Commodity Watch – 2 February 2013

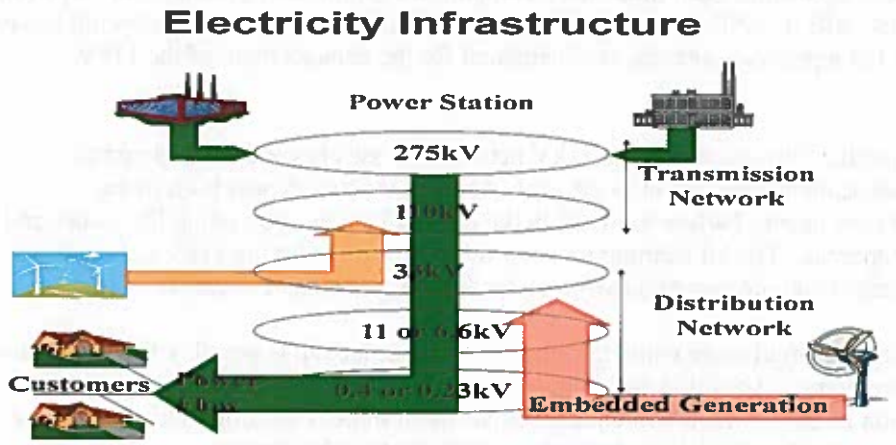
Update on connecting small-scale renewables to the grid.

By Chris Osborne, Senior Policy Officer

The CAFRE Practical On-Farm Renewable Energy event is now held twice yearly. The first event of 2013 will be held at their Enniskillen campus on Wednesday 13 February, running from 1pm to 10pm.

On the day, the UFU will be holding a series of presentations on the state of the small scale renewables sector in Northern Ireland, highlighting in particular, the significant barriers which persist to those wishing to become established as small-scale wind generators. The main focus of the presentation will centre on the issue of grid connection. The most common gripe that i hear is the massive gap in quotations which landowners wishing to connect their turbines to the grid and the significant upfront costs involved.

The UFU are in regular contact with NIE and whilst many sceptics feel that NIE are "getting the arm in", we would stress that this is not the case and it often out of their hands. Rather the cause of the problem is the very infrastructure they are trying to connect to;



The Electricity Infrastructure in Northern Ireland consists of a transmission system which is operated at 275,000 volts and 110,000 volts and the distribution network, which is connected to the transmission network via the 33kV network and supplies to the majority of customers at 11,000, 6,600, 400 and 230 volts.

In the case of connecting small scale turbines (≤ 250kW) to the grid, this is being done through the lower voltage 11kV network. This is the network which our members rely upon for the electricity usage on their farms the very overhead lines which criss-cross their land and covers 20,800km of overhead cables.

"Conventional generation" is connected to the Transmission Network and with customers connected to the Distribution Network. The "conventional" power flow is from higher to the lower voltage networks. Yet, when connecting small scale renewables to the grid, this is done through embedded generation; where electricity which is generated from many small sources, in this case small-scale wind turbines. Embedded generation alters the characteristics of the distribution network as it changes this network from a passive network with power flows in one direction to an active network with power flows in two directions.

Here in lies the principle complication of connecting a small turbine to the grid; the grid infrastructure itself.

When it comes to making a decision on whether or not to build a turbine, many landowners are in the belief that close proximity to a 3 Phase line or substation will reduce costs; yet this is not always the case. The larger quotes are the result of the lack of available capacity on the line. The more turbines/renewable generators on the local network, the larger the grid connection cost. Therefore, a better rule of thumb for prospective generators would be to consider the number of small scale renewable generators connected to the line before making a decision.

Grid connection costs are only likely to fall with much needed investment in the 11kV network, which the UFU have been calling for over the last number of years. Mostly recently in the RP5 consultation in summer 2012, the UFU supported the NIE request for £127m to be spent on the upgrade of the low voltage network. This request was subsequently turned down by the Utility Regulator. In November 2012, NIE released a statement saying they could not accept the regulator's proposals, and now they expect the issue to be referred to the Competition Commission.

The likelihood is that it will take most of this year for the Competition Commission to deliberate and announce their findings. It should be noted that this process has already happened in the Northern Ireland utility sector on two previous occasions, both times the Competition Commission finding in favour of the respective utility companies (NIE in 1996 and Phoenix Natural Gas in 2012). However, that is not to say it will be the case in 2013, but a positive outcome is detrimental for the enhancement of the 11kV network.

The UFU lobbying for immediate investment in the 11kV network extends beyond the anticipated benefits of integrating small scale renewables onto the grid. The 11kV network was built in the 1960's/early 1970's and is now dated. Failure to invest in the grid will result upon reliability issues and well as health and safety concerns. The NI farming industry relies heavily upon the 11kV network and any faults could lead to outages and protracted down-time, leading to problems in rural NI.

Whilst this is only one barrier to small scale wind, the issue of grid connection is possibly the largest and the one most difficult to overcome. The UFU will continue to lobby for investment in the 11kV network and expect to hear a decision in 2013, which will enable the Northern Ireland farming industry to move forward and have access to a robust and reliable electricity supply for their businesses.

Other barriers will be considered in the UFU presentation on 13 February, including planning policy, but the presentation will also serve to inform members that small scale wind is not a "get-rich-quick" option and rather prospective generators should be in full procession of all the facts before making a decision and be prepared to be in it for the long haul.