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Two types of Carbon Sequestration

For many years the likes of Howard and Bush tried to deny the existence of Global Warming in the face of all evidence and in denial of the work of most reputable scientists. Now that this is no longer meaningful, there is only one way to go, given that the culprit is the coal industry which is the darling of all Australian governments: To procrastinate by suggesting an unworkable coal-based “solution”. The one they picked on, apart from nuclear power, is called carbon “sequestration”. Sequestration shares a lot of perceived advantages with nuclear power. Both would, if they could be made to work, take 10-15 years to implement, and both would put lots of money in the pockets of the mining industry from the day the projects are approved, even if they never get off the ground.

How is carbon sequestration supposed to work? First you collect all the carbon dioxide from the offending smokestacks, mainly those of electricity power stations. As this cannot be done easily you start off by scrapping all existing stations and replacing them with new ones which allow the capture of the CO_2 . Oops, there go a few hundred millions as well as a massive load of greenhouse gases produced during construction. You then find a few large caverns in the ground, possibly the ones left when you have pumped all the oil out of them. After you have convinced yourself that they won’t leak the carbon dioxide which is of course hundreds of times thinner than the oil that was removed, you then bore several kilometres deep holes into them, and connect them to the carbon dioxide collectors via some bloody great pumps. This compressed gas then stays down there for a few millions of years. Keep your fingers crossed. By definition, you have to throw these millions of tons of gas away, to let them back into the atmosphere would spoil the whole purpose of the exercise. So you can’t even use this gas for aerating all the beer or soft-drink in the universe. And, if you are lucky, the energy you need for running all this machinery will not, in itself, produce more in the way of greenhouse gases than it disposes of in the bowels of the earth. No-one knows how much all this is going to cost in energy or in dollars, because no-one has yet done it on a commercial scale. In all, it seems like an ideal solution from the government’s and the fossil fuel industry’s point of view, and it is being treated as such.

Quietly, away from the “vroom-vroom” technologies which have brought us to this disastrous stage of civilisation, there is another stream. In one of my previous talks I referred to the soil technology practiced by the people of the Amazon before the arrival of Cortez and his band of professional gold-mad murderers in the16th century. When Cortez arrived, he found a lush civilisation thriving on what were originally poor tropical soils. These had been treated by adding nutrients and particularly charcoal to the drained soil, which in turn encouraged the growth of beneficial microbes.

The Spanish invasion brought not only slaughter to the area, but also diseases against which the indigenous population had no defence. When the Spaniards returned 90 years later, the original inhabitants and their civilisation had disappeared. Since then, aided by the power-based technologies of the

industrial age, slash-and-burn McDonaldisation has laid this formerly fertile country to waste.

Around the year 2002 western scientists took up the challenge of discovering the secrets of the Amazonian agriculture. By 2007 there was a world-wide movement based on what is now known as bio-char or terra preta agriculture. Unlike the concept of pouring artificial fertiliser on unwilling soils, terra preta requires a deep understanding of the processes involved and the most suitable bacteria for particular soils. All this was discussed at a conference at Terrigal, NSW, in May 2007.

Much of the bio-char technology has yet to be fully explained. The literature now contains dozens of papers from several dozen academics. But it should also be noted that Australia's organic movement has for years practiced techniques which will have to be followed if bio-char is to succeed.

Terra preta is not just another agricultural technique. One of its side-effects – if that is the term to use – is that it absorbs CO_2 from the environment in huge amounts. Unlike the carbon sequestration processes proposed by the fossil fuel industry, this is achieved without an input of energy. Quite the reverse, in the process of incorporating the charcoal into the soil combustible gases and liquids are produced which can be added to our fossil fuel reserves.

Also, the development of this science has highlighted the value of compost. Compost is not merely a means of adding nutrients to the soil. Compost is not just a fertiliser, it adds benefits ranging from adding organic matter to the soil to storing 20 times its own weight in water. As against chemical fertilisers which deplete carbon levels in the soil, as gardeners know well, working composts, animal manures green manures and legumes into the soil has immense benefits in providing nitrogen to the soil, particularly if a source of readily available carbon is included.

Why is this wonderful opportunity to reduce the carbon dioxide level in the atmosphere being largely ignored in the mass media and totally ignored by our masters? Our male-dominated culture simply regards these technologies as "mickey-mouse" because the "vroom-vroom factor is absent. It is a matter of ideology. Ours is a civilisation of rape rather than co-operation. Even our terms are skewed to hide this inconvenient truth. Otherwise, how could you talk about "harvesting" old-growth forests which we have neither planted nor tended? Our industrial agriculture is all about brutally forcing the soil to give up wealth which can be turned into financial advantage for the few; the provision of sustenance for the rest of us is an accidental side-effect which is only of passing interest to the industrial capitalist. Providing for future generations is not part of this agenda.

It is poetic justice that the desire to rape nature for the bounty she is only too willing to give us in return for a little consideration and understanding currently rebounds on us to the extent of threatening our very existence as a species. The belated attempt to develop a form of agriculture which allows us to work to assist nature rather than fighting her, hopefully represents a turning point in technology. It is gratifying that Australians, particularly Australian scientists, are playing a leading role in these developments