

Clean Coal, America's Ace in the Hole

or, how do we get from here to there... happily...

I have been working in and around Coal Energy Plants since my late Teens. Working as an Operator and eventually working up to the position of an Inspector for Thermal and other Energy Plants in North West Ontario. In addition, I have studied carefully the technical and social sciences of Ecology, Geography and Statistics.

There currently is no solid alternative to scarce liquid and gas fossil fuels, except for US Coal. Coal is America's most abundant energy resource and a source of chemicals, fertilizer, and power worldwide. Coal Powered Generating Plants are also very compact with a low physical foot print, and in addition have one of the most improved Environmental foot prints of any Fossil Fuel over the past few decades, going from an approximate thermal efficiency of around 30-35% to currently 45+ % with Super Critical designs, like the ones now being built in China.

www.power-technology.com/projects/yuhuancoal/



A Chinese Super Critical Plant

In addition, the Environmental Control Structures now used at most modern

Coal Power Plants, are as large or larger, than the Steam Generators themselves, and have been extremely successful at reducing emissions towards the ultimate goal of zero. As a comparative renewable example, the largest Wind Power Plant in the World "**The Thanet project**" occupies 13.5 square miles (8,640 acres).

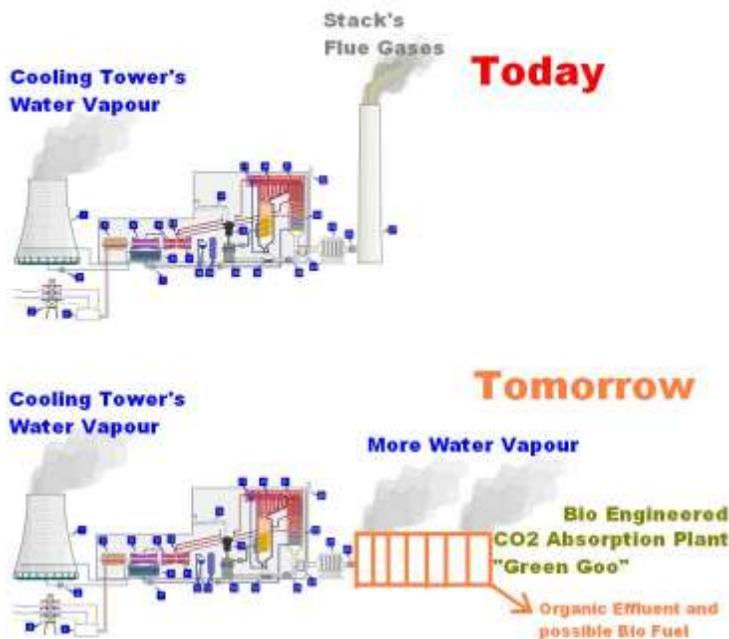


Thanet's 100 plus turbines [times 10 in the above picture]

The Thanet project has a total capacity of 300 MW, *[NB: due to the wind being intermittent, Thanet Wind Farm will only produce 75MW on average]* at a cost of just under 1.5 Billion US dollars. Conversely, Florida's "Big Bend" Power Station has four coal-fired units with a combined output of almost 1,800 MW, and occupies an area of 2.34 square miles or 1500 acres. Comparative US costs for building a new Plant of similar size are less than \$1 billion US. In addition, other Eco Friendly ideas that may be more economical are not practical at this time. For example, "Enviro. Advocates" suggest that *waste vegetable oil* is the best source of oil to produce biodiesel, but since the available supply is drastically less than the amount of petroleum-based fuel that is burned for transportation and home heating in the world, this local solution does not scale well. Current worldwide production of vegetable oil and animal fat is not sufficient to replace liquid fossil fuel use. Furthermore, there are objections to the considerable amount of fertilization, pesticide use, and land use conversion that would be required to produce the additional vegetable oil. The estimated transportation diesel fuel and home heating oil used in the United States is about 350 billion pounds according to the Energy Information Administration, US Department of Energy . In the United States, estimated production of waste vegetable oil for all uses is about 24 billion pounds and

estimated production of animal fat is 12 billion pounds. Other transportable energy savors such as Ethanol and Tar Sands have too high of an energy input to output ratio. Nuclear has been sadly neglected over the past three decades in the United States, and will likely take as long to get ramped back up to anything significant for the US Energy Economy. The real solution to US energy demands in the distant future, will of course involve the use of multiple renewable energy production forms, some not even invented and/or perfected yet. However, this will take time, in the way of decades, not just years. In addition new mega projects like Wind Farms and Solar Farms require heavy use of land area or navigable water ways plus fossil fuels for production and construction, relative to their meager local energy outputs. In many cases these projects do not bare the promised Energy Fruit they were calculated as having, often as high as 40 to 60 % less than expected. But Clean Coal will help us get there safely while helping maintain our current life style. However, it will require complete engineering concepts and renewed industrial training packages. Complete concepts including effective use of Bio-Engineered CO2 absorption systems, improved HVDC power distribution systems/grids, local peak shaving and off peak H2 production plants. Designing new Coal Plants or modifying existing plants for zero emissions potential, is more do-able in the near future, than meeting any future energy gaps with current wind, solar and other renewable technologies.

Bio Engineered CO2 Absorption



Coal Today vs Coal Tomorrow. If we don't do this the Chinese will.

Of further importance, improving the energy profile of coal shall help us become far less dependent on foreign energy sources. More positive information about 'Coal as America's Fuel of Choice', can be viewed at these links; www.silveradogreenfuel.com

www.clean-energy.us/facts/coal.htm

also here's the Green Goo producer concept

<http://www.youtube.com/watch?v=hGcLgE52rzw&NR=1&feature=fvwp>

it's here already
CO2 Carbon Consumption;

<http://www.youtube.com/watch?v=hGcLgE52rzw&NR=1&feature=fvwp>

Bio Diesel

http://www.youtube.com/watch?v=bsQCj_PaWN0

http://www.youtube.com/watch?v=Cvi_70sZV-c&feature=related

<http://www.youtube.com/watch?v=92unk4k-N3k&feature=related>

http://www.youtube.com/watch?v=n9_-ZguuhBw&NR=1

<http://www.youtube.com/watch?v=R3EpfkEAAw&NR=1>

<http://www.youtube.com/watch?v=7Nf3M68S3ec&feature=related>

<http://www.youtube.com/watch?v=oCXTzpVyVM0&feature=related>

ALSO see Ocean Nutrition Canada and the Goo strain is called ONC T18 B

http://en.wikipedia.org/wiki/John_Risley

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