

To: David Mark[David.Mark@moypark.com]
From: John Kennedy
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Fyi

John

Meeting 6.8.13 with David Mark

Subject – Renewables in existing and new broiler farms NI

1. Biomass on existing farms
 - a. Data required: fuel consumption annual, daily preferred against crop growth cycles
 - b. House dimension
 - c. Accessibility for fuel deliveries
 - d. Footprint for boiler house (normally packaged unit)
2. Boiler sizing:
 - a. Skewed because of RHI subsidy
 - b. RHI tariff NI up to 100 (99Kw) 6.1p/kwhth
3. Biomass boiler system will require peak and trough support to ensure peak heat is delivered. Trough heat requirements are more efficient on gas fired boilers as biomass boilers do not modulate as efficiently as gas which is on or off, whereby biomass continues to burn and heat a buffer vessel. During trough heat demand the heat in the buffer tank will either need to be continuously heated during the crop breaks or be allowed to cool losing efficiency.
4. There is no funding available to my knowledge for farm base, although I await contact with the Carbon Trust NI to confirm agriculture remains outside their criteria.
5. On new build, if the build spec is the same as GB we have some data to illustrate the benefits of higher insulation values in terms of lower heating costs. this is the 'right thing' to do but perversely it reduces the RHI payments due to lower heat demand making paybacks longer.
6. Fuel sourcing in NI: pellets and chip are available from Balcas, woodchip is available from J Gilliland. Haven't checked for other sources for NI.
 - a. Balcas have offered a long term contract for a GB cluster of farms on pellets
 - b. Chip may be a better solution in NI as this method of heating is cheaper but requires more labour input on the farms, being private enterprises this is a good fit and the farmer will produce at a cheaper rate.
 - c. Dalys use woodchip and sourced a load from an independent supplier to find the moisture content was so high it cost them more in the long run, they didn't take that route again.
 - d. Short to medium term fuel cost is predictable however 5 year and beyond is fairly risky as the projections for biomass demand is predicted to outstrip supply in NI, GB is also somewhat risky but has the benefit of Biomass import terminals under construction.

Other options for existing and new broiler sheds include:

1. PV which has been assessed with recommendations communicated to the growing fraternity, sub lease required on the property
2. wind power for onsite and export is now available, providing free electricity for use on site at no capital outlay, subleases are required here also, and subject to site surveys
3. heat pumps offer an alternative to biomass but are not as effective in heat delivery
4. AD is very capital intensive and would require either gas grid connectivity or on site demand for electricity and heat through chp. In addition the feedstock requires a blend of materials including grass which the growers may be well placed to supply with perhaps some of our waste streams except litter.
5. Green electricity tariffs have been assessed and signposted to the growers with some uptake

Dry heat benefits

FCR improvements

Year round summer crops – ref GB independent grower statement

Reduced litter requirements

Reduced PODO and HockBurn percentages

Welfare aspect, lower Combustion emissions intake by birds

Potential dry heat penalties:

Increased ventilation incurring electricity costs – TBC by Nigel Pitt at Monksthorpe