

10th August 2020

Feedback provided to MECP on the 'Low carbon development strategy for agriculture'

To tackle emissions of greenhouse gasses in agriculture it is crucial to divide this sector into sub-sectors. Obviously one can delve much more in detail and list even more sub-sectors.

This strategy should also result in more revenue for the agri stakeholders together with improvement in food quality, safety, efficiency and production.

- ***Producing green energy on agri establishments***

Before addressing this issue one must first take into consideration the size of our islands (and consequently the sector), and then decide what form of green energy would be the best to produce.

Generally speaking, green electricity (whatever the source) does not necessarily need to be stored on-site but may be connected and distributed on the national grid which would reduce the problem of space limitation. On the contrary compressed bio methane requires specialised storage facilities (hence space) and may also represent health and safety hazards.

In order to simplify things and incentivise farmers, there needs to be grants available for medium to large farms to connect to the electricity grid. Apart from other expenses, funding should also be available for cable-connecting, while attractive energy units prices should be offered.

Biomass pellets are also a very attractive fuel for the sector since it is easy and safe to store while helping to reduce the reliance on Heavy Fuel Oils (HFO) such as diesel and LPG. Every heating process required by the sector can be powered by biopellets through investment in biomass boilers. Manure can be pasteurized (to avoid biosecurity issues), pelleted and then used to produce steam or hot water (heating methods) for hatcheries, barns, feed mills and slaughterhouses. Drying of manure must be done near waste heat sources so that the process is faster, all year round and produces less odour emissions.

Agricultural machinery

Agricultural machinery that work on fossil fuel should be divided in two categories based on their operating hours (per annum):

- **Low operating hours** machinery should be used more efficiently.
- Machinery with **high operating hours** should be considered to run on biofuel or electricity.

Slaughterhouses

1. Animal residue should be treated in biodigesters. This would decrease the workload at the national incinerator and reduce emissions
2. Hot water should be produced via heat pumps, pellet boilers or solar water heaters
3. Solar refrigeration is also an option
4. Installation of PV panels on slaughterhouses, will produce electricity, and shade for hot days

Poultry

1. Manure can be dried and pelleted. Either sold to third parties as fertilizer or turned into biopellets fuel to heat the barns on cold days
2. Unloading feed from the feed truck should be powered by electricity rather than HFOs by connecting the machinery with the farm electricity grid. This would also reduce noise pollution
3. Installation of PV panels on barn roofs, will produce electricity, and shade for hot days
4. Harvest rainwater harvest for cleaning

Dairy

1. Installation of PV panels on barn roofs, will produce electricity, and shade for hot days
2. Slurry can be digested to produce biogas
3. If possible, total mixed ration (TMR) and daily feeding can be done with the use of electric tractors (high operating hours machiner)
4. Hot water should be produced via heat pumps, pellet boilers or solar water heaters
5. If waste heat is present slurry can be dried into biomass
6. Harvest rainwater for cleaning

Swine

1. Slurry can be digested to produce biogas
2. If waste heat is present slurry can be dried into biomass
3. Harvest rainwater for cleaning
4. Installation of PV panels on farms, will produce electricity, and shade for hot days
5. Rearing 'fattening pigs' on straw will result in the production of dry manure (not slurry) this may be also the aided by the use of enzyme technology

Horticulture

1. Installation of PV panels on barn roofs, will produce electricity, and shade for hot days
2. Manure can be digested to produce biogas
3. Bio waste can be recycled and composted rather than burned
4. Stakeholders should be encouraged to use materials provided by *WasteServ*
5. Harvest rainwater for irrigation preferably stored in surface water reservoirs to avoid energy consumption for pumping at ground level
6. Incentives for Hydroponic systems

- **Legislation**

Local legislation should be revised to allow on-farm biomass combustion and permitting procedures need to be facilitated.

Peat having low nitrate value should be allowed to be spread on the fields all year round. Treating peat with liquid slurry should be also permitted during the summer months.

- **Conclusion**

All of the measures proposed above must be analysed further and implemented gradually so as to create a positive chain-reaction.

Example: A bio digester (on farm) needs to be supported by a connection to the electricity national grid. After that, sludge treatment or soil application must be put in place for the system to run sustainably.

MECP needs to keep track of evolving technologies so that agri stakeholders may benefit from the latest expertise and funding opportunities.

Since similar technologies may be applied across most of the sub-sectors, a holistic strategy can yield significant emission reduction. However consulting with local experts specialised in specific sub-sectors, is also necessary to ensure a better targeted implementation.