

# Cap and Trade: An Unserious Policy Framework for Humanity's Most Serious Challenge

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In a few days in Copenhagen, world leaders will debate and, we hope, agree upon aggressive targets for humanity's greatest challenge to date: to avert devastating man-made climate change by transforming our economies' use of energy and of land while maintaining and improving social welfare for the world's peoples. We have in the past 250 years proceeded on a course of development which has used fossil energy to replace human and animal muscle power with mechanical energy. Economic development has almost become defined by application of this "exosomatic" energy, [85% of which comes from fossil sources](#) worldwide. Emissions from fossil energy as well as changes in land use, have dramatically increased the concentration of warming gases in the atmosphere, leading to increases in average annual temperature. Furthermore, preferences for eating meat, [in particular beef and bovine products like milk](#), have contributed massive amounts of warming potential to the atmosphere. Finally, combustion of biomass and many fossil fuels has produced [black carbon](#) which has contributed substantially to warming. Balancing the living standards of human beings with the health of the planet has become an unenviably massive set of tasks.

The potential economic and ecological catastrophes from a warmer planet are starting to become clear to us. The [retreat and eventual disappearance of glaciers](#) seems now highly likely, reducing fresh water supplies for billions of earth's people. [Rising sea levels](#) from the melting of polar ice caps will swamp hundreds of millions more who live in low-lying coastal areas. Changes in temperature are already disrupting fragile ecosystems with, for instance in North America, [the pine beetle](#) now surviving what once were frigid winters and devastating the forests of the Western US and Canada. [Many of the species](#) with which our species has co-evolved will die off in a warmer world.

However, when compared to the magnitude of the threat and the measures needed to meet or exceed intended targets, the instrument chosen during the 1990's to transform our economies, cap and trade (also known as emissions trading), has proved to be [marginally effective to ineffective and extremely cumbersome to implement](#). It is as if you, with great fanfare and concern, pointed out that there was a drowning swimmer 100 feet away from you but chose to throw a rubber duck instead of a lifebuoy to save them. With time running low, it would be a disaster if government ministers and world leaders lock themselves into the cap and trade instrument as the main means to achieve emissions reductions targets. Cap and trade or emissions trading, has had unimpressive results when compared with more traditional "command and control" regulation in the area of acid-rain forming pollution (SOx) and seems to have been selected as a means to control greenhouse gases largely because it appeared at the time politically expedient to the then-Clinton Administration. This was humanity's "first go" at a climate policy and the instrument has shown more weakness than strength.

There was within the Clinton Administration, which has had an outsized influence upon the shape of our first climate policy framework, an openness and vulnerability to the anti-regulatory and anti-tax rhetoric issuing from the Republican Party post-Ronald Reagan, so cap and trade seemed like an elegant domestic political solution. Clinton, with apparent enthusiasm, declared in 1996 that "[the era of Big Government is over](#)," yet government action and government regulation of markets, as it turns out, are going to be the pivotal institutions in transforming our economies to

radically cut emissions (and managing our way out of the Great Recession). Furthermore the Clinton Administration had more generally a fascination with financial innovation via expanding the influence and reach of financial trading markets and [loosening regulations](#) upon them.

However, in its capacity of creating a politically acceptable alternative to direct government action in the economy or to the levying of Pigovian (“sin”) taxation on carbon emissions, the proposal to use cap and trade to regulate greenhouse gas emissions has been, in the United States, a miserable political failure. [Opponents of action on climate change](#) have seen through or willfully misinterpreted cap and trade’s “soft” regulatory image. They are reinforced in their belief that “government is bad” by the effort by their political opponents to hide or make indirect government’s role via cap and trade. “Fancy footwork” was unfortunately a hallmark of the Clinton Administration’s major policy efforts and cap and trade’s application to global warming is no exception.

I have [elsewhere](#) outlined two policy frameworks that with greater certainty would cut emissions more rapidly, based on more robust, reality-based economic and social scientific principles. Firstly, [a carbon tax or fee](#) will function as a much clearer, more consistent incentive to invest in mitigation because of its predictability and clearer price signal to investors and consumers. If paired with a series of targeted incentives for clean energy ([feed in tariffs](#) or other performance-based clean energy incentives) and investment in energy and transport infrastructure (electric transmission, electrified rail, electric vehicle infrastructure), we will see measurable emissions reductions and the emergence of real market choices upon which carbon prices will act. The combination of incentives, disincentives and public investment might be called a “[Comprehensive Climate and Energy Policy](#)”. Alternatively, [a series of 20 to 50 large scale regional and global emissions cutting projects](#) can form the basis for determining what would be the unifying national and international policy instruments, most likely including a carbon tax of some form. Projects would need to represent certain emissions reductions using existing or emerging technologies within a timeframe or directly enable emissions reductions (transmission to renewable energy zones, electrified rail).

An alternate “meta-economic” framework for effective climate policy is [Keynesianism](#), which after 3 decades of disregard has once again been recognized as the vital guide to economic policy at times of crisis. What I call “[Climate Keynesianism](#)” recognizes the key role of government in leading an economy in crisis, in this case one with both a traditional worldwide economic slump in combination with an ecological crisis of unprecedented proportions. Most commentators calling for a WWII style mobilization to catalyze economic growth and a greening of our society (a “[Green New Deal](#)”) are working with assumptions based on the work of John Maynard Keynes, though not all acknowledge his contribution. Within a Keynesian framework government [planning](#) can supplement and support markets rather than remain invisible in our guiding economic theory or remain foolishly dismissed, as it has been over the past 30 years. I have [recently](#) ventured the hypothesis that most intentional emissions reductions or increases in the efficient use of polluting resources that have occurred in our history have been the product of the implementation of government programs inclusive of the design of tax policy.

Furthermore, as I have argued [here](#), cap and trade shields polluters and government from the ethical pressure of concerned citizens and concerned scientists, which are, in the end, the prime motive forces of climate action. The new property rights to pollute that are the basis of emissions trading are fairly non-transparent and insulate polluters from the need to maximize emissions cuts sooner rather than later. Cap and trade, in its implementation rather than in the ideal terms in which some advocates discuss it, sends out “go slow” or inconsistent signals via its complexity, [reliance on offsets of often poor quality](#), soft targets, introduction of non-essential players into the domain of emissions reductions, and the contract not to cut emissions to zero contained within a pollution permit.

## **Seriousness and Unseriousness**

I have above sketched out in broad terms why cap and trade is ineffective and incommensurate to the task of carbon mitigation ([elsewhere](#) I have gone into more detail with supporting documentation about why cap and trade is ineffective and resists strengthening). However these criticisms that I have made are not particularly arcane or difficult to arrive at...why is it that these views are not shared more widely? If we leave aside self-interested calculation for the time being, I believe there is what might be described as a “reality-orientation” among policymakers and important economic actors, within which cap and trade appears to be a quite acceptable solution despite its “Rube Goldberg” nature and inappropriateness to the task. This reality orientation shapes perceptions of what is the nature of the challenges facing us and what are acceptable solutions to those challenges. I would contend that it is possible to judge with some accuracy that some solutions are “serious” and others “unserious”.

On its simplest level, seriousness is an orientation of mind, either temporary or longer term, where we clear away irrelevant facts, irrelevant emotional states, and irrelevant impulses from consideration because of the need to take action. Seriousness means focusing on only the relevant information for a particular moment or challenge and allowing in new information that is also relevant. Seriousness means being able to screen information based on its appropriateness to what needs to be done now or very soon; it means understanding the links between an action and its ultimate purpose.

Despite the immediacy-of-action requirement in serious situations, seriousness however might also involve engaging in long-term planning, considering many factors and facts, but nesting and ranking them as to their relative importance, even though first actions are very important. The observation from the study of complex systems called “[sensitivity to initial conditions](#)” a.k.a. “the Butterfly Effect” explains to some degree why first steps are important even though the road may be long. The planning and building of large physical structures requires seriousness from the outset to the end of the building process and beyond. Seriousness most often involves the use of rational thought processes to come to solutions based on the relevant information, though intuitive, “[Blink](#)” type, reactions in extremis may yield good results as well.

Another way to look at seriousness from a more biological perspective, is that it is the “[fight or flight response](#)” brought under the control of the [prefrontal cortex](#), the center of our brains that is associated with impulse control, deliberation and planning. The fight or flight response is our

basic physical and emotional response to threats, which has analogues across multiple species and has evolved over hundreds of millions of years. In serious states of mind, the anxieties and dangers that trigger that response are anticipated, and planning is initiated that will reduce the likelihood of our encountering those threatening situations.

Unseriousness by contrast is allowing extraneous concerns and facts into that emergency or near-emergency situation or relying largely on non-rational decision-making processes when time would allow for rational ones. As seriousness is judged by context and we all have multiple commitments in our lives, some people argue over whether people are "truly" committed to the issue at hand or are using it to further their "other agenda" to which it is assumed they are more committed. As an example, deniers of climate change or action on climate change are in effect accusing those who are concerned about climate change of unseriousness because they believe them to have invented climate change science as part of a pre-existing political agenda. For these people, the pre-existing political conflict (between Left and Right) is the serious part while the science, to them, is unserious. In this dispute there is a disagreement about which here is the fundamental context upon which to establish true "seriousness": the physical world as observed by science or the political and subjective world of human beings.

As "unseriousness" carries with it a pejorative tone, it is not the same thing as "lack of seriousness" in most domains of life where humor and levity is highly valued. To break up the repetition in this piece I will use "lack of seriousness" to mean "unseriousness" because of the context. However "to fiddle while Rome burns" can rightfully be called unserious, with all pejorative meanings intended.

To judge someone or something as "serious" or "unserious" appears at first to be a subjective task. What are extraneous or irrelevant concerns and impulses? What are rational thought processes? For instance, I could be deciding at this moment for personal reasons of my own to declare cap and trade to be "unserious" and carbon taxation, a Comprehensive Climate and Energy Policy, and Climate Keynesianism to be "serious". Or seriousness could just be a state of mind that comes and goes; I might have a personal preference for serious people or a mood of seriousness (as it turns out this is not the case). If one looks or sounds a certain way, one might think, one is or is not taken as "serious".

However I believe that most readers will be able to agree that certain facts and events in the world are "serious" without reference to the accompanying facial expressions or tones of voice. What do we mean by "serious" or when something "gets serious"? When something is "serious" we realize that we have either very little or no choice in an important matter; when something "gets serious" options have been removed and, yet action on our part is required that will have substantial repercussions for us and/or for others. What most people would consider "necessities of life" are almost by definition "serious" while wants are not necessarily "serious". Government is often though not always involved in "serious" life and death situations: fire departments, police departments, courts, national defense etc. Climate change is one of those serious issues: we cannot escape the world en masse and we are degrading the biosphere irreversibly through our activity. I am not making up its seriousness nor am I exaggerating it: it is matter of humanity

being able to live decently or the potential for a much reduced existence for humans and coevolved species in the future.

Also, many people, though perhaps a lesser number, will be able to identify unseriousness in the response to a serious situation. You might become impatient if you recognize a serious predicament but are being offered information or solutions that are in some way irrelevant to its resolution. If we are led to believe that we are in an emergency, yet are then offered a solution that is not effective or seems to be an answer to a different question, we need some very strong reasons to pair “Question and Answer A” with “Question and Answer B”. However, as noted above, in some serious matters there are disputes about what is the "ultimate ground" or context against which acts are judged as more or less relevant: are politics and human relations or is the biophysical world "the ultimate ground"?

Seriousness or unseriousness is also an orientation with regard to the representation of facts and ideas. In science, only “seriousness” is appropriate in the actual communication of data and their interpretation; there is supposed to be no ambiguity with regard to what something means. In business or culture, “unseriousness” has its place, as ambiguity is allowed or encouraged. Given the science-dependent nature of climate and energy policy and the very late hour we are facing these issues, “seriousness” is the only appropriate means to deal with the basic outlines of policies that are supposed to “save the world”.

Unseriousness at the wrong time or in the wrong people can have very real and serious consequences. Unserious leaders of governments and large corporations can do enormous damage to their organizations or the parts of society that are affected by their actions.

### **Cap and Trade for Greenhouse Gas Emissions is Unserious Policy**

Cap and trade via its adoption in the Kyoto Protocol and elsewhere has morphed into a sizeable set of institutions and worldwide: there are tens of thousands whose work is fed or feeds into its framework; it already has had serious real impacts on some people’s lives. However despite its institutional massiveness and the grave nature of the climate change challenge it remains at its heart an “unserious” policy. The frivolousness at the heart of the policy is a frightening irony and potential tragedy given the consequences of failure involved, the seriousness of the work done by many workers in the field as well as the fact of their employ in instituting such a policy. But unfortunately, we and they have been saddled with a policy that is at odds with its fundamental task as well as the personal intents of many though not all of its supporters and functionaries.

The lack of seriousness of cap and trade can, in part, be traced back to its overreliance on trading and market mechanisms. Markets, while they have serious consequences in the world, function in part via the lack of commitment of actors within markets to each other or to the goals of society as a whole. Markets, to function, have to represent a degree of non-compulsion; they are never entirely “free” as some ideologues would like us to believe, but they attempt to be non-deterministic in terms of the outcome of the “play” of relationships and transactions within the market space.

The non-deterministic bent of markets leaves room for participants, in particular participants with sufficient financial resources, to have multiple choices with regard to the satisfaction of their wants. For some this area of choice becomes [a type of game](#), where players attempt to receive more benefits for less sacrifice of resources. Offers can be played off against other offers so the costs for items will become more affordable for the buyers, though not necessarily advantageous for the sellers. In playing one offer off against another there often will be an element of unseriousness or deception, as false commitments or false show of disinterest may lead sellers to increase the favorability of their offer. To approach markets with total seriousness is often to lose out on opportunities or to be taken advantage of. Playing games well in markets then becomes for each individual actor a competitive advantage in claiming more of the overall benefit for themselves.

There has been a certain [hagiography of markets](#) that has emerged in the last 30 years which has portrayed this scenario of market actors moving fluidly between offers on a market as the sole paradigm of economic activity. All economic activity has been supposed to strive to emulate markets with the idea being promoted that individual buyers choosing between multiple offers is the almost exclusive foundation of economic progress and efficiency. However this view of markets is focused on the internals of market functioning and ignores the supporting institutions for the smooth functioning of markets as well as [the externalities](#) (the damages and benefits to those not involved in the transaction) they create. A well-functioning market is a product of (a lot of) work by non-market actors like government officials as well as those who work in economic roles and sectors which do not necessarily function well in the ideal market format. Furthermore there are a number of economic functions that do not lend themselves well to market functioning, many of which are “natural monopolies” or oligopolies like electricity and transportation infrastructure.

Markets tend to work better the more “discretionary” or flexible a given type of human wish is, as well as where buyers can accurately evaluate the value and likely results of a transaction with their own knowledge base. We tend to see “ideal” market behavior in areas of life where we are dealing more with luxuries than necessities: in health care, cosmetic surgeons and dentists can sell their services to a (wealthier) consumer market on an out of pocket basis while in the area of basic medical care there is more likely to be subsidies or public and private insurance schemes. Thus the “playfulness” of markets fits with things we can literally “do without” or hold out for, i.e. demand is “elastic”. In those areas of life where demand is high but relatively “inelastic” we tend to see more regulation and/or subsidies by government or the direct provision of goods and services by government.

In the era of the idealization of markets we were supposed to trim all economic activity to the Procrustean bed of a competitive, unregulated market. As Adam Brandenburger and Barry Nalebuff pointed out in their book [Coopetition](#), cooperative interaction in the business world has been under-theorized while competition has been over-theorized and over-celebrated. Economic planning, both within firms and in society as a whole, became taboo, as competition through the market was supposed to do almost everything for everybody. In practice this has meant that certain economic activities that we are now recognizing are crucial (energy and transport) were neglected or subject to a series of exercises in [deregulation](#) or “marketization” with mixed but

sometimes disastrous outcomes. This has left, especially in the United States which has been the epicenter of the idealization of markets, energy infrastructure and transportation projects at the margins of high-level economic policy discussions.

Formulated during a period of [financial deregulation](#) and a mushrooming of the financial services industry, [cap and trade](#) is an offspring of the idealization of markets, a baroque monument to a belief in the market mechanism and financial trading in particular as the self-sufficient and predominant function in economic life. Cap and trade has a “double decker” market, with the carbon permit market, with its variable price outcomes, regulating the real market for global warming solutions. It would have been easier and more effective to simply drive the, “lower” level of that stack of markets, the real market for global warming solutions, with a tax but the policy designers were swept up in their belief in competitive markets and feared the appearance of exercising governmental authority via either taxation or direct regulation. That the Clinton Administration was unsuccessful in 1993 in instituting a non-greenhouse gas related energy tax has shaped international climate policy in measures far beyond the value of that historical moment.

Proponents of cap and trade tend to argue that emissions trading and taxation are equivalent in terms of their usefulness but these assertions are based on an inadequate confrontation with some basic weaknesses in the cap and trade system. Beyond the problem of offsets and their quality, which is a very large problem, the two most problematic assertions about almost all configurations of cap and trade are:

Assertion #1 - **"Cap and trade's price signal is equivalent as that of a carbon tax"** - This is not true because auctioning and permit trading yield a variable price signal and investment uncertainty. A variable price signal is much less useful to investors in emissions reducing measures because these investments will pay for themselves in most cases over a period of years. The value of the investment is then in question with a variable signal. The economic modeling of this issue ignores the multi-year perspective from the point of view of individual economic actors. I call this cap and trade's "faulty microeconomics". There are ways to patch this up with price floors and ceilings and a very narrow trading range but then the elaborate structure of cap and trade is no longer necessary. Cap and trade then becomes a more cumbersome tax with permits and market games attached.

Assertion #2 - **"Cap and trade delivers certainty about quantities of emissions reductions (while taxation gives you price certainty)."** If "1" is false (which it is without losing many of its trading attributes) then this statement is unlikely to be the case because carbon reducing investments will be less likely under carbon price uncertainty. The point of carbon pricing (cap and trade or tax) is to stimulate investment in carbon reducing technologies rather than issue fiat regulations that controls amounts of emissions. However the uncertainty in the price signal will interfere with emissions reductions until the point where regulators will step in and "pull the plug" on either malevolent, ignorant or unlucky losers on the carbon permit markets. So certainty will be achieved, with an ambitious cap, when regulators will step in with arbitrary-seeming

harsh measures. Neither instrument will give anyone total "certainty" of quantity without the use of direct regulation, though a carbon tax would be easier to calibrate to achieve approximate goals. Advocates of cap and trade omit the simple fact that carbon price rates can be adjusted perhaps every 3 years to achieve an emissions goal (though not so frequently as to make price projections arbitrary and useless for businesses). Even with these adjustments the carbon price signal will remain clearer than with cap and trade.

Besides these questionable assertions that are always treated as established fact, invisible in the discussions by cap and trade advocates is the introduction of what is essentially an extraneous element into the process of pricing carbon, the trading markets, which seems to serve no other purpose than to lay at the feet of the market abstraction that the last couple generations of economists have idealized, the most important policy instrument that the world has ever seen.

As individuals, the designers and advocates of cap and trade are sometimes believers in more [general financial market reform](#) yet refuse to see how carbon finance pulls financial markets away from reform and towards [speculative excess](#) once again, via the insertion of price variability and trading. Other than personal corruption, which may be the case for some, I do not see how these otherwise smart people continue to exempt cap and trade from what they otherwise would apply to the trading, for instance, of bundled sub-prime mortgages or other shady securities.

If we turn to our definition of "serious" vs. "unserious", we see in cap and trade the introduction of an extraneous institution (the permit markets), set of concerns (the profit motive via trading of paper and not via producing or financing emissions cuts), and stakeholders (powerful financial groups interested in expansion of derivatives). These extraneous institutions do not simply remain "quiet" but end up co-steering the course of the policy and interfering with its purpose. Political and economic favoritism as well as intellectual hobbyhorses are being served instead of the world's most important set of tasks and investments.

If we accept that our relationship with the biophysical world is the "ultimate ground" of climate policy, introducing an over-elaborate set of political and economic ideas and interest groups that are inessential to the policy's goals and divert energy and funds to their ends adds a lot of unnecessary risk to the carbon mitigation enterprise. If we furthermore acknowledge that the state and rate of our degradation of the biophysical world is very serious and approaching dire, the risks are multiplied.

Therefore cap and trade is unserious policy.

### **Dimensions of Cap and Trade's Unseriousness: Four Aspects**

There are a number of aspects of cap and trade's fundamental unseriousness that apply to specific actors involved in the framework. On one level the designers of cap and trade had an intellectually speculative distance from their subject matter which suggests that the policy has many characteristics of an economic "thought experiment". On another, more obvious level, polluters are encouraged to view the process of obtaining a price on carbon as a game which needs to be played both at government sponsored auctions and in a trading market. Finally there are

invitations, explicitly and implicitly, for third-party financial speculators to become involved in carbon trading markets in search of trading profits.

## 1. Scientific Unseriousness

The [formulation of emissions trading was an effort by social scientists, political operatives, and activists](#) to make environmental regulations acceptable within the US economic policy framework of the 1980's and 90's that exaggerated the power of markets to do social good. Within this historical timeframe, regulators and government officials were to approach powerful economic interests solicitously and without the conviction that they were defending the common good. Government became the junior partner in regulation, an attitude which has led us to so much grief in the financial sector. If applied to issues that were a matter of "improving environmental quality" or even the regulation of human-to-human affairs, the unseriousness of the policy would remain a matter of regulatory or political "taste". However, in dealing with the unique and largely irreversible damage to the climate system as a whole, the unseriousness of cap and trade becomes catastrophic.

There is a fundamental disconnect between the emissions trading instrument and the domain of action in which that instrument is supposed to act. While economists have a long history of misrecognizing their models of reality with reality itself (most notably the recent models that did not see the huge asset bubble pre-2008), it appears in cap and trade that this tradition continues with potentially disastrous effects. Modeling that one MIGHT be able to "cap" global warming pollution by regulating quantities of emissions by selling and trading permits is not the same thing as providing substantial evidence that this would actually work better than the alternatives. And given the potential that we would be irreversibly altering the biosphere, we need to be choosing from the best tools available. I will allow that cap and trade could theoretically, using its [particularly arbitrary administrative component](#), achieve its targets in an ungainly and economically damaging way but this is not relying on its much discussed carbon market component.

The sole supposed success story for emissions trading, the US acid-rain cap and trade system, has not been [as successful as direct regulation of emissions in Europe and Japan](#) in reducing sulphur dioxide the main acid rain causing pollutant. Why turn away from what works better for vague or insubstantial reasons? The unseriousness of arguments for cap and trade is that they are "selling" the idea that one could avoid more traditional government-led ways of controlling emissions and effecting social change. When one "sells" an idea in the sciences, one overlooks elements of reality that falsify or do not support one's hypothesis.

One of the prime selling arguments for cap and trade is that it is supposedly a more economical way to cut emissions per tonne, for which I have not yet seen a serious, comparative study. However this argument for cap and trade, if it has any truth in it at all, overlooks the entire point of carbon mitigation: to cut emissions radically, securely and fast to avoid major catastrophes. The costs of NOT achieving carbon emissions goals is that whatever incremental costs within reason are associated with another instrument (direct regulation or taxation) are well worth playing if those instruments are going to get us there faster and more reliably. This argument is

always left out by cap and trade advocates who continue harping on "least cost" solutions. In this context any instrument that is more reliable or faster than cap and trade would appear to be much more valuable.

The [constant and alarming repetition of the "least cost" doctrine](#) as a fundamental value in discussions of carbon mitigation is also a sign of how distant the designers and advocates of the cap and trade policy are from the actual physical and business domain where emissions are cut. Many of the large scale cuts in emissions in the area of energy and transportation will be infrastructure projects or high quality durable goods that are meant to last 10 to 50 years. In this domain "least cost" bids do not necessarily win the job because of concerns by project commissioners/buyers for the financial viability of the constructors and the quality of the resulting product with which they will live for decades. So "least cost" excludes most of the large-scale emissions cuts that can happen within a period of 3 to 10 years. The building of infrastructure falls almost entirely out of the orthodoxy of climate economics which assumes an undifferentiated, infinitely divisible mass of carbon mitigation measures which can be efficiently and effectively filtered almost entirely via cost, leaving aside their appurtenance to a given emissions source.

The means by which carbon pricing, of which cap and trade is one type, will transform energy use is to send a "price signal" to owners of polluting facilities to invest in technologies that cut these emissions. As discussed above cap and trade sends a signal of relatively poor quality as compared to a carbon tax, as it makes it difficult to predict the price of carbon into the next 5 or 10 years. This is crucial from the point of view of making the long-term investments needed to cut carbon emissions. So the touted equivalence between cap and trade and carbon taxation which is sometimes uttered by the current generation of environmental economists, is misleading when one considers the type of investments required to actually cut emissions on a firm-by-firm basis.

Cap and trade is actually [a hybrid instrument](#), the mixture of a price and a permit regulatory instrument with an administrative component. By mixing these two components, cap and trade appears to offer a "one stop shop" to government officials. However in "mashing together" these two types of instrument, the quality of both components is substantially degraded: carbon taxes/fees are a much better price instrument and direct regulation and rulemaking, if funded, are far more effective and rational than cap and trade's administrative measures that will either concern themselves with permit fraud or arbitrary shut down of facilities that have no more permits.

Finally and perhaps most difficult to appreciate is that cap and trade translates the problem domain (carbon mitigation) into it's own language, foreclosing the possibility for insiders and potentially outsiders to examine how it is doing. This might be called "cap-and-trade solipsism." While there is a long tradition in economics and other social sciences in inventing special use languages and terminology, cap and trade's language makes everything within this domain a problem of markets and its own artificial market structures to a degree that impedes more general understanding and ultimately troubleshooting or comparison between alternatives. Recently [I exchanged a series of comments](#) with a gentleman who persisted in returning the discussion to one of "allowance prices" when I was bringing up a comparison between cap and trade and carbon

tax. The inability or unwillingness to use a generic framework means discussions become distorted. There is large-scale [epistemological issue](#) for the social sciences here that unfortunately needs to be resolved simultaneously with improving climate policy. Put in other words, "quality control" in the social sciences is very difficult to put into action because of their fragmented structure.

Instead of basing the world's most important policy instrument upon social scientific principles that have been shown again and again to alter consumer and investor behavior (clear incentives, clear and stable disincentives [taxes, fees, and rules], funded mandates, public investment), the choice has been made over and over again by people who should know better to go with the "thought experiment" that was assumed to have political benefits but has turned out to be less effective and terribly cumbersome as a policy. These supposed political benefits also by implication undermine the only stance that is going to significantly reduce emissions: that government action backed by the ethical concern of leaders and the public will impose direct limits on and help restructure our energy use system. If, according to cap and trade's philosophy, the market is "doing it by itself" then the public should "stand back" and let the market do its work. This is a recipe for nothing getting done in the area of substantial emissions cuts.

## **2. Unseriousness for Politicians**

As implied above, cap and trade kicks the political can of responsibility for climate protection "down the road" or "passes the buck" to markets or a future generation of politicians that will have to name a price for carbon mitigation. The declaration of the cap is the political "candy" with which politicians can claim an easy virtue for themselves without naming costs. In instituting a cap and trade framework, no leader is fully committing to regulating industry and consumer wants in the name of climate protection. An effective climate policy simply cannot "pass the buck". Cap and trade institutionalizes "buck passing" via deferral to carbon markets, via the use of offsets and by not naming a price on carbon at the outset. The declaration of the cap, which is largely symbolic because if ambitious it is unenforceable, remains a fig-leaf behind which no pressure or commitment of public or consumer funds is required.

As I have argued [here](#), and in conformance to the fears of many opponents of action on climate change, there is no getting around a strong role for government in transforming our fossil fuel-using habits; cap and trade, at least within the US context, furthers the myth that government is secondary to the process of carbon mitigation, which carbon markets will do better. If we take SO<sub>x</sub> regulation as an example, a far simpler task, this will definitely not be the case. Furthermore achieving carbon neutrality will mean lots of new public or government-incentivized investment in public goods like electric train lines, electric transmission and various large and small public works projects. To soft-pedal government is a mistake from the outset if you are serious about carbon mitigation.

Within this context there may be a differential perception of cap and trade when viewed in societies with a long history of government social welfare, higher taxes including energy taxes, and an across-the-political spectrum agreement that the government regulation is OK. To Europeans, for instance, cap and trade is just another regulatory program (that was supposed to

be more acceptable to the Americans) that of course involves costs and raising the price of energy (like many European taxes), blending in with other initiatives. In the American context, cap and trade is supposed to circumvent government's role and also promise no or negligible costs. Cap and trade might appear to be more acceptable in a context where government has a greater role in setting energy prices, planning infrastructure and there is already a fairly high level of taxation.

Ultimately government leaders will need to take responsibility for leading carbon mitigation efforts inclusive of the associated frustrations and transformations of old habits for business and consumers. While individual citizens taking responsibility for their own carbon footprints will also be crucial, leaders must lead and provide the matrix within which lower carbon choices are not acts of social and economic exile. As open as possible a discussion and confrontation with the costs and dislocations associated with this process is not only desirable but entirely necessary. Cap and trade, wherever the myth of market self-sufficiency is strong, undermines the development of a political discourse where both leaders and the public at large can examine the costs and benefits to action on climate change.

### **3. Unseriousness for Polluters**

The cap and trade policy with its indirection, use of market “games”, and generally lax goals in implementation sends the message to polluters that they shouldn’t take climate change too seriously. The fundamental problem with cap and trade is that not only is it often in actual implementation a “sweet deal” for large polluters but it distracts them, with its market game playing (auctions, trading, permit allocation debates, offsets) from the serious tasks facing them in making their businesses largely carbon neutral within a couple decades. Auctions and trading are supposed to tap into the competitive mindset of businesspeople and are efforts to “come over to their side of the table”. While none of this is necessarily as trivial a game as football or baseball, the insertion of these elements into cap and trade are extraneous to pricing carbon and then letting businesspeople make decisions about how to reduce their carbon costs. The assumption is made that somehow, perhaps due to short attention spans or a lack of interest in the actual technological and processual challenges in cutting emissions that one would in some sense patronize businesses by creating a carbon “House of Games” from cloth from the (paper trading aspects) of the business world.

Furthermore, the notion that via carbon markets polluters would seek any “least cost” solution to mitigating carbon erases any notion of duty to innovate and stanch one’s own emissions, which might involve perhaps developing a small research and testing function within one’s organization. The policy, in reiterating what already is the mission of businesses, to reduce their costs, aligns itself with a price oriented rather than a process-oriented approach to emissions controls. The diversion of the market for pollution credits makes the job of mitigating carbon relatively “unserious” for the largest emitters.

### **4. Unseriousness for Financial Markets**

One of the major challenges for many nations currently is to create an environment where long-term infrastructure and capital investment can thrive, especially for the purpose of transforming

energy use. The US economy in particular has deindustrialized considerably and has a decaying infrastructure that is heavily dependent upon fossil fuels of both the imported (oil) and the domestic (coal and natural gas) kinds. The serious challenge associated with climate change is making the investment in this type of infrastructure and real energy and transport capital more attractive than the more speculative financial instruments based largely on paper rather than real assets which have dominated finance over the last 25 years.

Some economists and critics of the financial excesses of the last decades have called for [finance to be made boring \(again\)](#), meaning less financial engineering and, among other things, more financing of real engineering projects. The carbon permit market and the potential for the generation of various carbon derivatives opens another lucrative market for financial firms to make the quicker buck by trading rather than becoming involved in a long-term lending relationship with industrial and project development firms. On Wall Street, it has been [an almost non-stop financial “party”](#) over the last few decades as financial rewards have outstripped any meaningful economic value that this work has created.

Cap and trade then works against more general financial reform efforts that attempt to constrain banking and reduce the attractions of trading in favor of productive investments that create real jobs (and cut emissions) in the wider economy. The trading component of cap and trade and the creation of a new tradable financial abstraction and property right works almost diametrically against the process by which capital would be funneled towards long-term investments in things like wind farms, concentrating solar thermal farms, transmission, electric vehicle charging stations, etc. To trade is the financial “candy” that allows for high returns to traders within short time frames.

### **Common Feature of Cap and Trade’s Unseriousness**

Cap and trade in its scientific attitude, orientation to politics, financial market design, and permit regulation all have one commonality: the cap and trade system inserts one or more extraneous elements that do not serve the purpose of cutting emissions or increasing the overall efficiency of the system. In most cases this “stop” along the way to achieving the goal is some form of “visit” to the carbon market before the actual job of cutting emissions or financing the emissions cutting projects can occur. The insertion of the carbon market into the process impedes rather than enhances the process of cutting emissions as this inserts variability and the structure of the permit market and its many superfluous stakeholders into the emissions cutting process.

The insertion of extraneous stakeholders into the process of cutting emissions means that there are people who have already developed financial interests in a status quo that will not accelerate emission cutting but will keep it only at a low boil, as they seek profits from price variability. These stakeholders will try to extract profits from the differences between “buy” and “sell” prices without much oversight or necessitate the erection of an additional regulatory structure WITHIN the cap and trade structure. As we have as yet not even succeeded in regulating the already existing derivatives market in the broader economy, why should we be optimistic, as the salespeople of cap and trade will respond, that we would succeed in regulating this market, if the

will is even there, once we have set up a structure that insures that variability? The stupidity of this altogether avoidable situation is mind-boggling.

Some take this to the extreme and say that profit-making itself is wrong or make various efforts to accuse others of making profit off doing good, as a way to impugn their characters. Instead, profit needs to be made for delivering real value rather than thoughtlessly offering a massive new lease on life to the overblown financial trading sector at a time that we can ill afford it. An ill-informed, undifferentiated endorsement of all profit-making leads to the giveaway of the planet's biosphere to a coalition of extremely short-sighted people, while a condemnation of all profit-making insures that the value of efficiently run businesses will be excluded from the discussion.

“Carbon finance” despite its novelty, moors our financial system in the past rather than propels it into the future. Carbon finance interferes with an orientation towards investment in real assets that cut carbon by offering the “carrot” to financial firms of greater profits from trading carbon derivatives. Maybe with more time or a flusher economic system we could afford to play around with trading markets and carbon but we literally do not have the time anymore.

A “serious” carbon policy removes the extraneous elements because, frankly, we don’t have time to play around with someone’s intellectual hobby horse or third-parties’ wishes to extract excess trading profits from a transaction between two other parties. So-called “carbon finance” is not the same thing as project finance or venture investment. We need finance and investment with reasonable returns on investment without the “sweetening” for financial players of the trading profits associated with carbon trading.

### **Why is Cap and Trade’s Unseriousness Invisible or Tolerable to Well-Meaning Folk?**

Even in an environment of skepticism about financial derivatives, cap and trade seems to have escaped critical scrutiny by people concerned about the climate. Paul Krugman, for instance, who is highly critical of how Wall Street has been regulated, puts out [an occasional Op-Ed or blog post that supports cap and trade](#). Joe Romm, a blogger who wrote a good deal last year on his blog about a “[global Ponzi scheme](#)” and “[rip-offsets](#)”, has as of this year almost nothing critical to say about cap and trade. Even if writers and bloggers have reasons of personal political position or paychecks involved in exempting this instrument from any meaningful critical gaze, the equation of cap and trade with action on climate is widespread in the mainstream environmental movement and in liberal circles. Why is this so?

There are components to the “invisibility cloak” that makes it more likely that climate activists and politicians continue to support cap and trade despite (perhaps) knowing better.

#### ***1) Consumer Society and Unseriousness***

A feature of wealthier consumer societies is that we have become used to pushing away or avoiding difficulties by moving on to the next product or fashion. After all, President George W. Bush after the 9/11 terrorist attacks recommended that [people “go shopping”](#) as a way to fight the

terrorists. While at the time this seemed somewhat logical (keeping the economy going), it remained a superficial response to the dynamics that led to 9/11.

While we can pillory ex-President Bush for his awkward paean to consumerism, the attitude that simply a change of scenery or of product will make a world of difference is deeply embedded in the wealthier societies of the world. Therefore in this context, a “shopping” or market model for reducing emissions fits right in: cap and trade suggests that polluters are simply shopping for the “best buy” on the emissions reductions market, which, according to the global free trade ideal, should extend around the world.

Participants, and I include myself in this, in consumer society often become “unserious” people, in the sense that we are often preoccupied by largely trivial distinctions between products and services and questions of our own social identities. Public information systems and mass media that make the most of the latest scandals and inconsequential aspects of celebrity personalities add to the trivialization of choice. Cap and trade’s lack of seriousness blends in within this context.

### ***2) Normalization of Derivative Trading-Based Finance***

Trading financial instruments involves not seriously committing to a project or firm but simply trying to “work the spread” between buy and sell over a short period of time. There is a generation of people under 45 or 50 who grew up in a time when banking and finance came to be represented by the “glamorous” lifestyles and reputations of bankers/traders or the individualized pursuit of wealth of the day-trader. This generation compresses or misrecognizes the difference between investment and financial trading, having no memory of a different time when banking was largely “boring” and involved long-term commitments between financiers and borrowers. The abstract and individually isolated nature of financial trading hides the externalities (damages to others) created by a trading-dominated financial system.

Cap and trade’s design is a product of the confusion of these two functions of financial markets and misapplies a trading instrument where an investment instrument is actually needed. I can imagine that younger supporters of cap and trade have difficulty imagining a finance sector that sees its primary duty as issuing long-term loans rather than being involved in fast-paced swaps and trades.

### ***3) Decline of an Ethic of Justified Profit-Making***

In earlier periods in the economic history of capitalism there developed in some circles an ethic of justified profit-making: that one needed in some way to show that one had delivered a certain product or service with which one’s wealth became defined. This allowed the new social class of business owners to find a reason to feel superior to those who simply inherited their wealth or collected rent from large inherited landholdings. What Max Weber, called the “[Protestant work ethic](#)” ([that is recently being disputed](#) as being exclusively associated with Protestant portions of early Europe) helped define the mixture of ownership of productive assets (capital) and the

entrepreneur's work which promoted in the business owner a sense of virtue while risking committing the ancient sin of greed.

However, in the periodic speculative bubbles that have marked the history of our economic system, the relationship between entrepreneurial risk-taking in real enterprises and amounts of profit becomes frayed. In these periods, profits from trading relatively overpriced assets or paper derivatives of those assets can outstrip those earned by real entrepreneurs. James Galbraith has suggested that there exist a [class of economic "predators"](#) that thrive in speculative bubbles by their talent at locating opportunities to make what in other eras would be considered to be unearned profits.

In our current era, we are just beginning to hear calls for something like ethical profit-making, where the ethics is not simply inserted by association with a nominal cause or label attached to enterprise ("green" capitalism) but to the actual mechanism [by which rewards are dispersed to individuals](#). Was risk taken? Was the product or service useful and/or socially useful? Was the compensation scheme just? In advanced industrial countries like the US, that have deindustrialized, more people are asking the question whether an "[industrial policy](#)" or systematic reform of the finance system will redirect capital to productive uses.

As outlined above, cap and trade, while it has a green veneer, creates a massive structure for targeting and achieving trading profits that are not compensation for a useful product or service. In the cap and trade framework those who profit the most will be not those who cut the most emissions either via innovation, efficiency or implementation.

As the policy's designers have normalized a financial trading-led economic system they have developed a conception of business profit that does not distinguish between profit from investment and entrepreneurial risk and profits from exploiting asymmetrical information in trading markets.

#### ***4) Climate Economics is Tied to Monetarist Ways of Thinking***

The economics of climate change has emerged in an era when [monetarism](#) had become the new orthodoxy in economics. Most practitioners of climate economics are focused to an excessive degree upon setting a price on carbon rather than also looking at the specific technological and infrastructure challenges associated with addressing climate change. A Keynesian approach to economics, which had fallen out of favor in the 80's and 90's, enables economists to appreciate the vital role of government investment and leadership, though it doesn't deliver any ready-made solutions in the area of climate change (in part because it is underdeveloped through recent neglect). In this context, making the sole choice of policy between two carbon pricing instruments, cap and trade and carbon taxation, flattens some of the differences between the two instruments (though in an objective analysis still favors carbon taxation). Additional benefits of carbon taxes or fees, that they can complement or do not interfere so much with other policies, are left out of the picture.

### ***5) Knowledge Gap Regarding Relevant Business Investment Decision Making Processes***

There is a knowledge gap among the designers of policy, its supporters and those who will actually use the policy to make investment decisions in the domain of energy efficiency and business process reform. The economists who theorize about cap and trade and the environmental advocates of the policy do not in general have business experience and neither do political decision makers. Critical knowledge of how capital investment decisions are evaluated within businesses has evaded the notice of most of the policy designers, including the basic cash-flow analysis tools, like [NPV](#) and [IRR](#). Many of the business leaders who endorse cap and trade and may be consulted by political leaders are not necessarily motivated to help policy designers to create the most aggressive or most effective policies. Engineers who understand which measures are relevant to their industries might not have been consulted by either one or the other of these groups. So those who are motivated to cut emissions do not know how the microeconomics works and they don't communicate regularly with those who know something about the technical challenges and available equipment.

### ***6) Expectations of a Machiavellian Politics***

Speaking mostly of the US, but also taking into account its outsized influence on climate policy, sincere supporters of cap and trade see themselves faced with what amounts to be a false choice: support any proposal labeled "climate policy", which unfortunately has been identified largely with the cap and trade instrument, or implicitly support [the rabid denial of climate change](#) coming from opponents of any and all action to stem GHG emissions. In the US at least this type of choice between principles and pragmatism is particularly stark as negotiations often start with the liberal-left having taken its principled position off the table from the start.

While the political Right, which has historically been opposed to action on climate change, has often made proposals that start with their "first principles", reformers from the center and the left in the US have made political careers lately by starting from a position of compromise or even appeasement. The successes of the Clinton Administration such as they were, were based on policy efforts that sacrificed principle from the beginning of the negotiation rather than in the middle. Even if we assume, in a democracy, that no one gets exactly what they want, we find that this self-censorship on the part of the liberal or Left side of the spectrum has, along with massive infusions of money from wealthy interest groups, truncated the scope of reform proposals and narrowed public political discussion. Unfortunately, the current Obama Administration has inherited some of the Clinton Administration's emphasis on strategy that divorces itself from principle.

In such an atmosphere, the actual policy proposals for reform become tailored more for communication with an "inside politics" and lobbyist audience rather than the population at large. It is now common for the press and officials to generate [a public discourse of "do-ability"](#) without the need to explain why the focus on legislative success will concretely help the broader public. Political leaders and journalists want to be "insiders" and the public is expected to acknowledge that their interests may take a back seat in public discussion and in enacted policy. If

one expects policy and politics to be about the self-preservation of political careers, cap and trade blends in, not for the success that it promises but it's structure that remains impenetrable to all but the inside stakeholders.

## **Dimensions of Serious Climate Policy**

While elsewhere I have offered summaries of two sets of policies and one overarching meta-economic framework for effective (serious) climate policy, here I will offer another point of entry into why I think climate policy needs a thoroughgoing revision. If we accept that we are in serious situation, an emergency, certain approaches are appropriate while others are not appropriate at all and should be left off the table. I believe looking at climate policy through the lens of “seriousness” or otherwise can reveal important dimensions of policy. While I believe I have offered two and half serious climate policies, I do not want these principles to suggest that these are the only possible serious climate policies

A serious climate policy

1. Can cut greenhouse gas emissions with the highest (or close to the highest) level of rapidity without endangering economic development in the long term.
2. Can be implemented (started) rapidly
3. Recognizes and builds on existing emissions-reducing technology
4. Tracks and promotes promising emerging technologies
5. Supports energy research and innovation but does not hold policy hostage to unknown future breakthroughs.
6. Aligns incentives (self-interest) to the greatest degree possible with cutting emissions.
7. Excludes extraneous, non-climate related concerns from the core of the policy insofar as they may slow or undermine the most rapid action on climate; resist
8. Can be adjusted to cut more or less emissions
9. Draws strength from and mobilizes the “moral sentiments” and our sense of duty to each other and to the future.
10. Enables transparent and equitable negotiations about global obligations and the price of climate change action between nations
11. Prioritizes stanching the largest sources of emissions (coal-fired electrical power, tropical deforestation, fossil-fueled transport) from day one of the enactment of policy.
12. Considers “emergency” measures that may lead to more rapid mitigation or cooling effects, inclusive of research into so-called “geo-engineering”.
13. Addresses the balance between expenditures for aid for climate adaptation and expenditures for climate mitigation
14. Increases the attractiveness of longer term investments in emissions reductions and sustainability.
15. Addresses black carbon emissions nationally and internationally.

## **Wishlist for COP15**

As COP15 is proceeding apace this week, I wanted to put out a wishlist for the outcome of that event as relates to a serious climate policy. Minds may already be made up and I am just one voice but here it goes:

1. Commit to ambitious targets (30% over 1990 emissions by 2020 for industrialized nations, reduce deforestation related emissions by 90% by 2020)
2. Do not commit to emissions trading as the means to achieve these goals
3. Create a standing international committee to evaluate the institution of a price-based international instrument or other, perhaps project-based, alternatives to cap and trade
4. Commit to a science- and evidence-based approach to policy