

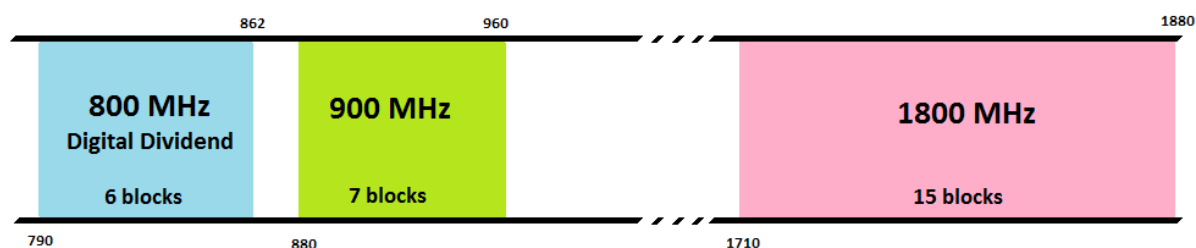
## Ireland's Digital Dividend: How Much Is It Worth?

Sometime later this year, Ireland's telecommunications regulator ComReg will auction licences for use of some of our radio spectrum to mobile operators. This spectrum is a natural resource that enables wireless communications such as radio and television broadcasting and mobile phones. Due to our relatively low levels of population density, communicating wirelessly is essential for economic development. Spectrum is also a state asset meaning the auction will raise much-needed revenue for the government.

Part of the spectrum to be auctioned has become available due to expiration of existing 2G mobile licences (namely in the 900MHz and 1800MHz blocks). New regulatory rules have liberalised this spectrum so that it may now be used to support 3G services. Additionally, spectrum will be auctioned in the 800MHz block. This spectrum has up to now been used to broadcast TV signals, but the switch from analogue to the far more efficient digital broadcasting will free up valuable spectrum space. The switch-over is being harmonised across Europe in what has been dubbed the 'Digital Dividend' which will be used to provide faster 4G mobile broadband.

The 800MHz and 900MHz frequencies are among the most desirable for creating mobile networks because signals travel further for a given energy input, allowing for coverage over a large geographic area at low cost.

**Figure 1: Spectrum Frequencies Involved in the Auction**



### Determining a Guide Price

Spectrum is a scarce resource for which demand exceeds supply, so it is important that it is efficiently allocated. By putting licences up for sale in an auction, ComReg will seek to replicate the outcome of a free market transaction. The company that values the spectrum the most – and will therefore be more likely to make the most efficient use of the allocated spectrum – will be willing to pay a higher price for it. Prices will continue to rise throughout the auction process until supply equals demand.

Although efficient use of scarce spectrum is the overriding objective of the auction, it will also yield valuable revenue for the government. ComReg has placed a minimum price on each 2x5MHz block of spectrum to be sold, which is to be split evenly between a reserve price – below which the spectrum block will not be sold – and an annual usage fee. The minimum price for a fifteen year licence has been set at €20m for each of the thirteen blocks in the 800MHz and 900MHz ranges and €10m for each of the fifteen blocks in the 1800MHz range. Provided all spectrum blocks are sold at auction, the auction will result in immediate revenue of €205m via the reservation price, and total revenue of €410m over the life time of the licences.

If bidding is strong, the amount of revenue raised could exceed this minimum. The consultancy firm DotEcon, who were hired to advise ComReg on the design of the auction, recommended a minimum price of €15-€26m for the 800MHz and 900MHz ranges and for the 1800MHz spectrum to be priced at half that. Should the auction bidding push up the price of spectrum towards the upper end of DotEcon's minimum price estimation, the total revenue raised – again assuming all the blocks are sold – would be €533m, €266m of which would be raised immediately through the reservation price.

Putting these valuations in perspective, the 2012 spectrum auction could be more lucrative than the sale of the government's shares in Aer Lingus, currently valued in the region of €140m, and which has attracted significantly more attention.

For further information please contact:  
Cormac O'Sullivan – Senior Researcher  
Cormac.o'sullivan@publicpolicy.ie