

# INNOVATING FOR THE ELECTRICITY NETWORK OF THE FUTURE

To deliver a sustainable and low carbon energy network that will serve Ireland’s future energy needs, ESB Networks has developed an innovation strategy. The Dingle Project is a significant part of this strategy, as it’s an opportunity for ESB Networks to collaborate with local communities and to explore how customers will interact with new energy systems.

**E**SB Networks owns and

operates the electricity distribution system in the Republic of Ireland, and has the responsibility to ensure that the electricity network is designed, built and operated in a way that facilitates the transition to the decarbonisation of the energy industry.

As society moves towards a low carbon future,

ESB Networks is playing its part in enabling Ireland’s

journey towards transition. In order to achieve this, by 2030, ESB Networks’ electricity network will support the following:

Circa one million electric vehicles on our roads.

- 600,000 homes equipped with e-heat capacity.
- 2.3 million smart meters in homes and businesses.
- 8,200 MW of onshore wind generation and 3,500 MW of offshore wind generation.
- 1,500 MW of solar PV based generation.
- 1,300 MW of energy storage and 2,500 MW of customer flexibility

ESB Networks has already developed one of the world’s most progressive and reliable electricity networks, which facilitates changes to how Ireland’s electricity is produced and consumed. In order to meet the changing needs of the environment, government and society, ESB Networks is working towards the



*ESB Networks crew pictured on the Dingle Peninsula.*

model of innovating further and innovating faster.

To meet this challenge and deliver a sustainable and low carbon energy network that will serve Ireland’s future energy needs, ESB Networks has developed an Innovation Strategy, which covers key areas for development and activities.

These will focus on connecting renewables, boosting customer engagement, further developing the electrification of heat and transport, optimising the current network infrastructure, creating flexibility within the network, making the network more resilient and driving operational excellence across the organisation.

## COMMUNITY COLLABORATION

One of the most significant projects within its Innovation Strategy is the Dingle Project. Launched in April 2018, this three-year project has seen the deployment and implementation of a range of new technologies to assist in the development of a smart,

## ESB NETWORKS



*The three-year Dingle Project, which launched in April 2018, has seen the deployment and implementation of new technologies to assist in the development of a smart, resilient, low-carbon electricity network.*

resilient, low-carbon electricity network.

These technologies include Solar PV Systems, Battery Management Systems, Air Source Heat Pumps, Peer to Peer Trading Devices, Electric Vehicles & Smart EV chargers, Smart Immersion Controllers, and Smart Home Devices. It has also included the roll out of Smart Devices on the electrical network that will allow for increased reliability of the network.

An important element of this project is the opportunity for ESB Networks to collaborate with local communities, as it explores the impact and capabilities of new low carbon and adjacent technologies and how customers and communities interact with new energy systems.

### DINGLE PROJECT AMBASSADORS

Through the involvement of the selected Dingle Project Ambassadors – five Dingle residents who are involved in both the project and trial – ESB Networks is working with the community, to understand what drives customers to transition from traditional

consumers to active energy citizens in a low carbon-society and their changing demands and expectations for the electricity network.

The following technologies will be installed in the ambassadors' homes:

- Electric Vehicle Chargepoint
- ASHP (Air Source Heat Pump)
- Rooftop Solar PV
- Controllable Immersion
- Smart Circuit Breaker
- Smart Meter
- Battery Storage System
- Smart Living Gateway (IoT Hub in Home)

### SUSTAINABLE ENERGY FUTURE

The findings from this project will allow ESB Networks to build, maintain and operate the electricity network of the future for the whole of Ireland.

Speaking about the Dingle Project, John Fitzgerald, Project Manager with ESB Networks, said, "The Dingle Project's findings will help inform us as to how Ireland's electricity network will need to change in the decades to come.

"The new technologies we have deployed will help us demonstrate the use of clean electricity to power heat and transport, helping us create a more reliable and sustainable energy future. Our learnings and experience in Dingle have the potential to be replicated in every town, village and community throughout the country."

ESB Networks provides an electricity connection to over 2.3 million customers in homes, farms, businesses and communities across the country, enabling electricity to be supplied in a safe and reliable manner and supporting economic and social development.

The company understands the importance of keeping its customers at the centre of everything it does. As the expectations and needs of customers change, ESB Networks will continue to innovate and develop a future electricity network which empowers customers and provides a sustainable energy system for everyone.

For more information visit [www.esbnetworks.ie/innovation](http://www.esbnetworks.ie/innovation)



*“The Dingle Project has the potential to be replicated in every town, village and community throughout the country, according to John Fitzgerald, Project Manager, ESB Networks.”*