

Bob Davie: Bimbadeen & Carbon Farming.

(adapted from notes for Energy Innovation Co-op's "Energy Efficiency on Farms" session Outtrim May 2018))

I thank Energy Innovation Co-op for the invitation today.

I acknowledge the traditional owners of the land past and present, and assure those of the present that we will care for the land on which we farm.

I also acknowledge help given over many years from Landcare and groups that helped plant over 45,000 trees, Westernport Water for a strong co-operative association over many years, and Mark Roberts from Basix Warragul who has worked tirelessly with Bob on legume, crop and carbon retention.

Without the help of all we would not be in the position we are today as Carbon Farmers.

RE soil tests and bio solids, detailed soil samples and carbon testing.

Our irrigation is solely for carbon farming, aiming to reach 300 tonne per hectare. Bimbadeen is negotiating with Westernport Water, to offset Bimbadeen pumping costs with Carbon credits.

Carbon is difficult to understand as you are unable to see it.

18% of your body is carbon.

45% to 48% of grasses are carbon.

There is no life without carbon. Plant growth requirement is Hydrogen, Carbon and Oxygen: 96%.

4% is N, K, CA, Mg, P, S, C, B, Fe, Mn, Zn, Cu, Mb, and so on.

There is too much CO₂ in the atmosphere.

So why not place it back into the soil where it improves the plant growth, increasing carbon and removing more CO₂? Moisture retention in soils is much improved when there is additional carbon within the soil.

CO₂ (and equivalent or even worse other gases like methane) is the cause of climate change, causing warming of the earth and extreme weather patterns. It will lead to some low lying countries being abandoned.

It leads to a warmer, drier climate, which is already slowly moving in a Southerly direction in Australia.

Why would you not pull in as much CO₂ from the atmosphere as possible, and place it in soils?

Why would you spend \$150 million to see if it can be pumped under the ocean floor off the Gippsland Coast? There is already too much CO₂ in our oceans which is affecting the navigation of marine species, and growth of corals and shelled creatures?

WE NEED MITIGATION..... by all means possible .We need as much wind and solar electricity generation and battery storage as possible. We need to move away from Coal.

Remember that this only **reduces the amount of carbon going up** to the atmosphere.

IT DOES NOT REMOVE IT. The only way to remove carbon already in the atmosphere is by the actions of landowners and farmers of all types; big and small, community orchards, vegetable growers, beef, dairy, sheep. Any person in control of land management can remove carbon from the atmosphere.

Every 2.7 tonne of carbon increase in your soil removes 10 tonne CO₂ from the atmosphere.

Approx 45% of dry matter plant tissue, fine roots will turn to carbon. Specific crops can yield up to 50 tonnes per hectare = 22.5 tonne TOC(Total Organic Carbon).

Land soil sequestration has a bright future. There is little evidence (CSIRO Report) of how much carbon can be stored in our soils. The answer is possibly 5 + times the amount present today. Bimbadeen is trying to prove that with new trials under irrigation this year.

MAIN CAUSE OF CO2 EMISSIONS ON A BEEF FARM.

Cattle emissions.	1.2 to 1.9 tonne co2 per animal any weight p/a = 100	190 tonnes CO2
Grid power.	1250 KW	1 tonne CO2
Diesel	1000 litres pa	2700 kg CO2
Fertiliser	3.6 to 5.5 kg CO2 to 1 kg nitrogen.	

Bimbadeen:

Baseline: (ie when first measured) carbon reading 67 tonnes of carbon per hectare.

Today: 100 tonne TOC (total organic carbon) p h/a (per hectare) = 12,857.58

Total Tradeable amount above baseline = 4,042.1 tonnes of carbon.

TRADING CARBON: VOLUNTARY PRIVATE SCHEME more viable than government scheme.

Federal Government's Emissions Reduction Fund (Previously "Carbon Farming Initiative".):

At a Field Day in Buffalo last week a representative from Corporate Carbon stated a price around \$7 tonne. **It is not possible for a small medium farm to trade, unless part of a larger group with added costs.**

6th government Auction: 7.95 million tonnes abatement \$104 million \$13.08 tonne. Lowest was 5000 tonne Largest 1.7 million tonne \$22.236 million. Average over 6 auctions is \$11.90 per tonne.

Last Friday **Bimbadeen traded the first Voluntary Offset CO2** with a company in Melbourne, to completely offset their CHG (Green-House Gas) emissions.

The strategic alliance was between Bimbadeen, Gippsland Natural and Dineamic Food Services. It is believed to be a first "paddock to processor , ready-made-meal -carbon agreement".

Gippsland Natural supply "Dineamic" with a large quantity of beef each year which provides meals for airlines and the public. The agreement will benefit all 3 parties and encourage future carbon farming with monies received returned to Carbon Farming.

A buffer of 10% has been included and a 10% discount on Offset in 2019 if GHG Emissions are reduced in 2018. Bimbadeen is working closely with the Victorian Government and Take2 in assessing clients' Greenhouse Gas Inventory.

Bimbadeen, Gippsland Natural with support from 3 Landcare Groups applied to the Victorian Climate Change Grants program to roll out a similar program to the Bimbadeen Sequestration in Soils Program.

Meat & Livestock Australia have made the statement that they wish the Australian Beef Industry to be Carbon Neutral by 2030. I believe they may match any finance given to this project.

In my opinion the ONLY way the entire beef cattle and dairy industry will be carbon neutral by 2030 is by farmers who carbon farm and sequester carbon in their soils.

Bob Davie 27th May 2018. Carbon talk at Outtrim, Victoria.