The merits of ocean fertilisation [1]

Written by **Tim Worstall** [2] | Saturday 31 August 2013

I've written here and elsewhere before about the potential merits of ocean fertilisation. Assume that climate change is a true problem (as I do) and that we'd like to do something about it (as I do). The question then becomes what should we do? And we know that there are certain areas of the ocean (quite a lot of them actually) where there is insufficient iron in the water to allow algae to grow. Add iron to these areas (as winds blowing Saharan dust sometimes do, as volcanoes sometimes do) and we get an algal bloom. This increases the supply of fish, which is nice, and some portion of those algae, when they die, fall to the ocean floor and end up as the next layer of chalk. We're thus extracting CO2 from the atmosphere and incorporating it into rock, this is true carbon sequestration.

We know all of this, we know all of this is true. The bit we don't know is quite how effective or efficient it is. Just not sure how much of that CO2 ends up in rock and how much just gets recycled around through the circle of life. Here's one claim from someone who has tried to perform the experiment [3]:

> estimates that its experiment absorbed 5 million metric tons of carbon dioxide.

That experiment costs $2.5 million to perform. We've thus the claim that sequestration of a tonne of CO2 costs 50 cents. Which is a pretty reasonable price when you think about it. Lord Stern told us that the social costs of one tonne of CO2 is $80. We're thus $79.50 better off for each tonne we turn into chalk in this manner.

Now it is true that others dispute these costs. But we've only had a couple of tests. This particular, not very well monitored, one and one other recently in the Southern Ocean. Given the claims being made here this would seem to be an obvious no brainer to test further. It's possibly extraordinarily cheap to do and it's certainly extraordinarily cheap to test it to see whether it is cheap. Compared to spending $100 billion on the bloody windmills at least.

So governments and scientists are rushing to perform those tests aren't they? We've matelots hurling iron powder over the bulwarks all over the place?

No, no we don't:

> They wanted to see if the iron would cause a bloom of algae that could promote fish numbers and absorb the greenhouse gas carbon dioxide from the atmosphere. Instead, in March, they were raided by Canadian officials for illegal dumping at sea.

Eh?

> Environment Canada, the nation's environment ministry, said the experiment was illegal under Canadian law and violated the U.N. Convention on Biological Diversity (CBD) and the London Convention, which governs dumping at sea. World leaders at a U.N. Earth Summit in Rio de Janeiro last year urged "utmost caution" in ocean fertilization due to worries that it could disrupt marine life. Many scientists remain skeptical about whether any form of geoengineering will solve

> climate change. Allowing research, they argue, may detract from efforts to reduce emissions from cars, power plants and factories.

You what?

> The ETC Group, a Canada-based non-governmental organization opposed to geoengineering, said even research is risky. "The moment you accept that geoengineering is a Plan B it will become Plan A for some governments," executive director Pat Mooney said.

Shouldn't we try to find out whether Plan B is going to be better and cheaper than Plan A?

> Criticism of HSRC included a statement of "grave concern" last November by the 87 nations in the London Convention, which regulates dumping at sea. "Ocean fertilization has the potential to have widespread, long-lasting and severe impacts on the marine environment, with implications for human health," it said.

Err, yes, that's what we're trying to find out. If it doesn't have large effects then it won't be worth doing. If it does then we've solved our largest environmental problem.

> The draft report by the U.N. panel of scientists says ocean fertilization can have unknown effects. Added iron might create algae locally but rob nutrients, such as nitrogen and phosphorus, from other areas. Extra iron could also produce greenhouse gases such as methane in the sea and increase acid levels in the deep oceans as the waste decays.

So, err, shouldn't we do the experiments and find out?

But as you can see, that's not the way that many, including officialdom, are working. It's not just that it might not work out the way we'd like it to. It's that if it does work out as a cheap way to sequester CO2 then that in itself would be a bad thing. As would lots of cheap fish presumably.

I've long said that there is indeed a climate change conspiracy. But it isn't about its existence, not about the science at all. It's about what is the correct response to that science. There's a definite blocking off of the various technologies and policies that could in theory deal with the problem for us: we're not even allowed to do the research to find out whether it's actually necessary to stop using fossil fuels or not. Because it seems that it's already been decided that that is the only possible manner of dealing with the problem, the elimination of the use of fossil fuels. Even if that's not the best way to deal with the basic underlying problem.

And if I'm honest about it that makes me extremely angry. I don't know whether ocean fertilisation will work or not. I've had emails from researchers arguing both sides of it. But I'm incandescent with rage at the argument that we shouldn't go and find out the truth because said truth might be that it does indeed work.
