line' Managers and raises awareness on stressors and symptoms.
- Mindfulness training was delivered during the Company Occupational Health & Wellbeing week in October

Guidance and support mechanisms are also in place for those who have or have had mental health problems. NIE provide medical, welfare and counselling services designed to promote wellbeing and provide assistance and support for individuals or groups:

- Proactive initiatives such as Mental Wellbeing Training
- Use of external health and wellbeing experts to help identify wellbeing priorities
- Mental Health Charter commitment statement
- Engagement through the Employee Survey and Focus Groups
- Use of a stress management tool kit and the use of our Welfare Advisor
- A Health and Wellbeing Forum has been established consisting of office based, industrial employees, HR, HS&E and a TU Representative that looks at proactive initiatives aiming at improving overall health and wellbeing of its employees
- Wellbeing Champions are in place across all locations

MUSCULOSKELETAL DISORDERS

NIE worked along with a Physiotherapist and our OH Advisors to devise a programme called "How Healthy is your Back" This was initially delivered to office based staff at our annual Health & Safety Workshops in February 2016, and the sessions were so well received by staff that we delivered additional sessions to all staff during. From the positive feedback, we intend to increase the availability of these sessions into 2017 with focus on specific skills areas.

FITNESS TO WORK PROGRAMMES

NIE have a range of fitness to work programmes including phased returns building up to contractual hours over a period of time (normally 4 weeks), temporary or permanent redeployment, implementation of adjusted duties to assist with an early return to work, funding of referrals to specialist/scans in order to get to a diagnosis stage and referrals for physiotherapy. OH reviews are built into fitness to work programmes.

A healthy and engaged workforce is critical to NIE Networks ability to deliver on its business priorities



3.3 OUR PEOPLE



PAT NAUGHTON
Executive Director
Group People and Sustainability

“ We recognise that inclusive and respectful workplaces are key to retaining talent, ensuring diversity and innovation, which will drive our business forward.”

HARNESSING OUR POTENTIAL

ESB people have always worked to deliver a brighter future in every community we serve. In 2016, as we approach our 90th anniversary, our purpose remains the same.

As an energy utility, ESB has a significant role to play in addressing the issue of climate change. Our ambition to lead the transition to a low carbon future will be realised through the skills, knowledge and expertise of our people. By combining the skills developed over decades in this industry, with new and future skills, we will harness our collective potential to ensure

that we deliver a low-carbon, brighter future.

CAPABILITY ASSURANCE

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 25% of our people to natural 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 a cohesive resource planning framework.

This informs all of our resourcing activities

including the attraction and recruitment of key skill areas. Our graduate recruitment programme has been extensively reviewed to allow us to succeed in a competitive employment market by showcasing ESB as a company providing quality employment and giving graduates the opportunity to do leading edge work and make a difference to society.

ESB PEOPLE STRATEGY

The capabilities and commitment of ESB’s employees helps to set ESB apart. In 2016, the ESB People Strategy continued to provide the focus and direction for many human resource initiatives and actions. The strategy is designed to support the overall ESB Group Strategy objective of developing an Engaged and Agile Organisation. In order to achieve this objective the following four areas are focused on:

- Developing people
- Employee health and wellbeing
- Diversity and inclusion
- Employee engagement

DEVELOPING PEOPLE




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

RESOURCE PLANNING

Resource planning in ESB focuses on identifying the number of employees required and the capability these employees have for the successful delivery of ESB’s Group Strategy. During the process, the gap between the current number and capability and future requirements is identified. Action plans are agreed and implemented to ensure that these gaps are bridged.

EMPLOYEE DEVELOPMENT

ESB is committed to developing all its employees so that they have the skills and competencies to be effective in their current role and to build a career in the organisation based on their requirements and the organisation’s requirements. Building employee

		2016
Numbers of graduates hired across all the disciplines		84
Number of apprentices hired		76
Total number of external hires (195 ROI + 76 apprentices + 84 graduates, excludes UK and overseas local hires and contractors)		355

capability continues to be a strategically important activity as ESB seeks to manage its different business environments and the challenges each one poses.

The Group's Annual Performance and Development Process provides the platform for the identification and delivery of targeted learning and development solutions. Effective development is based on specified competencies that align with the needs of each individual and the Group.

MANAGER DEVELOPMENT

ESB continued its investment in developing the skill set of its managers in line with the Management Development Framework (MDF) and a refreshed Management Development Policy was approved during the year.

THE VALUE OF INCLUSION

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.

In 2016, ESB launched our LGBTI+ network which the founding members named BeMe@ESB. This network for both LGBTI+ employees and their allies supports employees in the workplace while also raising awareness across the entire employee population of this community in our workplace.

Having an active network encourages more LGBTI+ employees to be out at work which is known to be important for overall mental, health and wellbeing at work, while also making for a more diverse and welcoming work environment. Members of the network walked in the Dublin Pride parade, representing ESB's inclusive workplace.

Key initiatives in 2016 included:

- A three-day Leadership Communications Programme was completed during the year, with a focus on performance conversations skills, for almost 800 middle and front-line managers.
- ESB supports managers and employees in undertaking external open programmes in business schools in Ireland and Europe.
- The Chartered Institute of Personnel and Development (CIPD) accredited Human Resource Management (HRM) for Line Managers Programme, successfully passed its annual audit in September 2016. As an outcome, ESB continues to be an accredited CIPD centre.
- ESB continues to invest in performance coaching, using both trained internal and external coaches. A renewed Coaching Strategy and Coaching Policy were put in place in 2016.



CASE STUDY



Celebrating women in engineering at ESB International

ESB INTERNATIONAL – ENCOURAGING AND CELEBRATING DIVERSITY

The diversity of our workforce is crucial to our ability to innovate. Among its many Corporate Social Responsibility initiatives in 2016, ESB International hosted its annual Women in Engineering programme. The programme aims to encourage transition year female students to consider a career in engineering.

Students from schools across Dublin and beyond are participating in the programme. Many past 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.

As part of its celebrations, ESB International hosted a special celebratory lunch for staff which showcased the diversity within the organisation, and was attended by staff who represented the 35 countries from around the world.

INNOVATING OUR FUTURE

ESB continues to place significant emphasis on employee innovation. Following the success of our first awards event recognising employee innovation, a companywide employee innovation programme took place in 2016 which culminated in an awards event in November. From over 500 entries 60 finalists were selected and on the night 10 received awards along with an overall winner. The event was organised to maximise fun and drive engagement across the company. The programme drives engagement in innovation and promotes employee participation in solving problems faced by the energy industry.

CSR – ENGAGING OUR EMPLOYEES

Over the past number of years we have evolved our CSR strategy to maximise employee engagement. Our aim with the Energy for Generations Fund is to maximise the impact of our investment by taking a more strategic approach to effect change. Funding is only part of the jigsaw - we also want to leverage the skills and knowledge we have within ESB to bring about more sustainable and positive outcomes. This approach has significantly increased employee awareness of the extensive involvement of ESB with charity partners across numerous communities while building employee engagement through the volunteering opportunities presented.

This is a very good fit for an organisation that has had a social justice fund, Electric Aid, set up and run by employees for almost 30 years. In 2016 ESB was awarded 'Outstanding Achievement in CSR' at the Chambers Ireland CSR Awards. This award gave ESB the opportunity to tell our CSR story, the positive impact we have on communities through the way in which we conduct our business operations and the further impact we have through our charity partnerships.

CASE STUDY



Donal O'g Cusack pictured with Jim Dollard, Executive Director BSC & Electric Ireland at the launch of BeMe@ESB

BEME @ESB

ESB'S COMMITMENT TOWARDS A MORE CONSCIOUSLY INCLUSIVE WORKPLACE CONTINUES.

At the launch of ESB's LGBT+ & Allies Employee Network - BeMe@ESB in June 2016, Jim Dollard, Executive Director, BSC & Electric Ireland and also ESB's Executive

Sponsor of LGBT+ Inclusion, spoke of his pride in the leading role ESB plays, as an organisation that has a presence in every part of the country, in working to ensure that ESB is an inclusive organisation. The launch of BeMe@ESB was an important step to help create an environment where LGBT+ colleagues can bring their whole self to work. Jim also spoke of the important role each one of us has, in shaping the culture of an LGBT+ inclusive organisation - as LGBT+ colleagues, Allies and advocates for LGBT+ inclusion.

Research shows that LGBT people who feel that they can bring their whole self to work

are more engaged, stay longer and earn more than those who feel they cannot be out at work. Guest speaker, Donal Óg Cusack, shared his personal journey and experience in relation to LGBT inclusion in society, in the workplace and in the sporting world and said that "ESB should be very proud of what you have achieved here today. I can say with all certainty that there are many ESB employees that are feeling much better about themselves as a result of what you are doing here today"

As part of the launch and as a celebration of PRIDE week, ESB's logo and tagline were rebranded to ESB –PRIDE In Who We Are - reflecting PRIDE colours both on internal screens and all external social media channels – Website, Twitter, LinkedIn. This rebrand received really positive feedback from ESB staff members as well as from other organisations.

3.4 RESPONSIBLE BUSINESS



PAT NAUGHTON
Executive Director
Group People and Sustainability

“ESB is committed to playing a role in addressing some of the key social issues facing the country today. The aim with the Energy for Generations Fund is to maximise the impact of the investment by taking a more strategic approach to effect change.”

IMPACT ON SOCIETY

ESB has always worked to enable progress, growth and opportunity in the communities we serve. This is evident not only in our long-term approach to investing in critical energy infrastructure, but in our commitment to finding technical and commercial solutions that balance energy affordability, security of supply and sustainability. It is also evident in how we engage and support communities through our work, whether through public consultations, safety communications, ongoing operations or through our CSR and sponsorship activities.

This is hugely important in today's context as we work to transform the energy system for a low carbon future.

LOW CARBON FUTURE

There are many potential routes to a low carbon future, all involving uncertainty and risk. ESB is committed to using our trusted position in Ireland and internationally to lead the transition, leveraging the knowledge, skills and experience that exists within our business and that of our partners to find the best route for society as a whole.

Our commitment is underpinned by four strategic pillars:

1. Investing and innovating in renewable and low carbon technologies, like wind, solar, ocean and biomass, and managing the responsible transition away from fossil fuels. This means actively seeking new sources of generation that can replace existing coal and peat technologies, without impacting

on security of supply and affordability. In this context, we are expanding our wind portfolio in Ireland and the UK, partnering with the Green Investment Bank to develop a biomass plant at Tilbury Docks in London and working with Bord na Mona and Kingspan to advance solar opportunities.

- 2. Investing in the electricity network and making it smarter and more resilient so that it can accommodate increasing levels of renewable and distributed energy resources and low carbon heat and transport, while also supporting population growth.** Over the past decade, ESB Networks has invested over €6bn in developing an upgrading the electricity network, and has connected 3000MW of renewable generation to the system. A further 800MW is planned for 2017. We are currently funding over thirty R&D projects to further advance the smart network, with a particular emphasis on supporting new patterns of consumption, including eheat and transport.
- 3. Bringing our customers with us on the journey to a low carbon future by giving them new tools and services that make clean energy a solution for living.** Electric transport and heating technologies are extremely efficient compared with traditional technologies, and electricity generation is an a trajectory to fully decarbonise by 2050. However, to realise the potential of electricity to contribute to a low carbon society, customers need to recognise the benefits to them in terms of cost, convenience and comfort. We are therefore engaging with customers through Electric Ireland's Smarter Living Panel to understand their motivations and behaviours and co-create customer centric solutions.
- 4. Advocating for and supporting the electrification of the heating and transport sectors.** Removing carbon from electricity generation will address about 20 per cent of

Ireland's carbon emissions. If transport and heating migrate to clean electricity, there is potential to reduce Ireland's emissions by over 50 per cent. We are working to support the electrification of heating and transport, through the development of the ecars charging infrastructure in Ireland and by advocating policy change. Over the past decade, ESB Networks has provided over 1,500 public and 2,000 home charge points. In addition, we are working with the construction industry to assist them in developing 'All Electric Homes' and have partnered with the Tipperary Energy Agency to promote deep energy retrofit of existing housing stock through the "Superhomes" initiatives.

CORPORATE SOCIAL RESPONSIBILITY

ESB has always, since its foundation in 1927, had a strong sense of corporate social responsibility. Over the last 90 years we have worked to bring light and energy to the people of Ireland, allowing individuals and communities to fulfill their potential in whatever walk of life they are in. For us, it's not about short term gains. We are driven by a desire to put in place solutions today that will leave a positive legacy for generations to come and this is reflected in our CSR activities.

ENERGY FOR GENERATIONS FUND

ESB's Energy for Generations Fund disburses over €2million annually across a range of community and issues-based initiatives. Each year the Fund awards €1million in direct funding through a quarterly fund to charities working in the areas of suicide, homelessness and education access and support. ESB has been supporting initiatives in the areas of suicide and homelessness since 2005; education was introduced as a new focus in 2014 recognising the need for educational supports at all levels to ensure that Ireland has the skills it needs to compete effectively in the future.

In 2016, the Fund awarded direct funding to 154 charities working in these areas. These projects are rooted in communities across Ireland and aim to improve the quality of life for those living in the community.

ENERGY FOR GENERATIONS FUND



THE FUND DONATED ALMOST €1 MILLION TO 154 PROJECTS ACROSS IRELAND



EDUCATION (37 PROJECTS FUNDED)



HOMELESSNESS (42 PROJECTS FUNDED)



SUICIDE (75 PROJECTS FUNDED)



LOCATION OF CHARITIES

The Fund also allocates funding across a range of initiatives including support for ElectricAid, strategic partnerships, wind farm community funds, and support for staff volunteering.

VOLUNTEERING

The Energy for Generations Fund recognises that funding is only part of the jigsaw – we also want to leverage the skills and knowledge we have within ESB to bring about more sustainable and positive outcomes. We encourage volunteerism and local community support through programmes such as Time to Read, Skills@Work and MAKESHOP.

The Fund also provides support to ESB employees who volunteer in their own communities. Any employee who volunteers for over twenty hours with a charity can request that

ESB donates €250 to that organisation. There has been a good response to this initiative, with donations being made to a wide range of charities including Down Syndrome Ireland, Capuchin Day Centre, Special Olympics Ireland, Irish Red Cross and Scouting Ireland.

To the end of December 2016, over 30,000 volunteered hours have been recorded by employees.



ELECTRICAID

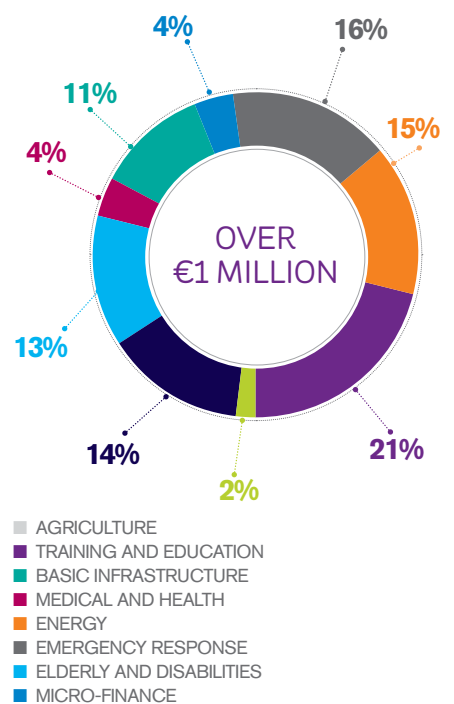
ElectricAid is the social justice and development charity of ESB (and EirGrid) employees and pensioners. ElectricAid is controlled by its 2,630 contributing members, and receives strong and consistent support from ESB, in the form of 2:3 matching contributions, up to an annual ceiling of €250,000. ElectricAid is the premier occupationally-based charity in the country.

In 2016, ElectricAid supported 135 development and relief projects with funding of over €1 million. Funding was made available in Ireland and in 35 different developing countries. ElectricAid's international impact is shown in the table below.

Almost €100,000 was committed to emergency responses in Ireland (flooding), Ethiopia, Niger, Egypt (Syrian refugees) and Haiti (Hurricane Matthew).

A copy of the ElectricAid annual report is available from the ElectricAid website – www.electricaid.ie

ELECTRICAID 2016 FUNDING





ESB Staff pictured with school children from Kilahan National School, Co Kerry during a MakeShop Workshop

WIND FARM COMMUNITY FUND

ESB actively supports the communities in the vicinity of its wind farms. In 2016, ESB committed over €1 million to a diverse range of community projects in the Republic of Ireland (ROI), Northern Ireland (NI) and Great Britain (GB).

CHAMBERS IRELAND OUTSTANDING ACHIEVEMENT IN CSR AWARD

ESB won the Outstanding Achievement in Corporate Social Responsibility (CSR) Award at the 2016 Chambers Ireland CSR Awards. ESB claimed the top honours for having our CSR practices embedded at the company’s core and for our ongoing dedication to community engagement and responsible business practice.



Pat Naughton, Executive Director, Group People and Sustainability, Sarah Claxton and Anne Cooney receive the Outstanding Achievement in Corporate Social Responsibility on behalf of ESB at the 2016 Chambers Ireland CSR Awards

DEVELOPING FUTURE TALENT THROUGH STEM

The transition to a low carbon future, powered by clean electricity will require creative, innovative thinkers with problem solving skills. To ensure this pool of talent is available in the future, ESB is actively supporting education in the area of Science Technology Engineering and Maths through our sponsorship and CSR programmes. In 2014, we partnered with Science Gallery Dublin as Science Circle Members, and have subsequently co-developed a national outreach programme to engage children in Science Gallery MAKESHOP workshops, introducing them to basic electronics principles and a maker culture in general. Through a national network of ESB staff volunteers, we have collaboratively taught over 1,600 children to build, solder and create. We are funding another similar initiative run by TechSpace, an organisation that encourages young people to engage positively with technology, and we also remain active supporters of Engineers Ireland’s STEPS programme. Gender diversity remains an issue in the engineering sector, and through ESB International, we host an annual ‘Women in Engineering’ programme, which seeks to promote engineering as a career choice for women.

Supporting the arts, communities and sport ESB is a long term supporter of arts and cultural institutions in Ireland, recognising their important role in stimulating creativity, innovation and community engagement. In 2016, we continued to support a range of organisations promoting Irish artists and cultural projects, including the Centre for the Study of Irish Art at the National Gallery of Ireland, the ESB Live series and ESB Great Christmas Concert at the National Concert Hall, the Dublin Theatre Festival, Laya City Spectacular and the ESB Feis Ceoil Festival. We also fund and operate Number Twenty Nine, Dublin’s Georgian House Museum adjacent to our permanent Head Office location on Fitzwilliam Street.

Through Electric Ireland, we are working to develop deeper customer relationships and enhance brand engagement by supporting high profile arts, sporting and charity initiatives. These include the GAA Minor Championships, U20s Rugby, Pieta House Darkness into Light, Electric Picnic, Young St. Vincent de Paul and the Irish Olympic Team. In 2016, Electric Ireland ran an inspiring campaign “The Power Within” to promote and encourage the Irish Olympic Team on their journey to Rio.

3.5 ESB NETWORKS LTD



**Marguerite Sayers Managing Director
ESB Networks DAC**

“ESB Networks is working hard to respond to the changing demands on the network and has developed an Innovative Strategy to design, build and operate advanced networks that provide new flexibilities. The work underpins the research, development, demonstration and adoption of innovative technologies. Overall, we aim to provide improved electricity services to customers and accelerate the move to a more sustainable, low carbon future.”

ESB Networks is a regulated monopoly that builds, manages and maintains a transmission and distribution network of over 180,000 kilometres serving all 2.3 million customers in the Republic of Ireland (ROI).

2016 was the first year of a new five-year price review period (PR4). In this year ESB Networks has delivered good progress on its approved investment and maintenance programmes demonstrating its commitment towards a safe and reliable network.

IN 2016:

€314 million
was spent in reinforcing and constructing new networks

€117 million
was spent on maintaining the existing network

A key strategic priority for ESB is Advanced Networks. In line with the PR4 programme, ESB Networks strives to efficiently deliver transmission and distribution capital and maintenance projects that fulfil the strategy of being a sustainable, smart, reliable and affordable network, enabling renewables and electrification.

Another important factor we have to consider

is safely delivering the critical infrastructure required to support the ongoing growth of the Irish economy within agreed budgets.

ESB Networks is continuously finding ways to deliver a sustainable electrical system fit for the future and positions the business to be a recognised leader in the area of energy and environmental sustainability.

ACCREDITATIONS

ESB Networks maintain ISO 55001, ISO14001 and OHSAS18001 certified management systems. These are important in providing assurance that the business is being run consistently to high external benchmarks.



Network Technician working hard to restore power following storm damage

OPERATING ENVIRONMENT

Economic recovery has continued during 2016 in both the house building and business sectors with both experiencing increased volumes of new connections, up 18% on 2015. Further modest growth is expected in 2017.

ESB Networks are committed to facilitating the Irish Government in achieving its target of 40% of energy consumption coming from renewable sources by 2020. A total of 540 MW of renewables was connected in 2016, bringing total renewable MW connected to the grid to over 3,200 MW. ESB Networks plan to continue to connect a further 800 MW of renewable energy in 2017.



ESB's Paul Cooney, with teacher and students from Crubany NS, Cavan



Promoting the Stay Safe Stay Clear campaign.

SUSTAINABLE PARTNERSHIPS

ESB Networks has always placed a high value on partnership and collaboration. Some examples include:

■ ESB Networks has collaborated on the new Public Safety Awareness Campaign (Stay Safe, Stay Clear) through television, radio and digital streams. The Stay Safe Stay Clear TV campaign is a general public awareness campaign. The Stay Safe Stay Clear Schools Campaign is based on six key safety tips:

- Never climb trees near overhead wires
- Never fly a kite near overhead wires
- Never fish near overhead wires
- Never approach a fallen wire, tell an adult
- Never climb a pylon
- Stay away from places marked with a danger sign.

It is delivered through lesson plans, teacher interaction, a colouring competition for engagement and safety calendars built from the children's artwork. The Safe Family Farm partnership with the *Irish Farmer's Journal* engages farmers and their families in farm safety messages through real-life stories and examples along with tips to keep them and their families safe. Construction specific content is targeted at on-the-ground builders along with key stakeholder events for building company owners and CIF.

- ESB Networks continues to partner with the Road Safety Authority (RSA) and engage with schools throughout the country on roads and electrical safety, as well as distributing high-visibility vests to all junior infant primary school starters nationally.
- To facilitate the growth of renewables in the system, ESB Networks are engaged in a number

of strategic projects with the Electric Power Research Institute (EPRI), allowing structured collaboration with system operators from around the world.

■ Innovation through collaboration is an important aspect in the development of ESB Networks' Innovation Strategy. Reserve is a project that ESB Networks is involved in along with eleven consortium partners including Ericsson, looking for a solution to stabilise the system for up to 100% renewables. Currently, there is an operational limit of 55% renewables.

HOW ESB NETWORKS IS WORKING TOWARDS A BRIGHTER, CLEANER FUTURE

The electricity industry is currently undergoing unprecedented change, facilitating our country's transition to a low carbon energy system, while providing secure supplies of competitive and affordable energy to our homes and businesses is a key priority.

ESB Networks is committed to supporting Ireland's target of supplying 40% of electrical energy from renewable resources by 2020. This will be achieved through an increase in renewable connections and distributed energy resources as well as the electrification of heat and transport, all of which requires complex integration with the existing electricity grid.

electric vehicles and recently completed work on a new 500 KVA substation to facilitate Ireland's first Tesla Supercharger site in Ballacolla, Laois, just off the M8.

We are also involved in a European project called RealValue which demonstrates how local small scale and distributed energy storage could benefit all market participants.

Connecting Renewable Generation

ESB Networks has connected over 3,000MW of renewable energy to the electricity grid. We facilitate renewable generation including large scale generation (wind, solar and wave) and smaller distributed energy resources such as PV, CHP and biomass.

Building a Smart Network – ESB Networks is building and maintaining a world-leading network through the introduction of 13,000 controllable devices on the network supporting increased visibility and control, an award-winning Geographic Information System, a Network Management mobile application, self-healing networks and storm response preparation.

ESB NETWORKS FLEET

ESB Networks operates one of the largest vehicle fleets in the country, with approximately

2,100 vehicles in the 'yellow' fleet. Over the past number of years we have been implementing a phased 'Green Fleet Plan' to improve the fuel efficiency performance of the fleet. A Fleet Management System has also been installed, which enables improved vehicle maintenance and feedback on driving behaviours. Since 2013, fleet procurement adopted a lifecycle cost approach to new vehicle procurement, which has helped the procurement of more efficient vehicles within the limitations of the price control mechanism agreed with the regulator. During 2016 a number of new HGVs have entered the fleet replacing older and less efficient vehicles, which will further aid fuel savings.

The electrification of auxiliary equipment, such as hoists, as well as adding electric vehicles to the fleet combines to reduce our impact on the environment. Fleet and Equipment have developed a policy of greening the fleet. Range limitation has been one of the biggest factors for ESB Networks to consider when assessing electric vehicles; however, given progress in battery technology, this now has increasing potential. A number of initiatives are being trialled, including testing of electrifying some LGV and HGVs and trialling hybrid vehicles to understand potential limitations versus traditional vehicles.



Area manager Robert Grimes (on the right) launches Tesla's first supercharger site

The following are some of the innovative projects and technologies that ESB Networks is undertaking in order to help meet these challenges:

Electrification of heat & transport

ESB Networks has installed over 1,200 public charging facilities to support the adoption of



ESB Networks is trialling electric vehicles throughout the country

3.6 GENERATION & WHOLESALE MARKETS



PADDY HAYES
Executive Director
Generation and Wholesale Markets

“ G&WM supports ESB’s ambition of delivering a secure and affordable transition to a low carbon future by investing in new renewable generation and by reducing the carbon intensity of our existing generating portfolio of plant. ”

the portfolio carbon intensity.

High efficiency, flexible CCGT plant also plays a key role in supporting the growth in renewable generation by providing system services such as rapid response when wind or solar generation is not available.

During 2016, ESB continued to progress the option of a generation project at Knottingley in the UK. This is a potential site for a future CCGT of up to 1,600MW capacity.

IMPROVEMENT IN EFFICIENCY OF OUR EXISTING GENERATION PORTFOLIO

Increasing integration of renewable energy into the electrical network places increased demands on conventional thermal generation units, both in terms of requirements for increased operational flexibility and reduction of operating costs. As a result, ESB places significant importance on the efficiency of its existing portfolio of generating units for commercial and social responsibility reasons.

As ESB continues to renew its generation fleet with the installation of new plants the overall thermal efficiency of our portfolio has increased. Figure 3.6.1 shows the improving trend in Operating Efficiency.

INTRODUCTION

ESB is signatory to an EU commitment to delivering carbon-neutral electricity in Europe by 2050, and to ensuring a competitively priced, reliable electricity supply throughout the integrated European energy market. ESB’s ambition is to lead the transition to a secure, affordable and sustainable low carbon environment.

We believe that it is essential that EU climate change 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.

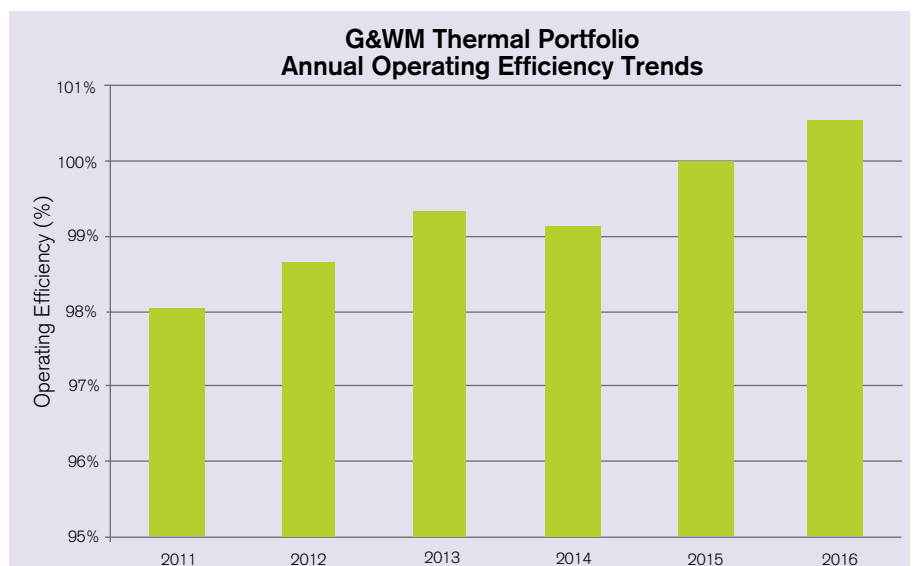
Since the carbon intensity of electricity generation is being reduced to zero through the EU ETS the electricity industry is well placed to lead the drive to decarbonise Europe. However, the electricity industry cannot reach the objective of a low carbon economy on its own. The electrification of other sectors of the economy has been acknowledged as one of the crucial elements on this path to decarbonisation. Developing a profitable and sustainable low carbon generation portfolio is a key part of ESB’s strategy.

Our aim is to deliver a balanced low carbon generation portfolio with an increasing proportion of the capacity accounted for by renewables such as onshore 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. During 2016, ESB made significant progress in the development of our low carbon portfolio. The strategy is based around three key areas:

DEVELOPING NEW HIGH-EFFICIENCY GENERATION

In 2016, G&WM completed the construction of its 885MW gas-fired combined cycle gas turbine (CCGT) plant at Carrington near Manchester, which was commissioned in September. This plant is now delivering clean and flexible power to customers in the UK electricity market. Carrington is one of the most efficient CCGT power plants in the UK, using the latest gas turbine technology to deliver a net efficiency of 58% in combined cycle operation. Carrington CCGT, which delivers a low carbon intensity of approximately 350g/kWh is supporting ESB’s objective of reducing





Raheenleagh Wind Farm

A programme of efficiency improvement measures has been undertaken in recent years including the successful installation of a new monitoring and diagnostics system across the three coal-fired units at Moneypoint power station, enabling real-time tracking of the plant performance throughout 2016 and enabling informed decisions to be made for driving improvements.

Aghada CCGT benefited from a number of recent improvements with an upgraded air filtration system installed in the gas turbine air intake system and a refined anti-icing system, both of which have delivered noticeable improvement in performance in 2016.

In addition, the air filtration system upgrade was implemented in the Dublin Bay Power unit in the 2016 major outage.

Dublin Bay Power CCGT and Coolkeeragh CCGT both had major overhauls in 2016 and returned to service with much improved performance.

In Moneypoint, a new high-pressure turbine module was installed during a major overhaul of Unit 3 in 2015. This is continuing to deliver improved unit efficiency. In addition to the above, G&WM continues to invest in generation assets with overhauls of other plants in the portfolio, in line with the annual overhaul plan in 2016.

INCREASING RENEWABLES IN OUR GENERATION PORTFOLIO

The 35MW Raheenleagh wind farm (a joint venture with Coillte) came into operation in 2016. A further five windfarms (Cappawhite, Eglis, Crockdun, Castlepook, Moneypoint)

with a combined capacity of 125MW were in full construction during 2016. ESB acquired a share-holding in a large-scale solar portfolio, Terrasolar. Construction at ESB's biomass project at Tilbury progressed well during 2016, with first deliveries of waste wood fuel scheduled for early

CASE STUDY



ABOUT TILBURY

Why build biomass?

We're working on a range of activities to help us move 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 our power generation and increase the renewable energy in our generation mix.

Where is it?

We're building on a brownfield site at the Port

of Tilbury, UK. The plant is ideally situated near the London catchment area, so transportation/fuel use is minimised, reducing the overall carbon footprint.

Fuel source

The 40MW facility will convert waste wood to energy, generating enough green electricity to power more than 97,000 average homes.

There is an additional climate benefit in that waste wood used by the Tilbury plant would otherwise go to landfill with resultant emission of methane which is a greenhouse gas many times more damaging than carbon dioxide.

What's the project time frame?

Tilbury started construction in May 2015 and is due to complete on schedule in July 2017.



Moneypoint Wind Farm

2017. ESB expect these projects to reach full commercial output during 2017 and 2018.

Additionally, ESB continues to develop longer-term options in renewable generation aimed at expanding ESB's low carbon electricity output.

The Coriolis portfolio moved forward in 2016. Key activities across a range of projects included comprehensive ecology/environmental studies and preparation of planning submissions, together with local community engagement.

In Ireland, ESB is working on a number of early stage wind farm projects that will begin delivering zero carbon energy in the early 2020's.

ESB have started developing a low carbon advanced gasification technology plant in Liverpool and expects to secure planning permission during 2017.

OVERVIEW OF GENERATION FROM HYDROPOWER

ESB operates four hydropower schemes on the rivers Shannon, Erne, Lee and Liffey, in addition to a pumped storage plant in Turlough Hill and a small plant on the river Clady. All hydro stations are operated remotely from a central control centre in Turlough Hill.

CASE STUDY

BOSTON SCIENTIFIC

Kingspan-ESB installed Ireland's first Tesla Powerpack battery energy storage system at Boston Scientific in Galway.

The project is the first large scale 'behind the meter' energy storage system in Ireland. It allows the customer to make savings through several operational modes of the battery, including time-of-use load shifting ('arbitrage'), MIC reduction and potential UPS backup. ESB will own and operate the battery and intends to supply system services through the emerging DS3 market.

Collaboration in action

The project was supported by ESB Innovation and Electric Ireland, along with some SEAI grant funding.

Background on Boston Scientific

Boston Scientific is one of the world's largest medical device manufacturers with 3,300 people employed in Galway manufacturing stents, balloons, and catheters. Boston Scientific is a very progressive business in the energy space and have two large on site CHPs supplying the plant, along with a raft of innovative energy efficiency measures.



Installing the system at Boston Scientific

What comes next

Our intention is to install a rooftop solar PV system at the Galway site in 2017, which will enhance the value of the battery system further. ESB will develop the capability to operate embedded energy storage systems from this project over the next few years and replicate projects like this with a number of our customers.



Carrington over the water

The installed MW capacity of 220MW assists ESB and the country in meeting our renewable energy targets. These are long-lifetime assets, providing a level of stability to the generation business in addition to portfolio diversity. Major refurbishments have been completed on all four schemes. The hydro stations are core to ESB’s business.

ESB’s commitment to renewable generation over decades lends support to the development of wind, biomass and other renewable energy projects. ESB’s hydro power stations produce between 600 – 900 GWhr of electricity each year, avoiding the emission of approximately 200,000 tonnes of carbon dioxide annually, supporting Ireland’s climate change strategy.

The presence of the hydro generators on the more westerly parts of the country provides EirGrid (transmission system operator) with reliable voltage control to the transmission

system in locations where the system is otherwise less robust. The hydro generators have very flexible characteristics which supports system operation and facilitates the system in connecting other renewable generators. These services are anticipated to be of greater value in ISEM.

DEVELOPMENT OF OPTIONS TO DECARBONISE EXISTING PLANT

During 2016, ESB progressed work on the development of options for reducing the carbon intensity of both Moneypoint, Co. Clare and West Offaly Power and Lough Ree Power plants in the midlands.

In the case of Moneypoint, technical studies started with a view to identifying the range of options to either co-fire or convert the plant to biomass firing. In addition, ESB progressed work on other options for this plant including work to stay abreast of carbon capture and storage technology.

In the case of West Offaly Power and Lough Ree Power, during 2016 ESB engaged with third parties and competent authorities to identify both technical and commercial options for a transition to biomass firing in one or both plants.

DIRECT GREENHOUSE GAS EMISSIONS FROM OUR PORTFOLIO

The overall emissions of CO₂ from our generating stations are detailed in the graphs opposite. 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).

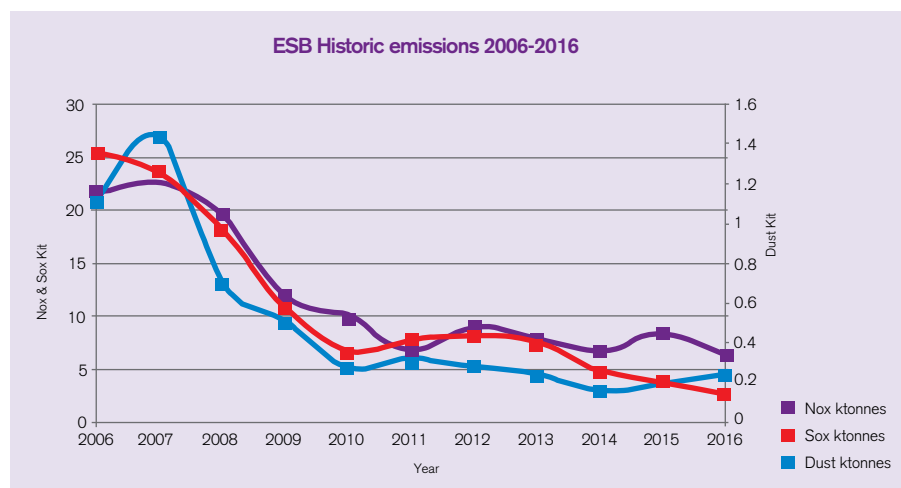
This permit is issued by the competent authority once they are satisfied that an operator can comply with the legislation and is capable of

EMISSIONS³ FROM THERMAL GENERATING STATIONS

EMISSION	2006 (BASELINE) (2005 ¹ FOR CO ₂)	2016	CHANGE SINCE BASELINE (ABSOLUTE)
NOx (ktonnes)	21.59	6.27	-71%
SOx (ktonnes)	25.4	2.77	-89%
Dust (ktonnes)	1.13	0.23	-79%
CO ₂ (mtonnes)	14.63 ¹	10.24 ²	-30%

Notes

1. Generation emissions baseline 2005, to coincide with start of EU ETS scheme.
2. Emissions breakdown by region; Republic of Ireland 8,325,843 tonnes, Northern Ireland 910,852 tonnes, Britain 1,001,761 tonnes
3. Generation emissions are externally verified annually prior to being reported into the national licencing and regulatory authorities.



monitoring and reporting of the emissions. The monitoring and reporting of the CO₂ is carried out in accordance with the EU Commission regulation 601/2012 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 emission factors is derived from Ireland's Specific Emission Factors or back calculated from the CO₂ calculation.

Since 2005, ESB has achieved a 30% reduction in CO₂ emissions, which has decreased slightly due to the fact that Carrington Power station in the UK came into operation. However when excluding Carrington this reduction is actually 36.8%. This reduction has been achieved through a combination of

AIR EMISSIONS

In terms of other air emissions, ESB has achieved a significant reductions in our NOx, SOx and dust emissions since 2006, with reductions of 71%, 89% & 79% respectively being achieved. This has been achieved by significant investment in flue gas desulphurisation and NOx reduction technology in our Moneypoint coal plant and by our increasing renewable portfolio, plant upgrades and improvements in the efficiency of the generation fleet.

plant divestment, plant closure, investment in renewable generation (e.g. wind), plant upgrades and improvements in the efficiency of the fleet. In the past four years we have reduced our carbon

intensity by just over 10% to 560g CO₂e/kWh.

Lowering carbon emissions is not just an issue for our thermal generation stations. At an operational level, we also look for innovative methods to reduce the carbon impact across the spectrum of our activities.

EMISSIONS TRADING

ESB's electricity generation activities fall within the scope of the EU ETS, under which CO₂ emissions from power generating stations give rise to a liability to surrender allowances (EUAs). In addition, ESB's power generation activities in Great Britain are subject to the carbon price support mechanism. This takes the form of a Climate Change Levy, assessed on the quantity of fuel used in the power station. Emission allocations and emission reduction targets are not applicable to operations within the EU ETS. ESB does not receive any free allocations in Phase III of the ETS. ESB purchases allowances (EUAs) at market price in the secondary OTC market. ESB no longer receives any free allowances.

All of ESB's EUAs are purchased at market price from third-party participants. ESB operate generation plant in the ROI under CER, NI under UR and GB under Ofgem, so the following chart breaks down capacity along those lines. Single Electricity Market (SEM) data (ROI and NI together) is also reported.

GENERATION FUTURE OUTLOOK

Forecast studies of generation adequacy, forecast demand and capacity are undertaken by the System Operators in ROI, NI and UK. ESB Group is guided by these studies in its strategy development and future portfolio development planning. Currently ESB Group has approximately 5,700MW installed capacity. ESB ambition is to decarbonise its existing generation portfolio, build new low-carbon and renewable generation assets and optimise the efficiency of all its operating plants. ESB has plans to have 2,500MW of renewable generation by 2025 and is constructing new wind farms in ROI and NI and a biomass plant in London. In addition to growing its wind portfolio, ESB plans to build further Energy From Waste (EfW) plants and solar plants between now and 2025. ESB will also invest in storage assets in addition to developing further options for flexible high-efficiency gas plants.

CASE STUDY



L-R at the opening of the Burdennett River facilities in 2016: William O'Neill, Chairperson of Dennett Anglers Association, Majella McCarron, Wind Farm Stakeholder Manager at ESB, Matthew Moore and Jim Jamieson, both from the association

ESB WIND FARM COMMUNITY FUNDS

During 2016, ESB's Wind Farm Community Funds invested €1,171,010 in 158 projects across 19 communities living close to our wind farms. This brings the total donated by the funds over the past six years to nearly €5.5 million.

Some 2016 highlights

- West Limerick Resources, near Grouselodge Wind Farm, received €60,000 of funding for their project, which involves building a regional athletics hub in Newcastle West. When complete, the project will serve all the track and field needs of a large catchment area, taking in Limerick County and an area of North Cork and North Kerry.
- Arklow Cancer Support Group, near Raheenleagh Wind Farm, is due to receive a much-needed upgrade to their transport with the purchase of a new vehicle. Our investment of €9,000 allows the group to trade in their old wheels and ensures that patients can travel comfortably to and from appointments.
- North Devon Theatres Trust, near Fullabrook Wind Farm, received £50,000 to support their drive to keep three local theatres open and put on shows.

And we were also invited to the opening of the Burdennett River Fishing Access facilities, Co Tyrone, to which we donated £5,000 .

William O'Neill, chairperson of Dennet Anglers Association, praised the funding they received from Carrickatane Wind Farm, Co. Tyrone.

- 'Our angling facilities have been in place for 15 years now and recently a serious issue became clear – we were missing welfare facilities for our disabled anglers, especially wheelchair-bound anglers. The welfare facilities of the Burdennett river has been given a much needed improvement thanks to a grant of £5,000 from ESB's funding.'

About the Wind Farm Community Funds

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.

You can find out more about the community funds on our website; www.esb.ie

3.7 NORTHERN IRELAND ELECTRICITY NETWORKS



**Nicholas Tarrant, Managing Director,
NIE Networks**

“ Our focus remains on delivering a strong management system that benefits our customers and delivers for the wider environment. We are continuing to facilitate the connection of renewable energy supporting the transition to a low carbon future. ”

INTRODUCTION

Northern Ireland Electricity Networks Limited (NIE Networks) is an independent business within the ESB Group. NIE Networks is responsible for:

- The construction and maintenance of the electricity transmission and distribution networks in Northern Ireland and operates the distribution network.
- Connecting demand and renewable generation customers to the transmission and distribution networks.
- Providing electricity meters in Northern Ireland and providing metering data to suppliers and market operators to enable wholesale and retail market settlement.

NIE Network's network investment plan to deliver the physical outputs specified in the RP5 determination involved a ramp up in the level of capital investment undertaken during 2016 to the end of the price control period in 2017. During the year NIE Networks invested a total of £101.4m (2015 - £88.3m) (net of customer contributions) in transmission and distribution networks, representing an increase of 15% on the prior year. The investment was primarily in relation to the refurbishment and replacement of worn transmission and distribution assets to maintain reliability of supply and ensure the safety of the network.

During the year 1,800km of transmission and distribution overhead lines were refurbished as part of an ongoing programme. Tree cutting is an essential ongoing programme to maintain the networks' resilience to storm conditions and during

2016 tree cutting was carried out along 8,600km of overhead lines.

OTHER KEY PROJECTS PROGRESSED DURING THE YEAR INCLUDED:

- Completion of a new 110/33kV substation at Belfast North Main;
- The refurbishment of three 275/110kV substations (at Kells, Castlereagh and Tandragee) under the transmission asset replacement programme: these projects are due to complete during 2017; and
- Construction of three 110/33kV wind farm cluster substations (at Gort in Co. Fermanagh, Tremoge in Co. Tyrone and Rasharkin in Co. Antrim) to enable the connection of 15 large-scale wind farms with a combined capacity in excess of 200MW: these projects completed in early 2017.

ENVIRONMENT AND SUSTAINABILITY FOCUS

NIE Networks' Environmental Policy commits to protecting the environment and mitigating the impact of its activities upon the environment.

The environmental management system is accredited to ISO 14001 and is designed to ensure compliance with all relevant legislative and regulatory requirements and, where practical and economically viable, NIE Networks seeks to develop standards in excess of such requirements, introducing best practice solutions where possible. The annual environmental action plan sets out detailed plans to ensure achievement of key objectives of: minimising the risks of air and water pollution and land contamination; minimising the impact on local communities; enhancing energy and resource

consumption efficiency and waste management practices whilst ensuring appropriate overall environmental management.

During 2016 improvements were made in each of these areas – the number of environmental incidents has reduced and NIE Networks' remediation process was deemed 'best practice' by the British Standards Institute.

There has been a continued focus on waste management targets with the recycling rate for all hazardous and non-hazardous waste (excluding excavation from roads and footpaths, civil projects excavation and asbestos removal) remaining high at 98% (2015 – 97%).

In ARENA's 2016 Northern Ireland Environmental Benchmarking Survey NIE Networks further improved on its 2015 Gold Award by achieving the top rated Platinum standard, performing well in excess of the utility sector average.

The Company has complied with the new mandatory Energy Savings Opportunities Scheme (ESOS) legislation with its submission based on improvements to minimise network losses.

There were no incidents of non-compliance in the 2016 period and no fines were issued to NIE Networks for the breach of environmental legislation or voluntary codes. No warning letters or enforcement letters were issued by the Northern Ireland Environment Agency (NIEA). No access to environmental information requests were received.

CUSTOMER FOCUS

The focus on reducing the number of avoidable complaints continued and the number of complaints received from customers was substantially lower than the previous year. The continued strong focus on customer service limits the number of instances when customers are dissatisfied to the extent that they refer a complaint to the Consumer Council for Northern Ireland (CCNI) for review. Only one complaint was taken up by the CCNI on behalf of customers

(Stage 2 Complaints to the CCNI) during the year (2015 – four complaints). Individual complaints received are analysed and assessed, based on the individual specific circumstances, as to whether or not the complaint was avoidable.

Across NIE Networks there has been a focus on reviewing customer service activities in order to improve delivery in all areas. This has included the introduction of customer information days for major planned projects to explain the nature and impact of work to be carried out. A new Code of Practice on 'Visits to Customers' Properties' was rolled out to all employees and contractors.

During the year call backs to customers affected by power cuts were introduced. These 'Think Customer' improvements will continue throughout 2017 as part of the Company's 'Customer Service Action Plan'. Its customer charter, code of practice and customer care helpline are accessible via the company website: www.nienetworks.co.uk.

BIODIVERSITY

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.

Throughout 2016 the company's mapping tools have been extended to include historic environment sites. A memorandum of understanding on working in historic sites is also being progressed with Historic Environment Division of the Department for Communities.

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), the NIE Networks' mapping system is updated so planners, supervisors or anyone else planning and organising work is aware of the protected nature of the site.

FACILITATING RENEWABLES

Renewable technologies have become part of



More than 1GW renewable technologies connected to the Northern Ireland electricity network

the landscape in Northern Ireland over the last decade. By the end of 2016 NIE Networks had connect more than 1GW to the electricity network. This delivers around a quarter of the total energy consumed from renewable energy sources, mainly wind and solar power. This is an encouraging milestone in meeting the Government's renewables target of 40% by 2020.

Michael Atkinson, Head of Generation Connections, says this is a significant advancement in the integration of renewable energy as part of Northern Ireland's energy mix. Michael says, "In the last five years we have seen many challenges and have taken an innovative approach as we essentially 'reverse engineered' the electricity network to accommodate the new generation. Capacity limits, the removal of the planning permission stipulation for new applications and an immense workload have tested both our resources and our network.

DEMAND SIDE MONITORING

As part of NIE Networks' 2017-2024 business plan, the company proposed that future network development will incorporate both traditional and innovative smart network reinforcement approaches. This would enhance the telecommunications networks and assess the benefits of smart grid technologies for the long term future. Plans for innovation are primarily focused on integrating

suitably advanced smart solutions into business as usual by undertaking a programme of focused integration projects with the objective of developing cost effective alternatives to conventional network expenditure, minimising the impact on future customers.

OPERATIONAL ENERGY EFFICIENCY

NIE Networks' fleet is majority outsourced and regularly maintained and replaced under contract to ensure efficiency. Trackers are fitted to all company vehicles to monitor driving performance and ensure efficient dispatch of vehicles to call outs. Monthly reviews are carried out to evaluate mileage and fuel usage in order to identify trends and focus on efficiency improvement.

WE HAVE WORKED IN CLOSE PARTNERSHIP WITH THE RENEWABLES INDUSTRY TO LOOK AT NEW WAYS TO FACILITATE A WIDE RANGE OF MICRO, SMALL AND LARGE SCALE GENERATION IN ALL PARTS OF NORTHERN IRELAND.

3.8 BSC AND ELECTRIC IRELAND

Jim Dollard, Executive Director for Business Service Centre and Electric Ireland



“During 2016 Electric Ireland continued to deliver value to its customers, offering price reductions, improved customer experience through enhanced digital service capability and innovative products. Electric Ireland reduced standard unit rates for residential electricity customers by 6% from 1 June 2016, equivalent to an average saving of €58 per year on an average customer bill. In addition, the gas unit prices were reduced by 5% from 1 October 2016, delivering an annual saving of €39 for an average residential customer. Electric Ireland has increased its residential market base and established its position in Northern Ireland (NI) capturing a 3.6% share (27,500 customers) of the market. At the same time, Electric Ireland has progressed the development of its product offerings through the introduction of residential solar on a trial basis and the further development of smart and connected home products, which will be in a position to launch in 2017.”

OVERVIEW

Electric Ireland is the retail arm of ESB, supplying electricity, gas and energy services to customers across the island of Ireland. With over 1.4 million customers and an electricity all-island market share of 37%, Electric Ireland serves all market segments, from domestic households to large industrial and commercial businesses, in both the Republic of Ireland (ROI) and Northern Ireland (NI). With a strong focus on customer service, providing value for all customers and contributing to communities across the country, Electric Ireland is recognised as a leading retail brand by Irish consumers and businesses.

Energy Efficiency and Energy Affordability are central to Electric Ireland's strategy to remain the leading energy supplier in the market offering smart and innovative solutions to homes and businesses.

Our Energy Efficiency focus is framed by a comprehensive set of European Union and national laws and regulations within the 2020 Climate and Energy Framework and in the continuing discussions on the Climate and Energy Policy Framework for 2021–2030. There are legally binding targets at European and national levels to decrease carbon emissions, increase the proportion of energy from renewable sources, and enhance energy efficiency. These targets are set for Electric Ireland as an Energy Efficiency Obligation, with energy suppliers nationally obligated to deliver 550GWh in energy savings annually from 2014–2016.

OPERATING ENVIRONMENT

Electric Ireland operates in one of the most dynamic and competitive markets in Europe, evidenced by the number of new suppliers who entered the market in recent years and the high level of customer switching trends. Electric Ireland has continued to

compete effectively in this environment through continued focus on competitive pricing and innovative offerings.

Electric Ireland passed on significant savings to customers in the last number of years when fuel prices have fallen.

PROGRESS ON STRATEGIC OBJECTIVES

Electric Ireland has taken significant steps in 2016 to deliver on its strategic objective of being a Supply Business of Scale. The introduction of a new enduring reward product for its loyal customers, Stay Happy, is an innovative approach to deliver long term value to residential customers in a market dominated by short-term value propositions.

This innovative approach aims to deliver a leading and stable residential market share in the core market. Electric Ireland continues to provide competitive offerings, excellent customer service and new and innovative products to all homes and businesses. During 2016 Electric Ireland established its brand in the NI market and has progressed the development of its smart and connected home offering which will be ready to launch in 2017.

ELECTRIC IRELAND'S CUSTOMERS

The customer is central to everything that Electric Ireland does. In addition to reducing prices and launching new and innovative products, Electric Ireland continues to deliver customer service improvements to simplify and improve the customer experience. Maintaining the focus on customer empowerment and self-service, Electric Ireland further developed its digital service capability during 2016 across all stages of the customer journey with the introduction of :

- Two new mobile accessible online switching applications to make it easier for both residential and business customers to join
- A new online sign-up process for customers to avail of Stay Happy
- New easier sign-up process for e-billing registrations
- New online appointment booking for a gas boiler service.

UPDATE ON 2016 PRIORITIES AND PRIORITIES FOR 2017

2016 PRIORITY	2016 PROGRESS
OPERATIONAL	
Continue to innovate for the benefit of customers through the delivery of new smart and innovative products and services.	<ul style="list-style-type: none"> ■ Introduced a new enduring reward product for its loyal customers, Stay Happy
Roll-out of enhanced interactive voice response (IVR) system.	<ul style="list-style-type: none"> ■ The enhanced IVR system went live in January 2016, significantly improving the customers' self-serve capability
Continue to enhance the value offered to all customers (existing and new) and to honour the commitment to pass on further energy price reductions where possible.	<ul style="list-style-type: none"> ■ Residential electricity price reduction of 6% from 1 June 2016 ■ Residential gas price reductions of 5% from 1 October 2016 ■ Stay Happy campaign launched
Early identification of customers with a higher risk of having payment difficulties and be proactive in offering suitable products and payment plans.	<ul style="list-style-type: none"> ■ Range of products and payment plans in place coupled with proactive early interaction with customers ■ Disconnections continued to fall in 2016 less than 25 per 10,000 customers disconnected
STRATEGIC	
Ongoing focus on customer convenience, empowerment and control through continued development of the digital service capability across the entire customer experience journey.	<ul style="list-style-type: none"> ■ Progress outlined in Electric Ireland's customers' section
Maintain Electric Ireland's market leading position through the delivery of its energy efficiency targets and providing customers with new products and services to help reduce their carbon footprint.	<ul style="list-style-type: none"> ■ Electric Ireland is on track to achieve its energy efficiency targets and has continued to seek new ways to support customers in reducing their carbon footprint ■ During 2016 Electric Ireland was successful in its tender for EirGrid's residential demand response programme which aims to help customers manage their consumption levels
Ensure that the customer interest is central to the design of I-SEM and the Smart Metering Programme.	<ul style="list-style-type: none"> ■ Electric Ireland has maintained customer interests at the forefront when responding to I-SEM market design consultations to ensure the customer sees the benefits of the Irish electricity market integrating with the EU energy target model

CASE STUDY



The digital portal for Electric Ireland business customers 'Business Online' was successfully launched earlier this year. The portal provides consumers with access to billing and consumption data across multiple devices including mobile, desktop and tablet. User engagement has increased since go-live and consumer feedback has been positive.

Business Online offers a single sign-on portal for all business customers – Gas and Electricity, SME and LEU, Euro and Sterling.

The project was delivered using a multi-disciplined project team in partnership with ESB ITS and has enabled us to retire some legacy applications. Self-serve features available within Business Online include the following:

- Account Centre
- View/download Bill PDF

- View billing history
- Enter Meter Read
- Add Account
- Labelling
- User Centre
- Create Administrator
- Add/Edit/Delete users
- View profile
- Change password
- Edit details
- View Notifications
- Report Centre
- Group Reports
- Cost Summary
- Billing Information
- Consumption Summary
- Unit Consumption
- Maximum Demand (KW)
- Maximum Import Capacity (kVA)
- Power Factor
- Carbon Emissions
- Cost & consumption Report

Login at the at the following link: www.businessonline.electricireland.ie/

For further details contact: James Kelliher James.kelliher@electricireland.ie

Electric Ireland also delivered a range of new tariff solutions for business customers to ensure it adapts to changing customer requirements and continue to deliver the best value in the market.

A continued focus on the residential and business customer experience and improvements in the digital capability of the business will remain one of Electric Ireland's top service priorities for 2017.

PEOPLE

A key element in the successful delivery of Electric Ireland's strategic and operational priorities is the capability, knowledge and performance of employees. A strong focus on employee development and targeted recruitment across a range of disciplines and activities will ensure that Electric Ireland continues to provide competitive offerings, excellent customer service and new and innovative products to meet customer needs.

In 2016, Electric Ireland recruited 22 new employees with a range of skills and experience, including digital analytics, digital expertise and marketing, to support the business in the delivery of its strategic objectives.

WORKING TOGETHER

During 2016, Electric Ireland was proud to collaborate with a number of organisations across sporting, social, and charitable sectors. Some

examples include:

- Promoting young people in sport through the sponsorship of the GAA minor hurling and football championships helped to raise its profile, giving these young players a greater platform on which to perform. The sponsorship of Team Ireland for the Rio Olympics shone a spotlight on Olympic athletes giving them an opportunity to share their stories and inspire the Irish public.
- The continued involvement as Official Energy Partner to Electric Picnic has enhanced the experience for festival goers with Electric Ireland.
- Electric Ireland's national sponsorship of Darkness into Light for the fourth year saw the participation rate increase to 130,000 people raising over €3 million for Pieta House. Darkness into Light is a movement established by Pieta House to raise funds in support of its work in the area of suicide and self-harm prevention.

SUSTAINABILITY

Electric Ireland is conscious of operating its business in a sustainable and environmentally responsible way. The business activities in Electric Ireland are certified to ISO 14001 standard and Electric Ireland actively works with customers to assist them in improving the sustainability of their homes and businesses through the efficient use of the energy provided to them.

Electric Ireland also delivered energy savings as part of the National Energy Efficiency Obligation Programme. For the last three years, Electric Ireland has assisted local authorities and housing association across the country to improve the energy efficiency of social housing through a variety of measures including attic and wall insulation, heating system improvements and smart heating controls as well as before-and-after Building Energy Ratings.

Residential customers who carry out work to improve the energy efficiency, warmth and comfort of their homes are also rewarded through the Energy Efficiency Incentive Scheme, which gives a discount on their energy bills. Electric Ireland has a selection of Smart Heating Controls, offered as part of price plans to assist customers in managing their energy requirements and comfort levels, with the convenience of smartphone apps to allow remote

use.

Electric Ireland has also assisted business customers in managing their energy consumption and reducing waste - significant savings have been achieved through new technologies such as LED lighting and controls, waste heat reduction and optimising refrigeration needs. In 2016 Electric Ireland collaborated with the new Smart Energy Services team in ESB to assist customers with longer-term energy needs, including funded lighting and heating retrofit solutions.

ENERGY AFFORDABILITY

Energy Affordability is equally important to Electric Ireland's customers. Electric Ireland has competed effectively in this environment through continued focus on competitively priced products and strong customer service and maintained its overall market share. It has also remained highly competitive in the business segment of the market and has grown its market share in the small and medium sized business segment. In maintaining affordability for customers, Electric Ireland introduced a further 6% reduction in standard unit rates for residential electricity customers from 1 June 2016 and a 5% reduction in gas unit prices from 1 October 2016.

Electric Ireland works with customers to help them reduce their energy consumption and get better value from their usage through the promotion of energy efficient products and energy awareness campaigns. These campaigns include energy efficiency advice delivered directly to customers and through web-based tools.

SMARTER PAYG

Electric Ireland promise that through understanding their customers, they will provide simple ideas that make life better. In response to listening to their customers' needs, Electric Ireland launched a new Pay As You Go (PAYG) electricity product for customers, Smarter PAYG in 2015.

Smarter PAYG is the most advanced PAYG electricity product in the market. It has an in-home display which supplies live data on electricity usage, customers can also compare their usage by day, week or month and set daily usage targets as well as choosing how they want to pay through scheduled

top ups, automatic top ups or text and online options. The average PAYG customer uses 15% less electricity. 2016 saw a further increase in the number of customers availing of this service.

ENERGY EFFICIENCY

Electric Ireland has continuously sought new ways to help its customers reduce their energy costs. Our website hosts a number of services designed to help customers manage their energy such as our Energy Efficiency House Guide and a Lighting Guide. Particularly popular is our My Energy Pal app (formerly appliance calculator) which allows customers to understand how much energy individual household appliances consume.

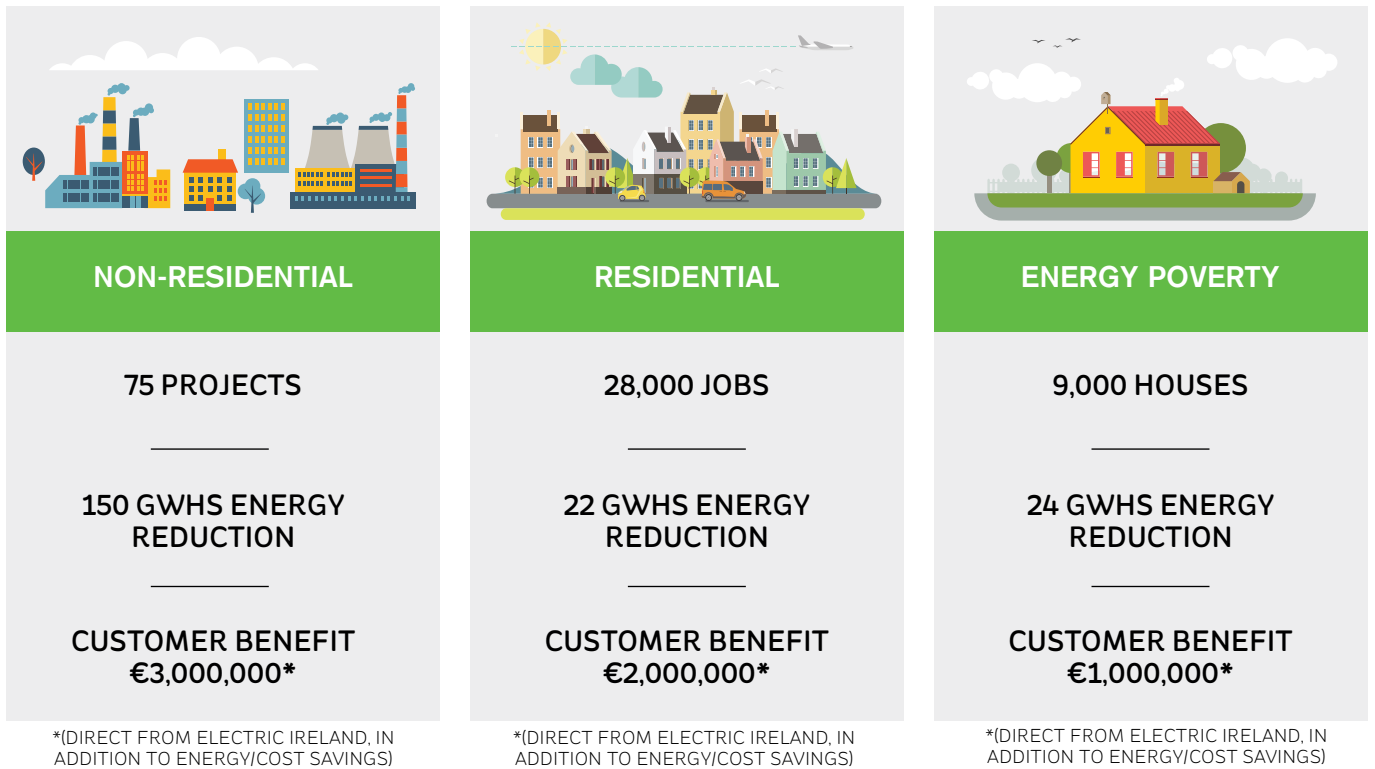
In the Residential Sector, the Home Services offering again delivered state-of-the-art smart heating control products, including a new comprehensive Home Comfort Package (Smart heating controls and boiler servicing) the new Honeywell controller which allows room-by-room control and an update of the NEST Learning Thermostat.

We have a range of products, Climote, NEST and Honeywell, designed to give customers control over their heating, be easier to use and allow control remotely from a smart phone. By only using heat when required, customers can realise savings of up to 20% on their heating costs.

The gas boiler repair, replacement and servicing offering increased in popularity during 2016, with over 3,500 jobs delivered.

The Energy Efficiency Incentive 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. For example; a householder insulating their loft, installing cavity wall insulation and installing a new high efficiency boiler with a heating controls upgrade could receive an incentive rebate on their energy bill of up to €800, which, along with the SEAI grant

BENEFITS OF THE ENERGY EFFICIENCY SCHEMES FOR CUSTOMERS IN 2016



results in a total incentive to the householder of up to €2,000.

The Energy Efficiency Incentive Scheme has continued in 2016 and proved very attractive to customers who undertook energy efficiency works in their own homes with a panel of external contractors – the scheme was expanded this year with over 3,000 installations completed and over €1m of credit given back to customers.

We have been particularly active in the Energy Poor space in 2016 working with SEAI and DECLG to effect energy efficiency retrofits in just under 7,000 homes across the country.

Electric Ireland worked with a number of its larger energy users to encourage savings in their industrial and commercial energy usage, in such areas as lighting, HVAC and the minimisation of process energy consumption. We also advised

small and medium business customers to suggest energy saving projects and introduced them to potential suppliers of innovative products. Electric Ireland also used the resources of the wider ESB group to offer energy efficiency or low-carbon innovations to business customers of all sizes.

The SEAI Better Energy Community Project also delivers significant energy savings in commercial and community premises – in 2016 Electric Ireland’s involvement in such projects delivered savings of 2.5Gwh with direct support of energy retrofit in hotels, fruit producers, retail outlets, GAA and other sport clubs. Each project makes a significant difference to the ongoing costs and comfort for our customers.

ENERGY EFFICIENCY OBLIGATION SCHEME
The Irish Government has enlisted the assistance of Energy Suppliers in meeting the national requirements of the EU Energy Efficiency Directive

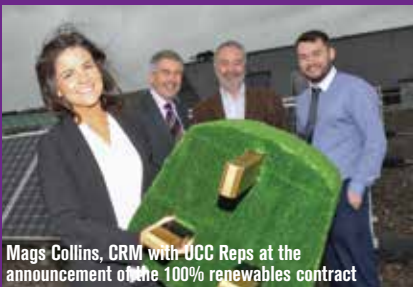
to deliver a 20% Energy saving by 2020 and has introduced an Energy Efficiency Obligation scheme (EEOS).

The EEOS introduced a more challenging target of 420GWh of energy savings for the period 2014 to 2016, with this target further subdivided with 5% to come from the Energy Poor Sector, 20% from Residential and the remaining 75% from the Non-Residential sector.

Electric Ireland has developed a multifaceted approach to deliver savings across all of these sectors with a range of tools from apps that inform customers on appliance usage to the installation of budget energy meters.

All of these assist customers in managing their energy use and collectively, these projects have delivered some 196GWh’s of energy savings for the customers involved.

CASE STUDY



Mags Collins, CRM with UCC Reps at the announcement of the 100% renewables contract

CONTRACT WIN SEES ELECTRIC IRELAND PROVIDE 100% RENEWABLE ELECTRICITY TO UCC

As part of their recent €150 million contract win for Central Government and Third Level under the Office of Government Procurement Framework Agreement, Electric Ireland has announced it will provide University College Cork (UCC) with 100% renewable electricity over the next two years. The renewable electricity used for UCC will be generated from wind and biomass sources. The contract will cover 96 sites in UCC across Cork City, which altogether currently consume around 12GWh a year – the equivalent of 2,300 households. This successful contract bid emphasises Electric Ireland's position as industry innovators; UCC is the first and only third level institute in Ireland to be supplied electricity from 100% renewable resources by Electric Ireland as part of this OGP Framework Agreement.

Commenting on the contract win, Tony Dunlea, Electric Ireland said: "The sourcing

of UCC's electricity from 100% renewables aligns with our strategy of driving innovation in the renewables sector. For UCC to become the first third level institution in Ireland to be supplied with 100% renewable electricity as part of this OGP Framework Agreement shows a high level of trust in our experience, expertise and service delivery. We look forward to developing our relationship with UCC over the coming years, and continuing to provide the high level of service and cutting edge innovations that have come to be expected of us."

Denis Brosnan, Energy Manager at UCC said of the new contract, "As part of our energy, sustainability and environmental policies we are always looking to incorporate a consideration of environmental issues and the concept of sustainable development into all relevant aspects of the University's teaching research and operational activities.

"Renewable energy will be sourced to account for 100% of electricity consumed on campus. At the time the contract for energy supply was being put together UCC insisted that 100% be sourced from renewable sources. It is very important as a University to support and promote sustainability and renewable energy. At UCC we are educating students on sustainability as well as carrying out energy research on renewable technologies, and we are delighted that our electricity supplier is sourcing 100% of our consumption from renewable energy sources."

promotion of PAYG meters

- Continuing the trend of recent years with a further reduction of 20% in the number of customers disconnected in 2016 to under 2,700 resulting in a disconnection rate of c.24 per 10k customers. In 2016, approximately 35% of properties disconnected for non payment of account were vacant premises. For the remainder of accounts disconnected for non payment, the supply is reconnected within a maximum of 48 hours in line with the ESB Networks SLA once agreement is reached on payment of the amount or the installation of a PAYG meter. The majority are reconnected on the same day.
- Continuing to work with the Money Advice and Budgeting Service (MABS) and St. Vincent de Paul (SVP) and other agencies to support and assist customers in financial difficulty.
- Electric Ireland now have a dedicated Energy Advice team who proactively contact financially vulnerable customers with information in relation to the following,
 - Energy advice
 - Discount packages
 - Pay As You Go meters
 - Budgeting advice to ensure payment of energy bills including the set up of individual instalment plans
 - Home services offerings
 - Referrals to SEAI for possible free retrofits, where applicable

BUSINESS SERVICE CENTRE

The Business Service Centre (BSC) is an integral part of ESB that provides a wide range of business and employee services to business units and employees across the Group. BSC supports ESB by delivering services to the businesses across the Group, leaving the businesses free to focus on their own plans and objectives. By doing this, BSC is strongly aligned with ESB's strategy to be Ireland's foremost energy company growing and competing successfully in an All-Island market

AFFORDABILITY OF ENERGY

Electric Ireland welcomed the opportunity to work with EAI and other suppliers in the development of the Energy Engage Code which was first launched in May 2014. This code sets out how energy suppliers should help their customers manage their energy use and costs. Electric Ireland fully endorses the core principle of the code, that we will never disconnect an engaging customer. 2016 saw further progress in this area

of customer engagement.

Electric Ireland has proactively responded to customers experiencing serious financial hardship by:

- contacting customers as early as possible when bills are in arrears to discuss the options available. Electric Ireland made c.132k tailored payment arrangements to a value of €60m with customers in 2016 and this reduction on the previous year total of 160K is partially due to the ongoing

ELECTRIC IRELAND AND PIETA HOUSE



Electric Ireland has been supporting the Darkness into Light event since 2013, and last year over 100,000 people took part in the event in 80 locations in Ireland and across the world, a huge rise on the first year (2009), when just 400 people participated in the Phoenix Park.

The purpose of the campaign is to raise funds and awareness for Pieta House, which provides a professional, one-to-one therapeutic service for those who are experiencing suicidal ideation or engaging in self-harm. A doctor's

referral or psychiatric report is not required and the service is completely free of charge. The work of Pieta House and the Electric Ireland Darkness into Light campaign is especially vital because in 2014 459 people died by suicide. For every 10 suicides in Ireland each week, 8 of them are men.

The idea behind the event is about the overall experience and symbolism of walking with hundreds of others from the darkness into light – there is no other charity event of its kind that mobilises so many people to come together at the same time to share the experience.



while continuing to make the business more efficient and sustainable.

BSC STRATEGY 2016 – 2020 :

The BSC Strategy 2020 is a plan to combine all shared services across ESB Group and to align common processes and priorities for these services. This will mean that BSC will strengthen the support it provides to the businesses across the Group, through partnerships with the business and delivering superior customer services.

PROJECT FITZWILLIAM – HEAD OFFICE ON THE MOVE

In September 2016, ESB welcomed a decision from An Bord Pleanála to grant permission to redevelop our Head Office site on Fitzwilliam Street into modern office space for staff.

The project will be self financing. Shortly afterwards The Board of ESB approved a short



The Gateway to Fitzwilliam Group

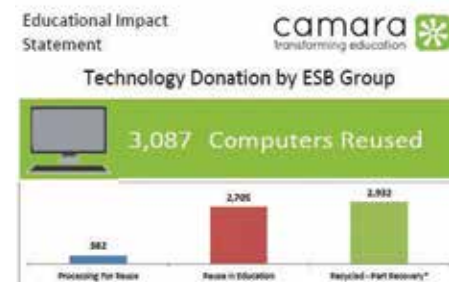
term lease for temporary office accommodation at Gateway, East Wall Road, Dublin 3. ESB now occupy three buildings there; One, Two and Three Gateway close to ESB's old site in Polefield.

The last few months have been an immense task for Group Property, Telecoms, ITS and Facilities teams in clearing out Head Office areas and

moving over 1,000 people to Gateway.

CAMARA IS EDUCATION

Camara is a registered charity that aims to transform education for children in disadvantaged communities. Camara is celebrating the achievement of reaching one million digitally literate children within the project.



BSC ITS enables Camara to help almost 65,000 children become digitally literate

CASE STUDY



Minister for Enterprise, Trade and Investment, Jonathan Bell, officially opened Electric Ireland's new Belfast offices. He is pictured with Elvena Graham, Chairman of ESB, and Pat O'Doherty, Chief Executive.

MINISTER OPENS ELECTRIC IRELAND'S NEW BELFAST OFFICES

Minister for Enterprise, Trade and Investment, Jonathan Bell, officially opened Electric Ireland's new Belfast offices today at 1 Cromac Quay.

The Gasworks site houses the energy suppliers' dedicated Northern Ireland Customer Service Centre and marketing and business development functions. The offices are the embodiment of the extension of Electric Ireland into the residential market in Northern Ireland.

Speaking at the official opening Pat O'Doherty Chief Executive ESB said, "This is a very special day and one that I am particularly proud of. Many people know that we have been supplying electricity to businesses in Northern Ireland for sixteen years and have worked in partnership with our customers to

deliver strong energy products and services while improving energy efficiencies and competitiveness.

"Now it is wonderful to have the opportunity to bring a similar service to the residential market. Our entry into the competitive residential markets is delivering an investment of £5 million and 40 new jobs, something which we know is very welcome in Northern Ireland.

"Today the groundwork comes to fruition as we officially open our new home in Belfast bringing our residential and business teams together under one roof from which we will fulfil our ambition to provide competitive products and simple ways to make life better for businesses and homes alike."

Enterprise, Trade and Investment Minister Jonathan Bell said: "I welcome Electric Ireland's decision to enter the supply market on a full scale basis. Increased choice and competition at supply level is good news for consumers and the company's investment of some £5million is also good news for the economy. Not only is it delivering 40 new jobs, it is a positive endorsement of Northern Ireland as a place to do business.

The offices at 1 Cromac Quay were secured on behalf of Electric Ireland by CBRE.

WHAT DOES THIS MEAN TO ESB?

- **Reduced Data Centre Costs**
ESB's annual data centre operational costs will be reduced by 44%, saving approx. €700,000 per annum.
- **Reduced Risk of Data Centre Outage**
DLR Profile Park is an accredited 'Tier 3 uptime institute' which is the highest level of data centre currently available in Ireland. It will be more resilient in the case of a disaster such as a major power outage.
- **Improved Data Centre Efficiency**
DLR Profile Park has a Power Usage Efficiency (PUE) rating of 1.2. For every watt of power delivered to the computing equipment the data centre uses 1.2 watts of energy. Telecity, the data centre that we are replacing, has a PUE rating of 2.5.
- **Improved IT System Performance & Capacity**
Along with commissioning a new data centre the project is also carrying out a refresh of IT hardware to improve server, storage and network capacity. This will result in improved user experience due to more performant business applications.



Members of the Project Board in our new Data Centre DLR Profile Park

BSC ITS is working with Camara, on behalf of ESB Group, to provide Camara with non-essential ESB computer equipment. Camara then recycle and reuse the equipment within an educational environment to teach children digital skills. Each reused computer provides at least 21 children with 21st century skills such as communication, collaboration and digital literacy.

This collaboration between Camara and BSC ITS

has made 64,827 students digitally literate and helps the environment by deferring the release of 617,400 kg CO₂ emissions.

DATA CENTRE OPERATIONS CONTRIBUTE TO OPERATIONAL EFFICIENCY

In July 2016, DLR Profile Park be-came a live data centre for ESB. This data centre will fully replace Telecity as ESB's second data centre in Q4 2016

3.9 INNOVATING TO DECARBONISE SOCIETY



PAUL MULVANEY
Executive Director
Innovation

“ ESB has always been at the forefront of change, and our social mission, to improve the lives of Irish people, is a driving force behind our work. Today, while our focus remains the same, the ways in which we must innovate shifts to addressing one of the biggest challenges facing us, climate change.” Paul Mulvaney, Executive Director, ESB Innovation. ”

SMART ENERGY SERVICES

ESB established a specific business unit, Smart Energy Services, in 2016 to help large energy users (such as industrial and commercial) to reduce their energy costs through energy management and efficiency projects. ESB Smart Energy Services provides managed energy services for industrial and commercial customers.

Within one year of its inception, ESB Smart Energy Services has partnered with 50 Irish and UK companies to help them deliver energy efficiency savings of more than €50 million

ESB Smart Energy Services also collaborates with Electric Ireland to deliver on the non-residential EU Energy Efficiency Obligation Scheme (EEOS) targets. In 2016 ESB Smart Energy Services

CLIMATE AND ENERGY POLICY

The need to mitigate against climate change by decarbonising society has never been more urgent.

In this context, the demand for electricity from traditional generation sources is continuing to drop and a shift from the traditional model of large-scale centralised generation, transmission and distribution networks to distributed renewable generation such as solar, PV and wind continues to re-shape the energy sector. In addition, new energy efficient technologies are putting customers in charge for managing their energy use and even producing it themselves.

These profound changes to the energy landscape herald many new opportunities for ESB. Innovating to capture these opportunities for our customers is at the heart of ESB’s strategy in leading Ireland in the transition to a low-carbon future.

Key areas of focus for Innovation in 2016 continue to be the identification and delivery to market new sustainable propositions for customers.

TRACK RECORD & RELIABILITY
A partner with a trusted legacy in Ireland and 40 years working in over 120 countries worldwide

FINANCING
Freedom from capital investment

CUSTOMER SUPPORT NETWORK
Multinational, multi-site support capability

BEST-IN-CLASS EXPERTISE
In-depth knowledge of Power Generation, Networks, Supply, New Technologies and International Consulting

INDEPENDENCE
Providing systems integration that is technology agnostic

CUSTOMISED SOLUTIONS
Cutting-edge technology to develop the best possible solution for your organisation

GUARANTEED SAVINGS
Increased efficiency & reduced costs

THE INNOVATION DIRECTORATE

The Innovation Directorate’s specific role is to lead innovation across ESB by:

- Identifying and delivering to market new propositions for our customers to help them manage their energy use and aid the transition towards decarbonisation.
- Continuing to advance the electrification of heat and transport.
- Keeping an active eye on the new technologies that have the potential to further accelerate the transition to a low-carbon future and test their potential for our customers.

ESB SMART ENERGY SERVICES – CUSTOMER PROPOSITION:



successfully partnered with Irish businesses to help deliver over 125GWh of energy reductions.

ESB INTERNATIONAL

Bringing possibilities to the world, ESB International continued work on a €17m contract secured in 2014 with the Saudi Electricity Company to project manage the construction of a highly efficient gas fired Combined Cycle power plant in a developing region of Saudi Arabia, incorporating a 50MW concentrated solar energy plant. The four-year project sees 40 engineers from ESB International working in the region throughout the period, as well as bringing 15 engineers from Saudi Arabia to Ireland for training. This is the latest in a number of initiatives undertaken for the Kingdom by ESB International stretching back to the consultancy's beginnings, 42 years ago.

ESB TELECOMS

Over the past number of years ESB Telecoms Ltd has developed a range of systems to manage activities relating to our Customers, Contractors and Site Safety. This process of continuous improvement has resulted in a fully integrated ERMS providing a significant increase in efficiency, cost savings and customer satisfaction.

- Initially ESB Telecoms Ltd introduced the innovative Safety Extranet to manage contractors and issue Permits to Work for our Microwave Telecommunication and National Fibre Networks.
- That was followed by the integration of an Access Control System which introduced segregated site access granted to approved stakeholders.
- More recently the Towers to Billing system was introduced to enhance management and interrogation of Customer invoices and to further increase efficiency, an online customer tower order application was added
- The final piece saw the introduction of automatic updating of As Built drawings for our telecommunication structures through the integration of a new Mobile APP to the Safety Extranet.

This fully integrated ERMS allows ESB Telecoms

CASE STUDY

ESB SMART ENERGY SERVICES - A Smart Energy Partnership with Tesco

ESB Smart Energy Services (SES) began a partnership with Tesco in 2016 to deliver an ambitious plan for energy efficiency projects and energy management measures across all 150 Tesco stores in the Republic of Ireland.

The SES team has been busy over the last few months working very closely with Tesco's Energy, Property and Maintenance teams to make some significant upgrades to the refrigeration, lighting and heating systems across Tesco's retail stores. "In total, we have now retrofitted 70 stores with high-efficiency LED lighting. We have also enhanced the control and operation of the lighting, refrigeration, heating and ventilation systems across the Tesco retail estate," explains Ronan Geraghty, Customer Solutions Manager, from the ESB Smart Energy Services Team.

These upgrade projects will help Tesco to improve its sustainability by making significant reductions in energy consumption. To illustrate the level of improvements made, as a result of the projects undertaken in 2016, Tesco reduced their energy bill by over €6 million.



ESB Smart Energy Services LED lighting project at a Tesco store.

The feedback from the Tesco store teams has been very rewarding - the work accomplished has increased comfort by improving lighting levels, thus creating better conditions for both the Tesco staff and customers.

Speaking about the project, Patrick Duffy, Head of Property at Tesco said "Working collaboratively with the ESB Smart Energy Services team has provided us with the Innovation we need to substantially reduce our energy consumption and improve the look and feel of our stores."

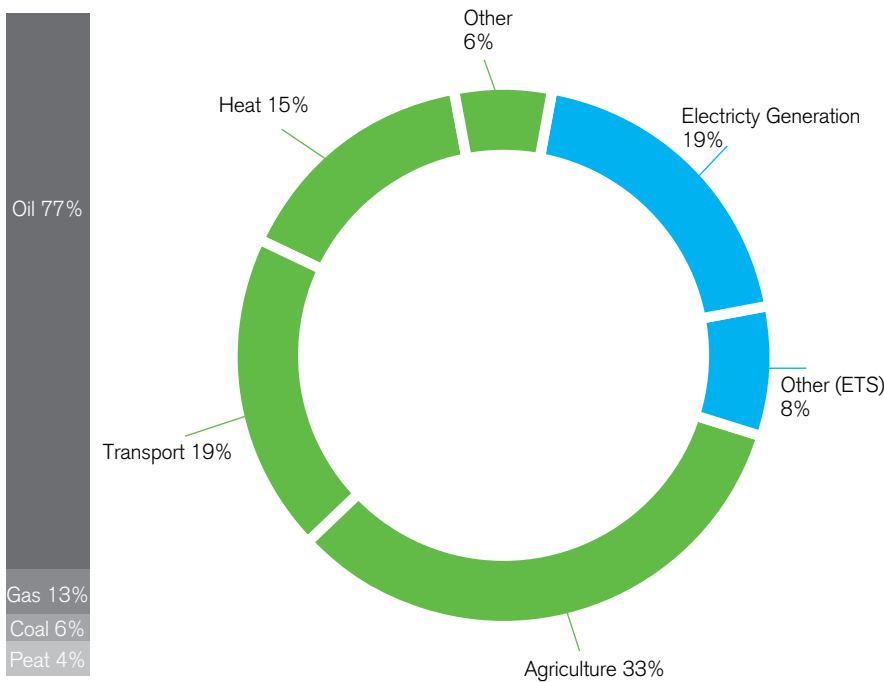


An Taoiseach Enda Kenny TD launches the SIRO Mayo build programme in Castlebar, October 2016



SIRO powered digital hub "The Ludgate Centre" in Skibereen, West Cork. July 2016. L to R Sean Atkinson (SIRO CEO), John Field (Ludgate Board member), Sean O'Driscoll (President Glen Dimplex & Ludgate Board member), Minister for Jobs, Enterprise & Innovation Mary Mitchell O'Connor TD and Anne O'Leary (CEO Vodafone Ireland & Ludgate Board member)

THE ELECTRICITY SECTOR CAN ADDRESS 19% OF IRISH EMISSIONS BY DECARBONISING ITS OWN OPERATIONS



Ltd maintain the highest safety standards on our sites, streamlines the operation of our business and provides the world class service our customers deserve.

SIRO

SIRO, the ESB/Vodafone joint venture, is continuing to build a 100% fibre optic broadband network, in 50 regional Irish towns using the existing ESB lines. The network will cover 500k homes and businesses with market leading broadband of 1,000 Megabits per second (or 1 Gigabit). The venture was launched in May 2015 and its build programme is a €450m investment in future proofing Ireland's urban/regional Communications network.

As at December 2016, SIRO is building in 20 towns and has passed over 56,000 homes making it the largest Fibre To The Building (FTTB) operator in Ireland. Build is advanced in 9 towns

(Dundalk, Cavan, Carrigaline, Sligo, Letterkenny, Tralee, Wexford, Drogheda, Skibereen) and commenced in a further 10 towns (Westport, Castlebar, Portlaoise, Mullingar, Newbridge, Ennis, Carlow and Cork City, Limerick, Fingal, and Cork City).

As well as working closely with local ESB Networks crews in each town, SIRO works in partnership with Local Authorities, Chambers of Commerce and other stakeholders to ensure an efficient build programme. SIRO also runs information events and media campaigns to support the build process.

ADVANCING THE ELECTRIFICATION OF HEAT AND TRANSPORT

ESB eHEAT

The decarbonisation of heating systems in Irish homes and businesses is widely accepted as a

key enabler to achieving Ireland's GHG emissions reduction targets up to 2020 and beyond. In particular, newly constructed homes and those 700,000 existing homes with oil-fired central heating have been identified as particularly suitable for low carbon electric heating solutions (e.g. air-source heat pumps).

In 2016, ESB established a new business area, ESB eHeat, for coordinating activities across ESB Group to facilitate and stimulate the adoption of electric heating solutions in Irish homes and businesses.

ESB eHeat has also continued to work with the Tipperary Energy Agency (TEA) on the "Superhomes" Project. The latter encourages homeowners to undertake deep energy renovations to their homes (to an 'A' BER standard) to achieve a more comfortable, healthy and cost effective living environment. Since 2015, this SEAI funded initiative has renovated 32 homes across Ireland. Plans are in place to scale-up further in 2017 and beyond.

ESB eHeat's mandate is also to support a policy framework and commercial environment that will enable mass adoption of renewable heat solutions in Ireland.

ESB ECARS

ESB ecars operates and maintains a network of over 1,200 electric vehicle (EV) public charge points across the island of Ireland. The network consists of fast 50kW DC chargers and 22kW AC chargers located on motorways and on-street. These charge points enable electric vehicle drivers to travel throughout the island of Ireland using one access card. The network is monitored using a next generation ICT system which allows remote operation and management of the charge points as well as provide information on the availability and status of the network.

The network is monitored using a next generation ICT system which allows remote operation and management of the charge points as well as provide information on the availability and status of the network.



Electric Vehicle driving network in Ireland

follow on events were held in Edinburgh and Belfast.

BATTERY STORAGE

TIU in collaboration with colleagues in GW&M successfully deployed a 100 kW/190 kWh battery storage demonstration project at Boston Scientific, in Galway. The project was grant fund assisted by SEAI given the novelty and pre-commercial nature of the project. The project aims to demonstrate the value batteries can play in the energy market to reduce high daytime electricity prices and to support integration of intermittent renewables on the energy system through the provision of flexibility services.

DATA ANALYTICS

As we transition to a low carbon future, we can expect an exponential rise in the number of devices connected to an increasingly smarter grid: small scale intermittent generation, roof mounted solar panels, EV's, smart network sensors, heat pumps, smart home sensors and a suite of demand response equipment. This will give rise to an explosion in new sources of data. We therefore expect Data Analytics to play a critical role in the evolution of the Smart Grid. In 2016, TIU set up a Data Science team to help ESB Group develop its Data Analytics capability and support the development of the smart grid.



Thinking about the customer: innovation workshop at X_Site.

X_SITE

Our focus on developing new energy-efficient and renewable solutions for the customer is further evidenced through the activities at our

In 2016, new features were added to ESB ecars' app "ecar connect" such as a real time view of the charge points including when they are in use. This allows EV drivers to plan their journeys and ensure that a charge point is available before arriving to re-charge.

Transport emits almost 20% of Ireland's Green House Gases and this is set to increase as the economy continues to grow. The electrification of transport in parallel with the decarbonisation of electricity generation will provide Ireland with a clear pathway to decarbonise this sector. There are additional benefits to electric vehicles for Ireland, such as reduced air pollution, increased energy efficiency and a means to reduce our

dependency on oil imports, which amounts to €5.5 billion each year for transport in Ireland.

ACTIVE EYE ON INNOVATION

Technology Innovation Unit (TIU) In 2016, ESB's Technology Innovation Unit (TIU) collaborated with the Marine Renewables Industry Association, SEAI, Scottish Enterprise and Invest NI, to set up an innovation network between Ireland, Northern Ireland and Scotland for the advancement of ocean energy and technology development. The first Ocean Power Innovation Network (OPIN) event was held in at ESB's innovation hub, X_Site, in September 2016 and attracted fifty experts from within the ocean energy sector and beyond. Two equally successful

Innovation Hub, X_Site, exploring radical and disruptive ideas in the energy space. Three new businesses were incubated in X_Site in 2016:

FEATURED STARTUP: PLANET9

Planet9 is a new ESB startup that offers large energy users a cloud-based all-encompassing energy management system, helping them to reduce their energy costs and provide ancillary services to the energy market supporting the integration of intermittent renewables. In just a little under 12 months, Planet9 evolved from an idea to securing its licence for trading in the UK by the end of 2016. Planet9 is set to revolutionise how large energy consumers will buy their power in the future and how they will interact with the energy market.

X-CAB

The external collaboration team, X-CAB, whose goal is to capture new opportunities by creating partnerships with external partners, spearheaded the world's first ever global utility accelerator programme. The Free Electrons Accelerator Programme aims to connect the world's most promising energy startups - which are reinventing the future of low carbon energy - with leading global utilities and their customers to refine and test these innovative solutions with a potential customer-base of over 73 million customers in over 40 countries.

The Free Electrons Accelerator Programme is backed by an international alliance of utilities and accelerators: AusNet Services, Dubai Electricity and Water Authority (DEWA), ESB (Electricity Supply Board), EDP (Energias de Portugal), innogy, Origin Energy, Singapore Power (SP) and Tokyo Electric Power Company (TEPCO), with the support of accelerator partners, New Energy Nexus, swissnex San Francisco, Energy Exceleator, Powerhouse and Beta-i.

ESB HACKATHON

ESB organised Ireland's first ever energy hackathon. The Big Energy Hack gathered 150

hackers from a diverse range of backgrounds for 48 hours to discover and explore innovative customer solutions for a low carbon future. The winners, the Cloud Command team, created a real-time platform that allows emergency services, including the Gardai, fire services, hospitals and state agencies, to share information such as the precise location of damaged ESB network line, leading to better coordination during times of crisis. The second spot to a solution that uses social media platforms to identify the cost of electricity homes are using and help consumers save money in real time. The third prize was awarded for a concept of parking sensors to manage designated Electric Vehicles charging spots.



Winners of the best idea at the ESB Big Energy Hack, the Cloud Command Team.

INNOVATION AWARDS

In 2016 ESB hosted its annual Employee Innovation Awards – over 80 innovations were submitted from employees across the Innovation Directorate, with four out of the total of 11 Awards attributed for best innovations across ESB originating from Innovation:

- Ecars won Best Sustainability and Environment innovation for developing a control system that manages and operates the most diverse and advanced Electric Vehicle (EV) charging network in the world.
- X_Site won Best Teamwork and Collaboration innovation for setting-up ESB's first innovation hub, an incubator for new ESB business ideas and start-ups.
- ESB International won Best Application of Technology innovation for adapting an existing technology, Interferometric Synthetic Aperture



ESB hosted its annual Innovation Awards – over 80 innovations were submitted from employees across the Innovation Directorate

radar (InSAR) utilising the TerraSAR satellite, to a new purpose by designing a new piece of equipment to work with it.

- The Technology Innovation Unit were part of an all ESB collaboration which won Best Overall Innovation for the development of the Strategic Roadmaps - blueprints for how ESB will address new opportunities in Big Data Analytics and smart grid.

NOVUS MODUS FUND

Novus Modus Greencoat Capital is ESB's venture capital fund with a target of investing €200 million euro in emerging cleantech technologies. Through the realisation of the NovusModus Fund, ESB seeks:

- ongoing investment and support of portfolio companies,
- to exploit new investment opportunities and
- to maximise learning transfer to new ESB businesses.

NOTES

04

Appendices

4.1

Charters to which Organisation subscribes

4.2

Principles Associations to which organisation belongs

4.3

Awards and Recognition

4.4

Independent GRI G4 In Accordance Level Check

4.5

GRI G4 Cross Referencing Table

4.6

Glossary of Terms



4.1 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

CASE STUDY

In 2015, ESB became an ordinary member of Bettercoal. ESB is committed to business ethics, upholding Human Rights, and protecting the environment everywhere we do business. In line with this commitment, we have joined Bettercoal and are engaging our suppliers to support and improve corporate responsibility in our coal supply chain.

Bettercoal is a global, not for profit initiative that has been established by a group of major coal buyers to promote the continuous improvement of corporate responsibility in the coal supply chain, with an initial focus on the mines themselves. The Bettercoal vision is a coal supply chain that respects the rights of people and the environment and contributes positively to the social and economic livelihoods of workers, producers, and communities. Bettercoal's mission is to advance the continuous improvement of corporate responsibility in the coal supply chain by improving business practices through engagement with stakeholders and based on a shared set of standards. www.bettercoal.org

bettercoal
defining standards.refining practice

4.2 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

4.3 AWARDS AND RECOGNITION

A selection of some of the recognition received across the ESB Group during 2016:

- The ecars Information and Communications Technology (ICT) team were awarded ‘Team of the Year’ at the Energy UK’s Young Energy Professional Awards
- ITS, BSC named winner of SAP best enterprise support engagement of the year award
- Grad Ireland Recruitment Awards; Best Graduate Recruitment Website & Most Popular Graduate Recruiter
- Investors in People Gold accreditation
- IET accredited for our NIE Networks training programmes
- CIPD Employee Engagement award
- Institute of Customer Service score of 89.0 NIE Networks – putting us top of the utility sector
- EFQM award for innovation – submission based on our TIGER team approach
- Lead sponsor and best stand winner at NI Skills event
- NI Regional winner of the Irish Occupational Safety Awards
- Platinum level of the Arena NI Environmental Benchmarking Survey



GradIreland Recruitment Awards. Pictured (l-r) are: Bernard Murray, HR, BSC; Eimear Power and Muriel Maher, Recruitment and Staff Development; and Majella Henchion, Strategic HR.



ITS, BSC named winner of SAP Best Enterprise Support Engagement of the Year Award. Pictured above (second from left) is Liam Molloy, CIO, receiving the award from SAP in its Citywest building. Also in the photo (l-r) are: Ravi Prawda (VP Maintenance go to market, SAP EMEA), Michael Kleinemeier (Head of SAP GSS), Liam Ryan (Managing Director SAP Labs Ireland), Dave Coleman (ITS Enterprise Architecture and Technology Manager) and Damian Pacitto (ITS Solution Architect Manager).



Pictured are ITS staff involved in the key SAP work streams. Seated (l-r) are: Mary O’Connor (Manager, Service Delivery), Siobhan Kiely (SCC Team Lead), Dermot Mangan (Manager, Enterprise Support). Standing (l-r): Dave O’Gorman (Networks ISC), Tony McMackin (SAP Basis Team Lead), Daragh Noctor (Business Architect), and Damian Pacitto (Manager, Solution Architecture).

4.4 INDEPENDENT GRI G4 IN ACCORDANCE LEVEL CHECK

GRI G4 Application Level – 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 2016 ('the Report').

The Report has been independently assessed by DNV GL as being in accordance with the 'Core' elements of the GRI G4 Guidelines.

DNV GL's independent review confirms that the required set and number of disclosures for 'Core' level have been addressed in ESB's reporting. The GRI Table of Disclosures within the Report's appendix demonstrates a valid representation of the disclosures, in accordance with the GRI G4 requirements.

This statement does not provide an opinion on ESB's sustainability performance in 2016 nor on the quality of information in the Report. DNV GL has not been engaged by ESB on any other commitments in 2016 which could compromise the independence of our opinion on ESB's GRI declaration.

30th November 2017, London

For and on behalf DNV GL Business Assurance Services UK Ltd



Kate Bruintjes
Principal Consultant

4.5 GRI G4 CROSS REFERENCING TABLE

GENERAL STANDARD DISCLOSURES				
General Standard Disclosures	Disclosure Requirements	Location	Disclosure	Notes to Disclosures
STRATEGY AND ANALYSIS				
G4-1	Statement from the most senior decision-maker of the organization	1.1	Compliant	
ORGANISATIONAL PROFILE				
G4-3	a. Report the name of the organisation	3.1	Compliant	
G4-4	a. Report the primary brands, products, and services	3.1	Compliant	
G4-5	a. Report the location of the organisation's headquarters.	3.1	Compliant	
G4-6	a. Report the number of countries where the organisation operates, and names of countries where either the organisation has significant operations or that are specifically relevant to the sustainability topics covered in the report.	2.5	Compliant	
G4-7	a. Report the nature of ownership and legal form.	1, About ESB	Compliant	
G4-8	a. Report the markets served (including geographic breakdown, sectors served, and types of customers and beneficiaries).	3.1	Compliant	
G4-9	Report the scale of the organisation: Total number of employees Total number of operations Net sales (for private sector organisations) or net revenues (for public sector organisations) Total capitalisation broken down in terms of debt and equity (for private sector organisations) Quantity of products or services provided	3.1	Compliant	
G4-10	Workforce detail disclosure	2.5	Compliant	
G4-10 Sector Specific	Report on total contractor workforce (contractor, subcontractor, independent contractor) by employment type, employment contract and regulatory regime.	2.5	Compliant	Contractor workforce numbers are not gathered for all individual contracts at present. Numbers reported reflect regular contractors working on ESB Networks sites, NIE Networks sites, major construction and overhaul projects and facility service providers.
G4-11	a. Report the percentage of total employees covered by collective bargaining agreements.	2.5	Compliant	

G4-11 Sector Specific	Report on percentage of contractor employees (contractor, sub-contractor and independent contractor) working for the reporting organisation covered by collective bargaining agreements by country or regulatory regime.	2.5	Compliant	Under the obligations outlined in ESB's 3 rd 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 3 rd Party Requirements, however, this data is not reported on as part of CES.
G4-12	a. Describe the organisation's supply chain.	3.1	Compliant	
G4-13	a. Report any significant changes during the reporting period regarding the organisation's size, structure, ownership, or its supply chain, including: <ul style="list-style-type: none"> ▪ Changes in the location of, or changes in, operations, including facility openings, closings, and expansions ▪ Changes in the share capital structure and other capital formation, maintenance, and alteration operations (for private sector organisations) ▪ Changes in the location of suppliers, the structure of the supply chain, or in relationships with suppliers, including selection and termination 	3.1, 3.6	Compliant	There were no significant changes to the organisation's structure and operations during 2016. Carrington CCGT power station entered commercial operation, significantly increasing ESB's generation portfolio in the UK
G4-14	a. Report whether and how the precautionary approach or principle is addressed by the organisation.	3.1	Compliant	
G4-15	a. List externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses.	4.1	Compliant	
G4-16	a. List memberships of associations (such as industry associations) and national or international advocacy organisations in which the organisation: <ul style="list-style-type: none"> ▪ Holds a position on the governance body ▪ Participates in projects or committees ▪ Provides substantive funding beyond routine membership dues ▪ Views membership as strategic This refers primarily to memberships maintained at the organisational level.	4.2	Compliant	
IDENTIFIED MATERIAL ASPECTS AND BOUNDARIES				
G4-17	a. List all entities included in the organisation's consolidated financial statements or equivalent documents. b. Report whether any entity included in the organisation's consolidated financial statements or equivalent documents is not covered by the report.	4.5	Compliant	Note 33 to Financial Statements, ESB Annual Report 2016
G4-18	a. Explain the process for defining the report content and the Aspect Boundaries. b. Explain how the organisation has implemented the Reporting Principles for Defining Report Content.	1	Compliant	
G4-19	a. List all the material Aspects identified in the process for defining report content.	1, 2.4	Compliant	

G4-20	a. For each material Aspect, report the Aspect Boundary within the organisation	1, 2.4	Compliant	
G4-21	a. For each material Aspect, report the Aspect Boundary outside the organisation, as follows:	1, 2.4	Compliant	
G4-22	a. Report the effect of any restatements of information provided in previous reports, and the reasons for such restatements.	1	Compliant	
G4-23	a. Report significant changes from previous reporting periods in the Scope and Aspect Boundaries.	1	Compliant	
STAKEHOLDER ENGAGEMENT				
G4-24	a. Provide a list of stakeholder groups engaged by the organisation.	2	Compliant	
G4-25	a. Report the basis for identification and selection of stakeholders with whom to engage.	2	Compliant	As a business we transmit 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.
G4-26	a. Report the organisation's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process.	2	Compliant	We endeavour to engage with all stakeholder groups at least annually. In practice much of our engagement is on an ongoing basis and is very issues based in nature. The outputs of these engagements are coordinated by a strategic stakeholder management group and summarised as a stakeholder engagement matrix in section 2 of the report.
G4-27	a. Report key topics and concerns that have been raised through stakeholder engagement, and how the organisation has responded to those key topics and concerns, including through its reporting. Report the stakeholder groups that raised each of the key topics and concerns.	2.4	Compliant	
REPORT PROFILE				
G4-28	a. Reporting period (such as fiscal or calendar year) for information provided.	1	Compliant	
G4-29	a. Date of most recent previous report (if any).	1	Compliant	

G4-30	a. Reporting cycle (such as annual, biennial).	1	Compliant	
G4-31	a. Provide the contact point for questions regarding the report or its contents.	1	Compliant	
G4-32	a. Report the 'in accordance' option the organisation has chosen. b. Report the GRI Content Index for the chosen option. c. Report the reference to the External Assurance Report, if the report has been externally assured. GRI recommends the use of external assurance but it is not a requirement to be 'in accordance' with the Guidelines.	1	Compliant	
G4-33	Report the organisation's policy and current practice with regard to seeking external assurance for the report.	1	Compliant	
GOVERNANCE				
G4-34	a. Report the governance structure of the organisation, including committees of the highest governance body. Identify any committees responsible for decision-making on economic, environmental and social impacts.	1.4	Compliant	
ETHICS AND INTEGRITY				
G4-56	a. Describe the organisation's values, principles, standards and norms of behaviour such as codes of conduct and codes of ethics.	1, 2, 3.1, 3.2, 3.3, 3.4	Compliant	
SECTOR SPECIFIC GENERAL STANDARD DISCLOSURES				
EU1	INSTALLED CAPACITY, BROKEN DOWN BY PRIMARY ENERGY SOURCE AND BY REGULATORY REGIME	2.5	Compliant	
EU2	NET ENERGY OUTPUT BROKEN DOWN BY PRIMARY ENERGY SOURCE AND BY REGULATORY REGIME	2.5	Compliant	
EU3	NUMBER OF RESIDENTIAL, INDUSTRIAL, INSTITUTIONAL AND COMMERCIAL CUSTOMER ACCOUNTS	2.5	Compliant	
EU4	LENGTH OF ABOVE AND UNDERGROUND TRANSMISSION AND DISTRIBUTION LINES BY REGULATORY REGIME	2.5	Compliant	
EU5	ALLOCATION OF CO ₂ E EMISSIONS ALLOWANCES OR EQUIVALENT, BROKEN DOWN BY CARBON TRADING FRAMEWORK	2.5	Compliant	

SPECIFIC STANDARD DISCLOSURES						
Category	Aspect	Standard Disclosure	Standard Disclosure Title	Location	Level of disclosure	ESB Notes on Disclosure
ECONOMIC	Economic Performance	G4-DMA	Generic Disclosures on Management Approach	1.1, 3.1	Compliant	
ECONOMIC	Economic Performance	G4-EC1	Direct economic value generated and distributed	3.1, 4.5	Compliant	Notes to Financial Statements in Annual Report 2016; Direct economic value generated: Revenues - See Page 108 Note 2 - segment reporting . Economic value distributed: Operating costs - See Page 111 Note 6. Employee wages and benefits- See Page 113 Note 8 - Employee costs. Payments to providers of capital - See Page 112 Note 7. For Dividends, See Page 126 Note 17 . Payments of taxation to individual governments by country is not disclosed separately in the Annual Report due to confidentiality reasons.
ECONOMIC	Indirect Economic Impacts	G4-DMA	Generic Disclosures on Management Approach	3.5, 3.6, 3.7	Compliant	
ECONOMIC	Indirect Economic Impacts	G4-DMA	Aspect Specific Disclosures on Management Approach	3.5, 3.6, 3.7	Compliant	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
ECONOMIC	Indirect Economic Impacts	G4-EC7	Development and impact of infrastructure investments and services supported	3.5, 3.6, 3.7	Compliant	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 SAC's or where particular environmental or biodiversity risks may be identified, are in place and subject to ongoing review.

ECONOMIC	Indirect Economic Impacts	G4-EC8	Significant indirect economic impacts, including the extent of impacts	3.1, 3.4, 3.8	Compliant	
ECONOMIC	Availability and reliability	G4 DMA	Sector Specific	2.5, 3.5, 3.7	Compliant	
ECONOMIC	Availability and reliability	EU 10	Sector Specific	2.5	Compliant	Electricity demand projections and capacity studies are undertaken by system operators and ESB utilises these studies in ROI, NI and UK to input into portfolio development planning
ECONOMIC	Demand-Side Management	G4 DMA	Sector Specific	3.8, 3.9	Compliant	Our demand side initiatives are primarily service and advice based.
ECONOMIC	System Efficiency	EU12	Sector Specific	2.5	Compliant	ESB Networks and NIE Networks are the licenced Distribution System Operators and are not responsible for operation of the transmission system. Losses reported by ESB Networks are a key part of the work programme agreed with the energy regulator in ROI, the CER. 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.
ENVIRONMENTAL	Energy	G4-DMA	Generic Disclosures on Management Approach	3.1	Compliant	
ENVIRONMENTAL	Energy	G4-DMA	Aspect Specific Disclosures on Management Approach	All report	Compliant	
ENVIRONMENTAL	Energy	G4-EN3	Energy consumption within the organisation	2.5	Partially Compliant	Current electricity supply does not differentiate between renewable and non renewable sources at end use. Conversion factors used are set annually by SEAI and Defra
ENVIRONMENTAL	Energy	G4-EN7	Reductions in energy requirements of products and services	2.5	Compliant	

ENVIRONMENTAL	Biodiversity	G4-DMA	Generic Disclosures on Management Approach	2.5, 3.7	Partially Compliant	The EU Birds and Habitats Directives set out obligations in relation to nature conservation management. This is facilitated via ESB's policy on biodiversity, existing environmental management systems incorporate biodiversity aspects, the adoption of specific biodiversity guidelines and job aids to address design, impact mitigation and work in and adjacent to conservation areas, monitoring for invasive species, management of timber cutting, screening for appropriate assessment and giving special consideration to watercourse linkages. When required, expertise is drawn from a panel of ecologists to put in place specific mitigation and conservation plans
			Aspect-Specific Disclosures on Management Approach	3.1, 3.7	Compliant	
ENVIRONMENTAL	Biodiversity	G4-EN11	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	2.5	Compliant	
ENVIRONMENTAL	Emissions	G4-DMA	Generic Disclosures on Management Approach	3.6	Compliant	

ENVIRONMENTAL	Emissions	G4-EN15	Direct greenhouse gas (GHG) emissions (Scope 1)	2.5, 3.6	Compliant	No biogenic CO ₂ , this will become relevant when Tilbury 40MW biomass commences generation. 2005 base year for emissions from generation (based on equity share), coincides with the commencement of EU ETS. Non generation baseline is 2006, marking the commencement of formal sustainability programmes in ESB Group. SEAI and Defra are the main sources of conversion factors and the GHG protocol guidelines are followed. SF ₆ partially reported from 2016 onwards
ENVIRONMENTAL	Emissions	G4-EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2)	2.5	Partially Compliant	CO ₂ is only gas included in Scope 2 calculations. SEAI and Defra provide emissions factors.
ENVIRONMENTAL	Emissions	G4-EN17	Other indirect greenhouse gas (GHG) emissions (Scope 3)	2.5	Partially Compliant	Scope 3 emissions data has not been received in full from travel service providers. Given a change in this contract during 2016/2017, we are unlikely to receive a complete data set for 2016
ENVIRONMENTAL	Effluents and Waste	G4-DMA	Generic Disclosures on Management Approach	2.5	Compliant	ESB does not gather or store nuclear waste. In any event where Non destructive testing (NDT) is required, an external specialist contractor undertakes this activity, which also includes the approved specialist disposal of any radioactive components or waste

ENVIRONMENTAL	Effluents and Waste	G4-EN23	Total weight of waste by type and disposal method	2.5	Compliant	ESB liaises with the environmental agencies in relation to a PCB management plan. Compliant disposal arrangements are in place for the collection, transportation, depollution and recovery/end processing of all waste oil filled equipment retired from the Networks. PCB test/analysis arrangements are in place with a suitably accredited laboratory
SOCIAL - LABOR PRACTICES	Employment	G4-DMA	Generic Disclosures on Management Approach	3.3	Compliant	
SOCIAL - LABOR PRACTICES	Employment	G4-LA10	Programs for skills management and lifelong learning that support the continued employability	3.3	Compliant	ESB policy provides for a pre retirement planning course for planned retirees and their spouse, including financial and pensions advice. Any terminations to contracts follow a rigorous performance management process.
SOCIAL - LABOR PRACTICES	Employment	G4-LA11	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	3.3	Compliant	Staff breakdown is given section 2. All staff (100%) are part of the annual performance management, goal setting and career development process, which is deployed.
SOCIAL - LABOR PRACTICES	Occupational Health and Safety	G4-DMA	Generic Disclosures on Management Approach	3.2	Compliant	
SOCIAL - LABOR PRACTICES	Occupational Health and Safety	G4-LA5	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs	3.2	Compliant	All staff are represented in formal joint health and safety committees
SOCIAL - PRODUCT RESPONSIBILITY	Customer health and safety	G4-DMA	Generic Disclosures on Management Approach	3.2	Compliant	
SOCIAL - PRODUCT RESPONSIBILITY	Customer health and safety	G4-PR1	% of significant product and service categories for which health and safety impacts are assessed for improvement	3.2	Compliant	ESB employs a risk assessment approach to activities, 100% of categories are risk assessed

SOCIAL - PRODUCT RESPONSIBILITY	Customer health and safety	EU25	Sector Specific	2.5	Partially Compliant	Safety Incidents on the Network, reported in section 2.5, include public safety incident numbers and are not reported separately. The implementation of SHIELD, Environment, Safety and Health Management IT system in late 2014, may allow for separate reporting of public safety incidents in the future. Public liability claims have decreased over the past 10 years, however, disclosure on the number of incidents is commercially sensitive and is not disclosed.
SOCIAL - PRODUCT RESPONSIBILITY	Access	G4 DMA	Sector Specific	3.5, 3.7	Compliant	
SOCIAL - PRODUCT RESPONSIBILITY	Access	EU26	Sector Specific	2.5	Compliant	100% of the population of ROI and NI have access to an electricity supply
SOCIAL - PRODUCT RESPONSIBILITY	Access	EU27	Sector Specific	2.5	Compliant	
SOCIAL - PRODUCT RESPONSIBILITY	Access	EU28	Sector Specific	2.5	Partially Compliant	Sec. 2.5 Reported as CML in ROI, as required by the CER. In NI SAIFI reporting methodology is employed by NIE Networks
SOCIAL - PRODUCT RESPONSIBILITY	Access	EU29	Sector Specific	2.5	Partially Compliant	Sec. 2.5 Reported as CML in ROI, as required by the CER. In NI SAIFI reporting methodology is employed by NIE Networks

4.6 GLOSSARY OF TERMS

Abbreviated Term	Explanation
BWR	Business Working Responsibly Award
CCGT	Combined Cycle Gas Turbine
CDP	Carbon Disclosure Protocol
CER	Commission for Energy Regulation
Coillte	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
Colleges	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
DCCAIE	Department of Communications, Climate Action and Environment
DfE	Department for the Economy (NI, replaces DETI)
DAERA	Department of Environment and Rural Affairs (NI)
DTTAS	Department of Transport, Tourism and Sport
EAI (NEAI)	Electricity Association of Ireland
Eirgrid	Republic of Ireland System Operator
EPA	Environmental Protection Agency
EPRI	Electricity Power Research Institute
Eurelectric	The Union of the Electricity Industry - EURELECTRIC is the sector association which represents the common interests of the electricity industry at pan-European level
EV	Electric Vehicle
HSA	Health and Safety Authority
IBEC	Irish Business and Employer Association
IFA	Irish Farmers Association
IPPCL	Integrated Pollution Prevention and Control Licence
IWEA	Irish Wind Energy Association
LTI	Lost Time Injury (in ESB defined as being absent from work on the next planned shift/day)
NO _x , SO _x ,	Nitrous Oxides, Sulphur Dioxides,
NHA/PNHA/SAC/SPA	National Heritage Area, proposed NHA , Special Area of Conservation, Special Protection Area
NPWS	National Parks and Wildlife Service
RAB	Regulated Asset Base
SEAI	Sustainable Energy Authority of Ireland
SONI	System Operator Northern Ireland
UR	Utility Regulator of Northern Ireland
VGB	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.
WITS	Women in Technology and Science

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