



Energy for
generations

Networks Telecoms, ESB Networks

ESB Networks' response to Ofcom's Consultation on Setting licence fees for 412 MHz

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1. INTRODUCTION TO ESB NETWORKS

ESB Networks DAC is the licenced Distribution System Operator (DSO) in the Republic of Ireland. In addition, the ring-fenced *ESB Networks* business unit of ESB is designated for the purposes of the Transmission Asset Owner (TAO) and Distribution Asset Owner (DAO) Licences granted to ESB. ESB Networks is responsible for building, operating, maintaining and developing the electricity network and serving all electricity customers in the Republic of Ireland. The electricity distribution network includes all distribution stations, overhead electricity lines, poles and underground cables used to bring power to more than 2 million domestic, commercial and industrial customers connected to the electricity network nationwide. ESB Networks also maintains the high voltage transmission network in Ireland on behalf of the Transmission System Operator (TSO) EirGrid.

2. RESPONSE

ESB Networks welcomes the opportunity to respond to the Ofcom's consultation on Setting licence fees for 412 MHz - Proposal to apply Administered Incentive Pricing for the 412–414 MHz, paired with 422–424 MHz, frequency bands.

Radio spectrum is a hugely important natural resource, enabling both critical and non-critical services to be deployed and made available for all citizens. It is a key enabler for the provision of wireless services which in turn generates significant economic, technological, social, environmental and safety benefits. In that regard, it is vital that appropriate radio spectrum is made available in a timely manner which brings the maximum benefit for society.

The electricity industry is undergoing unprecedented change, and the methods by which electricity is produced and consumed are fundamentally altering. Secure telecommunications are fundamental to this change and to the safe and efficient operation of the electrical grid. In Ireland, as well as many countries globally, we are transitioning to a low carbon electricity system. Through the successful development of our wind farm industry we now have the third highest wind penetration world-wide. However more work is needed to further increase renewable generation and also to decarbonise transport and heat systems. Securing spectrum is key for DSO and DNO's globally to realise this target.

Secure telecommunications has always been vital to the safe and efficient operation of the grid, however the growth of distributed generation and low carbon technologies such as electric vehicles and heat pumps require the distribution network to be more actively managed. This requires a wireless telecommunications network with much greater coverage and performance than ESB Networks can deliver over its existing infrastructure. The electricity network depends heavily on having a highly resilient and secure telecommunications infrastructure (meeting specifications for high availability, redundancy, tailored cybersecurity etc.).

ESB Networks deploys and operates extensive fixed and wireless telecommunications infrastructure to provide ESB and EirGrid with necessary real time information for operational purposes (i.e. to control and monitor the distribution and transmission networks). Although utilities often utilise public communications networks where appropriate, mission-critical communications cannot be provided by public communications networks, as these networks do not satisfy the network requirements. ESB Networks' telecommunications network requires connectivity in a significant number of locations throughout the country, often in remote areas where propagation of high frequency signals is limited (e.g. within High Voltage substations).

A significant proportion of ESB Networks' telecommunications network relies solely on wireless for several reasons, including situations where it is technically difficult to use cables to connect devices to the network, or where it is not economically feasible. Radio spectrum is a fundamental component of ESB Networks' existing safe and resilient narrowband network.

The Irish telecommunication regulator ComReg consulted with industry¹ on radio spectrum in the 400 MHz spectrum range (specifically 410 – 414 MHz paired with 420 – 424 MHz) over recent years. Through the consultation process, ComReg understood that Smart Grid is an important use case for radio spectrum. ComReg recognised that Smart Grid had specific requirements which could not be satisfied with commercially available networks, and that no radio spectrum was available for those interested in deploying a Smart Grid. ComReg therefore decided to make 2 x 3 MHz of radio spectrum available exclusively for Smart Grid (410 – 413 MHz paired with 420 – 423 MHz) in a spectrum release process, with a further 2 x 1 MHz available for any interested parties. ESB Networks resultantly won rights to 410 – 414 MHz paired with 420 – 424 MHz in November 2019. The spectrum will be used for the provision of mission critical services to ESB Networks, with a condition that services must be made available to other Utilities with stringent telecommunications requirements (Water, Gas and Electrical TSO). ESB Networks is currently in a procurement process to acquire equipment and services to deploy a purpose built Smart Grid network.

Ofcom are consulting on fees relating to radio spectrum 410 – 412 MHz paired with 420 – 422 MHz. ESB Networks encourages Ofcom to consider reserving this spectrum (or similar) for Smart Grid for the Utility industry in the UK. DNO's and DSO's globally face similar issues as ESB Networks in access to suitable telecommunications to support the electrical network. ESB Networks are fortunate to have the radio spectrum to facilitate a mission critical Smart Grid for critical services, and regulators around the world are making strides to provide dedicated radio spectrum for Smart Grid. ESB Networks encourages Ofcom to release suitable radio spectrum for Smart Grid for mission critical services as soon as feasible.

ENDS

¹ Details of the entire process on this spectrum release can be found [here](#) on ComReg's website.