Energy for generations

SUSTAINABILITY REPORT 2015

ENERGY FOR LIFE

ENERGY FOR LIFE

Since ESB was established in 1927, it has been providing energy for those life moments, big and small, profound and every day, where electricity influences peoples' lives for the better. This is achieved not only through the provision of critical energy infrastructure, but also through ESB's contribution to the economy in the form of investment, taxes, dividends and jobs. In addition, ESB is committed to playing a full role in society by acting responsibly in how it conducts its business, working towards a low-carbon future and supporting the communities in which it works.

ABOUT ESB: ESB was established in 1927 as a corporate 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 (ESOP). As a Strong, Diversified, Vertically Integrated Utility, ESB operates right across the electricity market: from generation, through transmission and distribution to supply of customers. 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, 49% of generation in the all-island market and supplier of electricity to approximately 1.5 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-island competitive environment. ESB is focused on providing excellent customer service and maintaining its financial strength. As at 31 December 2015, ESB Group employed approximately 7,300 people.

ABOUT THIS REPORT

Aimed at customers, investors, analysts, governments, other stakeholders and interested members of the public, this report focuses on the sustainability issues of greatest concern to our stakeholders and our business.

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 and the Global Reporting Initiative (GRI). Further details on GRI indicators are available in the report appendices. This report has been independently assessed by DNV GL as being in accordance with the 'Core' elements of the GRI G4 Guidelines.

SCOPE OF REPORT

This report includes data for the fiscal and calendar year 2015, 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.

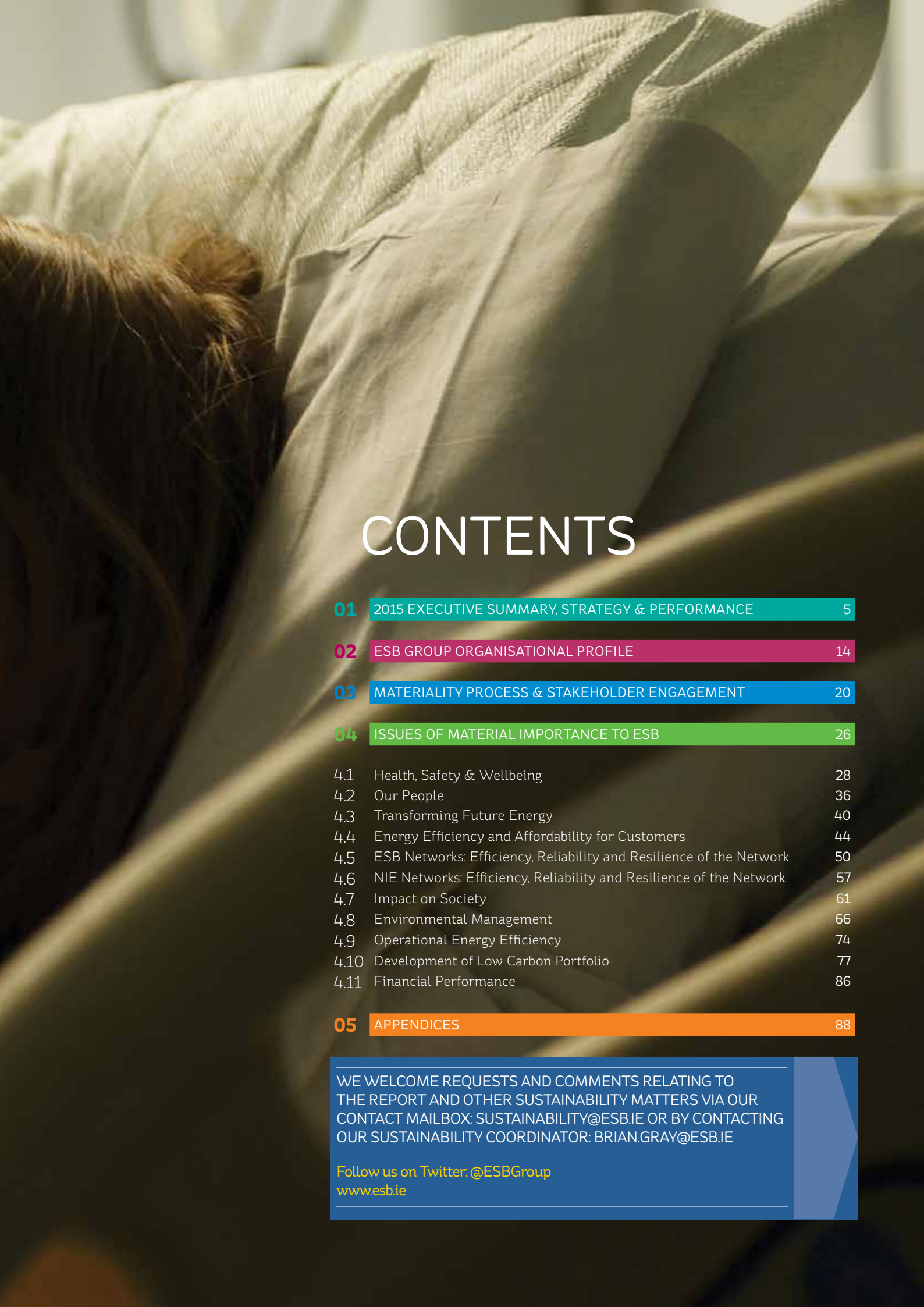
The 2015 Sustainability Report meets the commitment made to stakeholders to report annually on our Sustainability endeavours.

ACCESS THE 2014 SUSTAINABILITY REPORT, HERE

Where scope boundaries pertain to specific material aspects of the business, this is detailed in the specific sections of the report.
Readers of this Sustainability Report 2015 may also view the ESB Group Annual Report.

ACCESS THE 2015 ANNUAL REPORT, HERE

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.



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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

Follow us on Twitter: @ESBGroup
www.esb.ie

ENERGY FOR EXPLORING

01

EXECUTIVE SUMMARY, STRATEGY & PERFORMANCE

HIGHLIGHTS

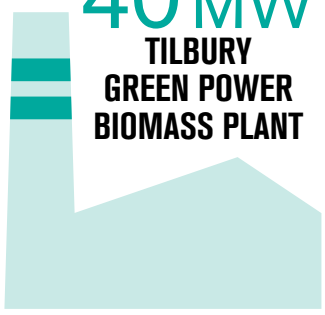
ENVIRONMENT

Overall emissions are
37.2% LOWER
than 2005 baseline

CO_2 emissions from generation increased by
32,000
Tonnes in 2015

1.85 TWH
OF RENEWABLES GENERATED IN 2015

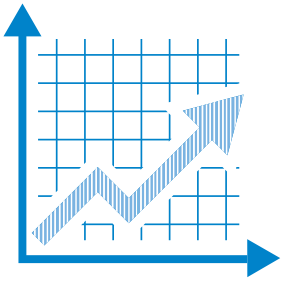
CONSTRUCTION STARTED ON THE
40 MW
TILBURY GREEN POWER BIOMASS PLANT



ECONOMY

CONTRIBUTION TO THE IRISH ECONOMY

OVER €2 BILLION



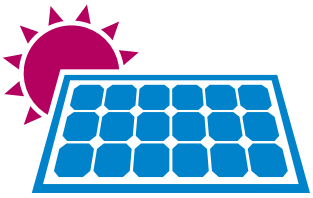
Total dividends paid of almost
€1.5
billion over the past decade

THE ENERGY EFFICIENCY OBLIGATION SCHEME HAS DELIVERED
253 GWH
OF ENERGY SAVINGS AND RETURNED OVER
€40 MILLION
TO CUSTOMERS TO DATE

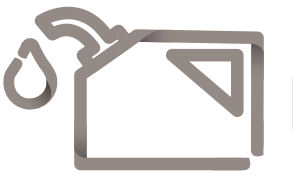
OPERATIONS

2%
PRICE REDUCTION PASSED ON TO RESIDENTIAL ELECTRICITY CUSTOMERS

2.5%
PRICE REDUCTION TO RESIDENTIAL GAS CUSTOMERS



ESB AND KINGSPAN ESTABLISHED A JOINT VENTURE TO CONSTRUCT ROOFTOP SOLAR PROJECTS, INSTALLED OVER 500KW IN 2015



OVERALL ENERGY CONSUMPTION UP BY 10.6% YEAR ON YEAR IN 2015

SOCIETY

ElectricAid raised and spent over
€1.3 MILLION in 2015 on development and relief projects in developing countries

THE ENERGY FOR GENERATIONS FUND DISTRIBUTED €2 MILLION
TO COMMUNITY BASED INITIATIVES IN IRELAND

OVER
30,000

VOLUNTEERED HOURS HAVE BEEN RECORDED BY EMPLOYEES

WELCOME FROM CHIEF EXECUTIVE, PAT O'DOHERTY

2015 HIGHLIGHTS

In 2015 progress was made against the ESB Group Strategy in all parts of the business. In Generation and Wholesale Markets (G&WM) there was good progress on the development of new generation assets, including the completion of Woodhouse, a 20MW Wind Farm, ongoing progress on the construction of Carrington, our 881MW high-efficiency gas power station near Manchester and commencement of the construction of a number of other renewable projects such as biomass, wind and solar. ESB Networks invested €494 million in developing the electricity network infrastructure in the Republic of Ireland (ROI). ESB International celebrated its 40th anniversary in 2015 and over this time, it has not only helped countries around the world improve the quality and reliability of their electricity supply, it has also allowed ESB access to strategic engineering talent. SIRO, ESB's joint venture with Vodafone, commenced activities, rolling-out fibre broadband to customers across Ireland using the low-voltage electricity network.

PERFORMANCE

Overall, ESB achieved solid results across all areas of its business in 2015. Profits were positively impacted by the improved availability of our generation plant increasing from 86% in 2014 to 92% in 2015. Continued pressure on Great Britain (GB) wholesale electricity prices and reduced running for gas plants in the Irish market prompted us to carry out an impairment review of some of our generation assets. As a result of this review we incurred an impairment charge of €104 million relating to two assets: Corby Power Limited (€58 million) and Coolkeeragh ESB Limited (€46 million).

We continued to invest in critical infrastructure in the Republic of Ireland (ROI), Northern Ireland (NI) and GB including new low-carbon generation and upgrades to our transmission and distribution networks. We paid €273 million of dividends to our shareholders including the final instalment of the special dividend (€214 million).

Pat O'Doherty, Chief Executive

CLIMATE AND ENERGY POLICY

The long-term need to decarbonise European and global societies to address the threat of worldwide climate change will present an enduring challenge to and opportunity for the energy sector over future decades. 2015 was a landmark year for sustainability in the global context with the publication of the Sustainable Development Goals and in December 2015, the United Nations (UN) unanimously agreed to a global agreement on climate change. The Paris Agreement sets a commitment to keep global temperature rises to well below 2°C with a target of 1.5°C. An ongoing cycle of

The long-term need to decarbonise European and global societies to address the threat of worldwide climate change will present an enduring challenge to and opportunity for the energy sector over future decades

Since our first Corporate Social Responsibility report was published in 2003, ESB has progressed and developed in all areas of sustainability and has sought to ensure that the key elements of our sustainability strategy are embedded within our business model and supporting the delivery of our corporate strategy

five-year reviews of national contributions has been agreed, so although currently the total contributions are not expected to keep global temperature rises below 2°C, these reviews can accelerate the ambition and collective effort to meet the targets.

Current EU policy is to reduce total greenhouse gas emissions by 80 - 95% by 2050, compared to 1990 levels. The Irish Government has set a target of an 80% reduction in emissions in electricity, transport and the built environment by 2050, with carbon neutrality in agriculture and land use.

In the medium term, the EU has adopted a 2030 objective of a 40% reduction in greenhouse gas emissions. Each member state will have a single annual binding target for greenhouse gases in agriculture, transport and buildings. From 2021, there will be an Energy Union Governance Process which will provide for national long-term plans and tracking of progress on greenhouse gases and on EU-level renewable and efficiency goals. In the short-term, under the 2020 framework, there are also legally binding targets at national levels to decrease carbon emissions for sectors such as transport, agriculture and buildings. The electricity sector is already legally committed to emission reductions under the EU's Emissions Trading Scheme (ETS) and is on track to achieve these. There are also targets to increase the proportion of energy from renewable sources. The Republic of Ireland (ROI) and the United Kingdom (UK) have set targets for the proportion of electricity from renewable sources of 40% and 30% respectively.

While the broad direction of travel towards the 2050 vision is relatively clear, the technology and policy choices that Europe needs to arrive at a sustainable and secure energy system at a reasonable cost are not clear. At present there is no single or simple solution for achieving this. The UK in late 2015 announced a reduction in renewable subsidies and an intention to close all coal-fired generation stations by 2025, to be replaced mainly by gas-fired and nuclear generation.

In 2015, the ROI Government published its White Paper on energy: Ireland's Transition to a Low-Carbon Future. Contained within the document is a focus on the challenge of meeting Ireland's commitments to reduce greenhouse gas emissions in transport, heating and agriculture and a framework for citizen engagement and evidence-based policies to get there. ESB's Group Strategy is broadly in alignment with this long-term decarbonisation vision and with the direction of travel of UK policy.

INVESTING IN A LOW-CARBON FUTURE

ESB is preparing for a decarbonised energy landscape by investing in new renewable technologies such as onshore wind and solar photovoltaics (PV), and developing a more intelligent network capable of supporting intermittent distributed generation. Renewable technologies will make up a bigger proportion of our generation fleet in the years ahead. However, while we transition to a low-carbon future, backup from traditional generation will continue to be required for the foreseeable future both to maintain affordability and provide predictable despatch to offset and facilitate intermittency.

FOCUS ON AFFORDABILITY

Energy affordability remains an issue for many of our customers. For the second year running, Electric Ireland reduced residential electricity prices by 2% in advance of the winter peak when customers need it most. From 1st January 2016, we reduced our gas prices for residential and SME business customers by 2.5%. Electric Ireland has also established a specialist team to provide services to people experiencing fuel affordability issues, such as tailored payment plans and Smarter Pay As You Go products. Disconnections continued to fall in 2015 – less than 30 per 10,000 customers disconnected.

COMPETITIVE AND CUSTOMER FOCUSED SOLUTIONS

This year, we continued to offer competitive and innovative products and services to our customers and were first to the market with a Smarter Pay As You Go product. We also expanded into the domestic electricity market in NI, and have maintained an all-island market share of 38%. Electric Ireland had the highest customer satisfaction rating of all suppliers throughout 2015, as reported by the Commission for Energy Regulation (CER).

ESB is preparing for a decarbonised energy landscape by investing in new renewable technologies

Over the past ten years, ESB has awarded over €10 million to community based projects in ROI and NI, working in the areas of suicide prevention, education and homelessness through our Energy for Generations Fund

INVESTING IN SKILLS

ESB launched two major recruitment campaigns in 2015: a graduate programme and an apprenticeship programme. The intake from these programmes together with our on-going investment in training and development for existing employees will allow us to acquire and nurture critical skills for the future and facilitate growth.

SAFETY AS A CORE VALUE

Safety is a core value of ESB and the safety of employees, contractors, customers and the public always comes first. In my role as Chief Executive, I have overall responsibility for the management of health and safety in ESB. Safety leadership is shared with all senior management and, in turn, with each manager, supervisor, team leader and ultimately every employee. Safety leadership however is just one element of our safety strategy; it also includes engagement, compliance and competency focused initiatives.

ESB'S ROLE IN RIVER MANAGEMENT

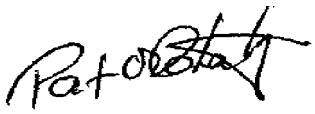
ESB operates hydroelectric power stations on the rivers Shannon, Liffey, Lee, Erne and Clady. Each of the schemes was established under legislation, which places a duty on ESB to operate and maintain the hydroelectric power stations and associated reservoirs, dams and embankments and lands for the purpose of electricity generation. In carrying out its duties, ESB consults with other stakeholders who have specific duties or interests in the management or use of these rivers. During December 2015 all these rivers were subject to flood conditions arising from a sustained period of above-average rainfall across Ireland and, in particular, two distinct severe rainfall periods associated with Storms Desmond and Frank. During this period, ESB was fully engaged with local authorities and stakeholders. At national level, ESB attended the Government's National Co-Ordination Group on a daily basis.

SUPPORTING COMMUNITIES

Over the past 10 years, ESB has awarded over €10 million to community based projects in ROI and NI, working in the areas of suicide prevention, education and homelessness through our Energy for Generations Fund. The fund is aligned with national policy objectives and as well as providing financial support to organisations, we actively engage our employees through volunteering programmes. We also invest in communities through sponsorships to promote science, technology, engineering and maths, as well as sport, arts and cultural initiatives.

LOOKING AHEAD

Looking ahead, I see further change in the industry as new technologies emerge and non-traditional players enter the market. Upstream, there will be further developments in low-carbon generation, while downstream, new products and services will be enabled by advances in technology and the smart grid. It is ESB's intention to collaborate where possible to accelerate innovation across all areas of our business, as evidenced by recent partnerships with Vodafone, Kingspan, Coillte Teoranta and the Green Investment Bank. The introduction of the Integrated Single Electricity Market (I-SEM), due to launch in 2017, will also present significant challenges for ESB over the next few years. I am confident that the commitment and knowledge of ESB's employees means that we are well positioned to address these changes.



Pat O'Doherty, Chief Executive

We are very conscious that energy affordability remains an issue for many of our customers. For the second year running, we reduced residential electricity prices by 2% in advance of the winter peak when customers need it most

PREPARING FOR THE FUTURE

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.

ADVANCED NETWORKS

To lead the development of smart networks and to facilitate renewables integration on to the network

Objective 21: Reduce transmission and distribution losses on the all-island network

Objective 22: Facilitate the connection of renewable energy onto the all-island network

Objective 23: Maintain our position as a world leader in smart networks' implementation

Objective 24: Implement smart metering to meet the future needs of customers, ESB and stakeholders

GENERATION / SUPPLY BUSINESS OF SCALE

To build a balanced low-carbon generation and supply business of scale in the all-island market as we move to a low-carbon economy

Objective 1: Reduce air emissions (SOx, NOx) per GWh and CO_2 emissions to 343g/KWh from our Generation Portfolio by 2025

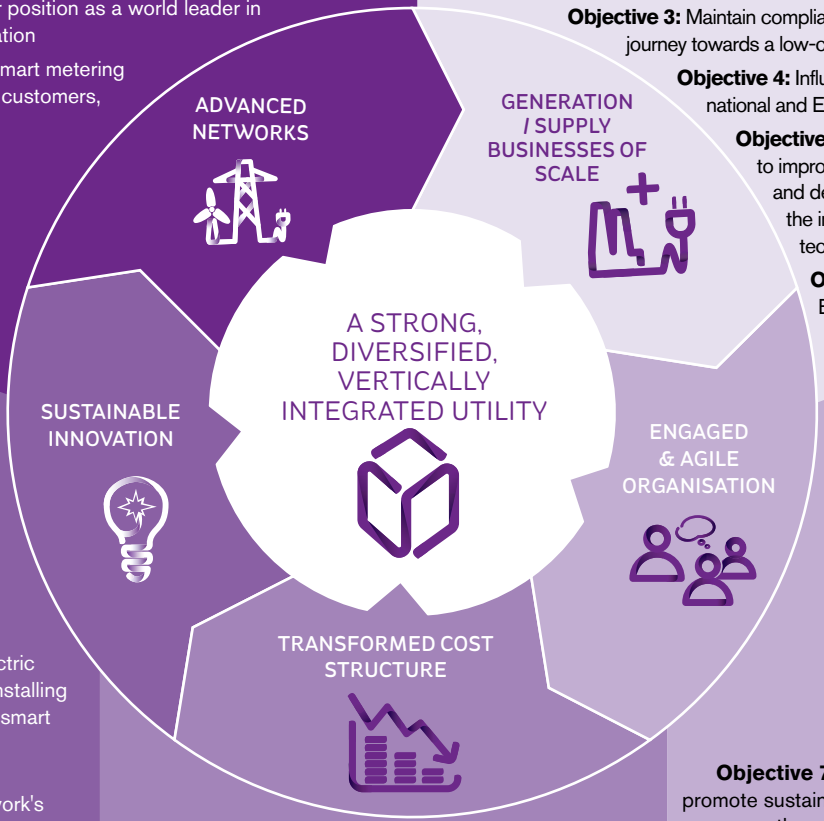
Objective 2: Increase renewable energy sources in our Generation Portfolio to 26% by 2025

Objective 3: Maintain compliance with applicable laws on journey towards a low-carbon economy

Objective 4: Influence carbon policy at national and EU level

Objective 5: Work with customers to improve their energy efficiency and demand response through the introduction of smart home technologies

Objective 6: Achieve SEAI Better Energy targets



SUSTAINABLE INNOVATION

To develop new low-carbon business opportunities as a source of competitive advantage towards 2050

Objective 16: Promote electric vehicles in Ireland through installing a national network of public smart charging points

Objective 17: Explore the potential to use ESB's Network's infrastructure to deliver broadband by fibre on a commercial basis

Objective 18: Pursue consultancy opportunities in low-carbon sector

Objective 19: Invest in emerging clean energy and energy efficiency sector

Objective 20: Assess business opportunities in emerging clean-tech areas such as energy storage, CCS, ocean energy and solar PV

ENGAGED AND AGILE ORGANISATION

To engage with our employees to enhance performance and with our customers, suppliers and the community as part of our broader responsibilities to society

Objective 7: Engage with our staff to promote sustainability in the workplace, in the community and in the home

Objective 8: Establish an overall ESB Corporate Responsibility Programme which promotes volunteering and monitor its impact

Objective 9: Communicate progress both internally and externally against sustainability targets on a regular basis to enhance the reputation of ESB

Objective 10: Work with staff and suppliers to embed sustainable procurement within each business unit

TRANSFORMED COST STRUCTURE

To minimise our impacts on the environment, deliver cost savings and use our resources in a cost efficient manner

Objective 11: Reduce our internal CO_2 carbon footprint by improving the energy efficiency of our buildings, reducing fuel used in our vehicle fleet and promoting sustainable travel for staff

Objective 12: Drive improvements in environmental management and our impact on biodiversity

Objective 13: Reduce waste streams, increase re-use and recycling and reduce waste going to landfill

Objective 14: Reduce water usage

Objective 15: Achieve Public Sector Energy Efficiency targets to 2020

1.3 PERFORMANCE AGAINST STRATEGIC OBJECTIVES

ESB GROUP STRATEGIC PRIORITIES	2015 PROGRESS
Development of low-carbon portfolio Energy efficiency and affordability for customers	■ Market conditions continued to favour coal generation in 2015, with ESB's total CO_2 emissions remaining in line with 2014 at 9.2 million tonnes and carbon intensity increasing by 14g/kWh to 590g/kWh. However the emissions have decreased by circa 37% from 2005 levels. ■ At the end of 2015, renewable energy sources in ESB's generation portfolio are 13%. During the year significant progress was made on the following renewable projects: – Woodhouse Wind Farm (20MW) in the Republic of Ireland entered commercial operation – Tilbury biomass project (40MW) commenced construction. ■ Compliance with applicable environmental legislation was reported by all business units. An ongoing process of engagement with the Environmental Protection Agency (EPA) and Northern Ireland Environment Agency (NIEA) is in place on relevant environmental matters. ■ Engagement with stakeholders on carbon policy issues in the lead up to the December 2015 Paris Agreement. ■ Electric Ireland, through the Energy Efficiency Incentive Scheme, has delivered 15 GWh of energy savings to date and returned over €1 million to customers. ■ The Energy Efficiency Obligation Scheme has delivered some 253 GWh (against a three-year target of 420 GWh) of energy savings for its customers in 2015 and returned over €40 million in cost savings to customers to date, as well as €6 million directly from Electric Ireland in the form of grants, incentives and credits.
Develop resilient networks and facilitate renewables	■ 1,198 kilometres of network were converted from 10kV to 20kV during 2015, reducing distribution losses. ■ An additional 312MW of wind generation was connected to the grid on an all-island basis in 2015, bringing the total renewable MWs connected to the grid to over 3,200 MW. ■ The ESB RealValue smart network project will see the installation of a storage solution and profile metering in 800 homes in Ireland and the installation of advanced monitoring and control capability in medium voltage (MV) substations associated with the trial. ■ Following substantial input from ESB Networks and other industry players the Commission for Energy Regulation (CER) published two sets of policy decisions in July and December 2015 on the rollout of the smart metering project.
Evolution of emerging technologies	■ Across ROI, ESB has rolled out over 2,300 electric vehicle charge points and has taken over the responsibility for the operation, maintenance and development of the charge point network in NI. ■ SIRO, ESB's JV with Vodafone, commenced the building of its wholesale fibre to the building broadband network in six towns in 2015. ■ The €200m Novusmodus Fund, currently manages investments in seven companies in the clean technology sector. ■ Over 500kW of rooftop solar projects have been built by Kingspan ESB JV, primarily on commercial rooftops in NI.
Operational energy efficiency Environmental management Financial performance	■ ESB has reduced its primary energy use in its operations by 24.7%, 53 GWh primary energy equivalent (PEE), since the baseline period (2006 - 2008 average). ■ All business units now operate under externally ISO 14001: 2004 certified environmental management systems ■ Recycling rates are generally above 75% and diversion from landfill rates above 93%. ■ 39 meters are now installed in ESB Networks' depots (coverage over 50%), which have driven a focus on reducing water usage.
Impact on society	■ Staff sustainable innovation award category as part of the ESB Staff Innovation Recognition Awards. ■ The ESB Energy for Generations Fund has contributed over €10 million in the past decade to community based projects around the country. To the end of December 2015, over 30,000 volunteered hours had been recorded by ESB employees. ■ Progress updates on sustainability are published every six months and on an annual basis a sustainability report is prepared. ■ Ongoing rollout of sustainability workshops as part of the specification and pre-tender requirements process for tenders in excess of €5 million.

A STRONG, DIVERSIFIED, VERTICALLY INTEGRATED UTILITY | GENERATION / SUPPLY BUSINESSES OF SCALE | ADVANCED NETWORKS

SUSTAINABLE INNOVATION | TRANSFORMED COST STRUCTURE | ENGAGED AND AGILE ORGANISATION

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 Code. 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.

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 practice governance arrangements is an important aspect of ESB business performance.

For details of our Enterprise Risk Management Process, our principal risks and mitigation strategies and our risk heat map, please consult our risk report section in our 2015 Annual Report.

FULL DETAIL ON CORPORATE GOVERNANCE IN ESB IS AVAILABLE IN OUR 2015 ANNUAL REPORT: HERE

Good governance is good business and is built on competency, transparency and accountability. In pursuit of our goal of strong and sustainable growth, the Board and management remain committed to achieving that transparency and accountability in all we do - Ellvena Graham, Chairman

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

NOTES:

ENERGY FOR FUN

02

ESB GROUP ORGANISATIONAL PROFILE

ABOUT ESB

2.1 ESB GROUP OVERVIEW

ESB was established in 1927 as a corporate 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 (ESOP). As a Strong, Diversified, Vertically Integrated Utility, ESB operates right across the electricity market: from generation, through transmission and distribution to supply of customers. 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, 49% of generation in the all-island market and supplier of electricity to approximately 1.5 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-island competitive environment. ESB is focused on providing excellent customer service and maintaining its financial strength. As at 31 December 2015, ESB Group employed approximately 7,300 people.

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 globe (currently 9 countries).

FURTHER DETAILS OF THE BUSINESS ENVIRONMENT CHALLENGES FACING ESB AND OUR STRATEGY FOR MEETING THESE CHALLENGES IS GIVEN IN OUR ANNUAL REPORT 2015: HERE

STAFF BY REGION

Republic of Ireland	81%
Northern Ireland	17.5%
Europe	0.05%
Middle East	1.4%
Asia	0.03%
Africa	0.01%

ESB Group operates across the four segments of the electricity market; 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 1.5 million domestic, commercial and industrial customers. Energy efficiency advice and services are also offered. The Distribution System Operators 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 decarbonisation of electricity generation by 2050 in line with other European utilities. 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, as well as a summary financial review for 2015, please refer to the ESB Annual Report 2015.

OPERATING AND FINANCIAL REVIEW SECTION OF THE 2015 ANNUAL REPORT: HERE

2.2 ESB WORKFORCE

ESB Group employed approximately 7,300 staff as at 31 December 2015, across its five key operational business areas outlined above. More than 60% of staff are directly covered by collective bargaining arrangements as members of trade unions, reflecting ESB Group's position of supporting freedom of association for all staff.

	2014	2015
Average Number of Employees	7,149	7,305
Female	23%	22%
Management Level Female	19%	19%
Full Time	94%	94%
Employees with Disabilities	5%	5%

1. 42% of staff classified as skilled craft and general staff, 58% as non-craft and general
2. % Board Members Female 36%
3. Permanent Contract 99%; Temporary/Other Contract 1%
4. 3,300 Third-Party Contractor Staff working on behalf of various business units

ESB AT A GLANCE

BUSINESS UNIT DESCRIPTION	GENERATION & WHOLESALE MARKETS (G&WM)	ESB NETWORKS	NORTHERN IRELAND ELECTRICITY NETWORKS (NIE NETWORKS)	ELECTRIC IRELAND	OTHER SEGMENTS
DESCRIPTION	Electricity Generation & Trading	Electricity Transmission & Distribution Asset Owner, Distribution Network Operator		Electricity Supply	Innovation, Internal Service Providers and ESB International (engineering consultancy)
REVENUE €M	€1,409m	€954m	€301m	€2,100m	€278m
REGIONS OF OPERATION	ESB Energy for generations ROI, NI, GB	ESB NETWORKS ROI	Northern Ireland Electricity Networks NI	electric Ireland ROI, NI	ESB Energy for generations ROI, NI ESB INTERNATIONAL EU, MIDDLE EAST, ASIA, AFRICA
AVERAGE EMPLOYEE NUMBERS	973	3,204	1,208	346	1,574
SCALE OF OPERATIONS	9 THERMAL STATIONS, 8 HYDRO AND PUMPED STORAGE STATIONS, 21 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
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

2.3 ESB GROUP SUPPLY CHAIN

ESB's Supply Chain is key to our business success and meeting ESB's sustainability goals. ESB spends substantial sums of money with suppliers annually on the development and maintenance of our asset base and the delivery of day-to-day operations. Procurement plays a pivotal role in acquiring the supplies, services and works required and in identifying excellent suppliers who can support our business needs in a sustainable manner. Corporate policy drives 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 establishes clear standards in relation to conduct of business, corporate responsibility, compliance with employment standards and applicable laws. All relevant procurement policies are made publically available via the ESB Group website.

AVAILABLE VIA THE ESB GROUP WEBSITE
CLICK HERE

ESB's supply chain supports its business operations in generation, networks and supply – including its international activities. With an annual procurement spend of approximately €1bn (including fuel), we rely on a complex and diverse supply chain in order to provide the services necessary to meet our customers' needs.

Of this spend approx. 70% is sourced from suppliers within the Republic of Ireland and Northern Ireland, 18% from the UK, and 6% from other EU member states. We currently have approximately 4,920 active Tier 1 suppliers and over 30,000 purchase orders raised, ranging from local SMEs & micro companies to large multi-national corporations / contractors. Many of these suppliers have multiple sub-suppliers and in some instances there can be as many as six to 10 levels of supply between ESB and the original source of raw material.

Contracts range from straightforward supply type arrangements for consumable items such as stationary, tools and equipment to more complex service / works contracts for generating station and wind farm builds and refurbishments, networks sub-station and overhead line construction, customer billing and metering services and financial and 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.

Partnering with contractor organisations is a critical element of constructing large scale assets

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 and we are progressively moving to an electronic means of transacting business with our suppliers. ESB is also committed to complying with the terms of applicable late payments legislation. ESB's standard payment terms are Nett Monthly Account. ESB is a signatory to the Prompt Payment Code of Conduct.

Procurement Change Programme: Donal Flynn, Executive Director Group Finance and Commercial, ESB; Detlef Schultz, Group Supply Change Management Director, Vodafone; and Mark Harmon, Chief Procurement Officer ESB

2.4 SIGNIFICANCE OF ORGANISATIONAL CHANGES

There were no organisational changes of significant scale during 2015. ESB Group became a 47% partner in Tilbury, GB, a joint arrangement formed with the Green Investment Bank (47%) and the EPC/O&M (6%) consortium in 2015. The purpose of this joint arrangement is to construct and operate a 40MW biomass plant in GB. ESB Group became a 50% partner in Raheenleagh, a joint arrangement formed with Coillte Teoranta, to construct and operate a 35MW windfarm in Co Wicklow, Ireland.

2.5 PRECAUTIONARY PRINCIPLE

ESB's Environmental Policy puts the precautionary principle at the heart of our approach to managing and mitigating our potential impacts. ESB recognises that its 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. ESB's Corporate strategy, supported by its sustainability strategy and objectives, seeks to

ESB ENVIRONMENTAL POLICY STATEMENT
CLICK HERE

ESB's Equality and Diversity Team meet President of Ireland Michael D. Higgins at the AHEAD 25th Anniversary celebrations

ESB awarded Engineers Ireland CPD Accredited Employer. Pictured (l-r): John Power, outgoing Director-General, Engineers Ireland; Majella Henchion; Pat Naughton; Caroline Spillane, incoming DG, Engineers Ireland; and Pat O'Doherty, Chief Executive ESB

deliver an efficient low-carbon generation portfolio, through investment in existing, emerging and new renewable technologies, as well as leveraging further efficiencies and innovative opportunities that will reduce environmental impact.

The precautionary principle is also addressed through the consideration of environmental risk within the risk management of environmental aspects, the resulting prevention and mitigation strategies and the widespread use of environmental impact assessments as a preventative tool in the development of new infrastructure projects.

The implementation of the ISO14001 compliant Environmental Management Systems (EMS) is also key in the application of the precautionary principle within the organisation. The EMS framework facilitates the undertaking of emergency drills, the reporting, investigation and root-cause analysis of incidents, thereby preventing future reoccurrence. The delivery of training on the EMS allows these principles to be disseminated across the ESB Group.

2.6 CHARTERS TO WHICH THE ORGANISATION SUBSCRIBES

- BetterCoal Code
- Code of Practice for the Governance of State Bodies
- UK Corporate Governance Code
- Irish Corporate Governance Annex
- The Prompt Payment Code of Conduct
- The Energy Engage Code

2.7 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.

Key associations in which ESB plays an active role are:

- Association for Higher Education Access and Disability (AHEAD)
- BetterCoal
- Chambers Ireland
- Chartered Institute of Professional Development
- Corporate Leadership Council
- Diversity Charter of Ireland
- Electricity Association of Ireland (EAI)
- Electric Power Research Institute (EPRI)
- Engineers Ireland
- Eurelectric
- Gay and Lesbian Equality Network (GLEN)
- Irish Business and Employers Confederation (IBEC)
- Irish Marketing Institute
- Irish Wind Energy Association (IWEA)
- National Irish Safety Organisation (NISO)
- The Mediators Institute of Ireland.

2.8 AWARDS AND RECOGNITION

Gaining recognition for one's work is important to sustain the effort to do things better and make a difference. At ESB we encourage staff to submit their projects into relevant award processes as a means to communicate activities and outcomes to peer organisations and also to share that learning.

- ESB Group Treasury - International Risk Awards 2015
- ESB International - National Champion for Customer Focus, European Business Awards
- Coolkeeragh Power Station - Gold Award, Arena NI Environmental Survey
- Electric Ireland -Business to Consumer Award, European Sponsorship Association Excellence Awards
- Electric Ireland - Best Digital Marketing Brand Campaign, Net Visionary Awards
- ESB Group - Engineers Ireland CPD Accredited Employer standard
- ESB Group - Special Recognition for Portfolio of Investment, Business to Arts Awards 2015
- ESB Networks - Best GI Application in the Public Sector -IRLOGI Space and Place Awards 2015
- Electric Ireland - Excellence in CSR Communications, Chambers Ireland Awards 2015
- ESB Health & Wellbeing - Excellence in Workplace, Chambers Ireland Awards 2015
- NIE Networks - Gold Standard in Investors in People

Excellence in Workplace (LIC) ESB, Positive Mental & Physical Health Promotion among ESB Staff. Pictured (l-r) are: Ian Talbot, CEO of Chambers Ireland; Louise Murphy, Health and Wellbeing Team, ESB; Kathleen McDonnell, Health and Wellbeing Team, ESB; Minister Alan Kelly, TD, Department of the Environment, Community and Local Government

ENERGY FOR CREATING

03

MATERIALITY PROCESS AND STAKEHOLDER ENGAGEMENT

INTRODUCTION

3.1 INTRODUCTION

The very nature of ESB's operations, being embedded in every community in Ireland, brings a broad span of exposure to and engagement with a wide range of stakeholders. In our purpose of delivering brighter possibilities to the people we serve, we recognise that electricity is an enabler of societal and economic wellbeing and that truly understanding the expectations and concerns of our stakeholder is front and centre in our ability to deliver against those expectations and allay any concerns.

We have stakeholder engagement channels 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, 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.

3.2 EXTERNAL STAKEHOLDER ENGAGEMENT FRAMEWORK

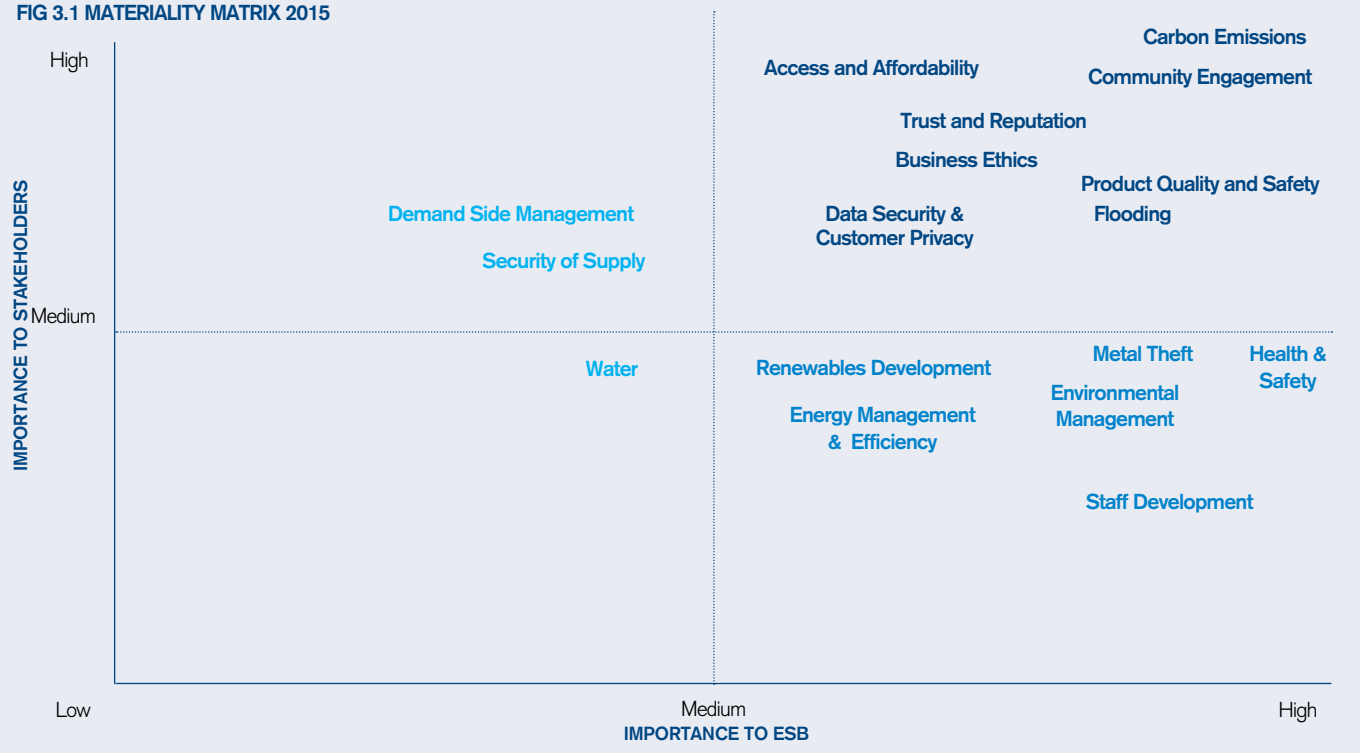
During 2015, a strategic stakeholder management framework was established to help streamline the ongoing stakeholder management activity that is undertaken and managed by stakeholder managers in each business unit across ESB Group.

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 issues will also be discussed. Due to the broad nature of our business activities, individuals within the businesses engage with relevant stakeholder groups via consultations, formal reporting processes, meetings, industry fora, facilitated engagements and one-on-one 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
- To further develop the relationships that we have

FIG 3.1 MATERIALITY MATRIX 2015



with key stakeholders on social, economic and environmental policy issues, as well as compliance, regulatory, operational and future market challenges.

To formulate the issues output from these engagements into a list of prioritised material issues, members of the stakeholder engagement group, together with the Sustainability Committee, held a materiality workshop to help prioritise the issues emanating from the various external and internal stakeholder engagement channels. These priority issues are captured in the materiality matrix (Figure 3.1)

3.3 INTERNAL STAKEHOLDER ENGAGEMENT

ESB is committed to undertaking an independent and anonymous survey of staff at least every two years. This allows ESB, as an employer, to measure and compare progress and trends with staff opinions as well as providing for comparison with peer organisations.

A survey of staff was undertaken during 2015, where 61% of staff responded. The survey provides a focus for activity to drive engagement with staff through reflection, discussions on survey findings and action on the results. Undertaking a survey in this manner ensures:

- We have a survey that provides an opportunity to have an informed and focused discussion on the working environment at ESB
- We have a platform for managers and staff to engage with each other on what is working well and what needs improvement
- We have a planned company-wide approach to action planning that drives a better working environment and improves engagement.

The key issues emanating from the 2015 staff survey include:

- A fair and inclusive working environment
- The role of middle and frontline managers
- Staff development
- Managing change positively

3.4 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.

During the severe winter weather and storms in late 2015 and early 2016, ESB Networks' Power Check App, was downloaded 100,000 times and had 50,000 unique views as the storm situation and impacts evolved. Such channels help head off many associated queries and also proactively alert customers to localised storm forecasts.

During December 2015 and January 2016, all five hydroelectric schemes operated under statute by ESB were subject to flood conditions arising from a sustained period of above-average rainfall across Ireland and, in particular, two distinct severe rainfall periods in December associated with Storms Desmond and Frank. Throughout the flood, ESB staff were in daily contact with multiple local authorities along all the river catchments in the Republic of Ireland and with the Rivers Agency in Northern Ireland. The close coordination at all levels greatly assisted in ensuring that local councils were able to respond in a timely manner to areas potentially at risk based on discharges from ESB hydro schemes. At a national level, ESB was represented on a daily basis at the Government's National Co-ordination Group, which was held in the National Emergency Co-ordination Centre.

Another part of the ESB Group, NIE Networks, has used stakeholder engagement as a means to develop its future network investment plans. As a regulated monopoly, NIE Networks operates to strategic programmes of work to maintain and develop Northern Ireland's electricity networks and keep the power flowing across the country. The company is currently developing its network plans for 2017-2024.

In order to ensure consumers' opinions are fully incorporated in this programme of work, NIE Networks undertook a joint project with the Utility Regulator, the Consumer Council for Northern Ireland and the Department of Enterprise, Trade and Investment (now known as the Department for the Economy) to find out the views of householders and businesses on the aspects of the electricity network services that matter most to them. An extensive piece of consumer engagement to understand their priorities for the electricity network was undertaken. Presenting detailed options on power cuts, resilience to severe weather, smart networks and undergrounding of overhead lines allowed NIE Networks to check consumers' understanding of how their views were being incorporated into its strategic business plan.

The above examples reflect some of the practical approaches that are being employed across ESB Group to formally engage relevant external stakeholder groups, to solicit their input, which is used by the stakeholder engagement forum to ensure ESB Group is responsive to relevant issues raised.

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

A NIE focus group in session

REPORT BOUNDARY

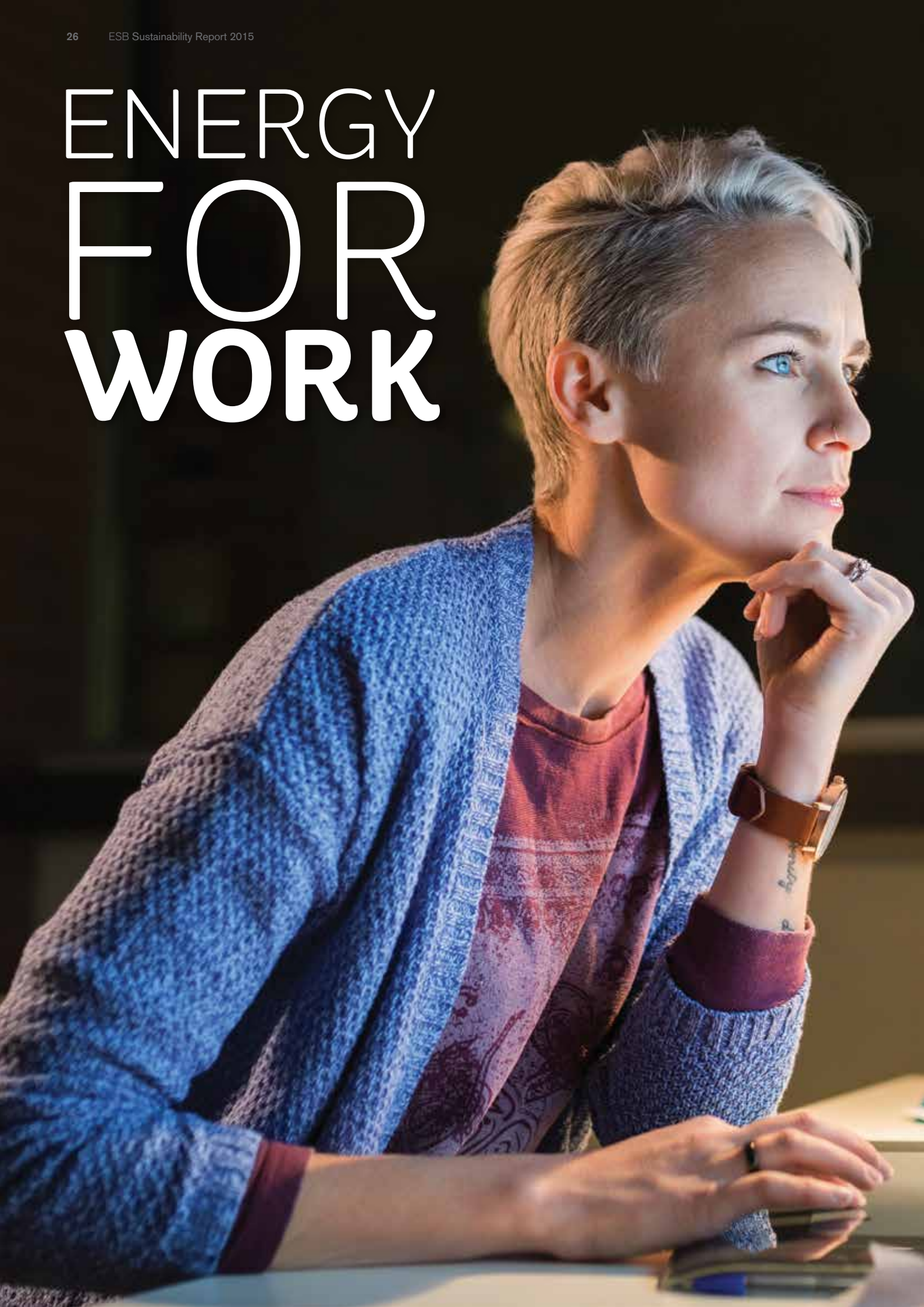
In defining the boundary of this report, taking into account all registered entities of ESB Group (see Note 32. ESB Annual Report 2015) [hyperlink to page 164 AR 2015], we have focused on those entities where ESB has control and those activities that are significant for ESB Group from the economic, environmental and social standpoint. The businesses outlined in Section 2 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.

TABLE 3.2 STAKEHOLDER MATRIX

STAKEHOLDER GROUPING	MEANS OF ENGAGEMENT	SUBJECTS OF ENGAGEMENT	MOST IMPORTANT ISSUES RESULTING	REPORT SECTION WHERE ADDRESSED
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	Low Carbon Portfolio, Financial Performance
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	Energy Affordability, Resilient Networks and Facilitating Renewables
Network Operators (Eirgrid, SONI, National Grid)	Scheduled meetings, planning process	Grid connections, work programmes, planning, facilitating renewables	Renewables, network stability, continuity of supply	Facilitating Renewables
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	Low Carbon Portfolio
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	Impact on Society
Environmental Authorities (EPA, SEAI, DoE)	Licencing process, ongoing dialogue, formal compliance reviews	Licence conditions and compliance, annual reporting, dealing with breaches and complaints	Legal compliance, water conservation, energy efficiency, waste	Environmental Management, Operational Efficiency
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	Emerging Technologies
Public representatives, local authorities	Scheduled meetings, planning process, ongoing dialogue	Planning concerns, building community support	Community engagement, legal compliance	Resilient Networks
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	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	Health and Safety, Our People
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	Affordability and 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	ESB Group Organisational Profile, Operational Efficiency

NOTES:

ENERGY FOR **WORK**



04

4.1 HEALTH SAFETY AND WELLBEING

"A primary objective is the achievement of an incident and injury free working environment for all staff and contractors working for or on behalf of ESB Group"

Jerry O'Sullivan, Deputy Chief Executive

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 safety performance on matters of policy and strategy and overall health and safety performance of the Group.

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.

HEALTH AND SAFETY PERFORMANCE IN 2015

There were no fatalities to employees or contractors arising from ESB activities in 2015. Many parts of ESB maintained an injury-free environment during 2015 and the overall number of LTIs reduced in 2015 (58) from that recorded in 2014 (78). 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. Regrettably, a member of the public was fatally injured in June 2015 in an electrical incident involving use of an extended telescopic hedge trimming device that came into contact with an overhead electricity line.

HEALTH AND SAFETY PROGRAMMES IN 2015

The health and safety programme in 2015 has focused on the implementation of the Safety Leadership Strategy based on the four pillars of Leadership, Competency, Compliance and Engagement. Each business area models its local health and safety programme on these four pillars. The Safety Leadership Framework describes at a high level the areas of focus in order to maintain a safe place of work and ensure a consistent approach across ESB, recognising that safety is a core value for the company. The Safety Leadership Framework is a clear and simple way of articulating the safety responsibilities, obligations and expectations that everyone in ESB has in order to maintain a safe environment. Each business unit adopted the Safety Leadership Framework in developing their Safety Improvement Plans in 2015 to align with the Safety Leadership Framework.

FIGURE 4.1.1 SAFETY PERFORMANCE ESB GROUP

SAFETY PERFORMANCE ESB GROUP	2013	2014	2015
Staff Fatalities	1	1	0
Contractor Fatalities	0	0	0
Staff Lost Time Injuries	29	52	30
Staff Lost Time Injury Rate (per 100,000hrs)*	0.24	0.45	0.25
Contractor Lost Time Injuries	14	26	28
Safety Management System Coverage	100%	100%	100%
P1s (High Potential Severity Incidents)	279	238	253
OHSAS 18001 or equivalent certification	>90%	>90%	>90%
Absenteeism Rate (average days/staff)	7.77	7.71	7.79
Days lost due to occupational injury	612	740	667
Public Fatalities due to electricity (Customer side of Meter)**	1	1	0
Public Fatalities due to electricity (Network side of Meter)	0	0	1

*based on all lost-time injuries that occurred (reportable and non-reportable) and 225 average working days each year for all staff
**where reported to ESB by relevant authorities where electricity has been determined to be the cause of death

KEY DELIVERABLES DURING 2015 IN EACH BUSINESS UNIT WERE

NETWORKS
- Implementation of findings from Du Pont Cultural Assessment
- Safety Leadership and Engagement programmes
- Delivery of Networks' Safety Strategy, including 18 specific projects to embed safety as a core value
- Delivery of Public Safety Programmes

NIE
- Embedding safety objectives through performance management
- Senior Manager involvement in safety inspections and safety stand-down days
- Close-out of actions from all incidents

G&WM
- Safe construction of new generation assets and overhaul programme
- Process safety / behavioural safety programmes
- Embedding of new safety rules in Generation

INNOVATION
- Safety of staff working internationally
- Safety aspects in the design stage of projects for both Networks and G&WM
- Safety risks in new and emerging business areas

CORPORATE CENTRE
- Completion of Environment Health & Safety System
- Establishment of new Health Safety and Wellbeing Structure for ESB
- Ongoing Corporate policy development

BSC / EI
- Contractor Safety Management Project
- Safe delivery of facilities management
- Delivery of Health and Wellbeing Programmes

LOST-TIME INJURIES (LTIs)

All injuries to members of staff or to contractors engaged by ESB involving an absence of more than one day from work (excluding day of incident) are reported to the Chief Executive within 24 hours (number and rate reporting in Fig. 4.1.1). A full investigation is carried out on each incident to ensure all learning is captured and actions implemented. ESB also complies with all statutory obligations regarding the reporting of accidents, injuries and dangerous occurrences to Health and Safety Authority (Republic of Ireland), Health and Safety Executive (UK) or equivalent bodies in other jurisdictions of operation.

There has been a steady reduction in employee and contractor LTIs since 2004. Many parts of ESB maintained an injury-free environment during 2015 and the overall number of LTIs reduced in 2015 (58) from that recorded in 2014 (78). While the majority of these injuries were of low severity, the high rate of LTIs in recent years is a cause for concern as 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.

HIGH-POTENTIAL INCIDENTS

ESB categorises all injurious incidents and near misses with a particular focus on high-potential incidents that could lead to more serious outcomes. In recent years, ESB has increased its focus on encouraging reporting and investigation of high-potential incidents, recognising the significant risks associated with electricity and driving. The reporting and categorisation of safety incidents has led to improved shared learning across business areas. In particular, the implementation of a new Environmental Health & Safety System has led to improved assurance around reporting of environmental, health and safety incidents and events. All high-potential incidents and LTIs are investigated to determine the root cause of each incident and they are a leading indicator of safety performance in the business. 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.

	2014	2015
LTIs reported	78	58

DANGEROUS OCCURRENCES IN 2015

The table below reports on the number of dangerous occurrences associated with the distribution network infrastructure in Republic of Ireland over the past three years. These figures are broken down as third party damages[1] and non-third party notifiable fault incidents[2].

FIGURE 4.1.2 DANGEROUS OCCURRENCES ON THE NETWORK

Types of Dangerous Occurence	2013	2014	2015
Safety incidents on the network[3]	1214	1909	1510
3rd party plant damages (excluding underground cable dig-ins)	980	1085	1037
3rd party plant damages caused by underground cable dig-ins	245	1043	1003
Non 3rd party – MV and 38kV notifiable fault incidents (e.g. line drops)	1410	273	232

[1]Third party damages are incidents where third parties cause damage to the networks infrastructure. These are broken down into incidents that involve damage to underground electricity cables termed 'Dig-Ins' and incidents that cause damage to other plant such as overhead lines, mini-pillars and substations.

[2]Non-third party notifiable fault incidents are principally incidents on the overhead lines networks where an overhead line conductor / wire falls e.g. in stormy conditions or due to corrosion or other plant item failure.

[3]Improved reporting in recent years has led to a more complete reporting on the incidence of dangerous occurrences. Safety incidents on the network includes public safety incidents.

CASE STUDY

NEW HEALTH SAFETY AND WELLBEING STRUCTURE

A new health safety and wellbeing support structure was implemented in ESB in 2015 following a review of existing health safety and wellbeing support structures. The new function is a risk-based structure with Centres of Competency and all health and safety support teams will report into this new central structure but also remain part of BU Senior Management Teams. The proposal represents a significant change organisationally for the safety function teams which have operated largely independently within each Business Unit.

The intent behind the new function is to put in place a health safety and wellbeing structure that supports the delivery of the ESB Safety Leadership strategy, supports line managers in delivering best-practice safety performance and supports consistency in safety practice across the group, reflecting safety as a value.

Fergal Keogh, Head of Health & Safety, promoting the safety leadership framework.

Fergal Keogh was appointed in September 2015 as Head of Group Health Safety and Wellbeing reporting to the Deputy Chief Executive who has overall responsibility for Health Safety and Wellbeing. An initial plan for 2016 has been developed which focuses on:

- Continuing the various BU health safety and wellbeing programmes and initiatives
- Establishing a number of key Centres of Competency
- Developing initial pilot programme for the concept of Incident and Injury-Free
- Significantly increasing the level of Good Catches being recorded across ESB.

HEALTH AND SAFETY POLICY

ESB commitment to health and safety is described in our ESB Group Policy and Framework Safety Statement. This Policy Framework was reviewed during 2015 and supports individual business unit safety statements and safety policy manuals. The overall Group objective is Zero Harm and achieving this requires the full understanding by everyone in the Group of their safety responsibilities and their commitment to fostering a pro-active safety culture, based on a duty of care for themselves, their co-workers and members of the public.

SAFETY MANAGEMENT SYSTEMS

All ESB businesses have a safety management system in place. In the Republic of Ireland, the majority of our safety management systems are certified to OHSAS 18001 standard and are subject to annual independent audit. In Northern Ireland, NIE's SMS is based on the 2014 guidance issued by HSE and the Institute of Directors. As part of each safety management system, each business of ESB Group provides the resources, systems and controls necessary to manage and conduct work activities in such a way as to ensure, so far as is reasonably practicable, the safety, health and welfare at work of all staff and any other persons at the work location.

PUBLIC SAFETY

Electricity is such an integral part of modern living that it can be taken for granted. For members of the public, approaching or accidentally coming into contact with electricity presents a serious risk of being seriously or fatally injured from electrocution.

Hazardous situations can arise from a variety of sources, for example, fallen overhead wires, machinery working near overhead lines, excavating where electricity cables may be buried, erecting and using scaffolding, ladders, hoists and cranes near overhead lines.

Members of the public often don't recognise the potential electricity-related hazards associated with leisure pursuits, for example, sailing, fishing, flying kites and erection of goal-posts on playing pitches. Stormy weather conditions can create hazards with fallen wires, often caused by falling trees.

Vandalism can introduce electricity hazards in public places, particularly in relation to mini-pillars, electrical substations and public lighting columns. Metal theft, especially theft of overhead lines and station break-ins, has introduced a very significant public safety risk.

In 2013, an EU Physical Agents Directive on Electromagnetic Fields (EMFs) was published dealing with occupational EMF exposure from 0 Hz (static fields) up to 300 GHz. This frequency range covers DC power systems (0 Hz), AC power systems (50 Hz) and mobile telecommunications equipment (MHz to GHz frequency range). The requirements of the Directive were transposed into National Legislation in July 2016 and it is now a legal requirement for employers to undertake an assessment of risks associated with EMF exposure in the workplace.

ESB has voluntarily complied with the 1999 EU EMF recommendations on limiting public exposure and international guidelines for occupational exposure for several decades. As a result, the vast majority of workplaces and work practices have already been deemed to be compliant with the new regulations based upon assessments, measurements and calculations completed by ESB, and within the overall power utility industry, over a period of more than 30 years.

Throughout 2015, ESB Networks continued to meet its obligations and responsibilities for public safety by implementing public safety work programmes and having communication initiatives and media campaigns with both general and targeted safety messages. The major initiatives included:

- A new TV ad and a series of new radio ads were launched, aimed at raising awareness of how to be safe near fallen wires and when carrying out DIY near overhead wires. Other media initiatives included a six-month sponsorship of RTÉ Radio 1 weather, and local radio which targeted the farming and construction sectors, and the general public.
- ESB Networks had a high-profile presence at the National Ploughing Championships in September 2015 to engage with the public to raise awareness of electrical safety.
- A significant new initiative was the launch of 'Safe Family Farms', a partnership with the 'Irish Farmers Journal' to deliver a weekly safety message to farming families. Other initiatives aimed at the farming sector included safety talks in all of the Teagasc colleges, UCD and WIT. A Farm Safety Competition, requiring students to submit an essay on 'farming safely with electricity' was also launched. Collaboration continued with the FBD 'Champions for Change' programme.
- A new primary schools initiative, 'Stay Safe Stay Clear' was launched with the aim of educating children about how to be safe when playing outdoors near electricity poles and wires. Collaboration continued with AgriAware, with the production of a new farm safety DVD for primary schools.
- Public safety information was provided through the National Contact Centre, with literature and safety leaflets distributed in response to specific requests. Information is also provided using social media.
- In response to the risks posed by the interference with overhead electricity wires associated with metal theft criminal activity, there were significant initiatives involving collaboration with the National Metal Theft Forum and targeted media campaigns including one with Crimestoppers and the TV programme, 'Crime Call'.

Throughout 2015, 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. These included:

- A programme of events delivered to construction, farming, leisure and children covering an audience of over 40,000.
- Safety programmes for children included school visits and extra-curricular visits where literature was handed out promoting the NIE Networks' website.
- NIE Networks were also involved in the construction of the Risk Awareness and Danger Awareness Resource (RADAR) 'Safety Village' in Belfast which officially opened in November 2015.

CASE STUDY

RADAR CENTRE

'RADAR' is the Risk and Danger Awareness Resource purpose-built 'safety village' on the outskirts of Belfast. NIE Networks is among the utilities and first responders who have taken the lead in developing this facility, the first of its kind in Northern Ireland. It was formally opened by then Justice Minister, David Ford, on 19 November 2015. Already, in excess of 3,000 bookings have been confirmed for 2016, guaranteeing exposure for public safety events that will support local Council 'Bee Safe' events planned for 2016. As part of its commitment to the 'safety village', NIE Networks has designed and built an overhead line, mini-pillar and substation complete with special effects to simulate the likely outcome of accidental contact with the electricity system. This will be used to educate schoolchildren and young adults about the dangers, regardless of whether they are involved in sporting activities, farming or socialising.

It is thought the presence of multiple safety scenarios all under one roof will incentivise schools and youth groups to use the Safety Village. The fundamental principle is that if children and young adults talk about their experience with their friends and family, this will raise the public safety profile.

CONTRACTOR SAFETY MANAGEMENT

Safety management of contractors remains a key area of focus for ESB to ensure that each contractor and sub-contractor, working for or on behalf of ESB, is properly inducted and that each contractor operates under a safe system of work. This is supported by contractor safety management processes in each business area. Our focus is on ensuring that all large contractors working on behalf of ESB have a safe system of work, with evidence available to demonstrate this.

Pre-Outage Contractor Safety Forum takes place in Moneypoint

ROAD SAFETY

ESB's commercial fleet consists of approximately 2,100 vehicles, with more that 50% of them 4x4 vehicles. A further 2,600 of our staff drive their own private vehicle on ESB business – the total distance travelled by these fleets in 2015 was in excess of 50 million kilometres. This activity on the road constitutes a real risk for ESB employees, especially those travelling very long distances and those travelling at irregular hours.

Our Road Safety Strategy 'ESB Road Safety Strategy 2013 – 2020: Our Journey to Excellence' aims to position ESB as a national exemplar in Road Safety Excellence through achieving zero at-fault incidents and collisions by 2020. To achieve this vision, all management and staff must be advocates of safe driving practices for their work colleagues, their families and the wider community. The new strategy has the leadership of the Executive Director Team to provide direction, resources and oversight for its delivery. This strategy takes account of the extent to which the objectives of the previous Safe Driving Strategies were achieved, and is about achieving a cultural shift in the organisation where ESB will see a move from an initiative-based programme to a culture-based programme with a longer term vision.

2015 saw the official launch of ESB's partnership with the Institute of Advanced Motorists (IAM). Apart from independently certifying our drivers who complete the Advanced Driving programme, the IAM also provides a range of expert consultancy services that ESB uses to better inform our Road Safety Programme.

In 2015 we focused on driver fatigue and produced a very striking piece of video involving an ESB NT Jimmy Halpin, who very unselfishly shared his experience of a fatigue-related incident. Driver fatigue is a phenomenon which is now showing up to be a major contributor to road fatalities and serious injuries and one which drivers are slow to recognise and take action against.

Our rate of reported vehicle incidents (collisions and damage) rose slightly in 2015, but more serious than this slight rise was the increase in P1 (high potential severity) vehicle incidents. Thankfully, there were no serious injuries as a result of these incidents. ESB is still making progress in making our drivers safer and more compliant, best displayed by a consistent reduction in the speed (as measured by our fleet management system) of our fleet vehicles.

Our broad support and promotion of road safety will see continued collaboration with the Road Safety Authority, the Health and Safety Authority, An Garda Síochána and the European Transport Safety Council. In 2015 we continued our partnership with the Road Safety Authority, where we distribute high-vis vests to junior infants in every primary school in Ireland at the start of each school year.

SAFETY COMPETENCY

ESB is committed to establishing and maintaining appropriate safety competence in the organisation. Since establishing a dedicated Certificate in Safety and Health at Work with University College Dublin, a total of 435 ESB staff and managers have successfully completed the course. The current course is delivered through blended learning, with only four days required in college. This facilitates those who find it difficult to commit to a fixed study schedule. A total of 59 ESB students are taking part in the 2015/2016 course.

SAFETY COMMUNICATIONS AND ENGAGEMENT

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. Health and safety issues are discussed through an extensive system of safety representatives, safety committees and safety forums throughout the business. All staff have the right to appoint a safety representative and a week-long training programme for Safety Representatives is held each year.

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. The Committee visits different locations to engage with staff on safety matters and in 2015 the Committee visited ESB Networks in Wilton Cork, Moneypoint Power Station in Co Clare and ESB Networks in Finglas, Dublin North Division.

Each business area or location has joint staff / management health and safety committees where health and safety issues are discussed and addressed in a partnership approach. Each business unit has an overall health and safety committee that is attended by the relevant Executive Director and where safety matters are discussed.

Health and Safety Conferences were held in each business unit during 2015 involving both management and staff focusing on the key risks in each business. These events are a strong engagement tool for staff around safety, health and wellbeing issues.

PREVENTION AND RISK CONTROL

ESB places a strong emphasis on the prevention and control of risk in the workplace. ESB has an extensive range of policies and procedures in place, including detailed risk assessments covering all areas of risk, and provides information in a form, manner and language that is likely to be understood by staff and contractors. We also believe that the concept of prevention and control of risk is relevant to staff both in and outside of their work environment. We view Risk Assessment techniques as a "Skill for Life". The measures in place to prevent and control risk include hazards and risks identified through risk assessments and protective and preventive measures to be taken during each specific task to be performed at each place of work. We promote an open engagement with staff in prevention of risk through risk workshops in all locations. ESB does not have any staff involved in occupational activities where there is a high incident or high-risk of specific diseases.

The emphasis and focus of the new JSSP is on the process of changing the behaviours and attitudes of staff with a clear linkage to the Site & Workplace Safety Folder as used by field staff

CASE STUDY

JOB-SITE SAFETY PLAN KEEPING EVERYONE SAFE

One of the 18 projects undertaken by ESB Networks as part of its Safety Strategy was the review and relaunch of the ESB Networks Job Site Safety Plan (JSSP).

The JSSP is ESB Networks' Hazards Identification Tool, originally conceived from the tailboard conference used by live-line work crews since the 1990s. The JSSP has been an integral part of the ESB Networks Safety Management System (SMS) for many years and has yielded great success in its many formats. It is ESB Networks' equivalent to the Safe System of Work Plan (SSWP) as used in the Construction Industry. While the most recent version was successful, it was recognised that the format needed to be refreshed to make it more user-friendly and to ensure that it was being used consistently across the business by all crew members for all types of work.

A working group was set up to review the JSSP and following extensive engagement with staff and relevant stakeholders, including the Health & Safety Authority, a new process was developed that built on the success of its predecessor. The emphasis and focus of the new JSSP is on the process of changing the behaviours and attitudes of staff with a clear linkage to the Site & Workplace Safety Folder as used by field staff (a collection of all relevant documentation, including procedures and job aids relevant to the work carried out).

The new JSSP is a fundamental tool for improving on-site safety. When embraced, it helps the active identification of hazards on site and the implementation of appropriate controls prior to work commencing. It also helps compliance to rules and procedures, promotes active communication and engagement within teams and improves safety on site for everyone.

During 2015, approximately 1,500 field staff and 250 Line Managers and Supervisors were trained on the new process. Training covered not only how to complete the JSSP form but also addressed human factors, behaviours and attitudes, linkages with other ESBN safety policies and procedures, engagement methods, requirements for success. Some areas covered during the training included:

- Ensuring the JSSP is conducted with all crew members present, that all crew members are aware of the hazards and empowered to contribute to the process
- Supervisors ensuring the process is effective through conducting site visits
- Managers following up on suggestions and issues from site visits in order to strengthen and support the success of the process.

Feedback on the new JSSP process has been very positive and confirms that the training was completed successfully, with field staff fully engaged in the process and a strong level of commitment from managers and supervisors. The JSSP is a key part of keeping everyone safe on site and ESB Networks' staff can see the benefits of conducting an inclusive and comprehensive JSSP process.

EMPLOYEE HEALTH & WELLBEING

ESB is strongly committed to supporting employees in maintaining good health and wellbeing. ESB's Health and Wellbeing Programme is focused on supporting employees to reach their full potential in the workplace through the promotion of good mental, physical and emotional wellbeing. It is focused on providing proactive health programmes that offer information and advice to employees to help them to create and maintain a healthy lifestyle.

The programme also provides effective remedial support as employees face ill health and other personal life challenges through an occupational health medical service, an Employee Assistance Programme, psychological counselling and through a range of other wellbeing support measures. Positive mental and physical health promotion among ESB employees was acknowledged with the achievement of the Chambers Ireland Excellence in the Workplace CSR Award in 2015.

ESB'S EMPLOYEE HEALTH AND WELLBEING FOCUS FOR 2015 HAS BEEN ON:

- Developing effective physical and mental health policies that support good health and wellbeing in the workplace
- Promoting increased physical activity through competitions and get active health challenges
- Revamping the ESB health and wellbeing website, providing easier access and regular updates on health topics.

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

- Seminars and workshops for 3,000 employees on positive mental health for teams, personal stress management, suicide awareness, nutrition advice, back care and financial awareness
- A Pedometer Challenge competition where 83 teams walked in excess of 20,670 kilometres
- Cardio-vascular and bowel screening programmes along with a flu vaccination programme.

NIE engineers repair damage to the electricity network

CASE STUDY

NIE NETWORKS' HEALTH AND SAFETY WEEK

A full programme of health and wellbeing events was provided in October 2015 as part of NIE Networks' Health and Safety Week. This has been an annual feature since 2012 and is arranged to coincide with European Health and Safety Week. It is also a current 'Powering Improvement' theme across the electricity industry and is well supported by staff and Trade Unions from all areas of the business.

This year, staff from across NIE Networks attended sessions at local Depots run by healthcare professionals from Cancer Focus NI, NI Chest Heart and Stroke and NIE Networks' Occupational Health Nurses. Everyone who attended was offered low-level physical examinations and given practical lifestyle advice relating to the results. In addition to the medical advice, stress awareness and diet and nutrition seminars were also offered. The nutrition seminars were well received as they were specifically tailored to address potential problems associated with shift or work patterns relevant to the Networks business.

The programme is seen as proactively addressing potential health problems as well as supporting those who were referred to their own doctor.

Staff members from Ballyshannon take local school children on a tour of the hydro station and surroundings

CASE STUDY

SAFE MANAGEMENT OF HYDRO-POWER STATIONS

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 hydro plant on the river Clady. The four schemes were established by statute (from 1920s to the 1950s) and permit ESB to harness the rivers Shannon, Erne, Lee and Liffey for the purpose of electricity generation. Between them, these hydropower schemes currently generate approximately 2% of the electricity demand in Ireland. An External Dam Safety Committee is in place to oversee a programme of inspections and maintenance, which ensures the safe condition of the structures and embankments on the rivers. The hydro stations are core to ESB's business and there is a strong positive public relations association between the Irish State and Ardnacrusha in particular, which benefits ESB in the minds of our customers and shareholders. The commitment to renewable generation over decades lends support to ESB's development of wind, biomass and other renewable energy projects.

While natural flooding as a result of prolonged periods of very heavy rain is a feature of the rivers on which ESB has hydro facilities, the Operating Regulations for the hydro schemes have been in place for many years and the hydro schemes are operated within the mandates set out in the statutes which established the schemes.

During December 2015 and January 2016 all schemes were subject to flood conditions arising from a sustained period of above-average rainfall across Ireland and in particular two distinct rainfall periods in December associated with two storm events. For each of the schemes, there are detailed Regulations and Guidelines for water control together with Flood Response Plans governing the broader emergency response during a flood. The deployment of these Regulations and Plans formed the basis of the operational response to the flood conditions which presented from early December.

During the period the Hydro Manager, Chief Civil Engineer, Supervising Engineers, Plant Managers and Plant Controllers were fully engaged in the proactive management of flood conditions with full support within G&WM and from Corporate Affairs in the management of media and public relations. ESB also attended the Government's National Co-ordination Group on a daily basis throughout the period and was in daily contact with multiple local authorities along all the river catchments in the Republic of Ireland and with the Rivers Agency in Northern Ireland as well as other key stakeholders such as the Irish Farmers' Association.

4.2 OUR PEOPLE

Pat Naughton, Executive Director, Group People and Sustainability

"The capabilities and commitment of ESB's employees help set ESB apart. Building employee capability continues to be a strategically important activity as ESB seeks to manage its different business environments and the challenges each poses'rt."

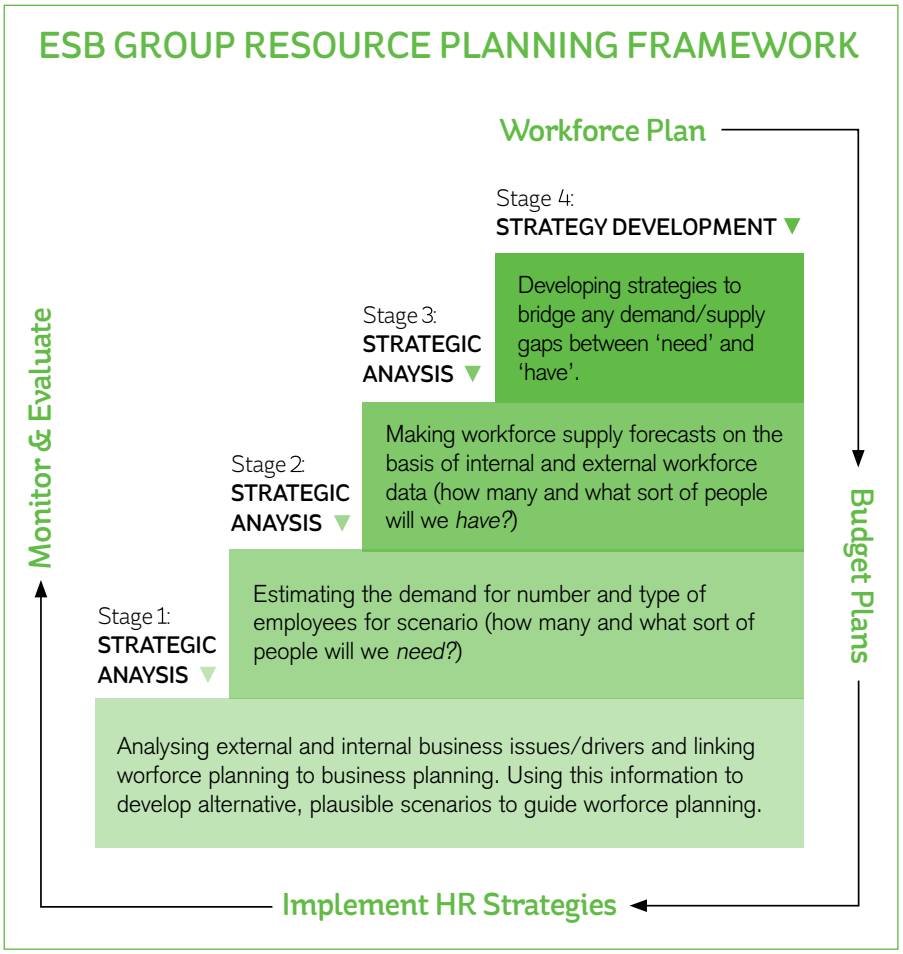
PEOPLE POWER @ ESB

ESB's success is vested in the capability and expertise of our people. The industry that we are engaged in demands high levels of technical skills in a complex and increasingly competitive market.

We ensure this capability by attracting, developing and retaining the right talent, and building an engaged and motivated workforce.

We have a strong sense of purpose, focused on delivering services for our customers, our economy and the future, all of which continue to enable economic and social wellbeing in the economies in which we operate. We care deeply about how we deliver on our purpose. Our approach is one of respect, integrity and the desire to do the right thing and when it comes to how we lead and manage our people and how we interact as teams, our core values guide our behaviours.

ESB GROUP RESOURCE PLANNING FRAMEWORK



ATTRACTING THE RIGHT TALENT

ESB now operates a comprehensive resource planning process on an annual basis, which looks at our resourcing needs on both an operational basis and longer-term strategic basis. A key area of focus for ESB resulting from this is the demographic challenge we face, with an average age of 49 and over 40% of staff aged over 50, most of whom will retire over the coming 10 years. The loss of expertise this represents is a key concern for ESB and informs the approach we are taking to attracting the talent we need.

Members of Recruitment & Staff Development in receipt of 'Company that Students most want to work for' Award at GradIreland Awards

SUMMER STUDENT CAMPAIGN
- 650 applicants
- 430 phone interviews
- 284 face-to-face interviews
- 81 places

APPRENTICESHIP CAMPAIGN
- 7457 applicants
- 3960 aptitude tests

GRADUATE RECRUITMENT
- 58 graduates offered placements

UNDERGRADUATE PLACEMENTS
- 80 undergraduates offered placements

INSPIRING INNOVATION

At ESB we believe that today and the future is built on brighter possibilities. It's what fuels research into sustainable, renewable and efficient technologies to power our evolving world. We also know that our people are our power. With a workforce of 7,000 operating across a diverse value chain, reaching beyond the energy industry into the provision of telecoms infrastructure, we are working to encourage and inspire staff-led innovation in every part of our business. In 2015, we brought to life a strategy to realise staff innovation across every team in ESB. By profiling a number of staff innovations across ESB through the 'Little Big Things' Campaign we raised awareness of the need to innovate and showed that even small process improvements implemented by staff could have a big impact on the business. We asked our staff to tell us about the innovations they have been involved in and this company-wide campaign culminated in our 2015 Staff Innovation Awards Event in November, where hundreds of entries were shortlisted to 50 finalists. On the night, through 10 award categories, staff were celebrated and recognised for their achievements.

FOSTERING A DIVERSE AND INCLUSIVE WORKFORCE

Hand in hand with our strategy to drive innovation is our strategy on diversity and inclusion which was developed in 2015. Recognising the vital role that a diverse workforce plays in driving an innovative culture, this strategy focuses on key areas of diversity such as gender, LGBT, ethnic background and disability. We recognised the need for our workforce to be inclusive and to enable individuals to contribute at every stage of their own personal life story. For that reason, we added 'Family' as an area of focus for our diversity strategy.

At the International Women's Day Event (Lto R): Donal Flynn, Executive Director, Finance; Dr Marian Palmer, WITS; Dr Niamh Shaw, Scientist; Sarah Claxton, Employee Engagement, Communications and Diversity; Carina Furlong, Talking Talent

This strategy forms part of an overall employee engagement strategy at ESB which is focused on creating positive, inclusive work environments. This enables us to attract and retain talent that is diverse and innovative.

CASE STUDY

FAMILY DIVERSITY & INCLUSION IN FOCUS

Maternity transition and parenting in early years has, for many years, been associated with female talent drop-off in the workplace. ESB focused on getting the maternity transition right so that the period before during and after maternity leave is a positive experience for the individual and their manager, allowing the maternity absence to be managed in the overall context of career development. The skills required of managers and staff developed through this programme are transferable to any period of absence or changed personal circumstance. This programme was evolved in 2015 to include development for HR Business Partners and to support expectant fathers.

ESB Staff Recognition Awards 2015

Members of the 'World's First Subsea Cable Repair' project, overall winners of the 2015 ESB Staff Innovation Recognition Awards, pictured being presented with their prize by ESB Chief Executive Pat O'Doherty. Niamh Shaw, pictured on left, was MC at the event

The Conference and Events Centre at the Mansion House in Dublin was the location for the ESB Staff Innovation Recognition Awards ceremony, which took place on 18 November 2015.

The awards, which recognised the achievements of staff who have demonstrated new thinking and developed creative solutions, was indeed a showcase for all that is innovative and positive in ESB. These solutions showed the quality, depth and commitment of ESB staff to improve our business and deliver benefits to our customers.

There were 500 submissions prior to the awards. Some 50 were chosen because they delivered something meaningful, a change for the better, whether big or small. Speaking at the event, Chief Executive Pat O'Doherty said: "Tonight is a fantastic showcase of ESB innovation and ESB talent and ultimately at the heart of our organisation is the capability of our people. As we speak we are literally innovating our future and for our future. It gives me a great sense of pride as Chief Executive of ESB to see the talent on show here tonight, the talent of our people".

'World's First Subsea Cable Repair' was the overall winning team on the night.

Pat Naughton, Executive Director, Group People & Sustainability, presents the Sustainable Innovation Award

Jerry O'Sullivan presents the second of two safety awards to Bernard Camon

Cloghan native and ESB Networks employee Bernard Camon designs innovative 'safe line-lifter' to boost overhead powerline safety

INVESTING IN OUR PEOPLE

ESB is a committed continuous learning organisation. We recognise the role that continuous professional development (CPD) plays in ensuring the continuous development of our staff, and the performance of our business. Supporting this is the annual 'My Goals, My Development' process, which integrates the performance management goal and target setting, review and assessment, with individualised development planning, ensuring the development of skills the individual needs in order to succeed in achieving objectives.

This process is focused on ensuring individual goals are aligned with corporate objectives, creating line and sight for the individual and delivery on business performance for ESB. This process helps identify the development needs of the individual in the context of their requirements to deliver successfully for ESB in current and future roles.

Meaningful conversations between manager and team member are a critical enabler of this process. In 2015, training for all senior, middle and frontline managers on positive conversations skills development concluded, with over 800 managers company-wide now equipped with the skills to have positive, meaningful and focused conversations, supporting a more robust 'My Goals, My Development' process.

CASE STUDY

ESB AWARDED THE ENGINEERS IRELAND CPD ACCREDITED EMPLOYER STANDARD

ESB has been successfully awarded with the Engineers Ireland CPD Accredited Employer standard following an audit held on 28 May. This is the first time ESB has been accredited as a Group with ESB International, ESB Networks and ESB G&WM previously holding separate accreditations. ESB has been awarded this standard for the maximum period of three years until 2018. The Engineers Ireland's audit report was very positive on both the standard work taking place throughout ESB and the high quality of people carrying out this work.

The CPD committee has been working hard on this accreditation since 2013 and consisted of Michael Loughnane (Chairman), Seamus Deeny (G&WM), Derek Hynes (Networks), Greg Hanna (Innovation), Majella Henchion (Corporate Centre), Jim Murray (G&WM), Derek Russell (Electric Ireland) and Barry Brennan (BSC).

Pictured are members of the CPD Committee – back row (l-r): Derek Russell, Michael Loughnane, Jim Murray, Pat Naughton. Front row (l-r): John Power (Outgoing Director-General, Engineers Ireland), Caroline Spillane (New Director-General Engineers Ireland), Pat O'Doherty, Chief Executive ESB, Majella Henchion and Greg Hanna

Presenting certificate to ESB
Pictured (l-r): John Power (Outgoing Director-General Engineers Ireland), Majella Henchion, Pat Naughton, Caroline Spillane (Incoming Director General, Engineers Ireland) and Pat O'Doherty

ESB - STAYING CONNECTED WITH OUR VALUES

FIRST FOR SAFETY
We will always put the safety of staff, contractors, customers or public first, relentlessly pursuing our goal of zero injuries and incidents

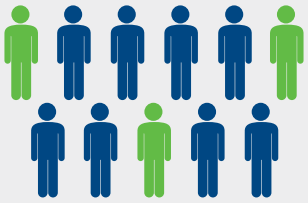
INTEGRITY & RESPECT
We respect each other as employees of ESB and conduct all our affairs with our customers, partners, stakeholders and the public with integrity and to the highest ethical standards

RELIABLE SERVICE
We deliver reliable and competitively priced products and services to all our customers, constantly striving to improve our performance

SUSTAINABLE INNOVATION
We embrace the challenges facing the energy sector, always seeking to deliver novel, creative & sustainable solutions which meet the needs of customers

TEAMWORK
We promote openness and collaboration in everything we do and we develop our people to fulfill their potential

72%
of staff believe their teams shares a common purpose



94%
believe that ESB expects integrity and ethical behaviour of all staff

81%
of ESB staff say they are "proud to work for ESB"

4.3 TRANSFORMING FUTURE ENERGY

Paul Mulvaney, Executive Director, Innovation

"Change is the nature of the business in which we work. The energy sector is in a constant state of discovery and reinvention. The only option is to adapt, advance and thrive and because of this, innovation is an imperative. In ESB, innovation is about collaborating internally and externally, asking questions about how we can work smarter and grow our business with new products and services"

A key part of the role of Innovation is to examine the opportunities in the evolving energy sector and to develop new solutions for customers. Part of our focus is a commitment to the decarbonisation of electricity production through wind, solar, wave and other emerging technologies. We believe that this commitment offers a unique opportunity to decarbonise the rest of society by electrifying areas such as transport and heating. To support this focus, a Technology Innovation Unit focused on new and innovative business opportunities associated with new and emerging technologies that can be used to decarbonise the electricity sector.

CLIMATE AND ENERGY POLICY

The need to decarbonise society to mitigate against climate change has never been more urgent. This along with the advancement of a range of disruptive technologies and the move from consumers, passive takers of energy, to prosumers, producing energy, will cause the energy sector to transition to new and more complex business models.

Demand for electricity from traditional generation sources will continue to drop, due to 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 as well as new energy efficient technology.

The change in how electricity is generated and consumed presents the biggest disruption to the energy industry since its inception nearly 100 years ago. This change is providing major hurdles that ESB will need to overcome. By equal measure, this change also presents a wide range of new and exciting opportunities for us. ESB is actively engaging with a wide range of stakeholders and industry to seize on and develop the opportunities of tomorrow.

THE INNOVATION DIRECTORATE

ESB's Innovation Directorate acts as a focal point for new ideas and is the driver of growth opportunities and innovation across the organisation. It also acts as a catalyst for promoting an innovative culture throughout ESB.

CASE STUDY

The Expo Dome on Merrion Square

BRINGING SUSTAINABLE SOLUTIONS TO THE PUBLIC - ESB POWERING POTENTIAL INNOVATION SHOWCASE 2015

The ESB Powering Potential Expo, a major technology and energy event, took place in Merrion Square, Dublin on 10 and 11 June 2015. The two-day interactive exhibition and talk series engaged customers, media, stakeholders, staff and the general public.

The expo showcased the future of energy, telecoms and transport, and demonstrated how ESB and its partners are developing innovative, competitive solutions for customers in Ireland and across the globe. Ten events took place over the two days, aimed at showcasing ESB's innovation projects and engaging the general public. The exhibition covered topics such as electric vehicles, solar, wind, fibre broadband, wave and tidal.

More than 1,200 people visited the Expo Dome over the two days and a range of mediums were used to view and consume information on the range and innovative and sustainable technologies that ESB is investing in. In all, 15,000 people streamed events online.
Social media reach/impressions: 2,015,264
Video views: 8,718

Engaging young minds with future technology

Senan Colleran (ESB Networks), Anne O'Leary (Vodafone), Sean Atkinson (SIRO), EU Commissioner Phil Hogan.

SIRO

SIRO, the ESB/Vodafone Joint Venture, is building a 100% fibre-optic broadband network in regional Ireland reusing the existing ESB network. It was launched in May 2015 by An Taoiseach and the Minister for Communications.

While Irish cities enjoy adequate internet connections, the most recent research from the regulator ComReg (Commission for Communications Regulation Q1 Report 2016) indicate that nearly one third of Irish homes and businesses still have a service of less than 10 Mbps.

SIRO is a response to this digital divide and is delivering a fibre-to-the-building connection capable of 1,000 Mbps (1 Gigabit) to 500,000 premises in 50 regional towns across Ireland, providing a future-proofed network to match the future needs of Irish internet users. This investment of c. €450 million will put each town on a par for high-speed connectivity with leading international hubs such as Tokyo and Hong Kong.

SIRO is currently building in eight towns (Dundalk, Cavan, Carrigaline, Sligo, Letterkenny, Tralee, Wexford and Drogheda) with works about to commence in our next eight towns. The SIRO service is offered on an open-access basis to all telecoms retailers in Ireland, driving welcome competition in the market.

SIRO is delivering a bright future for Ireland by helping regional towns compete more effectively for investment and jobs, enabling SMEs to work more efficiently, and giving consumers access to new services such as home entertainment, e-health and virtual education. Home working will also become a real option for more people, helping Ireland to develop its smart economy and allowing people to live wherever they choose, with communication infrastructure no longer being a barrier.

NATIONAL BROADBAND PLAN

The Government's National Broadband Plan (NBP) will deliver high-speed access (greater than 30Mbps) to all citizens by 2020. This is a very significant intervention, targeting over 700,000 homes and businesses in rural Ireland that do not currently have a high-speed service.

Government, through the Department of Communications, is running a competition to select a provider(s) to build and operate this new infrastructure.

SIRO is participating fully in the competition and made a pre-qualifying submission on 31 March 2016. Government is expected to announce a shortlist (maximum five parties) in 2016 which will enter into detailed discussions with the Department for the remainder of 2016. It is expected that the winners will be announced in Q1 2017.

SIRO is preparing for the NBP by building a rural trial in the village of Ratheniska, Co Laois (launched in September 2015) and is also building a trial network in Skibbereen, a mid-sized town in Co Cork.

SIRO has ambition to roll out a second phase that will also reach 300 smaller towns (a further 500,000 homes) across the country. This will be considered once the commerciality of the larger phase one towns has been demonstrated.

Tina Pittock and Sean McGuinness scope out plans for the roll out of high speed fibre broadband in the locality.

SMART ENERGY SERVICES

ESB's new Smart Energy Services has been created to unlock the potential of new innovative technologies for large energy users in Ireland and the UK. Working in a collaborative partnership, the Smart Energy Service's team develops a tailored solution for each client using a portfolio of services such as energy efficient technologies, data analytics, demand response management platforms and innovative financial options. The ESB team then manages the delivery of the customised solution to ensure the full potential of the business benefits are delivered.

ELECTRIFICATION OF TRANSPORT

ESB developed and installed a network of over 1,200 charge points which ensures that electric vehicles have the autonomy to travel anywhere on the island of Ireland. The charge points are connected to a next-generation charge point management system that enables ESB to control, manage and operate the network in real-time as well as facilitating proactive issue resolution. Drivers also have access to a dedicated 24-hour customer support centre as operations and maintenance support.

These charge points allow for the electrification of road transport and, when paired with an electricity generation system that is increasingly coming from renewables, will allow Ireland to decarbonise the transport sector. The electric vehicle charge point network installed and operated by ESB has ensured that the island of Ireland is well placed to benefit from the environmental and societal benefits that electric vehicles will bring.

The range of car manufacturers producing electric and plug-in hybrid electric vehicles is increasing giving greater choice to the consumer. PHEVs (Plug-in hybrid electric vehicles) are now available on the Irish market from major car manufacturers including Nissan, Volkswagen, Renault, Volvo, Mercedes, Mitsubishi, Hyundai, Tesla and BMW. ESB is providing the first 2,000 customers who buy an EV which qualifies for the SEAI (Sustainable Energy Authority of Ireland) grant with a free home charge point.

DECARBONISATION OF HEATING

The decarbonisation of heating systems in Irish homes and businesses is widely accepted as a key enabler to achieving Ireland's greenhouse gas (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 2015, we supported a Tipperary Energy Agency (TEA) initiative to encourage homeowners to retrofit their houses to an 'A' energy rating standard. The TEA Superhomes Project promotes the adoption of all cost-effective and sensible energy efficiency measures (insulation, air tightness and advanced ventilation) with heat and hot water provided by integrated renewable energy technologies such as air-source heat pumps and PV solar. ESB continues to play an active role in this area and is proactively promoting and supporting a policy framework and commercial environment that will enable mass adoption of renewable heat solutions in Ireland.

BATTERY STORAGE

Battery storage will play a very significant role in the future of energy. Over the last number years a global market has developed for energy storage. This is driven by two main factors:

a) Increased penetration of intermittent renewable electricity generation

b) Reduction in battery costs.

A battery system can provide a number of benefits to an electricity customer, and the electricity network as a whole. The number and type of benefits available is dependent on where the battery is located, either at an electricity customer location behind the meter (I&C or residential) or at an ESB generation site (conventional or renewable generation) or at some point on the transmission or distribution grid.

ESB is planning demonstration projects to assess the capability of battery systems, including a deployment of a battery system at a wind farm site as well as deployments at electricity customer locations, whereby battery systems will be co-located with distributed renewable generation.

SOLAR PV

In 2015, an ESB Kingspan joint venture launched a commercial-scale Solar PV offering in Northern Ireland. Additionally we are exploring other opportunities for Solar PV in the wider market. To date, Solar photovoltaics (PV) have enjoyed the most rapid growth of the distributed generation technologies and have enjoyed significant year-on-year cost reductions, increasing their potential commercial viability. ESB has direct involvement in solar through the joint venture, KingspanESB, and indirectly through Greencoat Capital's investment in the TenK Solar company.

ESB TELECOMS LTD DEPLOYS NEW HIGH CAPACITY DWDM OPTICAL NETWORK

In 2015, ESB Telecoms Ltd deployed a new National and Metro DWDM (Dense Wavelength Division Multiplexing) network using the Coriant hiT7300 ROADM platform. This next-generation platform provides ESB Telecoms Ltd with a future-proofed state-of-the-art network.

As a result of this new rollout, there has been a significant improvement in terms of speed and cost of delivery of services to customers, and in network capacity and flexibility. The ability to remotely turn-up new services end to end without the requirement of installing equipment at intermediate points has significantly reduced the cost of deployment and the associated environmental impacts. The Telecoms Operation Centre (TOC) can now provision these services remotely via the network management system (TNMS).

The Coriant Platform also provides greater capacity across the network with 96 wavelengths (channels), each capable of carrying up to 100GbE services. This is a significant bandwidth increase on the legacy network. With the platform deployed in 22 of our national POP sites and city metros, including all the major data centres in Dublin and Cork, it provides ESB Telecoms Ltd with the significant "anywhere to anywhere" national footprint that positions us to be at the forefront of this highly competitive marketplace.

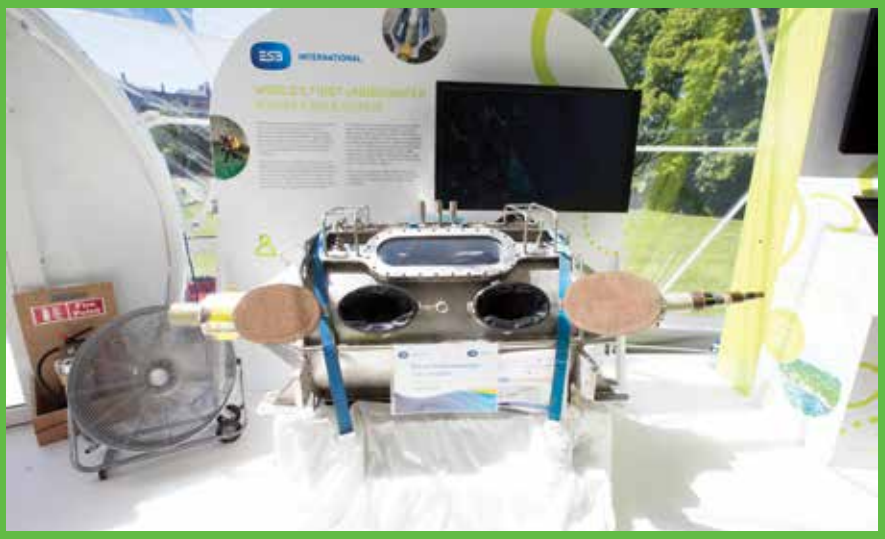
Coriant Account Manager Kenny Dixon and John Hutch ESB Telecoms Ltd Senior Project Engineer

ESB NOVUSMODUS

ESB's Clean Tech Fund, ESB Novusmodus, invests in leading edge companies that are focused on renewable and energy efficient solutions. These pioneering businesses offer ESB new energy solutions for the future by stimulating fresh thinking and novel approaches that can be adopted within the company. In turn, the portfolio companies benefit from ESB's technical expertise, investment support and utility endorsement.

ESB established Novusmodus with a capital fund which has a target to invest €200 million in emerging clean technologies.

CASE STUDY



THE WORLD'S FIRST SUBSEA CABLE REPAIR - OVERALL WINNER OF ESB STAFF INNOVATION AWARDS 2015

THE TEAM

Patrick O'Rourke (ESBI), Gerry Rathborne, Phil Bennett, Alan Hoey, Alan O'Connor

THE CHALLENGE

The Moyle Interconnector links the electricity grids of Northern Ireland and Scotland through submarine cables running between converter stations at Islandmagee, Co Antrim and Auchencrosh in Ayrshire, Scotland. The interconnector had experienced a phase to ground fault on the insulation in 2012.

ESBI was appointed by Mutual Energy as consultant owners engineer to lead a multidisciplinary project team from Moyle, ESBI and ESB Networks to locate the fault position offshore and then design and develop a subsea cable repair joint that could be used to repair the fault. Normally such repairs are made by cutting and raising the cable ends onto a vessel to join in a new section; this is a complex, lengthy and costly operation.

THE INNOVATIVE TECHNIQUE

This pioneering project achieved a number of significant breakthroughs in the context of the global offshore cable industry:

1. An innovative method of fault location using Distributed Temperature Sensing
2. Design and development of an innovative subsea joint design, which can be assembled by divers on the seabed
3. Design and development of an innovative repair capsule (mini-habitat) for repairing cables subsea.

FINDING THE FAULT LOCATION

In May 2013, the integrated fibre-optic element of the Moyle Interconnector was utilised to identify a hotspot within the cable 2.4km from the Scottish shoreline. An offshore dive campaign was then mobilised to positively identify the fault location. The fault was located by using Distributed Temperature Sensing along the integrated fibre cable enclosed within the power cable. Using diver transponders and a vessel hull-mounted positioning system, the vessel was positioned directly over the fault location. A radio detection system with a submersible antenna was used to narrow the

fault position down to 10cm accuracy. The armour wires of the cable were removed and the fault was visible at the exact position identified.

REPAIRING THE FAULT ON THE SEABED!

In order to repair the fault offshore, a subsea repair joint was developed that could be assembled by divers working on the seabed. An innovative submersible habitat was also designed and built, creating a dry environment for the joint to be assembled. The habitat design mirrored that of an incubation chamber. The design took a highly innovative approach to subsea operations and deviated considerably from anything that is currently available in the industry. It was designed with the concept of the divers working outside the habitat and only inserting their arms into gloves sealed to the habitat structure in which they were able to successfully make the repair.

Divers work on the repair inside the submersible habitat

4.4 ENERGY EFFICIENCY AND AFFORDABILITY FOR CUSTOMERS

"Electric Ireland remains committed to providing value for all customers and I was delighted to announce a 2% reduction in our residential electricity prices in November 2015, following on from a similar reduction in 2014, both ahead of the winter peak period. Combined with gas price reductions totalling 5% during 2015, it means that on average an Electric Ireland dual fuel customer has seen savings of over €90 per annum since November 2014. Electric Ireland will continue to monitor energy markets and will pass price savings to the customer as the opportunity arises"

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

OVERVIEW

Electric Ireland is the retail arm of ESB, supplying electricity, gas and energy services to customers across the island of Ireland. With over 1.5 million customers and an electricity all-island market share of 38%, 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 550 GWh in energy savings annually from 2014-2016.

In pursuit of the strategic objective to be a Supply Business of Scale, Electric Ireland is aiming to continue to be the leading energy supplier in the ROI market, offering smart and innovative solutions to homes and businesses. This is being achieved by providing competitive offerings, excellent customer service and new and innovative products to meet customer needs. During 2015, Electric Ireland delivered effectively on its strategic goals with a number of notable achievements in value for customers, new products and markets and excellent customer service and care.

ELECTRIC IRELAND'S CUSTOMERS

The customer remains central to everything that Electric Ireland does. In addition to reducing prices and launching new and innovative products, such as Smarter Pay As You Go (PAYG), Electric Ireland has also delivered a number of key customer service improvements, with the aim of maintaining its position of having the highest customer satisfaction ratings of all energy suppliers. With the increasing use of web, email and social media channels, customers are engaging with Electric Ireland in new ways. To meet the changing requirements of customers, and with a strong focus on customer empowerment and self-service, Electric Ireland launched a new mobile website during the year. This was complemented by a new business online account management facility, which provides business customers with enhanced information in relation to energy consumption and costs and a new e-billing portal for residential customers. With continued focus on a quality customer service offering, Electric Ireland had the highest levels of customer satisfaction of all electricity suppliers during 2015, as reported by the Commission for Energy Regulation (CER). In addition, Electric Ireland continued to deliver service levels in line with our Customer Charter and Customer Service Codes of Practice.

SUSTAINABILITY

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. This is achieved through a mixture of promotional campaigns, providing tips and insights on the efficient use of energy right through to detailed energy audits and consultations tailored to particular customer usage and requirements.

Electric Ireland also delivers energy savings as part of the National Energy Efficiency Obligation Programme. In 2015, Electric Ireland assisted local authorities and housing associations around the country to improve the energy efficiency of social housing through a variety of measures, including attic and wall insulation, heating system improvements and heating control upgrades.

Electric Ireland is rewarding customers who undertake measures to improve the energy efficiency of their homes through its Energy Efficiency Incentive Scheme, which gives customers additional discounts on their bills. Electric Ireland has pioneered the introduction of Smart Heating Controls, offered as part of price plans to assist customers in managing their energy requirements. Electric Ireland has also assisted business customers in reviewing their energy consumption and significant savings have been made through the introduction of new technologies ranging from lighting upgrades to energy consumption improvements.

UPDATE ON 2015 PRIORITIES AND PRIORITIES FOR 2016

2015 PRIORITY	2015 PROGRESS	2016 PRIORITY
OPERATIONAL		
Deliver innovative products and services that provide customers with excellent value for money.	■ First to market with a Smarter PAYG product for residential customers	■ Continue to innovate for the benefit of customers through the delivery of new smart and innovative products and services
Provide excellent customer service and introduce new initiatives to improve the customer experience.	■ New mobile-enabled website ■ New online residential and business account management facility	■ Roll out of enhanced interactive voice response (IVR) system
Maintain the Electric Ireland brand as the leading energy supply brand in Ireland.	■ Continued sponsorship of a number of sporting, cultural and charity events ■ Launch of Smarter Living brand campaign to highlight Electric Ireland's brand promise of delivering simple ideas that make life better ■ Entered the NI residential market	■ Sponsorship of Team Ireland in the 2016 Rio Olympics
		■ Support Electric Ireland customers and their communities through sponsorships and corporate social responsibility initiatives
Deliver value for money for customers by focusing on retaining a competitive and flexible cost base.	■ Reduced electricity prices by 2% in November 2015 following on from a similar reduction in 2014, in both cases ahead of the winter peak ■ Announced a 2.5% reduction in gas unit rates from 1 January 2016 following on from a similar reduction in April 2015	■ Continue to enhance the value offered to all customers (existing and new) and to honour the commitment to pass through further energy price reductions where possible
Work proactively with customers in offering payment options to facilitate debt repayment.	■ Established a specialist team in the Customer Care Service Centre to offer a range of services to customers experiencing fuel affordability issues ■ Disconnections continued to fall in 2015 – less than 30 per 10,000 customers disconnected	■ Early identification of customers with a higher risk of having payment difficulties and be proactive in offering suitable products and payment plans
STRATEGIC		
Invest in the development of a digital platform so customers can increasingly avail of services online.	■ New mobile-enabled website complemented with new residential and business online account management facilities	■ Ongoing focus on customer convenience, empowerment and control through continued development of the digital service capability across the entire customer experience journey
Develop innovative solutions for homes and businesses to become more energy efficient.	■ Energy Efficiency Incentive Scheme which has delivered 15 GWh of energy savings in 2015 and returned over €1 million to customers ■ Expanded the range of smart home products and services	■ 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
Engage with the CER and all stakeholders regarding key developments in the market (e.g. the Integrated Single Electricity Market (I-SEM) and the National Smart Metering Programme) for the benefit of the consumer.	■ Established I-SEM and Smart Metering Programme project teams to support and influence design and rollout of these significant market developments.	■ Ensure that the customer interest is central to the design of I-SEM and the Smart Metering Programme.

ENERGY AFFORDABILITY

Energy Affordability is 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.

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 web-based tools including the Appliance Calculator and the Energy Wizard home auditing tools.

SMARTER PAYG

In 2015, Electric Ireland launched a new brand campaign around the theme of Smarter Living. Electric Ireland promise that through understanding their customers, they will provide simple ideas that make life better.

In response to listening to our customers' needs, Electric Ireland launched a new PAYG electricity product for customers, Smarter PAYG. Smarter PAYG is the most advanced PAYG electricity product in the market. It has an in-home display that 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.

Smarter PAYG allows energy usage to be monitored from customers' homes

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) and the new Honeywell controller, which allows room-by-room control.

We have a range of products; Climote, NEST and Honeywell, designed to give customers more control over their heating, allowing control remotely from a smartphone. 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 this year, with over 4,000 jobs delivered.

The Energy Efficiency Incentive introduced in 2014 is designed to encourage 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, makes 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. Along with the SEAI grant, this results in a total incentive to the householder of up to €2,000.

The Energy Efficiency Incentive scheme has continued in 2015 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 again in the Energy Poor space in 2015, working with SEAI and DECLG to effect energy efficiency retrofits in just under 7,000 homes across the country. We were also successful in winning Better Energy Community grants from SEAI, which help deliver significant energy savings in community premises and local authority housing through a combination of heating, insulation and more innovative solutions. In addition, Electric Ireland worked with a number of its larger energy users to encourage savings in their industrial and commercial energy usage, in areas such as lighting, HVAC and the minimisation of process energy consumption.

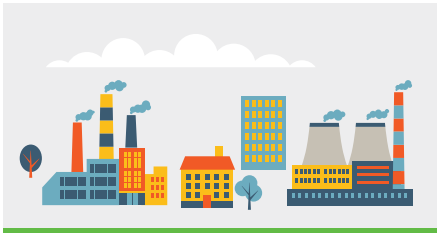
We also advised small and medium business customers to suggest energy saving projects, and introduced them to potential suppliers of innovative products. New energy-efficiency incentives in GAA clubs, rugby clubs and hotels have also been part-financed by Electric Ireland to reward sustainable behaviour and the take-up of more efficient technologies. Electric Ireland will also use the resources of the wider ESB group to offer energy efficiency or low-carbon innovations to business customers of all sizes.

CASE STUDY

Jim Dollard, Executive Director BSC and Electric Ireland, presents the Customer Focus Award

Paul Mulvaney, Executive Director Innovation, in commenting on the quality of ESB Innovation awards said: "The breadth and diversity of innovative solutions at the Staff Innovation Awards show the depth and commitment of our staff to improve how we go about our business and the value add we offer our customers. Whether it is new technologies or services, nothing happens without the people who have the passion to drive things forward. In this period of industry change, innovative thinking is vital for our future success."

BENEFITS OF THE ENERGY EFFICIENCY SCHEMES FOR CUSTOMERS IN 2015

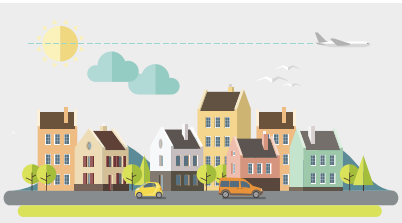


NON-RESIDENTIAL

35 PROJECTS

105 GWH SAVED

CUSTOMER BENEFIT €3,000,000

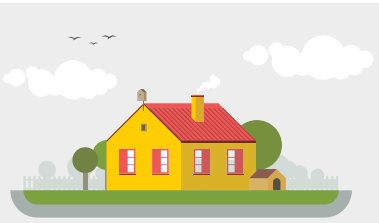


RESIDENTIAL

10,000 ACTIVITIES

35 GWH SAVED

CUSTOMER BENEFIT €1,600,000



ENERGY POVERTY

8,500 HOUSES

18.5 GWH SAVED

CUSTOMER BENEFIT €2,900,000

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. 2015 saw further progress in this area of customer engagement.

The industry definition of vulnerable customers is taken to mean customers critically dependent on electrically powered equipment or particularly vulnerable to disconnection during winter months for reasons of advanced age or physical, sensory, intellectual or mental health issues. In Electric Ireland, these customers are be added to our Special Services Register so that they are recognised within our customer management system. Electric Ireland also considers customers in receipt of the Free Electricity Allowance and all customers struggling to pay their energy bills to be fuel poor and within the group of vulnerable customers.

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.160,000 tailored payment arrangements to a value of €68m with customers in 2015 and this reduction on the previous year total of 200,000 is partially due to the ongoing promotion of PAYG meters
- Continuing the trend of recent years with a further reduction of 3% in the number of customers disconnected in 2015 to under 3,400 resulting in a disconnection rate of c.28 per 10k customers (or 0.28%). In 2015 over 35% of properties disconnected for non-payment of account were vacant. 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.
- Undertaking a review by ESB Group Internal Audit of our compliance to the core principles of the Energy Engage Code in its first year of operation.

Electric Ireland now has a dedicated Energy Advice team who proactively contact financially vulnerable customers with information in relation to:

- 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.

We have had very positive feedback from our customers since the set up of this specialised team during 2015.

CASE STUDY

A BIG DIGITAL YEAR FOR ELECTRIC IRELAND CUSTOMERS

AWARD-WINNING NEW WEBSITE

The new Electric Ireland mobile-accessible website launched in June 2015. To date it has already outperformed its predecessor, with notable increases in customer use for services like Submit a Meter Reading: +107%, Pay by Card: +32% and Direct Debit sign-ups: +12%. The new online moving home option has been a great success, with a large number of customers using it immediately on launch. Our new Help Centre provides customers with the option to easily get answers to their questions whenever they want and we constantly monitor their favourite topics so that they are surfaced to the top for easy access. Benchmarked against other big-brand new website deliveries, the site was delivered within an impressive timeline while retaining all the rigour needed to achieve the Best Universal Design Award selected from 72 contestants.

NEW MOBILE WEB APPS

Electric Ireland continues to look at ways to make is easy for customers to self-serve online. One of the ways they have simplified these processes is to introduce 'Fav-Icons' for our top two online transaction pages – Pay By Card and Enter a Meter Reading. This simply means customers can create a web app to their smartphone for quick access to these pages. Since the launch of the new website we have seen nearly 13,000 people use the Pay By Card form on a mobile device and over 2,000 people submitting a meter reading via a mobile device. With the addition of these Fav-Icons, we can expect these numbers to continue to grow.

Our fav-icons for Paying your bill and Enter a Meter Reading online

NEW RESIDENTIAL ACCOUNT ONLINE

The new Electric Ireland residential portal went live on 19 October. 'Your Account Online' has been fully redesigned to be responsive across multiple devices, mobile and desktop, in response to our customer service needs to be mobile-enabled.

This is a major step in the delivery of our digital strategy and aligns with our overall Electric Ireland strategy to 'Be Smart – Be Digital – Be No.1'. Approximately, 200,000 signed-up customers can use their existing credentials to login.

The following features are available online to consumers:

- View/Download Bill
- View Billing/Payments History
- View Cost Graphs
- View Billed Usage
- Make a Payment (now available to customers on Direct Debit)
- Sign-up/Edit Direct Debit Details
- Enter a Meter Reading
- View Meter Reading history
- Submit a Query.

You can login at this address to check it out:
https://youraccountonline.electricireland.ie

NEW BUSINESS ONLINE

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 dramatically increased since go-live and customer feedback has also been positive. 'Business Online' was also shortlisted for the Eir Spider awards in the B2B category.

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 following link:
https://businessonline.electricireland.ie

4.5 ESB NETWORKS – IMPROVING THE EFFICIENCY, RELIABILITY AND RESILIENCE OF THE NETWORK AND FACILITATING RENEWABLE CONNECTIONS

Marguerite Sayers, Managing Director, ESB Networks Ltd

"The €494 million of new investment in network assets during 2015 brings the total investment in critical electricity network infrastructure over the last five years to €2.2 billion, helping to facilitate a more sustainable energy environment for Ireland, as well as supporting economic growth through providing stable, safe and reliable electricity supply to homes and industries"

INTRODUCTION

ESB Networks is the Distribution System Operator (DSO) and Transmission Asset Owner (TAO) and Distribution Asset Owner (DAO) of the electricity network in ROI. Its aim is to construct and maintain a safe, reliable and affordable electricity network that meets the needs of all customers. To support this, ESB Networks implements capital and maintenance programmes to reinforce, upgrade and maintain the electricity network in the Republic of Ireland (ROI). Its work is subject to the regulatory oversight of the Commission for Energy Regulation (CER).

OVERVIEW

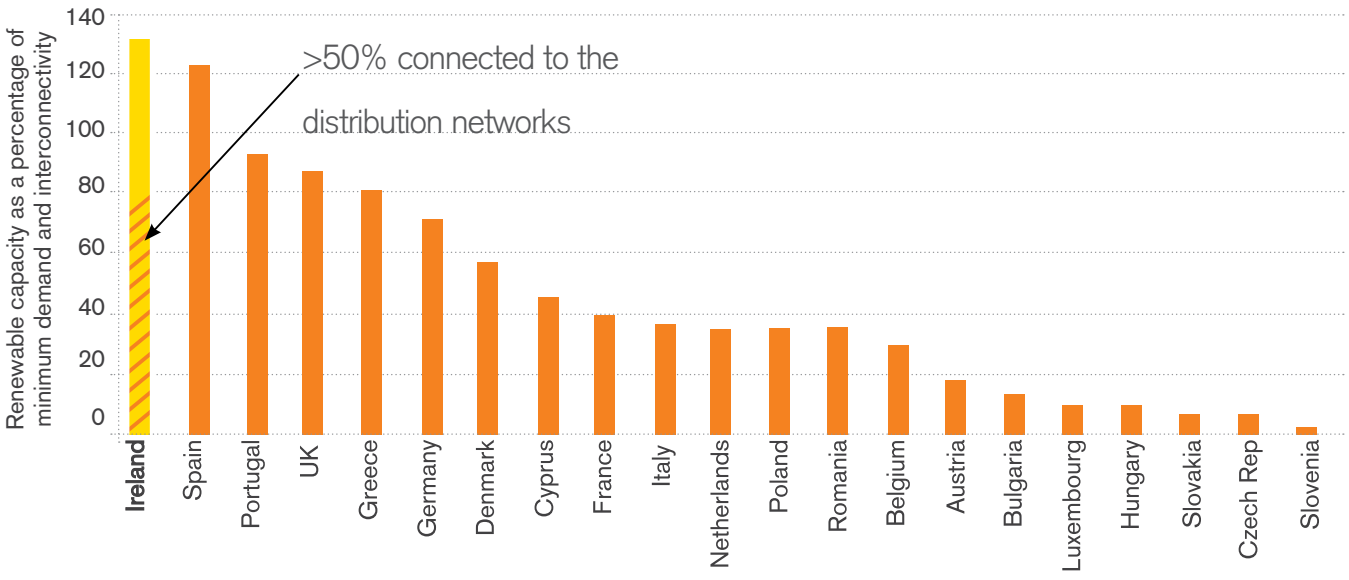
Access to electricity is a prerequisite to the success of a modern economy. As such, ROI's electrical infrastructure is both secure and of a high quality. ESB Networks plays a vital role in ensuring the ROI's network infrastructure is well planned and meets the evolving needs of the nation.

ROI is already a world leader in its effort to harness potential renewable resources, particularly wind. ESB Networks is a core partner in this endeavour, facilitating reliable and efficient connections while progressing world-leading research to advance connection methods and the management of variable generation on the country's distribution system.

The Irish Government has formally committed at European level to have a higher penetration of renewables than any other country in the EU by 2020 [see Figure 4.5.1]. Over half of the renewable capacity will be connected to the distribution system. For distribution-connected generation, ESB Networks is responsible for the connection, design and subsequent operation on the distribution network. It plays a key role in facilitating the connection of these new renewables to deliver a national target in a timely and cost-efficient manner.

To facilitate our high and growing wind penetration, new and innovative approaches are being implemented to overcome the challenges that come with managing and operating distribution connected wind.

FIGURE 4.5.1: TOTAL WIND CAPACITY ACCORDING TO NREAPS, AS A PERCENTAGE OF MINIMUM DEMAND AND INTERCONNECTIVITY IN SUMMER 2020 (SOURCE: EURELECTRIC/PÖYRY STUDY 2011)



Raheenleagh wind farm under construction

The challenges of connecting wind energy to the network:

- Ups and downs of voltage variability beyond what the system was designed for
- Loading beyond the thermal limit of the lines (without costly network reinforcement)
- Variation in frequency
- Coping with sudden surges in demand from customers at morning and evening peaks.

The very distributed rural population in Ireland is reflected in the size and scale of an electricity distribution system that is unique. Ireland has four times the European average length of network per capita, approximately 66% of Irish medium voltage networks are single-phase, and for every metre of underground network there is six times the amount of overground network – on a very windy island at the edge of the Atlantic.

Ireland has four times the European average length of network per capita

FIGURE 4.5.2 LENGTH OF NETWORK IN ROI

TYPE	VOLTAGE	OVERHEAD (KMS)			UNDERGROUND (KMS)			TOTAL (KMS)
		3-PHASE	1-PHASE	TOTAL	3-PHASE	1-PHASE	TOTAL	
Distribution	LV	3,897	34,248	38,146	10,679	2,595	13,274	51,420
	10KV	13,355	24,542	37,898	8,008	106	8,115	46,013
	20KV	14,389	30,790	45,179	1,466	78	1,545	46,724
	38KV	5,735		5,735	1,061		1,061	6,796
	110KV	537		537	240		240	777
Transmission	110KV	4,114		4,114	130		130	4,245
	220KV	1,801		1,801	137		137	1,939
	275KV	21		21	0.21		0.21	21
	400KV	437		437	2		2	440

RESPONDING TO CUSTOMERS

ESB Networks strives to provide a quality service in a timely fashion to meet customer requirements and is committed to making service excellence a priority in all customer dealings, in particular in the areas of telephone response, restoration of supply outages and meeting the 12 service performance guarantees in our Customer Charter.

CUSTOMER CHARTER HERE

TABLE 4.5.3 CALL HANDLING

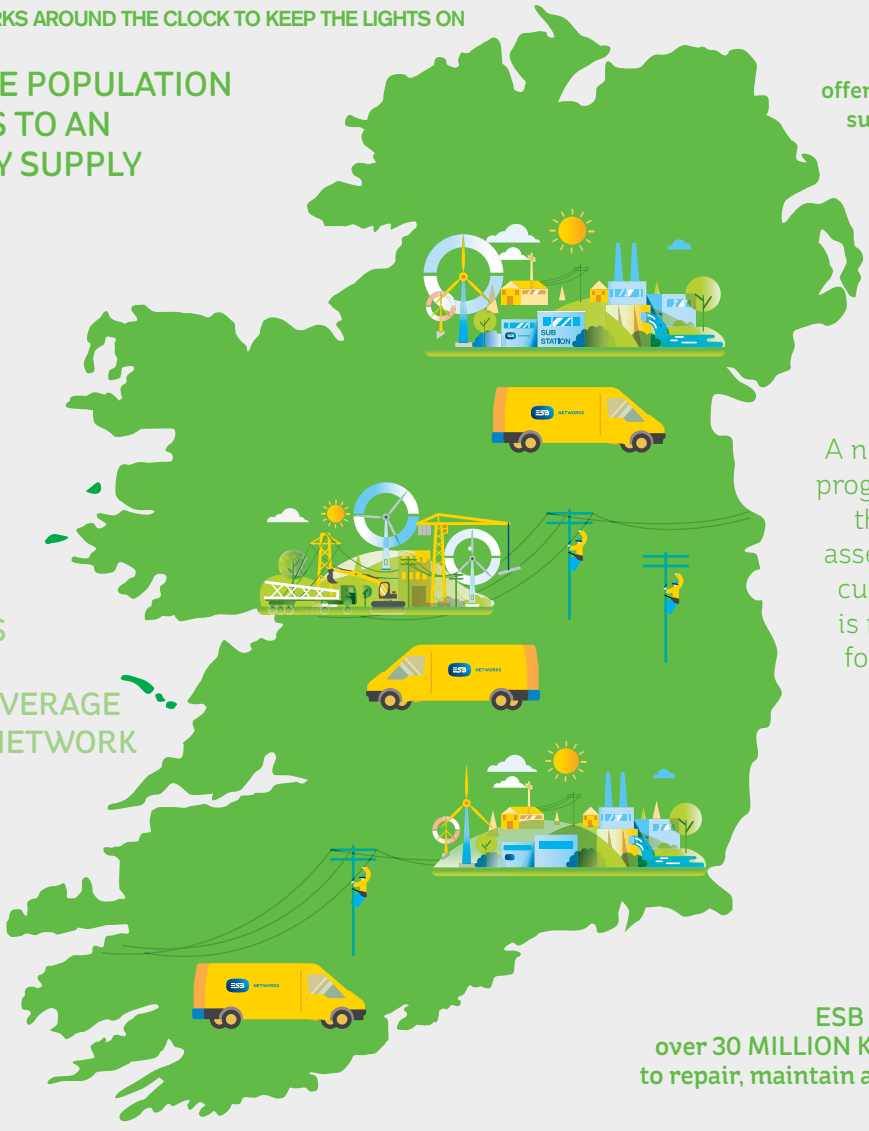
Call Handling Response	2014	2015	Target
Percentage of calls answered within 20 seconds*	90.1%	89.9%	80%
Percentage of calls dropped[1]	5.1%	2.6%	5%
Networks customer calls to the call centre[2]	558,198	504,935	

* Note both sets of figures are inclusive of storms, which has the effect of reducing the percentage of calls handled and increasing the percentage of calls dropped.
[1] Where the customer has terminated the call without waiting for a response.
[2] The exact number of calls relating to ESB Networks issues are identified.

ESB NETWORKS WORKS AROUND THE CLOCK TO KEEP THE LIGHTS ON

100% OF THE POPULATION HAS ACCESS TO AN ELECTRICITY SUPPLY

THE 10KV TO 20KV conversion programme offers an improved quality of supply to the rural reaches of the network



A network renewal programme updates the company's assets and ensures customer supply is resilient to the forces of nature

IRELAND HAS 4 TIMES THE EUROPEAN AVERAGE LENGTH OF NETWORK PER CAPITA

ESB Networks fleet travels over 30 MILLION KILOMETRES annually to repair, maintain and construct Ireland's electricity network

AGREEING PLANS IN FIVE-YEAR PERIODS

ESB Networks is subject to a regulatory price review process, where it engages with the Commission for Energy Regulation (CER). After a comprehensive customer consultation, a business plan is submitted to the CER that outlines ESB Networks five-year plan. Once this is agreed, a programme of works and budgets is approved by the CER for the following five-year period. The current price review period (PR4) is set between 2016 - 2020.

SECURING SUPPLY FOR RURAL CUSTOMERS

ESB Networks began a network conversion programme in the late 1990s and has continued to invest in this conversion throughout the past 15 years. A significant percentage of Ireland's rural network is 10kV. This poses challenges with capacity and voltage for customers. The most efficient method of addressing these issues is to convert it to 20kV rather than reinforcing the network by implementing 10kV and 38kV solutions.

There are plenty of reasons why converting 10kV networks to 20kV is more efficient than rolling out 38kV and 10kV solutions. These include:

- Volt drop is reduced by a factor of four
- Network losses are reduced by a factor of four
- The strength of the network to accommodate disturbing loads (short circuit level) is increased by a factor of four
- 20kV conversion enables larger loads to be carried on individual feeders for longer distances
- Capacity in long rural networks is increased by a factor of two
- Circuit capacity is increased by a factor of four
- The overall efficiency, reliability and resilience of the MV network is improved
- The cost per kVA capacity is significantly lower at 20kV than at 10kV
- Carbon savings will be in the region of 350,000 tonnes of CO_2 per annum when completed
- A better standard of electricity to ESB's rural customers.

In 2015, Distribution System Losses as a percentage of electricity entering the distribution system is:

Technical: 6.25%
Non-technical Commercial: 0.37%
Total: 6.62%

Due to the dispersed nature of the rural population in Ireland there is a need to spread out the distributed load. ESB Networks has the opportunity to maximise the use of existing networks rather than expanding the 38kV network and increasing the amount of 10kV lines.

As part of the PR4 work programme (2016 - 2020) ESB Networks will convert over 10,000 km of MV network to 20kV standard. This has a number of advantages in terms of sustainability and customer satisfaction as outlined above.

All of the above helps rural customers with large load requirements (e.g. 20kV milking machines, large motors, etc.) to operate more effectively.

MONEY MATTERS

In 2015 ESB Networks invested €494 million in new infrastructure and €111 million maintaining the existing electrical infrastructure in the country. This brings the investment over the past five years to €2.2 billion.

The focus of the 2015 investment in the transmission network was on continuing the reinforcement of the transmission system to facilitate the connection of new renewable electricity generation. ESB Networks also continued to invest in the electricity distribution network to improve reliability of supply and ensure the safety of the network.

FIGURE 4.5.4 – CONNECTIONS TO THE DISTRIBUTION AND TRANSMISSION SYSTEM IN REPUBLIC OF IRELAND, DECEMBER 2015

MARKET SEGMENT	DISTRIBUTION CONNECTED	TRANSMISSION CONNECTED
Domestic	2,029,196	-
Small Business	185,107	-
Small Business with embedded generation	24	-
Medium Business	25,772	-
Medium Business with embedded generation	15	-
Large Electricity User (LEU)	1,490	13
Large Electricity User (LEU) with embedded generation	182	58

Note: Small Business includes non-interval metered connections. Medium Business includes low voltage max-demand and public lighting connections. LEU includes connections at medium and higher voltages

NETWORK RENEWAL

Network assets have a planned operational life of 40 to 50 years. ESB Networks has an asset renewal and replacement programme. The renewal of assets alongside the 20kV upgrade programme ensures safety, reliability and a better quality of supply to all electricity customers.

The renewal of assets alongside the 20kV upgrade programme ensures safety, reliability and a better quality of supply to all electricity customers

The three main areas of renewal that ESB Networks focuses on are:

- Siemens substations: Upgrading of old sub-stations, some of which date back to the 1920s and 1930s
- Wood pole stations: Upgrading of wood pole stations built between the1950s and 1970s
- Switchgear replacement: Replacement of old switchgear.

These works are an essential part of creating a modern network that can withstand the increasing likelihood of extreme weather events.

HELPING IRELAND MEET ITS RENEWABLES TARGET

Ireland has committed to delivering 40% of its electricity from renewables by 2020, as part of the Irish Government's commitments to EU-wide actions on climate change. ESB Networks plays a key role in facilitating the connection of these new renewables to deliver the national target in a timely and cost efficient manner.

The amount of wind capacity installed in Ireland has reached 2,400 MW. Over the course of 2014, 19% of all electricity was provided by wind. It is estimated that the need for a further 1,600 MW of wind will be installed by 2020 to reach the target of 40% renewable electricity.

On the basis of these figures, Ireland is on track to have sufficient renewable generation connected by 2020 in order to facilitate meeting its Renewable Energy Supply – Electricity (RES-E) target of 40% of electricity consumption from renewable sources by 2020.

A total of 222MW of wind farm capacity was connected to the transmission system in 2015 – bringing total renewable MWs connected to the grid to over 2,700MW. ESB Networks plans to connect a further 500MW of renewable energy in 2016.

Ireland is on track to have sufficient renewable generation connected by 2020 in order to facilitate meeting its 2020 targets

KEEPING CUSTOMERS IN SUPPLY

Supply reliability is an essential aspect of distribution system performance. The number of interruptions of supply is shown in Figure 4.5.6. As the effects of severe weather can cause wide variations in these measures and are outside ESB Networks' control, there is an adjustment for storm days.

The impact of outages on customers across the entire distribution system is measured by two parameters:

- Average number of interruptions per customer connected in the year (CI – customer interruptions) and the average number of customer minutes lost in any given year (CML).

FIG 4.5.5 NUMBER OF OUTAGES BY CONNECTION VOLTAGE

DESCRIPTION OF CRITERIA	VALUE		
Voltage	**Unplanned**	**Planned**	**Total 2015**
LV	18,050	1,148	19,198
10kV	4,211	3,202	7,413
20kV	6,511	2,643	9,154
110kV/38kV	82	3	85
Unknown	1	8	9
Total (excl. Storm Days and Major Renewable Programmes)	**28,855**	**7,004**	**35,859**

Note: Short interruptions lasting less than three minutes are not included

FIGURE 4.5.6 CUSTOMER MINUTES LOST (CML) AND CUSTOMER INTERRUPTIONS (CI)

DESCRIPTION OF CRITERIA	VALUE					
CUSTOMER MINUTES LOST						
	Unplanned Target	**Unplanned Actual**	**Planned Taget**	**Planned Actual**	**Total Target**	**Total Actual**
Total (including Major Renewal Programmes)	**68.0**	**82.99**	**55.8**	**73.06**	**123.8**	**156.05**
Major Renewal Programmes				31.81		31.81
Total (excluding Major Renewal Programmes)		82.99		41.25		124.24
CUSTOMER INTERRUPTIONS						
	Unplanned Target	**Unplanned Actual**	**Planned Taget**	**Planned Actual**	**Total Target**	**Total Actual**
Total (including Major Renewal Programmes)	**1.060**	**1.027**	**0.227**	**0.251**	**1.287**	**1.278**
Major Renewal Programmes				0.101		0.101
Total (excluding Major Renewal Programmes)		1.027		0.150		1.180

Figure 4.5.6 shows CML and CI for 2015 broken down between unplanned and planned work. Major renewal programmes are programmes such as the LV overhead network refurbishment programme where planned outages are required to carry out the work. The planned CI and CML arising from these programmes in a given year depends on the nature and volumes of renewal works carried out in that year. While the CI and CML incurred on these programmes is reckonable in the incentive / penalty scheme, it is useful to show the performance excluding major renewal programmes as that reflects the underlying trend in continuity performance.

The percentage of faults exceeding four hours' restoration time was 27% (2015) compared with 39% in 2014.

CASE STUDY

METAL THEFT AT ESB NETWORKS

"Metal theft puts people's lives at risk"
Since 2012, over 150km of copper, valued at €3m, has been stolen, with a replacement cost to ESB Networks of €28 million.

In April 2016, a major fire started in an ESB Networks substation in Inchicore, Dublin. This was as a result of metal theft. The fire left 120,000 ESB customers, including a major hospital, without power. While most customers got their power back within 10 minutes, it took 40 firefighters some five hours to put out the blaze. This event would cost many millions of euros and take many months to recover from for the sake of less than €1,000 worth of copper.

The number of individuals stealing copper and scrap metals has skyrocketed in the past five or six years, as criminal gangs realised the value of such commodities, and how they could offer a way to beat recessionary times across Europe.

Other metals in demand are aluminium, lead and, increasingly, platinum, palladium and rhodium.

Metal theft is the biggest emerging crime in Europe and ESB Networks plays its part in highlighting this issue.

The company joined a pan-Ireland metal theft forum established by the Irish Gardaí. This is a multi-agency group that brings together those worst hit by increasing copper thefts in such sectors as transport, utility, recycling and communications, with the aim of slowing the growing rate of thefts.

Metal theft in numbers
ESB reports that over 150 kilometres of copper, with a value of €3 million, have been stolen since 2012

- The replacement cost to ESB was €28 million
- The group reported over 100 incidents in 2013 alone
- One fatality and three serious injuries in the last five years as a result of metal theft

Aside from the financial costs, the activity in general is extremely risky for both the criminals and the public. Incidents with overhead power lines are considered to be particularly dangerous as the wires are live. One fatality and three serious injuries have been linked to the thefts in Ireland thus far.

Head of Distribution and Customer Services Senan Colleran said: "The theft of live copper lines has been an issue for ESB Networks for some time. Not only are the perpetrators of this illegal activity putting their lives at risk, they are also endangering the lives of members of the public by leaving potentially unsafe live network after them.

"There is the extreme danger of severe injury or fatality when attempting to steal live electricity lines or metal from ESB Networks' High Voltage substations.This theft results in the loss of electricity supply to customers and causes significant inconvenience to our customers while the repair works are carried out by our crews.

"As well as the public safety issue, this illegal activity also results in significant costs to ESB Networks in repairing the damaged electricity network and dealing with any associated environmental clean-up requirements. These costs are ultimately borne by all electricity customers."

A fresh campaign has now been launched in Ireland to highlight this issue. The public has been asked to do their part by watching out for suspicious activity and supplying the Gardaí with any information they may have.

4.6 NIE NETWORKS – IMPROVING THE EFFICIENCY, RELIABILITY AND RESILIENCE OF THE NETWORK, INCLUDING FACILITATING RENEWABLES

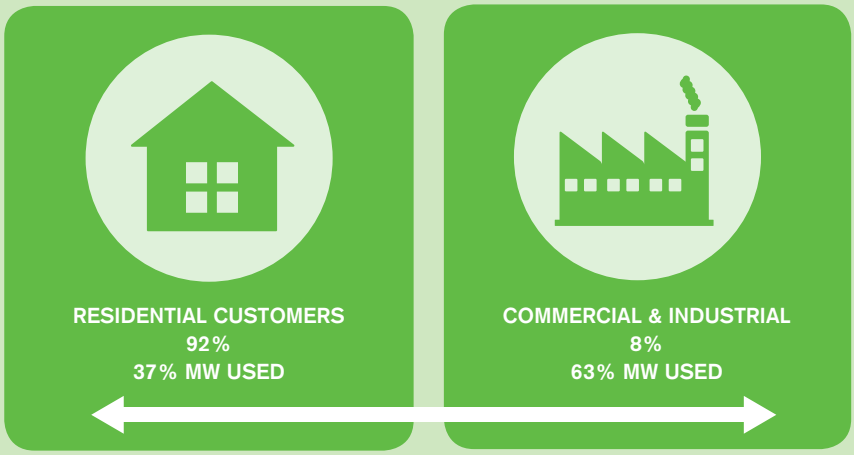
"In 2015 network investment increased by 20% and the total renewable generation connected reached 24% of total generation in Northern Ireland."

Nicholas Tarrant, Managing Director, NIE Networks Ltd

ABOUT NIE NETWORKS

Northern Ireland Electricity Networks Limited (NIE Networks) is an independent business within the ESB Group, with its own Board of Directors, management and staff. NIE Networks:

- Constructs and maintains the electricity transmission and distribution networks in Northern Ireland and operates the distribution network (SONI Ltd is the transmission system operator and is responsible for transmission system design and planning)
- Connects demand and renewable generation customers to the transmission and distribution networks
- Provides electricity meters in Northern Ireland and provides metering data to suppliers and market operators to enable wholesale and retail settlement.



The transmission and distribution networks in Northern Ireland comprise a number of interconnected networks of overhead lines and underground cables that are used for the transfer of electricity to around 860,000 consumers via a number of substations. During the year, an estimated 7.8TWh of electricity was transmitted and distributed to consumers in Northern Ireland.

There are 2,200km of transmission circuits and 47,000km of distribution circuits, most of which are overhead lines with a smaller percentage of underground cable. There are almost 300 major substations, including 40 serving large wind-farm sites.

SYSTEM PERFORMANCE

The network investment plan to deliver the physical outputs specified in NIE Networks' current price control involved a 20% ramp up in the level of capital investment from 2015 to the end of the price control period in 2017. The majority of the plan is the replacement of worn transmission and distribution assets and, by the end of 2015, the work programme was on target to deliver all the physical outputs required by 2017.

Against the backdrop of this ramp up in the network investment programme, NIE Networks continued to manage outages required for essential maintenance and development in order to minimise the occasions and length of time that customers are off supply.

Performance of the distribution network uses standardised measurements used by GB Distribution Network Operators. It measures its availability – the number of minutes lost per customer or Customer Minutes Lost. Customer Minutes Lost due to planned outages is the average number of minutes lost per customer for the period through pre-arranged shutdowns for maintenance and construction: 65.58 minutes, representing an increase on the previous year (2014 – 50.45 minutes) due to the increased investment programme.

The average number of Customer Minutes Lost due to faults on the distribution network in 2015 was 64.65 minutes, an increase on the previous year (2014 – 56.16 minutes), reflecting the impact of the damage to the network during storms in January and December. The increase in transmission faults was due to two specific faults, both of which were resolved within 30 minutes.

The Utility Regulator sets overall and guaranteed standards of performance. The majority apply to services provided, for example the timely restoration of customers' supplies following an interruption and prescribed times for responding to customers' voltage complaints. All the overall standards were achieved and there were no defaults against guaranteed standards for

customer service activities delivered during 2015 (2014 - none). During the year, 88.95% of electricity supplies were restored within three hours, within the regulatory standard of 87% (2014 – 91.89%).

NIE Networks continues to test and confirm the robustness of its emergency response capabilities during severe weather events in order to restore effectively supply to all customers. The significant commitment from all staff helps to ensure that NIE Networks manages effectively this very important aspect of the business, with every employee having an "escalation" role in addition to their normal day-to-day role. During the year, there were four occasions where severe weather caused damage to the network, with several thousand customers affected. In each case, all customers were reconnected within 24 hours.

FACILITATING RENEWABLES

In 2015, around 300 small-scale renewable generation projects and several thousand micro-generation projects, together totalling 66MW, were connected to the network. In addition, two large-scale renewable generation projects, the 17.6MW biomass plant, Lisahally Power Station, and the 12MW Monnaboy Wind Farm, were connected to the network in Co Londonderry.

With this additional 96MW connected, by the end of 2015 there was a total of 846MW of renewable generation connected, representing around 24% of total generation in Northern Ireland. The installed capacity of renewable electricity generation connected in Northern Ireland per customer is ranked amongst the highest of the UK Distribution Network Operators. Importantly, a further 720MW is committed to connect to the network bringing the total of connected and committed to greater than1,500MW.

FIGURE 4.6.1 KEY NETWORK STATISTICS IN 2015

NIE NETWORKS OVERVIEW:	
Customers	c.860,000
Electricity demand	7.8 TWh
Transmission network (5% underground)	c. 2,200 kms
Distribution network (34% underground)	c. 47,000 kms
Substations	c.300 major

FIGURE 4.6.2 - NUMBER OF SUPPLY INTERRUPTIONS PER 100 CUSTOMERS

		2014	2015
Customer Minutes Lost	Transmission Faults	0.18	4.97
	Distribution Faults Total	56.16	64.65
	Pre-arranged Outages	50.45	65.58
Customer Interruptions	Transmission Faults	0.29	25.98
	Distribution Faults Total	69.88	66.43
	Pre-arranged Outages	14.35	17.81
Quality of supply	% Customers Restored within 3 hours (Unplanned)	91.89%	88.95%
	% Customers Restored within 24 hours (Unplanned)	100%	100%

Lisahally Power Station: one of two large-scale renewable generation projects connected to the network in Co Londonderry

FIGURE 4.6.3 FACILITATING RENEWABLE CONNECTIONS

INFRASTRUCTURE DEVELOPMENT

The construction of new assets to accommodate the connection of renewables is subject to normal planning permissions. Any new overhead lines or substations require planning permission. Therefore, NIE Networks will submit information as per the requirements set out by Planning Service. In many cases, an environmental impact assessment will be required and submitted as part of the planning application.

Very good progress has been made connecting renewables in Northern Ireland

NIE Networks operates to regulatory price controls, which are pre-agreed with the Utility Regulator. We are currently delivering Regulatory Price Control 5 (RP5) and have submitted our business plan for Regulatory Price Control 6 (RP6), which will run from 2017-2024.

The company has taken a detailed approach to preparing its RP6 plan. This has included reviewing the condition of the electricity network, carrying out detailed engineering studies, analysing costs, reviewing industry best practice, engaging with customers and stakeholders to understand their priorities for the network and, importantly, considering the long-term strategic issues facing the electricity network.

We are facilitating a contestable market for all types of new network connections

NIE Networks is committed to good asset management and currently holds the PAS 55 standard.

Case Studies: Customer and Stakeholder Engagement

Gaining feedback from stakeholders on proposed investment options

PROJECT 40: WORKING WITH STAKEHOLDERS TO IMPROVE NETWORK ACCESS

The proliferation of companies and individuals seeking to connect renewable generators to the grid in Northern Ireland has grown significantly over the last number of years. Many of the areas most appropriate for renewable technologies such as wind energy are in more rural areas of Northern Ireland where the grid was constructed for lighter loading.

By the end of 2015, NIE Networks had connected 846MW renewable generation – 24% of total generation in Northern Ireland. The proliferation of these connections, however, has left the grid congested in many areas and has limited the number of further connections that can be made.

Project 40 is a forum, chaired by NIE Networks, and attended by a number of interested stakeholders. It shares information on grid capacity issues such as a 'Heat Maps' showing network congestion and to provide updated application packs. Also to look at innovative solutions for long cable connections and as a means to increase network capacity for connections.

PILOT PROJECT: MANAGED CONNECTIONS

NIE Networks is currently piloting a project to introduce a 'managed connection' for small-scale generators. This flexible solution means that more generators could be connected to a substation, however, their output could be switched on and off to meet demand. This approach would reduce the need for costly upgrades to substation capacity and manages the risk of reverse power flows. It is the first pilot to test this type of approach for multiple renewable generators connecting to one substation.

ENGAGING CUSTOMERS IN FUTURE INVESTMENT DECISIONS

As a regulated monopoly, NIE Networks operates to strategic programmes of work to maintain and develop Northern Ireland's electricity networks and keep the power flowing across the country. The company is developing its network plans for 2017-2024. In order to ensure consumers' opinions are fully incorporated in this programme of work, we undertook a joint project with the Utility Regulator, the Consumer Council for Northern Ireland and the Department of Enterprise, Trade and Investment to find out the views of householders and businesses on the aspects of the electricity network services that matter most to them.

For domestic customers, around one quarter of their electricity bill goes towards paying NIE Networks to transport electricity and provide services such as meter reading. For business customers, the share is around 5-20% of their bill. The level of funding required to pay for NIE Networks' investment programmes are determined by the Utility Regulator in advance, which in turn determines how consumers' money will be spent. It is therefore important that when developing and reviewing these plans that differing consumer views and preferences are taken into account.

We undertook an extensive piece of consumer engagement to understand their priorities for the electricity network – what they were satisfied with, what they were less satisfied with and what changes they would like to see in the future. It also considered consumers 'willingness to pay' for improvements.

Presenting detailed options on power cuts, resilience to severe weather, smart networks and undergrounding of overhead lines allowed NIE Networks to check consumers' understanding of how their views were being incorporated into its strategic business plan. These views were used to form the outputs of the NIE Networks' 2017-2024 business plan which is currently being considered by the Utility Regulator and will define the work carried out by the company in the future.

4.7 IMPACT ON SOCIETY

"We continue to be driven by a desire to influence and lead positive change within the communities we serve"

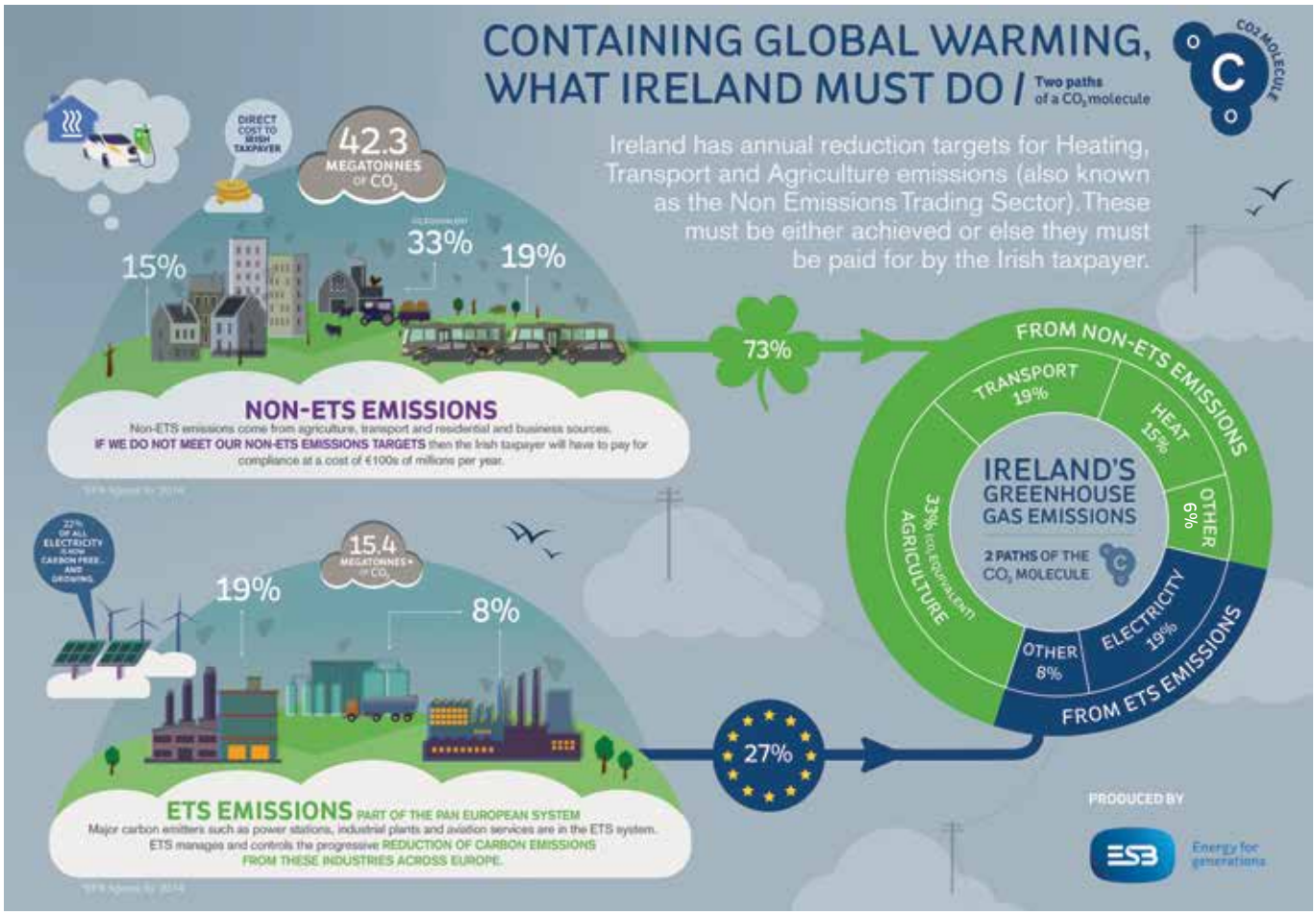
Pat Naughton, Executive Director, Group People and Sustainability

INTRODUCTION

Over many years, ESB has built a very strong reputation as an agent of social and economic change. This is based not only on our track record of building critical national infrastructure to enable economic development, but also through our support for communities and our commitment to constantly driving forward standards in our industry. Despite huge changes over the past two decades that have seen ESB move from being a monopoly energy supplier to a competitive player in an expanding market, we continue to be driven by a desire to influence and lead positive change within the communities we serve.

DECARBONISING THE ELECTRICITY SYSTEM AT LEAST COST TO CUSTOMERS

We recognise that the energy sector has a leading role to play in reducing greenhouse gas emissions and tackling climate change. We are therefore investing and innovating in new technologies and business models to increase efficiency and drive forward the decarbonisation of the electricity system in our home markets of Ireland and the UK. Specifically, we are developing wind farms in Ireland and the UK and, in partnership with the Green Investment Bank, are constructing a biomass plant in Tilbury Docks, London. We have also invested heavily in the Irish electricity network to create a smart grid, capable of supporting increasing levels of intermittent renewable generation and enabling the connected customer to take more control over their energy use. In addition, we are publicly advocating wider solutions to meet Ireland's decarbonisation targets, including the electrification of heating and transport, which currently account for 34% of greenhouse gas emissions.



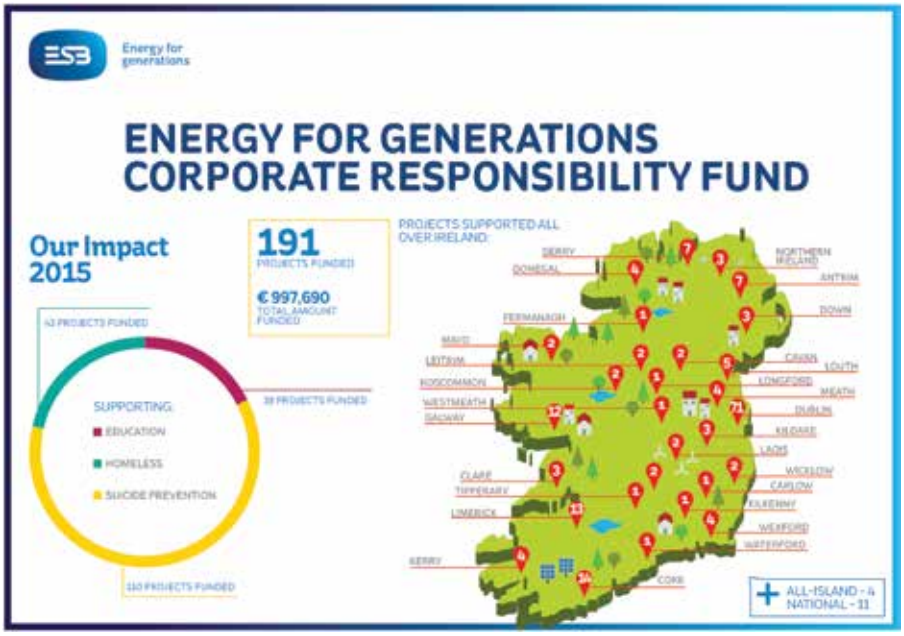
DEVELOPING FUTURE TALENT

As the beneficiary of a highly educated workforce, and in the context of a very competitive labour market, ESB sees real value in supporting and encouraging the development of future talent. Our education support activities span the full lifecycle, from childhood interventions to professional development, and is a specific focus of our programme, given the worldwide shortage of engineering graduates and the urgent need for engineers to find solutions to global energy challenges.

Under the ESB Energy for Generations Fund, we support a number of organisations working to address educational disadvantage, including Tech Space. This is an initiative that encourages young people to express themselves through technology. We also support An Cosán's virtual community college, Fighting Words, a creative writing centre for children and Business in the Community's Time to Read and Time to Count Programme.

Time to Read students in ESB Networks, Wilton, take time out for a Make Shop

We also have partnerships with Science Gallery Dublin and the Engineers Ireland STEPS programme, through which we promote creativity and STEM. Our staff volunteering programmes encourage ESB staff to engage with these initiatives through schools visits, careers talks, electronics workshops and other activities. We are on target to deliver the Make Shop experience to 1,000 children by the end of 2016. During Engineers Week 2016, we hosted a very successful event for second-level students to promote education as a career choice and ESB International holds an annual 'Women in Engineering' programme to encourage female students to choose careers in engineering.



ENERGY FOR GENERATIONS FUND

The Energy for Generations Fund sees over €2m annually disbursed across a range of community and issues-based initiatives. Each year the Fund awards €1m in direct funding to charities working in the areas of suicide prevention, homelessness and education access and support. ESB has been supporting initiatives in the areas of suicide prevention and homelessness since 2005. Education was added as a new focus area 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. Through the Fund, we support a wide range of initiatives, from small local projects to major national initiatives such as the Soar Foundation and Simon Communities of Ireland.

The Fund also provides support to ESB employees who volunteer in their own communities. Any employee who volunteers for over 20 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 Capuchin Day Centre, Age Action, Scouts and Girl Guides groups and Daisyhouse Housing.

SUPPORTING THE ARTS, COMMUNITIES AND SPORT

ESB believes that the arts play an important role in stimulating creativity and innovation. Through our corporate sponsorship programme, we support a range of arts and cultural institutions and projects, including the Feis Ceoil Association, the ESB Centre for the Study of Irish Art at the National Gallery of Ireland, ESB Live at the National Concert Hall, the Dublin Theatre Festival, the Spark Your Imagination Zone at City Spectacular and the Science Circle at Science Gallery Dublin. We also created and now fund and operate Number Twenty Nine, Dublin's Georgian House Museum, adjacent to our Head Office on Lower Fitzwilliam Street.

Through Electric Ireland, we seek to build deeper customer relationships and enhance brand affiliation by supporting a number of 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 2015, an estimated 120,000 people took part in the Pieta House Darkness into Light event, which raises funds for suicide and self-harm prevention.

ESB depends on support from local communities, not only as customers but to support our wider business activities, ranging from day-to-day maintenance and operations of power stations and electricity network to the development of new infrastructure. We therefore seek to build trust and deeper relationships with local communities through sponsorship and corporate social responsibilities programmes. Where possible, we engage local staff in these activities.

ESB TREE WEEK

Trees play a critical role in improving air quality and supporting health and wellbeing, yet Ireland is one of the least forested countries in Europe and there is evidence to suggest that people are becoming less engaged with Ireland's trees and forests. Through our sponsorship of ESB Tree Week, organised by the Tree Council of Ireland, we strive to increase public awareness on the importance of trees, and provide opportunities for people to learn about, grow and enjoy trees. This initiative not only highlights an important social and environmental issue, it also helps to profile ESB's commitment to sustainability and provides opportunities for ESB to connect with local communities around Ireland. In 2016, public awareness of Tree Week increased from 17-43% and over 20,000 trees donated by Coillte were planted around Ireland and 15,000 seed packs were distributed.

International Women's Day Event 2015. Pictured (L to R): Donal Flynn, Executive Director, Finance; Dr Marian Palmer, WITS; Dr Niamh Shaw, Scientist; Sarah Claxton, Employee Engagement, Communications and Diversity; Carina Furlong, Talking Talent

Minister for Agriculture, Food and the Marine, Simon Coveney TD, pictured with two children showing their 'tree love'

Pictured at the Coachford event were (L-R): Frank Barry, Plant Manager, ESB Inniscarra; Rob Allen; Martin O'Mahony; Duncan Lennox; Matt Sheehan, Chairman, ILTDL; Peter Turner; Richard Holmes; and Tommy Lawton

PROMOTING DIVERSITY

ESB acts as a corporate leader in promoting diversity in the workforce. Our diversity strategy focuses on six key pillars of diversity: gender, ethnicity, LGBT, generational, people with disabilities and family. By promoting diversity, we not only support social progress but also open up new opportunities to grow and prosper as a business. There is overwhelming evidence that diversity in the workplace unlocks creativity and drives growth by drawing in new perspectives that are necessary to spark innovation.

As part of our diversity strategy, we are corporate members of organisations that promote diversity such as GLEN (the Gay and Lesbian Equality Network) and Ahead (Association for Higher Education Access and Disability). We support diversity through in-house programmes and initiatives such as our Parenting Positive and Empowering and Inspiring Female Talent programmes, which support families and women in the workplace. We also promote engineering as a career choice through our Women in Engineering programme, which targets female transition-year students.

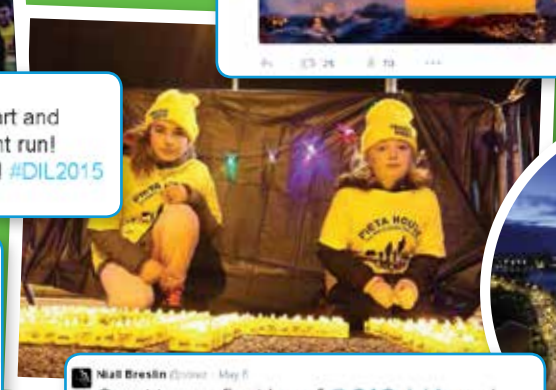
CASE STUDY

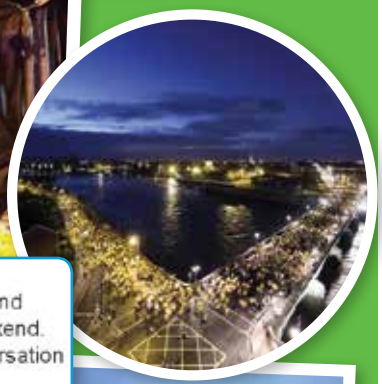
DARKNESS INTO LIGHT – HUGE TURN-OUT FROM ESB STAFF AROUND THE COUNTRY FOR THIS ELECTRIC IRELAND-SPONSORED NATIONAL EVENT

A big thank you to all ESB staff who took part in Darkness Into Light on Saturday, 9 May, all across the country. An estimated 100,000 walked or ran at 4.15am to shine a light on suicide prevention to make it the biggest year yet for Pieta House. Well done to everyone who joined in.

Irish Rugby
Congrats to all the @DILNY2015 folk this morning. For Club advice seminars on mental health buddy@irishrugby.ie

Cian Healy
Fair play to everyone who took part and helped out with Darkness into light run! Seems it was a massive success! #DIL2015





The Irish Times
Irish in London: 'It's hard to say that actually, it's difficult here' @EmilyJ3105 on #DIL2015 iti.ms/1PdYAhx

Niall Breslin
Great to see final leg of @CASuicide and @PietaHouse #DIL2015 on same weekend. How far we come in Ireland with conversation on mental health

Electric Ireland
Wonderful atmosphere at the Dublin launch of this year's Darkness Into Light.

Jack McGrath
What are you doing on Saturday, May 9th at 4.15am? I'm walking, join me...

CELEBRATING 40 YEARS OF BRINGING BRIGHTER POSSIBILITIES TO THE WORLD

1975 ESB INTERNATIONAL IS ESTABLISHED

ESB INTERNATIONAL

1976 First office opens in BAHRAIN

1984 ESB completes its 10th successful year in the Consultancy business overseas, with over 500 STAFF carrying out assignments in over 25 COUNTRIES on a broad range of projects

1987 KUALA LUMPER office opens

1993 First operations begin in ABU DHABI for the water and electricity department

ABU DHABI office is upgraded from being a project office to regional headquarters, with responsibility for all operations throughout the MIDDLE EAST and PAKISTAN

1996

ALBANIA
ARGENTINA
AZERBAIJAN
BAHAMAS
BAHRAIN
BANGLADESH
BELARUS
BELGIUM
BENIN
BHUTAN
BOSNIA
BOTSWANA

BRAZIL
BULGARIA
BURUNDI
CAMBODIA
CAMEROON
CANADA
CHILE
CHINA
COLOMBIA
COSTA RICA
CROATIA
CYPRUS

CZECH REPUBLIC
DOMINICA
ECUADOR
EGYPT
ENGLAND
ESTONIA
ETHIOPIA
FRANCE
GAMBIA
GEORGIA
GHANA
GREECE

GRENADA
GUATEMALA
GUERNSEY
GUYANA
HUNGARY
ICELAND
INDIA
INDONESIA
IRAN
IRAQ
IRELAND
ITALY

IVORY COAST
JAMAICA
JORDAN
KARELIA
KAZAKHSTAN
KENYA
KOREA
KOSOVO
KUWAIT
KYRGYZSTAN
LAOS
LATVIA

In 2015, ESB International celebrated its 40 years in international business. It was a year to reflect on the company's many achievements in developing energy for social and economic wellbeing around the world. In countless regions, a consistent electricity source can only be dreamed of, and outages can be measured in months rather than minutes or hours. This is the backdrop against which ESB International was born back in 1975. In the 40 years ESB International has successfully completed projects in over 120 countries, drawing on Irish engineering experience to deliver high-quality electricity supplies to clients around the world. Today, ESB International continues to partner with clients across the globe in helping them to deliver modern, efficient and dependable energy systems to transform their economies and their society. There are seven billion people in the world. An estimated 1.2 billion (17% of the total population) are still without electricity. ESB International remains committed to narrowing the gap between the 'haves' and 'have nots' in our two-tier global energy society, where countries – and even regions within the same country – are separated by a vast world of opportunity and prosperity. "Forty years is a long time in the life of a company, but for the communities we serve around the world, the shared leadership expertise that we leave behind and the impact of our involvement can be felt for generations after we have moved on" – Ollie Brogan, Managing Director, ESB International.

CELEBRATING 40 YEARS 1975 - 2015

2015
ESB International celebrates 40 years of business

2012
TURKEY office opens

2012
ESB International marking 25 YEARS IN MALAYSIA

2009
ESB International wins a significant contract in Tanzania, with construction of a hydropower station and under sea interconnector

ESB International is appointed engineer for construction of a 2,000MW coal fired plant in Vietnam and Indonesia with partner ESKOM

2008
UK OFFICE OPENS

2005
ESB International begins work in South Africa on the country's first major new build power plant in nearly 20 years

2001
ESB International powers up VIETNAM

2003

LEBANON
LESOTHO
LIBYA
LITHUANIA
MALAWI
MALAYSIA
MALTA
MEXICO
MOLDOVA
MONGOLIA
MONTENEGRO
MYANMAR

NAMIBIA
NETHERLANDS
NIGERIA
NORTHERN IRELAND
NORWAY
OMAN
PAKISTAN
PALESTINE
PAPUA NEW GUINEA
PERU
PHILIPPINES
POLAND

PORTUGAL
QATAR
ROMANIA
RUSSIA
RWANDA
SAUDI ARABIA
SCOTLAND
SENEGAL
SERBIA
SIERRA LEONE
SINGAPORE
SLOVAKIA

SLOVENIA
SOMALIA
SOUTH AFRICA
SPAIN
SRI LANKA
SAINT LUCIA
SUDAN
SYRIA
TANZANIA
THAILAND
TOGO
TURKEY

U.A.E.
UGANDA
UKRAINE
UNITED STATES
UZBEKISTAN
VIETNAM
WALES
YEMEN
ZAMBIA
ZIMBABWE

4.8 ENVIRONMENTAL MANAGEMENT

"We are committed to the highest standards of environmental management and to proactively addressing the challenges of climate change"

Pat Naughton, Executive Director, Group People and Sustainability

OVERVIEW

ESB is committed to the highest standards of environmental management and to proactively addressing the challenges of climate change. We implement programmes across our operations to promote energy and resource efficiency, and develop new environmentally driven product and process innovation and new business opportunities. We believe that continued sustainable business success is built on maintaining excellent relationships with all stakeholders. During 2015 ESB was re-accredited by Business in the Community to the Business Working Responsibly Mark for a further three-year period to 2018.

Chief Executive Pat O'Doherty receiving the BWR Award from Kieran McGowan and Maurice Buckley

As a major Irish utility with significant presence in the all-island (Republic of Ireland and Northern Ireland) market, and a growing presence in the Great Britain energy market, ESB is focused on maintaining the highest levels of environmental management and sustainability in all aspects of its operations in order to minimise environmental impacts and enhance the reputation of ESB as an exemplar organisation.

The ESB Group Policy for Environmental Management and Sustainability sets out the high-level principles and context for the management and oversight of environmental and sustainability issues in ESB Group. This policy commits ESB Group to conducting our activities and those of our subsidiary companies in an environmentally responsible manner. Furthermore, the policy statement commits ESB Group to comply with all statutory and regulatory environmental legislation pertaining to our business operations.

The ESB Group policy on biodiversity sets out the context in which ESB endeavours to manage its activities to avoid significant impact on habitats, species or other aspects of national heritage and, where feasible, works to enhance biodiversity. ESB also complies with the European Communities (Access to Information on the Environment) Regulations 2007-2014.

ENVIRONMENTAL GOVERNANCE

Responsibility for environmental management in ESB proceeds from the Board through the Chief Executive, to all senior management and in turn to each manager, supervisor, team leader and member of staff.

The Board Health Safety and Environment Committee are responsible for oversight of company strategy, policy and compliance in health, safety and environmental matters and for advising the Board on health, safety and environmental matters. The Executive Director Team (EDT) are ultimately responsible for embedding sustainability and the implementation of effective environmental management within their areas of responsibility.

The Sustainability Committee is responsible for reporting to the EDT and Board on progress on sustainability and for reviewing and monitoring ESB Group performance on sustainability against strategic targets. The Committee provides assurance on environmental risk management and compliance by assessing the adequacy of processes and procedures in place in each BU. The Committee is responsible for approval of the Sustainability Strategy and the Annual Sustainability Report.

The Group Compliance, Risk and Environment Manager is responsible for providing oversight and assurance to Sustainability Committee and Board HSE Committee in relation to Environmental Compliance in each business area. The Manager Safety and Sustainability is responsible for providing oversight and assurance to Sustainability Committee and Board HSE Committee in relation to the embedding of Sustainability in each business area.

The Environmental Management Review Boards / Environmental Management Group / Environmental and Sustainability Committees in each business area are responsible for monitoring Business Unit performance on sustainability and environmental management against business area goals and targets outlined in Annual Environmental Plans and Sustainability action plans. They are also responsible for highlighting any issues to their relevant Executive Director and the Group Compliance, Risk and Environment Manager.

Environmental Co-ordinators and Sustainability Managers are responsible for promoting sustainability and good environmental practices within each business area. They are responsible for establishing robust reporting mechanisms for implementing Annual Environmental Plans within each business to monitor and report on progress against each relevant Environmental Programme or Sustainability Objective.

Line Managers and Supervisors are responsible for driving Sustainability and Environmental management as an integral part of all ESB activities to ensure they are embedded in each business area.

All staff are responsible for compliance with environmental policies and procedures and for adopting sustainability practises within their business area.

Ollie Brogan, Managing Director, ESB International; Roisin O'Donovan, Senior Consultant (EMS Manager), ESB International; and Maurice Buckley, CEO, NSAI

ENVIRONMENTAL MANAGEMENT SYSTEMS

The above governance structures are enacted through the implementation and operation of environmental management systems, which have generally been developed and independently certified to ISO 14001. This provides a structured basis to ensure all the environmental aspects of our operations are considered, all impacts assessed and work programmes establish to mitigate and minimise our impact.

Through the implementation of our environmental management systems, ESB is committed to:

- Adopting appropriate management structures, management systems and targets to manage sustainability and environmental issues
- Complying with all regulatory, planning and environmental legislation pertaining to our business activities
- Conducting our activities and those of our subsidiary companies in an environmentally responsible manner
- Developing and maintaining effective environmental management systems (EMS) suitably certified to the requirements of ISO 14001
- Acting responsibly in our use of environmental resources
- Contributing to environmental and sustainable policy development at national and EU level.
- Maximising energy efficiency and conservation in all our activities and encouraging our customers and suppliers to use natural resources in a prudent and efficient manner
- Identifying the environmental impacts associated with our activities and managing them appropriately
- Identifying and managing significant environmental risks and having emergency response plans in place
- Reducing our internal CO_2 carbon footprint by improving the energy efficiency of our buildings, reducing fuel used in our vehicle fleet and promoting sustainable travel for staff
- Reducing water usage, reducing waste streams and increase reuse and recycling in all of our locations.

LICENCES AND PERMITS

The environmental aspects of ESB's thermal power stations within the Republic of Ireland are controlled through Integrated Pollution Prevention and Control Licences and Greenhouse Gas Permits which are issued and monitored by the Environmental Protection Agency (EPA). Thermal stations in the UK and Northern Ireland operate similar IPPC licences issued by the respective environmental agencies. These licences and permits are audited by the EPA and a third-party verifier on at least an annual basis. In addition, annual emission reports are submitted to the EPA and are available through the Agency website at: **www.epa.ie/terminalfour/ippc**

ESB's Hydro Stations are subject to environmental control through discharge licenses issued and monitored by the relevant Local Authority. Information regarding planning permissions (including associated application documentation) for individual wind farms in the Republic of Ireland, Great Britain and Northern Ireland can be accessed directly from the relevant local authority websites.

PROGRAMMES AND TARGETS

ESB has established a number of objectives in the Environmental area as part of its Sustainability Strategy which is aligned with our overall Corporate Strategy, as described in Section 2 of this report. In addition, each business area maintains an annual environment and sustainability management programme detailing plans and objectives specific to that area. These are reported on and reviewed as part of the management review cycle and external assurance audit under their ISO 14001 assurance process.

ENVIRONMENTAL PERFORMANCE

WASTE

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

Consolidated waste totals from the ESB Business Units for 2015 is presented in Table 4.8.1. The 2015 performance reflects an overall reduction in waste of 1,600 tonnes over 2014. These tables exclude ash and excavation waste from capital works.

TABLE 4.8.1 CONSOLIDATED WASTE TOTALS IN ESB ORGANISATION 2015

TREATMENT	ESB NETWORKS	NIE NETWORKS	G&WM	ELECTRIC IRELAND	BSC	ESBI	TOTAL 2015
Recycled (tonnes)	8,044.65	2,412.82	1,652.13	25.20	235.94	69.70	12,440.44
Disposal (tonnes)	166.06	73.68	1,384.02	5.94	9.93	3.87	1,643.50
Total (tonnes)	8,210.71	2,486.50	3,036.15	31.14	245.87	73.57	14,083.93
Recycling rate %	98.0%	97.0%	54.4%	80.9%	96.0%	94.7%	88.3%

TABLE 4.8.2 CONSOLIDATED HAZARDOUS AND NON-HAZARDOUS WASTE TOTALS 2015

WASTE TYPE	ESB NETWORKS	NIE NETWORKS	G&WM	ELECTRIC IRELAND	BSC	ESBI	TOTAL
Non-Hazardous (tonnes)	6,505	1,790	2,617	31	244	73	11,260
Hazardous (tonnes)	1,706	696	419	0.00	2	1	2,824
Total (tonnes 2015)	8,211	2,486	3,036	31	246	74	14,084

TABLE 4.8.3 TOTAL WASTE, BY WEIGHT AND DISPOSAL METHOD

	TONNES 2015						
DISPOSAL METHOD	ESB NETWORKS	NIE NETWORKS	G&WM	ELECTRIC IRELAND	BSC	ESBI	TOTAL 2015
Reuse	293	0.00	0.00	0.00	0.00	0.00	293
Recycling	7,694	2,413	1,652	15	196	63	12,033
Composting	58.00	0.00	0.00	11	40	6	115
Recovery, including energy recovery	0.00	0.00	0.00	0.00	98	27	0.00
Landfill	166	73	1,384	6	10	4	1,643
Disposed of directly by the organisation or otherwise directly confirmed			235,441*				235,441

* The table includes ash waste arising in Moneypoint, Lough Ree Power and West Offaly Power

** ESB does not use incineration, deep well injection or on site storage methods for waste disposal

WASTE - ASH

Emissions abatement technology to reduce greenhouse gas emissions and support efforts to ensure compliance with the EU Industrial Emissions Directive, from Moneypoint coal-fired generating station has been installed. The abatement technology includes flue-gas desulphurisation (FGD) equipment to reduce sulphurous oxide (SOx) emissions and selective catalytic reduction (SCR) equipment to reduce nitrous oxide (NOx) emissions. The FGD and SCR equipment is installed individually on each of the three generating units at Moneypoint, with the further addition of common plant to serve all three units. A FGD waste by-product is produced through the abatement process. We continue to supply fly ash to the cement industry for use in the manufacture of concrete blocks, which helps produce lighter and more thermally efficient concrete.

TABLE 4.8.4 OVERALL ANNUAL ASH TOTALS FROM 2014 AND 2015 ARE SUMMARISED IN TABLE BELOW

	Tonnes per year	
Station	**2014**	**2015**
Moneypoint	121,090	160,595
Lough Ree	31,950	36,729
West Offaly	42,866	38,117
Total Ash	195,906	235,441
FGD By-product	61,183	124,212

WATER

Generation activities account for the vast bulk of our utilisation of water and our aqueous discharges. Water extracted by thermal generating stations accounted for 1,946,240m3 in 2015, a 4% increase on 2014 levels. The vast majority of this water is used in the cooling processes by stations prior to discharge back to the relevant water body. Cooling water outflows are subject to continuous emissions monitoring for temperature differential, which is one of the licence parameters in IPPC licences. A number of our generation stations have been undertaking water conservation programmes to reduce overall water usage through monitoring and changes in practice and to recycle water into the process where appropriate.

In other locations (offices and depots) across the business, we have installed AMR (automated meter reader) technology in main premises, to monitor water consumption levels and help in leak detection. In the case of ESB Networks 39 AMRs (over 50% of depots) had been installed to date.

Fixing automated meter readers to the installed infrastructure meters enables us to track our consumption more easily and effectively.

In spite of this good progress, many of our facilities remain unmetered and a consolidated view of water consumption across ESB Group is not currently available. Water metering is in the process of rollout across Republic of Ireland and with this we plan to develop a group-level view on water consumption as well as continuing the rollout of AMR systems to enable specific local monitoring and management of water consumption.

On foot of the rollout of AMR technology in ESB Networks, that business unit has set a 30% water reduction target by 2020. The application of AMR in ESB Networks and its consumption level alarms has, to end 2015, prevented over 1.2 million litres in water leakages. Despite this progress, we continue to work towards presenting a full water footprint for the ESB Group, which details the drawdown from various water sources and the recycling and return of water back to source.

HANDLING OF GRIEVANCES

As set out in ESB's Group Policy Statement on Environmental Management and Sustainability, ESB recognises that its activities comprising electricity generation, transmission, distribution and supply have environmental impacts and that it is our responsibility to manage these in a way that provides a high level of protection for our natural environment and contributes to the sustainable development of our economy.

ESB Group requires robust and responsive methods for handling any grievances that may arise from the general public or any other societal stakeholder, be they general complaints or complaints of an environmental nature.

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

ESB NETWORKS LTD

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

NIE NETWORKS

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

ELECTRIC IRELAND

Electric Ireland is committed to offering a quality service. Their service commitment is to treat all customers with courtesy and respect, to try and clearly understand customer needs and to act as quickly as possible. Electric Ireland's service standards are based on five Customer Codes:

- The Code of Practice on Customer Billing and Disconnection
- The Code of Practice on Vulnerable Customers
- The Complaints Handling Code of Practice
- The Code of Practice on Marketing and Sign Up
- The Code of Practice on Pay As You Go Metering

Other avenues to register complaints or environmental complaints include:

- Reporting to local authorities and the Environmental Protection Agency for IPPC licensed generating stations.

ACCESS TO ENVIRONMENTAL INFORMATION

European Communities (Access to Information on the Environment) Regulations 2007 to 2014 (S.I. No. 133 of 2007, S.I. No. 662 of 2011 and S.I 615 of 2014) (hereafter referred to as the AIE Regulations), give legal rights to those seeking to access information on the environment from public authorities. Under these regulations, information relating to the environment held by, or for, a public authority must be made available on request, subject to certain exceptions. The AIE regulations also oblige public authorities to be proactive in disseminating environmental information to the public. The AIE Regulations provide a definition of environmental information; outline the manner in which requests for information may be submitted to public authorities and the manner in which public authorities are required to deal with requests, e.g. timeframes for response. The regulations also provide for a formal appeals procedure in the event that a person is unhappy with a decision on their request.

FIGURE 4.8.5 DURING 2015, 18 AIE REQUESTS WERE SUBMITTED THROUGH THE FORMAL CHANNELS TO ESB

Received	Granted	Part Granted	Refused	Transferred	Internal review received	Review upheld	Review partially upheld	Review Revoked	OCEI Appeal
18	2	4	11	1	2	1	1	0	4

*OCEI – Office of Commissioner for Environmental Information

COMPLAINTS HANDLING

Each business unit operates an independent Environmental Management System (EMS), which is certified to ISO 14001 and subject to external verification auditing. A management process is established within each EMS to manage the organisational response to complaints of an environmental nature.

Please note, complaints specifically relate to queries which cannot be resolved in the area in which they have arisen, but instead have to be referred to another party – either within a business unit, or an outside party. Staff in our Customer Contact Centres, and local management, are empowered to resolve complaints promptly and targets for response are agreed with regulatory institutions. Examples of complaints handling are outlined in Figure 4.8.6 for ESB Networks.

The ESB Networks complaints facilitator produces a monthly management report to monitor both the volume of complaints received and our response performance in relation to these complaints.
In NIE Networks, there were no incidents of non-compliance in the 2015 period. No fines were issued to NIE Networks for breach of environmental legislation or voluntary codes. There was one warning letter issued in 2015 by the Northern Ireland Environment Agency (NIEA) as a result of an issue in storing poles at a temporary site in late 2014. The issue was resolved immediately and a new process was introduced to use protective matting in all temporary pole storage facilities to prevent this happening in the future.

A separate enforcement notice was issued in relation to illegal waste disposal beneath a NIE Networks' pylon. NIEA accepted that as the company was not at fault, there was no reason to complete any remedial action or clean-up.

The ESB Networks complaints facilitator produces a monthly management report to monitor both the volume of complaints received and our response performance in relation to these complaints.

FIGURE 4.8.6 ESB NETWORKS COMPLAINTS PROCESSING 2015

DESCRIPTION OF CRITERIA NUMBER	2014	2015
Complaints received	**NUMBER**	**NUMBER**
Concerning low voltage	49	51
For frequent outages	1,223	890
Time to connect customers	14	23
Operation delays and overruns	37	77
From suppliers	0	0
On connection costs and budget quotations	30	35
On meter reading and estimated reads	242	235
Others	793	890
Total complaints received	**2,388**	**2,201**

BIODIVERSITY

The EU Birds and Habitats Directives sets out procedures and obligations in relation to nature conservation management in member states in general, and of the Natura 2000 sites and their habitats and species in particular. The Natura 2000 network in the Republic of Ireland is made up of sites, which include Special Areas of Conservation (SAC), Special Protection Areas (SPA), candidate Special Areas of Conservation (cSAC) and proposed Special Protection Areas (pSPA). A number of initiatives have been developed to address biodiversity, including incorporating biodiversity aspects into existing environmental management systems, the adoption of biodiversity guidelines for HV substations, biodiversity action plans, the preparation of Networks job aids addressing design work in close proximity to Natura 2000 sites and National Monuments and the preparation, with EirGrid (Transmission System Operator), of draft ecology guidelines for electricity power lines. If a project or plan (either new development or works to existing structures) is located within or adjacent to a Natura 2000 site) then screening for Appropriate Assessment is mandatory. No works within a Natura 2000 site, no matter how small the scale, should proceed without being screened for Appropriate Assessment first. When determining a proximity to a Natura 2000 site, special consideration should be given to watercourse linkages that may have the potential to be impacted by a project as any impact visited upon the watercourse can be transported downstream to another location.

The estimated extent of ESB assets within designated sites in Republic of Ireland is set out in the table below. Similarly for Northern Ireland, the NIEA is responsible for designating the various sites and informing relevant stakeholders as this occurs. Examples of these types of site include Areas of Outstanding Natural Beauty (AONB), Areas of Special Scientific Interest (ASSI), Special Protection Areas (SPA) and Special Areas of Conservation (SAC). NIE liaises with the NIEA regularly to receive the required consent and to agree the necessary processes to be followed on such sites to ensure they and their features are protected and mismanagement is avoided. Where conditions are imposed, these will be followed to ensure there is minimal disturbance or potential of pollution within the area while work is carried out. ESB continues to assess the impact of its operations in accordance with its obligations. Since 2012, ESB has incorporated biodiversity requirements into the Environmental Management Systems for all ESB businesses.

ESB's Environmental Management Systems' structure provides the mechanism by which the necessary local statutory authorisations, operational procedures and improvement measures and programmes are developed and maintained. All proposed structural developments will be screened at an early stage of planning to determine whether a Natura Impact and/or Environmental Impact Assessment are required.

TABLE 4.8.7 BIODIVERSITY TABLE (REPUBLIC OF IRELAND)

	TOTAL	INSIDE SAC	INSIDE SPA	INSIDE NHA	INSIDE PNHA
Lands under the control of ESB (km^2)	90.7	23.4	36.5	5.1	45.6
Low Voltage Stations (No.)	249,000	2504	1793	102	2312
38 kV to 400 kV Overhead Lines (km)	12,330	291	186	38	254
38 kV to 400 kV Cable (km)	1,319	16.9	20.0	0	29.0

* A similar mapping process is required in Northern Ireland to ascertain the full extent of assets in and adjacent to protected habitats

NIE Networks' lines team installing bird diverters

EXAMPLES OF FOCUS ON BIODIVERSITY IN NIE NETWORKS

Given the proliferation of NIE Networks' rural network, there is a significant amount of equipment such as overhead lines, underground cables and substations immediately adjacent to sites with international protected designation. NIE Networks' Landbank – land managed by NIE Networks on behalf of the consumer – is in four 'Areas of Special Scientific Interest'.

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:

Designation takes place in accordance with European and NI legislation and once it is confirmed by the 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. Internal processes exist as part of our Environmental Management System to enforce this.

- NIEA visits all protected areas on a rotational basis to ensure the designated features remain in place.
- Where it is determined that work cannot be avoided in designated areas, NIE Networks works in conjunction with the NIEA to ensure that minimal damage is made to the area and any special conditions imposed by NIEA are met. This may

Tree planters: John Connor and Michael McDonald from NIE Networks' vegetation management team joined pupils from Oakgrove Integrated College and The Conservation Volunteers to plant around 600 trees in the grounds of Gransha Hospital, part of the company's community planting sponsorship scheme. Tree planting days also took place in Coleraine and Enniskillen

include gaining access or egress via an agreed corridor, leaving the protected site boundary to fill chainsaws with petrol or employing specialist contractors to complete surveys prior to works commencing or supervising work as it takes place.

Some examples of protecting biodiversity include NIE Networks fitting bird diverters to prevent birds colliding with lines, postponing of work during the bird nesting season, relocation of birds nests where they are in or close to the area to be worked at and even the removal of a bat from an NIE Networks office and a bees nest from a meter box. All of this while we continue our tree planting programme in conjunction with The Conservation Volunteers.

NIE Networks continues to assess the impact of its operations in accordance with its obligations.

Honeybees found by a meter reader in an outside meter box were successfully relocated to a local hive

CASE STUDY

ESB FISHERIES CONSERVATION PROGRAMME

At ESB, we have the statutory responsibility of managing, conducting and preserving the fisheries throughout the Shannon, Erne, Lee and Liffey catchments. We are committed to putting significant resources into the conservation of the fisheries to ensure their accessibility and enhancing their amenity value.

ESB Fisheries' role is part of our organisation's larger, strategic goal: our commitment to Ireland's environment and natural landscape; and engaging sustainability as a core value; with particular focus on waterways and fish stocks. To support this work, we employ 20 staff and a number of contractors across five Irish locations, as well as leasing some fisheries to Inland Fisheries Ireland (IFI). **During 2015, we invested significant resources in our Fisheries conservation programme, which includes:**

- Operating three salmon conservation hatcheries
- Comprehensive river restoration work
- A juvenile and silver eel trap and transport programme
- Issuing certain fishing and boating permits.

We also invested in scientific research projects aimed at informing and directing ESB Fisheries conservation efforts.

There is a complex and diverse range of stakeholders with particular interests in ESB Fisheries, including the Department of Communications, Energy and Natural Resources (DCENR), the IFI, the Marine Institute (MI), the Department of Culture and Leisure (NI), eel fishermen and many local angling clubs and associations. Shannon Fisheries partnership group, which has been in place for the last four years, is an example of effective collaboration between ESB, the IFI and the Shannon Fisheries Preservation and Development Co. Ltd and is focused on using available resources to best assist in rebuilding and protecting fisheries.

ESB SILVER EEL TRAP AND TRANSPORT

In compliance with the 2007 NEMP Directive, ESB develops, funds and managers a trap and transport programme to ensure the safe capture, transport and release of live adult eels downstream from our dams. We hire contracted eel fishermen (former commercial eel fishermen) to catch silver eels at various locations in each catchment. ESB Fisheries staff then collect, transport and release the eels downstream from the dams so that they can continue their journey to the sea. This programme runs between August and January each year and is monitored by the IFI.

The trap and transport programme has been a success and ESB has exceeded the programme targets set by the Marine Institute over the last three years. ESB is now the leading exponent of trap and transport in Europe, with approximately 70% of the entire trap and transport within Europe being completed by ESB.

4.9 OPERATIONAL ENERGY EFFICIENCY

"Within ESB Group, energy efficiency is identified as a strategic priority within the sustainability strategy and is cascaded into business unit business plans"

Pat Naughton, Executive Director, Group People and Sustainability

INTRODUCTION

Energy efficiency makes our economy more competitive, whilst helping to lower our greenhouse gas (GHG) emissions and maximising our economic competitiveness. Energy efficiency is the foundation of a sustainable economy and is at the heart of many of the efforts being undertaken across the ESB Group to address aspects of energy efficiency, be it from the network perspective, at customer end use or through the development of a new high efficiency CCGT plant. ESB Group recognises the importance of being an exemplar and leveraging the connection we have with the communities where we work, to bring the energy efficiency discussion centre stage in the thoughts and actions of people at a domestic, community, industry and national level.

In ESB Group, energy efficiency is identified as a strategic priority within the sustainability strategy. It is cascaded into business unit business plans, factored into long-term asset planning, incorporated into our customer-facing energy services offerings, included in our regulatory price review submissions, as part of the multifaceted approach across the breadth of the business, many of which are detailed in other sections of this report. In addition, during 2015, ESB was obliged by regulation to ensure a process for undertaking energy audits was established and delivered upon.

For staff, energy efficiency is brought to life through our focus on energy efficiency within our operations and how behavioural change can contribute to energy efficiencies in both building energy and vehicle fuel consumption.

STAFF TRAVEL

A number of measures are in place to encourage staff to seek alternatives to travelling for work. These include the availability of online and teleconferencing facilities across the company and the promotion of public transport as an alternative, where available. Where staff use their private vehicle for work purposes, this mileage is tracked and reported on and an emphasis is placed on an overall reduction in the context of business activity levels.

FLEET FUEL

ESB 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. In 2013, fleet procurement adopted a lifecycle cost approach to new vehicle procurement, which has helped the procurement of more efficient vehicles. The electrification of auxiliary equipment, such as hoists, as well as 50 electric vehicles in the fleet, also combine to reduce fuel requirements.

Renewing our fleet with modern and more fuel efficient vehicles

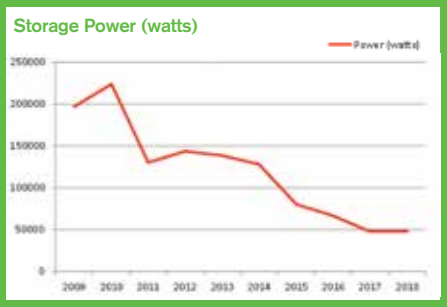
CASE STUDY

REDUCING STORAGE POWER REQUIREMENTS AND COST

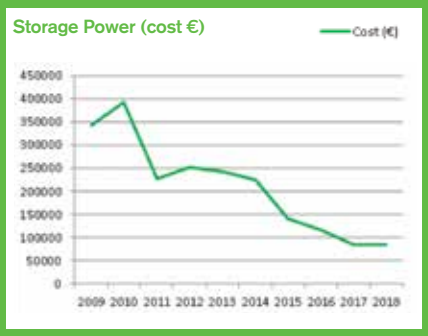
A data centre is a facility used to house computer systems, i.e. servers, storage, networks, telecommunications and associated components. The main objective of the data centre is to maintain the availability of all hosted IT infrastructure without interruption to services in a safe, cost-effective and sustainable manner. The facility should also provide redundancy, whereby a hardware failure does not constitute an impact to overall IT operations and provides the ability to resolve the failure without interruption. This is done by using redundant components at each stage of implementation, for example, multiple power supplies, backup generators, UPS, air conditioning/chiller systems, fire detection systems, multiple cable paths, telecommunication hubs, combined with facility building management systems to monitor any potential failures in advance.

Traditionally, data centres have been large consumers of energy. ESB leases two data centres, one in Citywest and the other in Blanchardstown. In 2016, the data centre lease agreements fall due for renewal. This will present an opportunity to review our IT infrastructure and take advantage of technology developments.

ESB IT Storage team have been on an energy reduction journey for the last number of years in the storage space. A combination of server virtualisation, reducing the overall number of physical servers, combined with the application of new and more energy efficient technologies had helped drive ESB's storage power requirements down, at a time when data storage itself is on the rise. The 200Kw requirement in 2009 provided approximately 400TB of disk capacity. The 2015 48Kw requirement is providing almost three times that amount of storage.



The fact that ESB has been able to make these savings in advance of moving data centres in 2016 means that ESB can look at getting a much smaller power footprint in the new data centres, on top of the power usage effectiveness (PUE) efficiencies that the new data centres will bring.



During 2016, we anticipate that power requirements for our data centres to reduce to less than 25% of 2009 consumption levels.

TABLE 4.9.1 FLEET FUEL CONSUMPTION 2015 (FLEET BASED IN ROI ONLY)

DIESEL (B7)	B20	B30	UNLEADED	PETROL	GREEN DIESEL	TOTAL FUEL	EQUIV. DIESEL
4,958,778	23,627	2,147	111,331	0	20,796	5,116,679	4,989,785

DRIVER BEHAVIOUR

ESB has focused on the driving skills of its staff for the past number of years. Whilst the primary focus on developing advanced driving skills through training has been to improve staff safety on the roads, a secondary benefit is improved vehicle sympathy and economic driving style. Part of ESB's commitment to the promotion of road safety, as well as the adopting of defensive driving techniques, it has set out a mandatory advanced driver training policy for all staff who are intended to drive for work purposes.

ENERGY CONSUMPTION

All of the above issues combine to deliver real energy savings and reduce costs of energy within the business. The 2015 performance was significantly impacted by an increased level of response to severe weather events as well as general economic recovery in Ireland. An additional 600,000 litres of fuel were expended in maintaining the network, whilst building energy also increased by approximately 1GWh.

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

The data reported in tables below reflects energy consumed by fleet and buildings in the ROI. On a headcount basis this accounts for 81% of ESB Group activity. During 2015 an external review of ESB's approach to energy data collection and subsequent carbon footprint reporting was undertaken. This will enable us to both include NIE building and fleet energy consumed in future years as well as broaden our Scope 3 emissions reporting.

ESB Group overseas activities accounts for no more than 1.5% on a head count basis. As these staff are generally accommodated in serviced or landlord premises, reporting on energy consumed is not currently forthcoming.

TABLE 4.9.2 TOTAL PRIMARY ENERGY REQUIREMENT (TPER), REPUBLIC OF IRELAND OPERATIONS

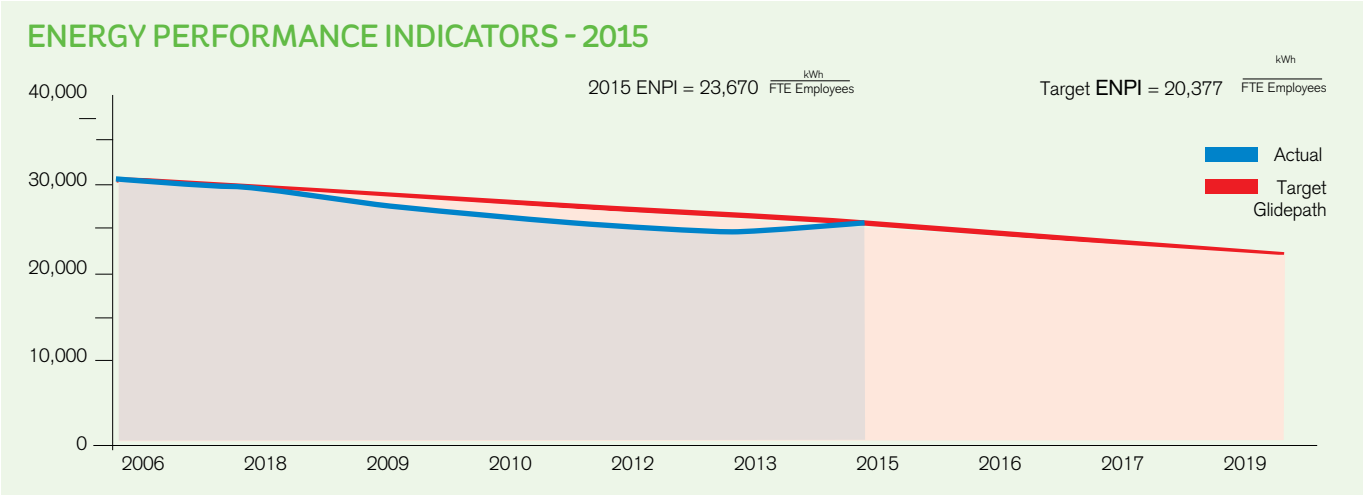
ENERGY TYPE	ENERGY CATEGORY	UNIT	BASELINE (2006-2008 AVERAGE)	2014	2015	%IMPROVEMENT SINCE BASELINE
Electricity	Total	kWh	95,785,331	63,368,216	65,554,539	31.60%
Thermal	Total	kWh	1,437,331	1,460,696	2,127,447	
Thermal	Gas	kWh	1,058,228	1,436,165	2,103,814	
	Heating Oils	kWh	379,103	24,531	23,632	
Transport	Total	kWh	69,913,830	49,245,733	57,258,145	19.80%
	Transport Fuels (Mineral Oil Fuels)	kWh	69,460,830	47,700,528	55,461,532	
	Transport Biofuels	kWh	453,000	1,545,205	1,796,613	
Total Primary Energy Requirement (TPER)		kWh	**167,136,491**	**114,074,645**	**124,940,131**	25%

*Total Primary Energy Requirement – Total primary energy requirement or TPER is a measure of all of the energy consumed by the organisation and accounts for the energy that is consumed and/or lost beyond the boundary of the organisation – in energy transformation, transmission and distribution processes, e.g. electricity generation transmission and distribution.

TABLE 4.9.3 ENERGY PERFORMANCE INDICATOR

NORMALISED ENPI	%	BASELINE	2015
Organisational ENPI	kWh/FTE Employees	30,414	23,670

* Energy Performance Indicator is calculated using the data set and fuel consumption ratios reported under table 4.9.2



4.10 DEVELOPING A LOW CARBON GENERATION PORTFOLIO

Paddy Hayes, Executive Director, Generation and Wholesale Markets

"2015 was a positive year for Generation and Wholesale Markets. There was excellent progress on the development and construction of new assets underpinning our strategic objective to reduce the carbon intensity of our electricity generation. High efficiency combined cycle gas at Carrington, waste wood biomass at Tilbury, wind at Woodhouse and Funded Solar all contribute to this fundamental goal"

INTRODUCTION

Climate change is a major global threat that requires urgent action and co-operation at an international level, which the Paris Agreement will seek to deliver. ESB is committed to delivering carbon-neutral electricity in Europe by 2050, and to ensuring a competitively priced, reliable electricity supply throughout the integrated European energy market.

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.

Carrington Power Station, 881MW gas-fired CCGT

Electricity is a clean energy vector. Users do not emit any carbon when they consume electricity, while carbon emissions at the point of generation are capped and are progressively being reduced under the EU ETS. In its ability and commitment to become carbon-neutral by 2050, the electricity industry can lead the drive to decarbonise Europe. 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 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 2015, 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 2015, G&WM continued with the construction of its 881MW gas-fired combined cycle gas turbine (CCGT) plant at Carrington near Manchester, which will deliver clean and flexible power to customers in the UK electricity market. Carrington will be 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.

In line with best industry practice, we anticipate that Carrington CCGT will deliver a low carbon intensity of approximately 350g/kWh.

During 2015, ESB continued to make progress on a development generation project at Knottingley in the UK. This is a potential site for a future CCGT of up to 1,600MW capacity. Development consent for the proposed Knottingley Power Project was granted by the UK Secretary of State in March 2015.

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 our existing portfolio of generating units for commercial and social responsibility reasons.

As ESB continues to renew its generation fleet with the installation of new plant, the overall thermal efficiency of our portfolio has increased.

A programme of efficiency improvement measures has been undertaken in recent years and Figure 4.10.1 shows the improving trend in Operating Efficiency.

In addition, a successful trial installation of a new monitoring and diagnostics system across the three coal-fired units at Moneypoint power station was implemented in 2014, enabling real-time tracking of the plant performance throughout 2015 and driving improvements.

During the first scheduled major overhaul of Aghada CCGT in 2014, a higher class air filtration system was installed on the gas turbine air intake system, which has delivered noticeable improvement in the performance of this unit in 2015 and this filtration system upgrade will be considered for implementation in other units in the G&WM portfolio.

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

FIGURE 4.10.1 THERMAL PORTFOLIO TRENDS

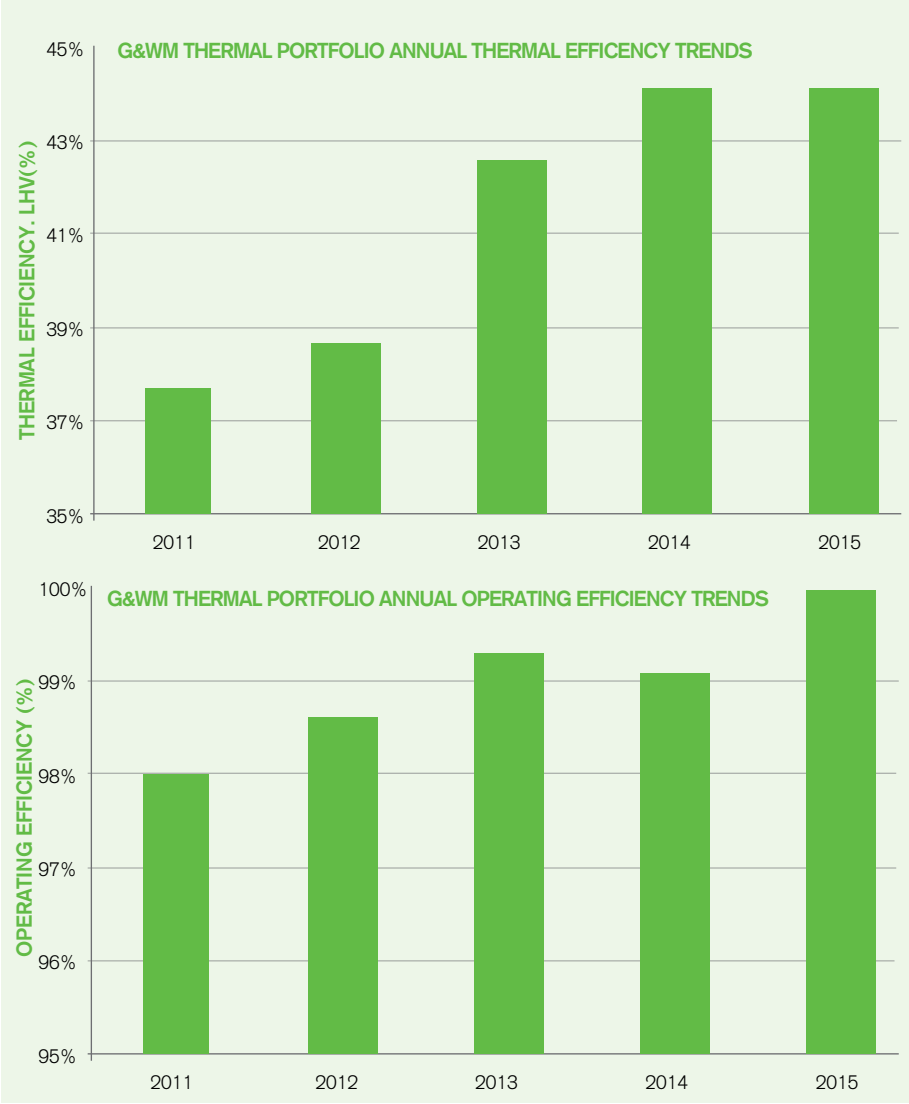


FIGURE 4.10.2 ESB'S INSTALLED CAPACITY, BROKEN DOWN BY PRIMARY ENERGY SOURCE AND BY REGULATORY REGIME

CAPACITY IN MW	RoI	NI	SEM	GB	Total
Gas	2,025	402	2,427	350	2,777
Coal	855	0	855	0	855
Peat	226	0	226	0	226
Oil	0	53	53	0	53
Wind	226	73	279	125	423
Hydro (including pumped storage)	508	0	508	0	508
Solar	0	1	1	0	1
TOTAL	3,532	529	4,061	475	4,535

INCREASING RENEWABLES IN OUR GENERATION PORTFOLIO

ESB continues to grow its renewables portfolio with significant investment in onshore wind generation as well as other forms of renewables. In 2015, the 20MW Woodhouse wind farm project in Co Waterford entered commercial operation, delivering clean renewable energy to customers and bringing ESB's wind portfolio to over 400MW.

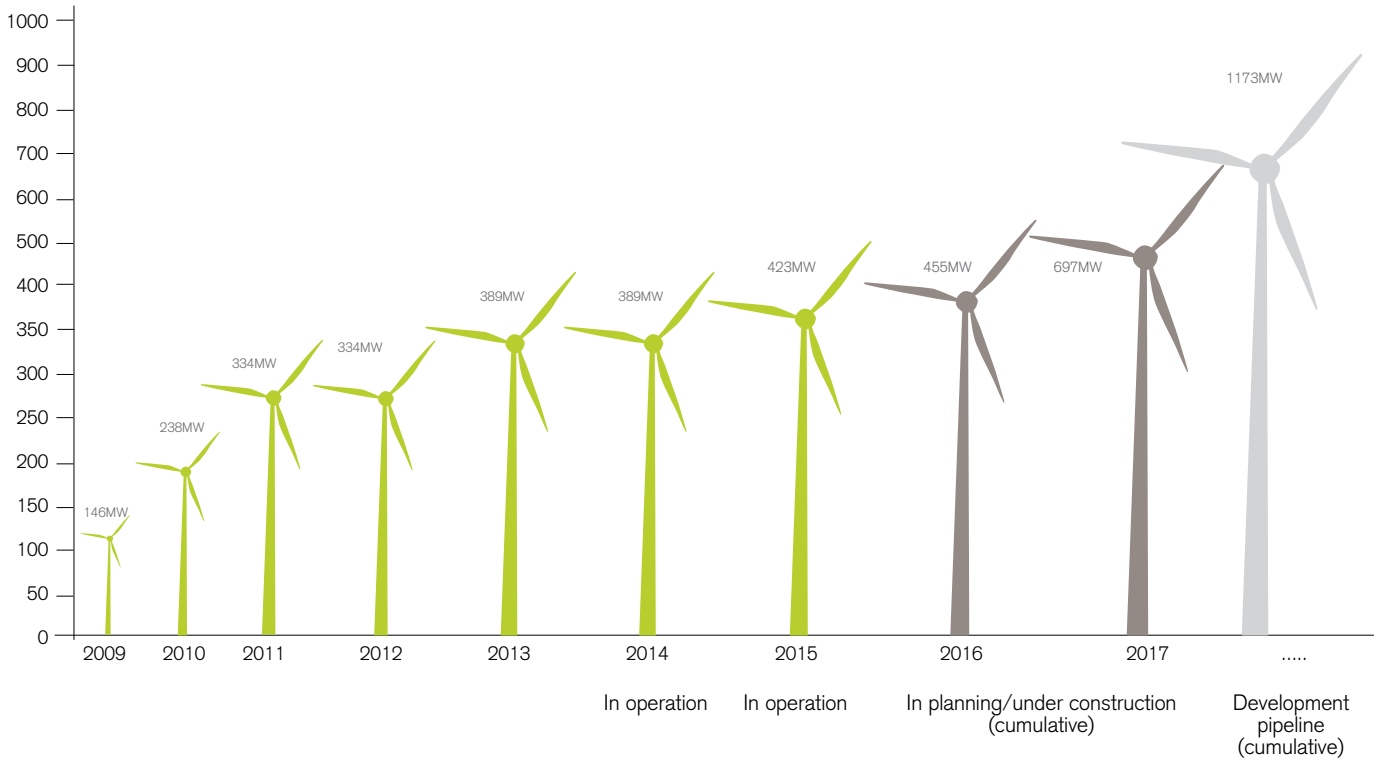
ESB is actively exploring additional investment opportunities in both wind and alternative renewable technologies, including solar and biomass, in order to grow a diverse renewables portfolio.

WIND FARM DEVELOPMENTS

The 35MW wind farm at Raheenleagh, a joint venture project with Coillte made significant progress during 2015 and is on schedule for commercial operation in 2016. Located west of

FIGURE 4.10.3 ESB'S WIND GENERATION INSTALLED BASE AND DEVELOPMENT PIPELINE

ESB'S WIND GENERATION INSTALLED BASE



Arklow, Co Wicklow, the Raheenleagh Wind Farm will generate enough power for approximately 22,500 households using 11 wind turbines.

Progress on the construction of the 52MW project at Cappawhite, Co Cork commenced towards the end of 2015. It will generate enough energy to power approximately 34,000 households using 17 wind turbines.

ESB also entered into a long-term development agreement with a Scotland-based developer, Coriolis, aimed at delivering between 200MW and 400MW of wind farms capacity in the early 2020s and continues to progress a development pipeline of other wind-generation projects in Ireland and the UK.

BIOMASS DEVELOPMENTS

Construction commenced on the Tilbury 40MW biomass project in the UK during 2015. This is a joint venture with our partners, the Green Investment Bank and BWSC (see case study), and will be ESB's first biomass project in Ireland or the UK.

SOLAR DEVELOPMENTS

ESB worked closely with our partner Kingspan to create a joint venture company which began installation of solar photovoltaic generation systems on the rooftops of industrial and commercial customers in 2015, focused initially on the Northern Ireland market (see case study below).

OVERVIEW OF GENERATION FROM HYDROPOWER

ESB operates four hydropower schemes on the rivers Shannon, Erne, Lee and Liffey, in addition

CASE STUDY

Tilbury 40MW Biomass site in London, UK, under construction

TILBURY GREENPOWER

The facility will be located at the Port of Tilbury in Essex, approximately 30km from London. It will feature a 40MW generation plant, specifically designed to meet very stringent environmental standards for processing waste wood, and will comply with all EU Directives for such facilities. This joint venture with our partners, the Green Investment Bank and BWSC, is ESB's first biomass project.

The facility will convert waste wood to energy, generating 300GWh of green electricity a year – enough to power more than 70,000 homes.

Stobart Biomass will be providing 270,000 tonnes of waste wood for the project, sourced from the local catchment area and processed at an onsite facility. The London area produces over 1,200,000 tonnes of waste wood a year. The wood used at the plant would otherwise go to landfill, where much of it would break down into methane, which has a greenhouse gas effect that's 23 times greater than carbon dioxide.

The plant is ideally situated near the London catchment area for ready access to the fuel raw materials and reducing the overall carbon footprint of the project. Up to 370 jobs will be created during the construction phase and nearly 50 permanent jobs in ongoing operations.

CASE STUDY

The Kingspan ESB team with Minister Jonathan Bell

FUNDED SOLAR JOINT VENTURE KINGSPAN ESB

In May 2015, ESB and Kingspan announced a joint solar photovoltaic (PV) venture. The new joint venture is called Kingspan ESB. Kingspan ESB is launching an energy solution called Funded Solar to Northern Ireland businesses, enabling companies to maximise the untapped potential of their roof space without any upfront capital costs.

Kingspan ESB will develop, install, fund and maintain the Funded Solar PV system. It is designed specifically for businesses and their energy consumption profile, ensuring maximum energy savings. It's quick and easy to install: a 50kW system can be installed in a matter of days and a 1MW system in just a few weeks.

In return, the business owner provides a 25-year rooftop lease to Kingspan ESB and purchases the green electricity from the PV system at a reduced rate. By generating clean, renewable solar power at the point of demand, businesses benefit from better energy efficiency, electricity cost savings and greater energy security.

By investing in rooftop solar power, ESB is diversifying its energy sources into renewables in line with its long-term strategic goals.

The energy solution, which will have no ongoing maintenance costs, has the potential to save the Northern Ireland business sector £5.64 million a year in energy costs, with improved environmental credentials.

The average medium-sized business would see a 10% reduction in its electricity bill, the equivalent of £5,835 a year or £329,430, over the 25-year lease period on the roof, allowing businesses to fix a portion of their electricity cost, indexed to RPI.

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.

The installed MW capacity of 216 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 GWh of electricity each year, avoiding the emission of approximately 200,000 tonnes of carbon dioxide annually, supporting Ireland's climate change strategy.

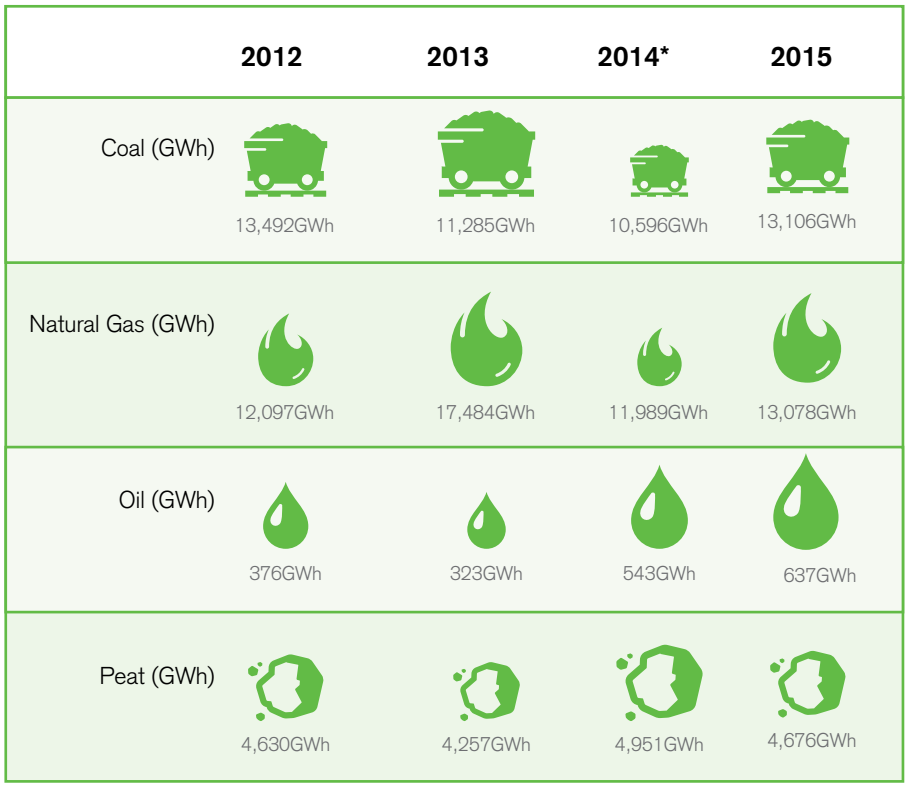
The presence of the hydro generators on the more westerly parts of the country provides EirGrid (transmission system operator) with reliable voltage control to the transmission system in locations where the system is otherwise less robust.

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.

DIRECT GREENHOUSE GAS EMISSIONS FROM OUR PORTFOLIO

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

FIGURE 4.10.4 GENERATION FUEL MIX – INPUTS IN GWH



* 2014 consumption figures restated for Natural Gas, Coal and Peat

The overall emissions of CO_2 from our generating stations are detailed in the graphs opposite. The baseline year chosen for reporting of the CO_2 emissions is 2005, the year when the formal reporting for the EU Emission Trading Scheme (ETS) commenced. Each installation operates in accordance with a greenhouse gas permit which authorises the site to emit greenhouse gases (CO_2). This permit is issued by the competent authority once they are satisfied that an operator can comply with the legislation and is capable of monitoring and reporting of the emissions. The monitoring and reporting of the CO_2 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 CO_2 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 CO_2 calculation.

Since 2005 ESB has achieved a 37.25% reduction in CO_2 emissions. This has been achieved through a combination of 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 3.8% to 590g CO_2e/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.

AIR EMISSIONS

In terms of other air pollutants, ESB has achieved a significant reductions in our NOx, SOx and dust emissions since 2006, with reductions of 62%, 85% & 83% respectively being achieved. This has been achieved by significant investment in flue gas desluphurisation and NOx reduction technology in our Moneypoint coal plant and by our increasing renewable portfolio, plant upgrades and improvements in the efficiency of the fleet.

EMISSIONS FROM OPERATIONAL SOURCES

Other Scope 1 emissions include: emissions from ESB Vehicle Fleet, emissions from Generation and Wholesale Markets, Vehicle Fleet Direct emissions from ESB owned or occupied Buildings (heating boilers and diesel generators).
The Scope 2 category as defined in the GHG Protocol deals with indirect electricity GHG emissions and covers emissions from purchased electricity consumed by the company. This comprises the electricity consumed in the premises owned or occupied by ESB.
Scope 3 is an optional reporting category which addresses all other indirect emissions. The reporting of Scope 3 emissions is discretionary and practice varies from company to company. In the Scope 3 figures, this represents ESB employee business travel by car.

Information provided by the Sustainable Energy Authority of Ireland (SEAI) is used to convert the consumption totals to an equivalent quantity of CO_2. SEAI undertakes an annual assessment of energy trends in Ireland. These reports are

based on data, compiled by SEAI's Energy Policy Statistical Support Unit. In relation to electricity, the SEAI report considers generation fuel mix, transmission and distribution losses to derive an annual relationship between CO_2 emissions and electricity supplied. Estimates of vehicular CO_2 emissions are generated using the UK Department of Energy and Climate Change and the Department for Environment, Food and Rural Affairs (Defra) standard car conversion factors. For fleet fuel consumption, the most accurate eans of converting fuel values to carbon emissions is through the assignment of each fuel purchase to vehicle or vehicle type. Since this is not possible, standard conversion factors are applied to estimate the fleet CO_2 emissions for 2015.

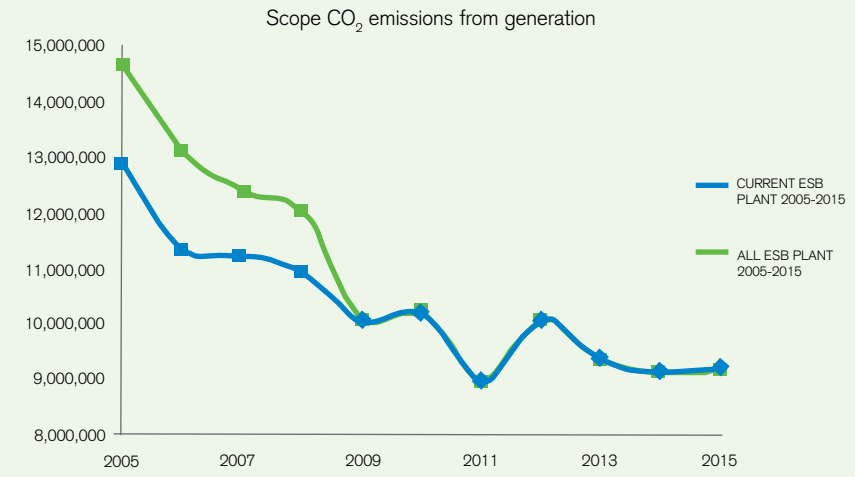
FREIGHT TRANSPORT CONVERSION AND EQUIVALENCE FACTORS.

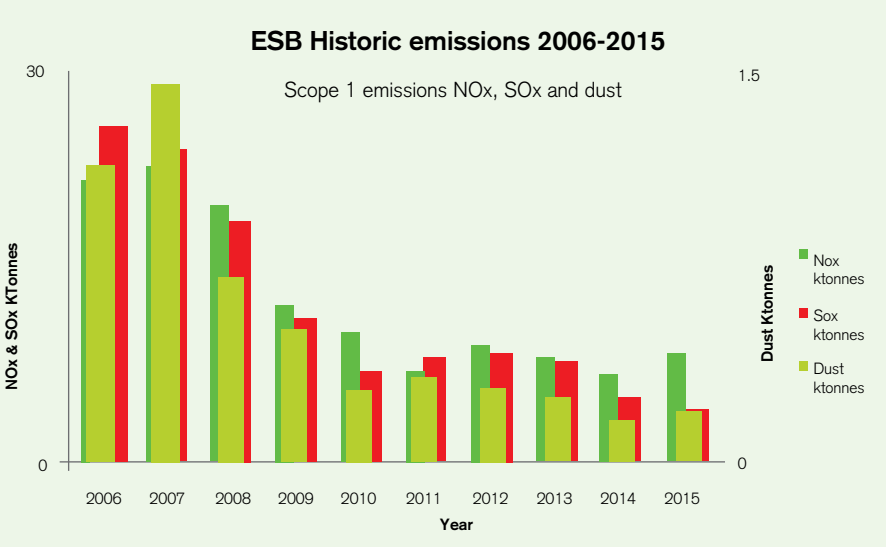
Fuel Type	kg CO2 per litre 2014
Diesel	0.0026304
Green Diesel	0.0026304
Unleaded/Petrol	0.0023154

2006 has been adopted across ESB as the baseline year against which we measure our emissions and energy performance. The EU ETS scheme commenced in 2005 and ESB's formal sustainability programme began in 2006.

During 2015, an independent review of ESB's practice for the collation and calculation of internal carbon footprinting was undertaken against the guidance of ISO 14064-3. This review will likely lead to a broadening of reporting under Scope 3 emissions for 2016 and a restatement of our baseline year for reporting.

FIGURE 4.10.5: SCOPE 1 CO_2 EMISSIONS FROM GENERATION 2005-2015





EMISSIONS	2006 (BASELINE) (*2005 FOR CO2)	2015	CHANGE SINCE BASELINE (ABSOLUTE)
NOx (ktonnes)	21.59	6.78	-62%
SOx (ktonnes)	25.4	3.88	-85%
Dust (ktonnes)	1.13	0.19	-83%
CO_2 (mtonnes)	14.63*	9.18	-37%

Generation emissions are externally verified annually prior to being reported into the national licencing and regulatory authorities. CO_2 emissions in 2015 for NI, 960 ktonnes, UK, 126 ktonnes.

TABLE 4.10.6 ESB GROUP'S TOTAL CO2 EMISSIONS BY SCOPE FOR 2015

YEAR	SCOPE 1 GENERATION	SCOPE 1 BUILDINGS	SCOPE 1 VEHICLE FLEET	TOTAL SCOPE 1	SCOPE 2 - INDIRECT EMISSIONS	SCOPE 3 - BUSINESS TRAVEL	TOTAL EMISSIONS (SCOPE 1,2,3)
Baseline Year Emissions*	14, 630,000 tonnes	289 tonnes	16,788 tonnes	14,647,077 tonnes	22,993 tonnes	4,951 tonnes	14,674,020 tonnes
2015	9,180,000 tonnes	250 tonnes	13,367 tonnes	9,193,617 tonnes	12,000 tonnes	3,795 tonnes	9,209,413 tonnes
* 2005 Baseline Year for Generation Emissions (beginning of EU ETS scheme). 2006 for other operational emissions							

EMISSIONS TRADING

ESB's electricity generation activities fall within the scope of the EU ETS, under which CO_2 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.

FIGURE 4.10.7 NET ENERGY OUTPUT BROKEN DOWN BY PRIMARY ENERGY SOURCE AND REGULATORY REGIME

GENERATION VOLUME IN MWH FOR 2015	ROI	NI	SEM	GB	Total	GWH
Coal	4844340	0	4844340	0	4844340	4844
Gas	4281810	2579040	6860850	260495.00	7121345	7121
Peat	1751730	0	1751730	0	1751730	1752
Oil	0	1250	1250	0	1250	1
Wind	548982	214617	763599	330397	1093996	1094
Hydro	756340	0	756340	0	756340	756
TOTAL	12183202	2794907	14978109	590892	15569001	15569

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 4,800MW capacity, with an ambition to grow that capacity to 7,000MW, including 1,800MW of renewables by 2025 on an all island basis. Delivering this capacity growth will require a mix of technologies. Currently Carrington 881MW CCGT is under commissioning near Manchester (UK), a further 1,500MW of CCGT is consented. 800MW of wind development is in planning, 40MW of biomass under construction at Tilbury, UK. ESB Group is also pursuing options in emerging technologies, solar PV, battery storage and energy from waste.

NOTES:

4.11 FINANCIAL PERFORMANCE

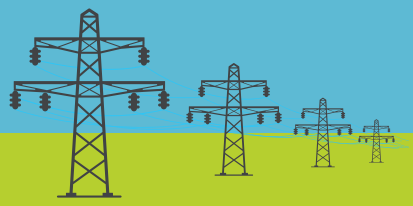
Pat Fenlon, Group Finance Director

"2015 was a solid year for ESB. We are making long-term investment decisions in the context of a future that is more complex and uncertain than ever before"

ESB operates at the heart of every community in Ireland, which helps drive a clear sense of purpose in delivering brighter possibilities for Ireland. We recognise that electricity is not an end in itself but an enabler of societal and economic wellbeing and we are committed to using our resources efficiently. To do that, we think and act in creative and innovative ways, supporting customers, developing infrastructure and using scarce resources as efficiently as possible. This sense of trying to improve the way we do things is part of our core purpose as an organisation.

The proof of this lies in the way we behave as a company – not only in our track record in

USING OUR PROFITS IN



PROFITS

Investment

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

Customer Service

Developing new and innovative products and services for customers aimed at improving customer experience and empowerment.

Employment

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

Supporting Communities

Seeks to empower and enrich the lives of individuals and communities through the corporate social responsibility programme.

Capital Spend 2015:
€873 Million

Customer Satisfaction 2015:
84%

Recruitment of Apprentices and Graduates during 2015:
179

Corporate Social Responsibility Spend in the past decade:
Over €10 Million

delivering critical national energy infrastructure projects, but also in the way we respond to increasingly frequent extreme weather events, our commitment to supporting communities through our CSR programmes, and the support we provide for customers who may find themselves in difficulties. Our ethos and the decisions we take are underpinned by a sense of public service and a commitment to the social good.

The policy based decisions that derive from these values ensure that ESB is focused on its home markets, supporting and using local supply sources (over 90% of all supply chain sources are within EU states, 70% within ROI and NI), delivering electricity infrastructure upgrades that enable local businesses and through the support of local community programmes through CSR and sponsorship supports.

The direct economic value that was generated and distributed across our home markets in 2015 is detailed in the graphic below. The principal activities of the ESB Group operate in the Republic of Ireland, Northern Ireland and Great Britain. The Group also operates internationally. ESB demonstrates its commitment to these economies through its contribution in the form of investment, taxes, dividends and jobs.

FOR A FULL OVERVIEW OF OUR FINANCIAL PERFORMANCE IN 2015, PLEASE VISIT OUR ANNUAL REPORT
CLICK HERE

A SUSTAINABLE WAY

Taxes
Annual payments across various tax headings.

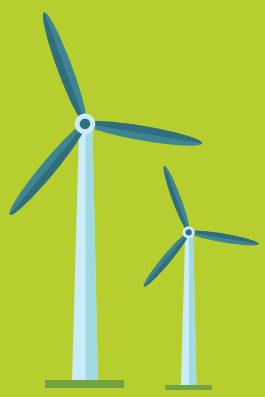
Return to Shareholder
ESB delivers an annual dividend to its shareholder currently at 35%, 38% in 2016, and 40% in 2017.

Debt Investors
Payment of interest and principal to ESB's debt investors.

Total Taxes 2015: Over €500 Million

Total Dividends Paid 2015: €273 Million

Total Interest and Principal 2015: Over €600 Million



ENERGY FOR **DREAMS**

APPENDICES

5.1 GRI APPLICATION LEVEL – INDEPENDENT ASSESSMENT

GRI G4 In Accordance Declaration
DNV GL Business Assurance Services UK Ltd (hereafter DNV GL) was engaged by the Electricity Supply Board (hereafter "ESB") to carry out an independent review of the GRI in accordance declaration for ESB's 2015 Sustainability Report (hereafter 'the report').

This 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 2015 nor on the quality of information in the report.
DNV GL has not been engaged by ESB on any other commitments in 2015/16 which could compromise the independence of our opinion on the in accordance declaration.

14th November 2016, London

For and on behalf DNV GL Business Assurance Services UK Ltd

Tracy Oates
Principal Consultant

5.2 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	Compliant	
ORGANIZATIONAL PROFILE				
G4-3	a. Report the name of the organisation	2.1	Compliant	
G4-4	a. Report the primary brands, products, and services	2.1	Compliant	
G4-5	a. Report the location of the organization's headquarters.	2.1	Compliant	
G4-6	a. Report the number of countries where the organization operates, and names of countries where either the organization has significant operations or that are specifically relevant to the sustainability topics covered in the report.	2.1	Compliant	
G4-7	a. Report the nature of ownership and legal form.	2.1	Compliant	
G4-8	a. Report the markets served (including geographic breakdown, sectors served, and types of customers and beneficiaries).	2.1	Compliant	
G4-9	"Report the scale of the organization: Total number of employees Total number of operations Net sales (for private sector organizations) or net revenues (for public sector organizations) Total capitalization broken down in terms of debt and equity (for private sector organizations) Quantity of products or services provided"	2.1	Compliant	
G4-10	Workforce detail disclosure	2.2	Compliant	
G4-10 Sector Specific	Report on total contractor workforce (contractor, subcontractor, independent contractor) by employment type, employment contract and regulatory regime.regulatory regime	2.2 & 2.3	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. 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.	2.2	Compliant	

G4-11 Sector Specific	Report on percentage of contractor employees (contractor, sub-contractor and independent contractor) working for the reporting organization covered by collective bargaining agreements by country or regulatory regime.	2.2 & 2.3	Compliant	Under the obligations outlined in ESB's 3rd Party Requirements, all contracting entities are required to allow their staff freedom of association. This is monitored as part of the Contractor Employment Standards (CES) audits which are undertaken across all major contracts each year. In essence 100% of contractor staff should have freedom of association, as long as their employer is abiding by the ESB 3rd Party Requirements, however, this data is not reported on as part of CES.

G4-12	a. Describe the organization's supply chain.	2.3	Compliant	
G4-13	"a. Report any significant changes during the reporting period regarding the organization's size, structure, ownership, or its supply chain, including: ▪ 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 organizations) ▪ Changes in the location of suppliers, the structure of the supply chain, or in relationships with suppliers, including selection and termination"	2.4	Compliant	
G4-14	a. Report whether and how the precautionary approach or principle is addressed by the organization.	2.5	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.	2.6	Compliant	
G4-16	"a. List memberships of associations (such as industry associations) and national or international advocacy organizations in which the organization: ▪ 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 organizational level."	2.6, 2.7	Compliant	
IDENTIFIED MATERIAL ASPECTS AND BOUNDARIES				
G4-17	a. List all entities included in the organization's consolidated financial statements or equivalent documents. b. Report whether any entity included in the organization's consolidated financial statements or equivalent documents is not covered by the report.	3	Compliant	Note 32 to Financial Statements, ESB Annual Report 2015
G4-18	a. Explain the process for defining the report content and the Aspect Boundaries. b. Explain how the organization has implemented the Reporting Principles for Defining Report Content.	1, 3	Compliant	
G4-19	a. List all the material Aspects identified in the process for defining report content.	3	Compliant	

G4-20	a. For each material Aspect, report the Aspect Boundary within the organization	3	Compliant	
G4-21	a. For each material Aspect, report the Aspect Boundary outside the organization, as follows:	3	Compliant	
G4-22	a. Report the effect of any restatements of information provided in previous reports, and the reasons for such restatements.	3	Compliant	
G4-23	a. Report significant changes from previous reporting periods in the Scope and Aspect Boundaries.	3	Compliant	
STAKEHOLDER ENGAGEMENT				
G4-24	a. Provide a list of stakeholder groups engaged by the organization.	3	Compliant	
G4-25	a. Report the basis for identification and selection of stakeholders with whom to engage.	3.3	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 organization'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.	3	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 3 of the report.
G4-27	. Report key topics and concerns that have been raised through stakeholder engagement, and how the organization 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.	3	Compliant	
REPORT PROFILE				
G4-28	a. Reporting period (such as fiscal or calendar year) for information provided.	About this Report	Compliant	
G4-29	a. Date of most recent previous report (if any).	About this Report	Compliant	
G4-30	a. Reporting cycle (such as annual, biennial).	Scope of Report	Compliant	

G4-31	a. Provide the contact point for questions regarding the report or its contents.	Contents	Compliant	
G4-32	a. Report the 'in accordance' option the organization 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.	About this Report, 5	Compliant	
G4-33	Report the organization's policy and current practice with regard to seeking external assurance for the report..	About this Report, 5	Compliant	
GOVERNANCE				
G4-34	a. Report the governance structure of the organization, including committees of the highest governance body. Identify any committees responsible for decision-making on economic, environmental and social impacts.	1	Compliant	
ETHICS AND INTEGRITY				
G4-56	a. Describe the organization's values, principles, standards and norms of behaviour such as codes of conduct and codes of ethics.	1,2, 4.2	Compliant	
SECTOR SPECIFIC GENERAL STANDARD DISCLOSURES				
EU1	INSTALLED CAPACITY, BROKEN DOWN BY PRIMARY ENERGY SOURCE AND BY REGULATORY REGIME	4.10	Compliant	
EU2	NET ENERGY OUTPUT BROKEN DOWN BY PRIMARY ENERGY SOURCE AND BY REGULATORY REGIME	4.10	Compliant	
EU3	NUMBER OF RESIDENTIAL, INDUSTRIAL, INSTITUTIONAL AND COMMERCIAL CUSTOMER ACCOUNTS	4.5, 4.6	Compliant	
EU4	LENGTH OF ABOVE AND UNDERGROUND TRANSMISSION AND DISTRIBUTION LINES BY REGULATORY REGIME	4.5, 4.6	Compliant	
EU5	ALLOCATION OF CO2E EMISSIONS ALLOWANCES OR EQUIVALENT, BROKEN DOWN BY CARBON TRADING FRAMEWORK	4.10	Compliant	

5.3 SPECIFIC STANDARD DISCLOSURES

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	4.11	Compliant	
ECONOMIC	Economic Performance	G4-EC1	Direct economic value generated and distributed	4.11, 5	Compliant	Notes to Financial Statements in Annual Report 2015; Direct economic value generated: Revenues - See Page 106 Note 2 - segment reporting . Economic value distributed: Operating costs - See Page 110 Note 6. Employee wages and benefits- See Page 111 Note 8 - Employee costs. Payments to providers of capital - See Page 110 Note 7. For Dividends, See Page 124 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, 4.5, 4.6, 4.10, 4.7	Compliant	
ECONOMIC	Indirect Economic Impacts	G4-DMA	Aspect Specific Disclosures on Management Approach	3, 4.5, 4.6, 4.10, 4.7	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	4.5, 4.6, 4.11	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. Procedures exist in each part of the business to manage issues of concern raised by a member of the public

ECONOMIC	Indirect Economic Impacts	G4-EC8	Significant indirect economic impacts, including the extent of impacts	2, 4.11 4.5, 4.6, 4.10	Compliant	
ECONOMIC	Availability and reliability	G4 DMA	Sector Specific	4.5; 4.6; 4.10	Compliant	
ECONOMIC	Availability and reliability	EU 10	Sector Specific	4.10.	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	4.3, 4.4	Compliant	Our demand side initiatives are primarily service and advice based.
ECONOMIC	System Efficiency	EU12	Sector Specific	4.5,	Compliant	NIE Networks does not differentiate between technical and non-technical losses in it's reporting to the Utility Regulator in Northern Ireland. However the company is taking steps to reduce technical losses by purchasing increasingly efficient equipment for replacement programmes.
ENVIRONMENTAL	Energy	G4-DMA	Aspect Specific Disclosures on Management Approach	All report	Compliant	
ENVIRONMENTAL	Energy	G4-EN3	Energy consumption within the organization	4.9, 4.10	Compliant	As part of the process of business integration and reporting in ESB Group, not all data is as yet available. Energy consumption relates to metered premises in ROI, fleet to ESB Networks and GWM fleets. Data for NIE is not disclosed. ESB will endeavour to integrate reporting to address this gap for the next reporting cycle. Current electricity supply in ROI 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-EN5	Energy intensity	4.9	Compliant	
ENVIRONMENTAL	Energy	G4-EN7	Reductions in energy requirements of products and services	4.4	Compliant	

ENVIRONMENTAL	Biodiversity	G4-DMA	Generic and aspect specific Disclosures on Management Approach	4.8	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	4.8	Compliant	
ENVIRONMENTAL	Emissions	G4-DMA	Generic Disclosures on Management Approach	4.10	Compliant	
ENVIRONMENTAL	Emissions	G4-EN15	Direct greenhouse gas (GHG) emissions (Scope 1)	4.10	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. Carbon Intensity figure of 590g CO_2e / kWh reflects all generation capacity, fossil and renewables combined.
ENVIRONMENTAL	Emissions	G4-EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2)	4.10	Compliant	CO_2 is only gas included in Scope 2 calculations. SEAI and Defra provide emissions factors. Reporting of Scope 2 is for Republic of Ireland only, for metered premises. As part of business integration we will endeavour to include NIE Scope 2 emissions in future reporting.
ENVIRONMENTAL	Emissions	G4-EN17	Other indirect greenhouse gas (GHG) emissions (Scope 3)	4.10	Compliant	Scope 3 emissions pertain to private car business mileage in ROI. As part of business integration and reporting, we will seek to broaden the data set for Scope 3 reporting to NI and UK in future reporting cycles.

ENVIRONMENTAL	Effluents and Waste	G4-DMA	Generic Disclosures on Management Approach	4.8	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	4.8	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
ENVIRONMENTAL	Transport	G4-DMA	Generic Disclosures on Management Approach	4.3; 4.9	Compliant	
ENVIRONMENTAL	Transport	G4-EN30	Significant environmental impacts of transporting products and other goods and materials for the organization's operations, and transporting members of the workforce	4.3; 4.9	Compliant	
ENVIRONMENTAL	Environmental Grievance Mechanisms	G4-DMA	Generic Disclosures on Management Approach	4.2	Compliant	
SOCIAL - LABOR PRACTICES	Training and Education	G4-LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	4.2	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	Training and Education	G4-LA11	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	4.2	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	4.1	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	4.1	Compliant	
SOCIAL - PRODUCT RESPONSIBILITY	Customer health and safety	G4-DMA	Generic Disclosures on Management Approach	4.1	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	4.1	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	4.1	Compliant	Safety Incidents on the Network, reported in section 4.1, 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	4.4	Compliant	
SOCIAL - PRODUCT RESPONSIBILITY	Access	EU26	Sector Specific	4.5, 4.6	Compliant	100% of the population of ROI and NI have access to an electricty supply
SOCIAL - PRODUCT RESPONSIBILITY	Access	EU27	Sector Specific	4.4	Compliant	
SOCIAL - PRODUCT RESPONSIBILITY	Access	EU28	Sector Specific	4.5, 4.6	Compliant	Sec. 4.5 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	4.5, 4.6	Compliant	Sec. 4.5 Reported as CML in ROI, as required by the CER. In NI SAIFI reporting methodology is employed by NIE Networks

5.4 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
DCCCNR	Department of Climate Change, Communications and Natural Resources
DfE	Department for the Economy (NI, replaces DETI)
DAERA	Department of Environment and Rural Affairs (NI)
DTTAS	Department of Transport, Tourism and Sport
DWDM	Dense Wavelength Division Multiplexing (DWDM) is an optical multiplexing technology used to increase bandwidth over existing fiber networks
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)
NOx, SOx,	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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