

# RESPONSES TO COMMENTS ON “AN EVIDENCE-BASED APPROACH TO PRICING CO2 EMISSIONS”

Ross McKittrick

July 4, 2013

Here are some responses to the main themes of critical comments on my proposal. I have drawn from comments posted at [Bishop Hill](#) and [Watts Up With That](#) .

In these responses I am not going to restate the basic arguments spelled out in the paper. There are some misconceptions arising from people not reading the paper prior to posting their criticisms, but that is easily enough remedied since the paper is available [online](#).

## 1. Is this new?

*I am experiencing deja vu. Hasn't Professor McKittrick been proposing this for a few years?*

*This proposal by McKittrick is (as someone has already said) not new. Somewhere between one and two years ago a US politician seeking election asked him for his views and he came up with this plan(I am sure this is in HSI?).*

I've been working on this topic for a few years and I have written on it previously. It was not originally in response to a US politician, though I did write a note for a US Congressman (Dingell) on it, in response to a request. I have a series of projects underway to sort out some of the theoretical details. I was invited by the GWPF to prepare a non-technical summary paper for them to publish, and to make a presentation to an audience at the House of Lords, and this provided me with a convenient chance to write an updated summary of the work for a general audience. Two things have changed since I first started writing about it: first, there is now a formal derivation of the tax rule (published in *Energy Economics* in 2010), and second, I incorporate the concept of a futures market into the proposal, which was an idea of Shi-Ling Hsu's.

## 2. Why a tax based on CO2 levels?

*They are looking at two things (CO2 and temp) pulling in two directions (up and down) and claiming they both warrant taxing if up – even if one is down. If the temperature is down, they can justify their tax by pointing at the high carbon level. If the temperature is up, they can just point at the temperature. Bingo – you're taxed either way! No way they are going to say “the carbon level is up, but the temperature is down, therefore it balances out and no tax for you.” As carbon levels are increasing steadily, without warming, this tax will screw the populace whether there is warming or not. It's another method of stepping away from the problem they started with in the first place (catastrophic anthropogenic global warming – big alarm, remember?) and ditching it, hoping no one will notice it's gone, while continuing down the path to dismantling society by taxing it into the ground.*

*So in this grand scheme of things – who is charging nature for it's fault in CO2 rising? How are you suppose to tax nature? And to what exact extent does nature contribute to CO2 rising? Who decides? Right – the same morons pushing AGW garbage as per normal. Just tax and that will fix everything. The usual suspects.*

This is a misunderstanding. The tax is applied to CO2 emissions, but is based on temperature levels. I do not propose basing the tax rate on the level of CO2 in the atmosphere. I would oppose such a formula since it would be an inaccurate state variable and would invalidate the concept behind the tax.

### **3. Why have a carbon tax at all since CO2 has no effect on climate?**

*It is now becoming obvious that human CO2 has NO effect on the climate at all. Instead of our small contribution pushing us over the edge of a delicately balanced system, it is lost in the noise of a robust stable system with huge sinks and balances. The system oscillates, however, and temperatures go up and down. When they are down our biosphere doesn't do so well, and when they are up we flourish. Mckitrick has effectively proposed a 'tax on well-being'. This will be familiar to politicians - they are happy to tax windfalls just because they can. Incidentally, who will pay this 'temperature tax'? The CO2 emitters are not responsible for it at all - at the moment they would be paying LESS tax (as the temperature goes down) while CO2 concentrations become greater and greater - thus stressing the disconnect. It is as if we were asked to pay income tax, not on our incomes, but on some other variable random figure, such as stock market indices. We would soon get pissed off if we were taxed more because the stock market had gone up...especially if we didn't have any stocks...*

*Why price carbon at all? Another namby-pamby concession to alarmists. This is a discussion that should be ended pronto.*

*CO2 is PLANT FOOD and cannot and does not warm the climate.*

*This is an attempt to try to please the alarmist somehow or "both" sides. Its far too late for that. Any surrender to the warmists is a complete waste of time and money, especially as there is no discernible warming due to human activities or CO2. It surprises me that Dr Mckitrick would even bother especially since it seems he appeared to be quite convinced by now that there is no significant warming if any at all!*

*proposes to link the level of a tax on CO2 emissions to temperatures in the tropical troposphere ===== ROTFL....less than zero*

*Why, if human CO2 emissions are not causing or significantly contributing measurably to global atmospheric warming, do we need to do anything?*

*"Does not change" in case of cooling is not good enough, it is a horrible one-way street. If temperature of tropical mid troposphere happens to decrease, so should the tax. Below a certain point it gets to zero. The big question is what happens next? Turn said tax to subsidizing CO2 emissions?*

*the scheme has one fatal flaw. There is no mechanism for ending it once it becomes clear that there is actually no climate problem. Once billions of dollars get invested you can't easily change the rules, especially if there is a futures market involved. There needs to be an explicit mechanism for winding up the scheme it built into it from the outset. Otherwise when it becomes apparent that CO2 isn't really a problem then this proposal turns into nothing more than a casino for betting on the weather propped up by compulsory taxes.*

If you pay careful attention to the details of this policy, you should realize that if you are right, you will get the outcome you think we ought to have: no tax, and no CO2 control policies at all.

First of all, bear in mind that there are already many CO2 emission reduction policies in place, in the UK and elsewhere. There is nothing in their current design that makes them disappear if global warming turns out not to be a problem. And since they are based on command-and-control regulation they are costly and inefficient. I propose to *replace them* with a carbon tax, not to add a carbon tax on top of them. Some people argue that it's unrealistic to think that could happen. Perhaps, but it's what I'm advocating, and the mess in so many countries' energy policies is now so costly and intractable that the day may soon be at hand that governments will be looking for a major reform exercise.

Second, the tax is proposed to start at a low-enough rate that it won't really be noticeable or harmful to the macroeconomy.

Third, suppose CO2 has no effect on the climate, and in fact we are in for cooling. At the heart of the tax mechanism is a state variable uniquely representative of the magnitude of the CO2 effect on climate. Based on my understanding I suggest we use a measure of temperatures in the tropical mid-troposphere for this purpose, but one of the projects I am trying to get started is to define precisely what the best state variable ought to be. It's astonishing that people haven't really noticed that there is no agreement on such a basic question.

Now put those things together. The costly, inefficient and corrupt regulatory/subsidy systems will get removed and replaced by a tax that starts low and drops to zero within a few years. You now have the precise outcome you wanted. What's more, this actually has a chance at being implemented, since it was set up in such a way that if the other folks are right, they expect to get their preferred policy too.

The key is that, for each side, if you are right, you get the outcome you wanted.

On the other hand, if your fear is that the tax will keep going up and simply add to the burdens we face as we deal with the costs of global cooling, then I simply have to ask you to re-read the paper and think about why that outcome cannot happen.

#### **4. All taxes are bad, period and therefore so is this one.**

*Why in the world does he want another tax? That's simply taking more money from those who create wealth and giving it to our parasitic oppressors.*

*Bonkers. Why not a salt tax or a window tax?*

*I'm not receptive to the idea that if you MUST have a tax, this is the best kind. I don't want a tax on economic activity at the root. It exports jobs and prosperity. There is no chance at all of the whole world doing it, either. As a right-winger I feel the need to add that giving politicians an excuse to tax is like giving dope to an addict.*

*I fail to understand the economists' love for carbon tax. The only human activity that creates real wealth is industry. No significant industry is possible without use of energy. Since the abolishment of slavery industry needs dispatchable high density energy sources. In the next half century the major energy sources will be carbon based. I do not see nuclear energy getting the upper hand in this time frame. The West is currently losing important industries at an alarming rate; this trend must be turned around. Installing any*

*kind of carbon tax will put the West at a further disadvantage, making it increasingly difficult to hold on to industry, let alone to start new industries.*

*Don't give me your new ideas about taxing me on Carbon, I am not interested in paying tax related to a non-existent problem.*

*McKittrick's idea comes off the rails simply due to the concept that this new tax, would replace existing taxes.*

*I read McKittrick's proposal over a year ago and I do not buy it. Taxation has nothing to do with ideology, it is simply a way of funding expenditure. Creating taxes based on anything other than ability to pay just creates more jobs for civil servant desk jockeys.*

*McKittrick was to be commended for his work with McIntyre for exposing Mann's rubbish statistical analysis. But discussions of tax on carbon emissions is something the world does not need. Nature itself emits CO2 that vastly outweighs the human contribution both in magnitude and variability. You might equally well discuss taxes on emission of visible light.*

*This, coming from Ross, is probably the best solution possible if one wanted to impose such a system. But given what we know of rent-seeking behavior (and government is the biggest and most coercive rent-seeker), the imposition of such a system will soon be diverted and perverted into something that grows like topsy and is used by politicians to bestow favors and buy votes. The correct approach is to fight this tooth and nail.*

*No! The best way forward is for no carbon taxes at all! The line is to be drawn at none; no compromises, no excuses, no carbon taxes period. On this we must be firm, once you give even the slightest compromise they will slowly continue to grow and expand it. Why would anyone in their right mind want more government control?*

*NO, no, no. They will make amendments and carbon tax people not matter what happens to temperatures. Sheesh. I think McKittrick is being a bit naive.*

*I am with everyone who are against such a tax, period. It is a tax on, amongst other things: 1 economic development, and future competitiveness. 2 jobs and job security. 3. life styles, life style choices and betterment 4. the cost of food production, and hence on what you can afford to eat and how much. 5. being able to run your car 6. being able to afford to heat your home to the level and comfort that you desire. It leads to increasing misery and in extremes even death. It should be resisted by all possible legitimate means.*

However much we might dislike emission taxes, bear in mind that all the alternative policies are much costlier for the economy. My proposal is conditional on it being revenue-neutral, and that it be accompanied by the removal of the even-more-costly regulatory regime. So I am not proposing to increase the tax burden, but to decrease the regulatory burden, thereby reducing the cost to households and firms. I'm every bit as averse to new taxes as you folks, and would love to see far less taxation and far, far less government. One problem of the climate issue is precisely that it creates a pretext for such wild profusion of new government divisions, regulations, interventions, fees, etc. I'm calling for all this to be dismantled and replaced with a single, simple fiscal instrument. Simply to object on the basis of one's understandable dislike of taxes implies a preference for the status quo, with all its regulatory burden, oversized bureaucracy and massive costs. I do not share this preference.

But if the commenters above are really saying: We don't want all the other stuff, and we don't want a new tax either, then as I explained previously, if there's no warming problem, that's precisely the outcome you get under my plan. Of course if there is a warming problem, then we replace all the other stuff with a rising carbon tax, but that's still better than the bureaucratic regulatory mess.

## **5. The Temperature data will be rigged.**

*I've no doubt that if such a scheme were instigated then 'adjustments' to the actual temperature data would ensure the windfall tax the politicians required.*

*So, we give the contract for temperature assessment to the CRU. And who pays them artificially to increase the numbers? The same people as at present, the carbon traders and the fossil fuel companies.*

*My two pence on Ross's idea is to forget about it. It makes a good point but is too clever by half. We do not need a carbon tax that is tied to a natural random variable which will then be buggered to make it increase artificially.*

*no government has ever met a tax they didn't like, and more importantly, didn't try to grow. There's enough manipulation of temperature records already, do we want to hand government and the scientists who work for government a fiscal incentive to find more warming?*

*Bad idea. Not only would the proposed "carbon tax" give governments an ongoing excuse to fry the numbers, no legislative body is bound by the acts of previous legislative bodies. Politicians would sooner or later cut the link the tropical tropospheric temperature measurements, and just keep enjoying the revenue, regardless of the economic effects of the tax.*

*No, no, no. The system will be adjusted down the line to ensure the 'right' level of tax. Government's love of taxation is one of the reasons we are in this CAGW mess. I get McKittrick 's thinking but NO thanks.*

There is a possibility of data manipulation, but I think it's pretty remote, and in fact would be much harder under this system than the current system in which the GHCN surface records are the de-facto indexes for policy. I would propose we take the average of the UAH, RSS, HadAT, RICH and RAOBCORE data series. With 2 independent measuring systems, and 5 different labs in 3 countries involved it would be difficult to corrupt the process. Also, the problem of data manipulation and ad hoc adjustments with the surface records arise because the raw data are so unsuitable as climate records, and need to undergo such extensive, ad hoc processing. The land records need to be homogenized and cleaned of non-climatic contamination (such as urbanization effects). These adjustments are dodgy, opaque and largely untestable. I have a new paper in *Climatic Change* explaining why the literature has thus far failed to sort out this problem. The Sea Surface Temperature records also have lots of problems due to changing methods, variations in sampling methods, etc; and though the Argo float system is a big improvement, it lacks surface coverage. The mid-troposphere records are not affected by these problems so the data processing methods are more transparent. This is not to say there aren't problems with balloon records and satellite records; but it seems to me that the problems are manageable and, in principle, soluble. I don't think the land surface records would ever be sufficiently fixable for the purpose of sustaining a major fiscal instrument and associated futures contracts.

## 6. Where will the money go?

*what will this tax be used for? Like all current taxes, it will be administered by the bloated governments in the West, none of which have any vision for the future. It will only be used for creating new government departments, that use up wealth, creating nothing useful in return. Carbon tax is just another mechanism to run Western civilization into the ground. We should steer away from this idea at all cost.*

The proposal overall should, ideally, lead to closure of a lot of bloated and unnecessary departments, since it replaces the mishmash of command-and-control measures with a simple fiscal instrument. The tax revenues are all to be returned to taxpayers through reductions in other rates. Of course I can't guarantee that will happen in perpetuity. But if the tax starts at a low rate and warming doesn't happen, the amounts will be small anyway.

## 7. The other side will never go for it

*Somewhat naive of Mck to think that the anti-capitalists, troughers, third rate careerists, knee-jerk artists and the terminally confused that populate all institutions of power will give this idea a second thought.*

*This looks to me like a proposal with no future. A tax that is permitted to decline as an index temperature declines will not be accepted by the people who think CO2 induced warming is a problem — they have a belief that the "missing heat" will be accumulating somewhere.*

Some people on "the other side" have come out opposed to it for various reasons, and I have responded to their criticisms. The main objection is the belief that it's a "wait-and-see" system that puts off responding until it's too late. My presentation dealt with that issue at length, explaining the role of the futures market. Others on the AGW side have been supportive, recognizing that if their concerns about warming are valid, this gives them the policy mechanism they think we should have. Anyway, it makes no sense for someone to say that he opposes an idea because he worries that someone else might be opposed to it. Let's let everyone speak for themselves.

## 8. How can we realistically compute the social damages of CO2 emissions?

He says that a temperature-indexed tax is a "state-contingent externality pricing mechanism" but it is not - temperature is not an externality, the supposed externality is the social cost, or benefit, of a higher atmospheric temperature and unless the tax varies with the social cost, it is not an externality pricing mechanism. Of course the human history of the Holocene supports the view that output and employment are higher in warm periods and lower in cold ones, so it seems likely that there is in fact a positive externality arising from global warming not a negative one.

My [Energy Economics](#) paper explains why the tax mechanism provides a computable approximation to the unobservable marginal social damage path, but there is still an indeterminate parameter that has to be set so as to yield a starting value that people can agree on. Once the system is operating however, the starting value ceases to matter and the dynamics takes over. So what I'm proposing is at least operational and based on reality, rather than simple being based on someone's black box computer model or assumptions about the science.

Why does RMcC spent time optimizing a tax regime for emissions that are widely held to be beneficial to plant life and hence humankind? And that maybe should be subsidized.

Carbon for plants comes from CO<sub>2</sub> and only CO<sub>2</sub>. Without CO<sub>2</sub>, all plants would die. Therefore, to properly calculate the pluses and minuses of CO<sub>2</sub> for a taxing system, we, as humans on the Planet Earth, need to take into account the benefits of additional CO<sub>2</sub> for crop growth. My thoughts are that a tax credit should be given to anyone [or company] supplying CO<sub>2</sub>. I personally will eat different foods that produce more CO<sub>2</sub> so that I can get this tax credit!

Computing the marginal social damage of a tonne of CO<sub>2</sub> emissions is not only highly complex, but in all likelihood a fool's errand. There are far too many arbitrary assumptions involved, and the range of estimates that have been published is so wide as to simply amount to a confession of complete ignorance. It may be negative, it may be zero, it may be positive; it likely isn't large, but who knows? Not me. But like I say, once my system is going, the starting value ceases to matter and the evolution of the rate is governed by the actual severity of the problem.

an optimal policy must fully reflect the true carbon content of each energy source. Wind power, for instance, can reduce the efficiencies of other power supplies, such as gas. LNG from Qatar has, *ceteris paribus*, a higher carbon content than locally produced gas. EU bio fuel requires a huge amount of fossil fuel to produce.

By placing the tax on the fuel at its source, prices adjust so that the incidence reflects these various cross-market effects.

## 9. What if there's warming without CO<sub>2</sub> being the cause?

Dr. McKittrick's argument appears to be predicated on the view that the temperature of the tropical troposphere only rises or falls with CO<sub>2</sub>, not other variables. In his presentation, he supported this point with IPCC "hot spot" charts based on GCMs. Since the tropical troposphere temperature has presumably fluctuated in the past as a result of causes other than man made CO<sub>2</sub> and since the GCMs have been widely shown to be incapable of modelling the past climate correctly (e.g. Bob Tisdale's work), this premise seems flawed.

if we did experience warming, but due to completely different causes, we'd not only be taxing the wrong thing, but those who benefit from the wrong tax would be highly resistant to changing it and would lobby hard to discredit the real science. Kinda like we have now, but with a lot more financial incentive and an even more entrenched beauracacy to maintain it.

The basic weakness is the assumption that CO<sub>2</sub> drives temperature. The tax goes up if temperatures go up. But suppose CO<sub>2</sub> has little or nothing to do with temperature. Then this is just a natural swing we find ourselves in. But perhaps it will continue swinging upward for some decades or centuries (e.g., recovery from the LIA). In that case, we will continue to pour ever-increasing amounts of money into reducing CO<sub>2</sub> but see no payback for our efforts.

First, I give some credence to the idea that the damage function is convex. That means that the warmer the climate gets, the more damaging at the margin additional increases in temperature are likely to be. That's why it actually makes sense for the tax rate to be higher if there is has been an increase in the temperature measure *even if it was due to natural warming*: because the tax is meant to price the marginal damage of CO<sub>2</sub>-induced warming, which is higher in a warmer world. I can understand that there would be lots of objections to this idea, but it follows naturally from using a convex damage function. But bear in mind the corollary: suppose there is a natural cooling. That means the tax rate drops even if CO<sub>2</sub> causes warming subsequently to occur. Again, it's because the tax is supposed to reflect the cost of marginal warming.

Second, I assume that we can identify a climatic state variable that is likely to remain fairly stable over time under strictly natural forcing. If this is not true of the tropical troposphere then we need to figure out another measure that would work better. But according to the models, it is true of this region—the 20<sup>th</sup> century counterfactual simulations show relatively little changes except from GHG forcing.

### **10. It won't work.**

*First, McKittrick claims is that it is a low cost, but also low impact (on carbon emissions) policy. Stern's cost-benefit analysis assumed that policy would be low cost, but high impact. Current policy is high cost and near zero impact. Implementing this carbon tax requires binning the Climate Change Act emissions reductions targets.*

I don't see what the critique is. As you say, I expect the policy to be (at least at first) low cost, and low-impact. In my paper I emphasize that focusing on the emissions price means you can't simultaneously impose a quantity target, so yes, the UK would have to bin the Climate Change Act targets.

a low carbon tax could actually increase usage of low cost, high emission coal. In China they are copying South Africa in developing coal-to-liquids (ctl). For China it gives a certain cost of fuel at around \$60 per barrel, against the recent oil price of \$80-\$120 a barrel. Even though ctl might have a number of times more carbon emissions than oil, a low carbon tax could still make it economic to invest in ctl, and will certainly make coal-fired power stations more economic than nuclear or any renewables in the UK.

If that's the optimal response by the market to such a tax, so be it. I can't see renewables being economical under any rational scenario.

Very foolish and full of unintended consequences. I quite see where he is coming from but too Machiavellian.

Any policy can have unintended consequences, but I have thought through the intended consequences pretty carefully. For me, one of the best consequences would be the emergence of a market-based sequence of emission futures that would reveal an objective estimate of the future path of global warming.

### **11. Futures markets are too risky**

Creation of a market for climate mitigation bonds with a wholly imaginary value is similar to the constructs that have recently led to bank failures. The Dutch - unfortunately - started all this in the 17th century with their tulip market that led to a tulip mania and crashed. It is all very well to say that people who assign no value to such bonds do not have to pay, but if a significant part of the population believes in such things (people believe in the craziest things) and when it becomes clear that the bonds have no value at all, there will be hell to pay again. To my mind, not a good idea.

Futures contracts are traded all the time and are not inherently risky. The processes that led to the US financial crisis were completely different. I have written a [summary](#) if you want to read about it. The problem was definitely not the existence of futures markets.

## 12. Distributional concerns

What about seniors who do not pay income tax and are the ones dying of cold through “fuel poverty”?

How does this make unaffordable energy affordable to the Brits that die each year from regional cold? Not that cold weather is a uniquely British problem. How does this make unaffordable energy affordable to emerging economies? This amounts to a global energy tax and does nothing else that is actually useful. All the costs are paid by consumers including consumers who can't pay their own way. This is just another transfer of wealth scheme. Somebody's inner socialist is peaking out.

My proposal substantially reduces the cost of energy policy. I share the concern about energy and climate policy falling disproportionately on the poor and elderly. The increase in electricity costs is driven by regulations that I propose should be scrapped. The revenue-neutral tax would be imposed at a low-enough level not to cause much change in household energy bills, and it would make it feasible for the power sector to make use of the lowest-cost energy sources, including gas and coal. The only case in which they'd be priced out of the market in favour of renewables would be if the threat of increased temperatures was sufficiently credible as to indicate a major rise in the emission tax rates in the coming years. But with the tax revenue being used to reduce other tax rates, it is easier to deal with the distributional concerns. There are no such remedies under the current system. In the case of seniors who pay no income tax, presumably there is some kind of tax they pay, and it might be the focus of the revenue recycling. That's a detail that would have to be worked out.