Cap and Trade Derails Climate Ethics, the Motive Force of Carbon Mitigation

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Part 1. A Slow, Ineffective "Monstrous Hybrid" Of a Climate and Energy Policy

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Part 1. A Slow, Ineffective "Monstrous Hybrid" of a Climate and Energy Policy

In this 3-part post, I will outline how cap and trade's composite structure contains within it fault lines that help defeat its and the climate action community's goals. In this first part, I will sketch out the components of the cap and trade hybrid

The record of cap and trade (also called emissions trading) is not impressive despite the bulk of the instrument and its popularity with the current generation of policymakers, some corporate leaders and some activists. Even before it was applied to carbon dioxide emissions and the global warming problem, cap and trade's use in the US to cut acid-rain forming emissions has only produced middling results (40% cuts) as compared to cuts elsewhere where traditional "command-and-control" environmental regulation was used (65% cuts). Furthermore the US acid rain cap and trade system had the benefit of the ready availability of new sources of low sulfur coal in the US as compared to a limited choices in types of coal in most other nations.

In the first 4 years of the implementation of cap and trade as a means to cut greenhouse gases (2005-present), it appears that reductions in emissions, where they have occurred, have been due to, or strongly conditioned by, factors other than participation in cap and trade. In the first 3 years of the European Union Emissions Trading Scheme or EU-ETS, Sweden for instance cut its emissions by 20% within regulated sectors (9% overall in a country with an already low level of per capita emissions) while neighboring Finland increased emissions by 28% within these sectors. The managers of the EU-ETS attributed an overall 3% reduction in emissions in 2008 to the EU-ETS's "price signal" yet the US without a significant cap and trade system nationwide decreased emissions by almost the same amount (2.8%); the role of the massive economic downturn of 2008 would seem to far outweigh the effect of emissions trading. While most agree now that too many permits were given away or sold too cheaply in the early stages of these cap and trade schemes, there will always be a way to find justifications for failure in such a complex system by pointing to the failures or misalignment of one part or another. To date, beyond general economic conditions, the actual cutting of emissions as an intentional activity can be attributed to what I am calling below "Climate Keynesianism" rather than as a response to carbon pricing or permit regulation.

Cap and trade systems are not only marginally effective to ineffective but are also hugely cumbersome to implement at a time when we have at most a decade to make serious cuts in our emissions. It took 7 years after the ratification of the Kyoto treaty (1998) before the cap and trade systems were implemented (2005), which to date, 12 years after the 1997 Kyoto meeting, have not achieved noticeable cuts in emissions.

If our political leaders and climate action communities believe that implementing a cap and trade system will be largely responsible for cutting emissions, they and we will soon be in hot water.

I have proposed elsewhere two (1, 2) more effective policy frameworks for cutting greenhouse gas emissions that are based for the most part on more reliable and time-tested methods for implementing technological change and shaping our behavior, which include government energy efficiency andrenewable energy programs (Climate Keynesianism), disincentives like taxesor fees, and market incentives. There is literally no excuse to hang onto the cap and trade instrument given the stakes involved and its unimpressive record of accomplishment.

Primacy, Sunk Costs, and US Political History Outweigh the Facts

The most obvious reason that people who nominally care about the climate's future cling to cap and trade is that it is the first worldwide regulatory framework. The "primacy effect" is the observation that we as human beings hold onto the first bits of information that we receive and assign importance to them beyond their actual truth value or relevance. Many attempts at communication and persuasion use the primacy effect by placing more important information before other information. Information that comes first often establishes the communicative "frame" or context against which succeeding bits of information are then evaluated.

As the first international carbon mitigation policy, cap and trade has enjoyed the benefit of primacy: the definition of action on climate change has in the minds of many come to mean instituting a cap and trade system, no other options are considered. In order to interrupt cap and trade's primacy effect and arrive at a better solution, we need to circle back to the logical point before one would select ANY climate policy and define what the fundamental tasks of climate policy are in general, keeping in mind our current and emerging set of technological solutions. I have attempted to do the latter recently here. Without understanding what climate policy must do independent of any particular policy instrument, we cannot evaluate our current policies nor arrive at new ones.

In addition, cap and trade already has benefited to the detriment of more effective instruments, from sunk costs in that bureaucracies have been erected, labor, time, money, and political capital have been spent in building up the idea of cap and trade as the sole or best climate policy solution. I am sorry for this effort, some of which is wasted, but this is no reason not to retool or dismantle some of these investments as they have been built on a faulty foundation. That several thousand mostly well-intentioned people around the world have already invested a good deal of their time within the Kyoto system and affiliates is no reason for them not to turn to a more effective system,

learning, as it were, from their experience. It is a choice between ego and the future of our planet.

Currently in the US, the momentum behind cap and trade-basedCongressional bills has the "benefit" of fixation by a large number of environmental organizations and advocates upon cap and trade as the sole instrument. President Obama, perhaps influenced by the idealized view of markets at the University of Chicago where he taught, gravitated to the cap and trade idea as a solution to global warming. In these matters, he would have had few alternative sources of information from US environmental groups. Particularly set on cap and trade is, for instance, the Environmental Defense Fund, whose materials on cap and trade read like a sales prospectus for markets as an institution rather than defense of the environment. The confusion between celebrating the policy instrument and achieving the policy goal is rampant among those who are trying to "make the sale" of this cumbersome policy behemoth.

The choice of cap and trade as the international regulatory framework for greenhouse gases speaks also to the inordinate influence of the US and internal US politics on the course of events. Cap and trade was invented in the US as a means to avoid either environmental taxes or direct regulation, in conformance to US political preferences in the immediate post-Reagan era. As during the 1990's, the world's only superpower and still its predominant military power, the US has pressed the world to share its view of the global warming problem and the surrounding politics. Unfortunately political power and influence does not always yield the most effective policy framework even with substantial backing by that power.

With Kyoto we have the additional complication that the US partially withdrew its support for the framework in midstream, as the US Congress led by the Republican opposition to the then Clinton Administration, refused to ratify the treaty in 1998. Given its denial of the importance of global warming, there remained no chance that the Bush Administration would press for Kyoto's instatement. Among veterans of the Clinton Administration who now surround our current President Obama, some may feel the need to vindicate their political choices and Administration after 8 to 10 years of exile from the international cap and trade process. The hope seems to be that simply turning up the volume on cap and trade via US participation will admit the US to the circle of climate-virtuous nations and/or transform that process into an effective greenhouse gas regulation regime.

Many key activists and officials have become personally associated with cap and trade so are not as free as others might be to criticize what they have helped institute. Al Gore, who is genuinely and deeply concerned about the future of the planet, was for a time advocating for a carbon tax though not campaigning against cap and trade. Since then,

with the new Obama Administration gravitating towards the cap and trade instrument, he has said that he is for both cap and trade and a carbon tax.

"Make Only Big Mistakes"

In addition to these more understandable reasons for hanging on to cap and trade, there are also some "sharp practices" involved in selling the instrument to the public and the climate community. In politics and business there is a school of strategy that is focused on the "sale" to such a degree that long-term value, quality, and effectiveness are sacrificed just to "move product" or "pass the bill". One strategy/tactic in the toolbox of people who are focused on the sale above all else is to make only large scale mistakes, which are usually easier to get away with than small errors. The reasons for this are four-fold:

1. If you are presenting people with an entire, new (but deeply flawed) self-referential system, you are able to reframe objections to and doubts about it according to the newly presented system rather than to received norms. This is the benefit of "reframing" a debate and insisting on your framing of it when challenged.
2. People feel unqualified to criticize something they can barely comprehend that in its design and presentation seems to be the product of wealth, power, and intelligence.
3. Conversely, a competing more effective framework that is more easily grasped can be dismissed by critics for small errors or points of personal disagreement with what they already know or feel comfortable with.
4. "The Emperor's New Clothes" – pointing out major errors that call into question the competence or reality-basis of others puts critics into the uncomfortable position where some of the negativity you are attributing to the other is cast back upon you. People will have difficulty believing that upstanding members of a community can singly or as a group be so misleading or misled.

Cap and trade is a very, very big mistake so one can find many, many angles, without trying too hard, to criticize it. I have too many options in choosing approaches to its deficiencies and I am a person who does not particularly enjoy writing this type of criticism; historically my focus has been onoffering solutions. Unfortunately cap and trade's self-reinforcing system of assumptions have protected those "inside" the system from seeing what's wrong. Furthermore, a number of people including myself have offered alternatives to cap and trade that are readily available and, in many cases, already in practice in some form but these are now not yet recognized or validated as "big picture" climate policy.

The exertion of more moral energy and political power upon the cap and trade instrument, as many climate activists counsel, will not yield substantially better results because the instrument itself is fractured and divided both against itself and against the real intended goals of concerned activists and political leaders. For one, it actually diffuses or defeats that moral energy rather than concentrating it for better use on the right targets.

Cap and Trade as a Monstrous Hybrid

Cap and trade is, even in climate activists' "fantasy version" with 100% permit auction, tight caps, and no offsets, a third-best or worse climate policy for a number of reasons. It is, appropriating the framework of William McDonough, the inventor of "cradle-to-cradle" certification, a "monstrous hybrid" of a policy that is also ineffective (I have no idea what McDonough's personal view is on this policy and am not pretending to represent it here). In McDonough's typology, a "monstrous hybrid" is a material or product that cannot be redesigned, re-used or recycled after its initial life. An example of a monstrous hybrid is the modern disposable razor or razor cartridges which have metal bonded to plastic and in most circumstances has to be thrown out rather than recycled.

Cap and trade is like physical monstrous hybrids in that it is cumbersome, will install classes of stakeholders that are incentivized only to maintain its systems, and that it will be difficult to adapt it to changing circumstances as McDonough would with a physical product in his cradle-to-cradle process. Unlike eminently reusable cradle-to-cradle product components it doesn't "play well with others" tending instead to dominate the policy landscape without concomitant good results to justify its expanding breadth.

I am however expanding McDonough's usage of the word by adding "ineffective" to "monstrous hybrid", because the hybridization has not improved the object's initial usefulness, the whole purpose of creating a hybrid. One of today's disposable razor cartridges offer a closer and safer shave than the metal razors of old, for instance, so is highly useful in its first life. In cap and trade, the hybrid nature of the policy does not help it to do its work. Its constituent parts are joined together but do not produce results that are an addition of or, better yet, a multiplication of their separate contributions. The "monstrosity" of the cap and trade hybrid is magnified by its poor results to date, comparative disadvantages to other policy frameworks, its unearned hegemony over climate policy thought, and the inconceivably high costs for its failure or ineffectiveness.

Parts of the Hybrid

Cap and trade has four business interfaces, the parts that are supposed to interact with the world and reduce carbon emissions:

1. a (derived) **carbon price**,

2. **permit regulation**,
3. a **competitive bidding and trading market** for permits with accompanying profits and losses
4. a **statement of intent** to reduce emissions via the cap

In the real world, besides economic contraction (which also reduces emissions though with unfortunate side-effects), emissions will be reduced when economic actors the world around use energy more efficiently, use clean non-emitting sources of energy, and build up stored carbon in the biosphere through conservation, changes in agricultural and silvicultural techniques. Here is how the components of cap and trade are supposed to effect these changes:

1. The **carbon price** is supposed to be a disincentive to using carbon emitting fuels, an incentive to using fossil energy more efficiently, an incentive for the sequestration of carbon in land use changes and an incentive to switching to non-emitting energy production; as I have documented elsewhere a carbon tax or fee is a far more effective means of representing the cost of carbon to investors and consumers (rather than traders), as the price will be less variable and not be mediated via the gyrations of the carbon permit market.
2. **Permit regulation** is the control mechanism of the level of emissions as well as the "mint" of the carbon emissions "currency". It is supposed to represent the bulwark of the cap and trade system against dishonest dealing or invalid permits. In addition, via permit regulation will come the issuance of the ultimate "stop" command via the cap on the total amount of carbon pollution. Many, many critics of cap and trade or specific implementations of cap and trade have pointed out the severe flaws involved in using carbon offsets (permits/credits from elsewhere) which undermine the validity and honesty of permits, as well as undermine the entire cap and trade system's effect on polluters in developed countries. Even if offsets were to be regulated in a satisfactory manner, the enforcement of the ultimate cap by regulators will always be "loose" in that enforcement actions will seem arbitrary relative to emissions intensity and be economically disruptive. Direct regulation, inclusive of coal moratoria, is a far simpler, more rational, and more forceful means to backstop price regulation and achieve emissions targets.
3. Cap and trade's **permit trading markets** are supposed to create a competitive environment where firms profit by some combination of cutting emissions and clever permit buying and selling. The profit motive is intended to spur firms to emit less to enable resale of permits. However, overall, there is a disincentive to overachieve too much in that at some point reselling permits becomes more profitable than further investment in low carbon technology; the policy creates an emissions "set-point" rather than a push towards carbon neutrality. Furthermore, if emissions are cut in one place, they are allowed in another up to the cap. In

alternative policy frameworks there is no need for an analogue to the permit trading market.

4. The setting of the cap, a **statement of intent**, is kind of a "carbon pledge" which may inspire action or at least give off the impression that action is being taken. The cap is also supposed to function in an international arena as a diplomatic and trading bargaining chip. As alternatives, there are other means of declaring goals that are paired with more effective instruments, with better track records. The statement of intent is politically seductive as it gives politicians and activists a sense of virtue that distracts them from the flaws of the policy's 3 other parts, if they are able to discern them. Also the metaphor of the "cap" has a physicality to it that is betrayed by the policy's deep flaws.

Dysfunctional Interactions between Cap and Trade's Components

A "hybrid" is the melding of two or more components into a new synthesis that supposedly is more functional or better than the original components. In the case of cap and trade, the components actually interfere with each other leading to results that are far less than the sum of its parts.

1. The regulation of emissions in quantities by permit interferes with the carbon pricing component as well as with the operations of firms in general. Firms cannot predict exactly how much they will emit and their projections may change during the course of a year. Furthermore over- or under-buying permits will change the cost of emissions for the firm. These technicalities distract from investment in emissions reductions or overall decreases in the carbon intensity of production. The amount of real emissions of any firm will always have a different size of "grain" and timing than that of the permits or their auctioning schedule, imposing additional administrative costs.
2. The trading and auction markets interfere with the carbon price by introducing variability into the price, making calculations of long-term benefits from cutting emissions extremely difficult. It is these calculations that lead to investments in low carbon technologies which are the desired outcome of the policy in the first place. Demand for permits, the ultimate determinant of the price, has at best a tangential relationship with what the carbon price is supposed to measure: the damage or mitigation costs to emit carbon.
3. As I noted previously in another piece, the carbon price will not act as a signal of coming administrative action if a firm runs out of permits and threatens to violate the cap. Administrative action will either be endlessly postponed or will come as an arbitrary punishment for failing to buy enough permits with damages to many of the firm's customers. For this reason, cap and trade systems have been incredibly lax in the way they distribute permits.

4. The declaration of the cap as a carbon pledge to mobilize voluntary action to cut emissions interferes with itself in this function and is interfered with by permit regulation and the trading market. Once someone "overachieves" their permit allocation, it is rational for them to sell their left-over permits, allowing others to pollute more at a price. Permit trading is about establishing an emissions "set point" not pushing emissions down towards zero.

Almost all of this is avoidable if another (set of) policy instruments is chosen. The design of more effective policies in a rapid and productive manner is not that difficult if we dispense with the cap and trade format.

2. Cap and Trade’s Perverse Ethics Threaten Climate Policy Effectiveness

In the first part of this piece, I outlined how the components of cap and trade don't work together to cut emissions.

2. Cap and Trade’s Perverse Ethics Threaten Climate Policy Effectiveness

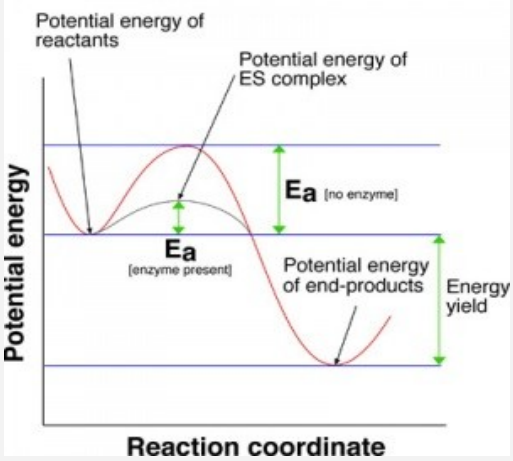
The role of ethics in economic policy, and in climate change policy in particular, is misunderstood or underrated. Ethics as an animating principle of government or civic action is not simply a matter of maintaining or broadcasting ethical rectitude by individuals or organizations or avoiding certain lapses or illegalities. Sometimes viewed as optional or of limited use, ethics is often brought into discussions after the fact, explicitly to judge the behavior of individuals or organizations or implicitly to achieve higher personal status. However ethics can be more broadly understood as one of a continuum of means by which value, negative and positive, is assigned to things, people, actions, and ideas. I am using "ethics" as the inclusive term for "ethical codes, values, and morals".

The choice in ethics on a community or national scale is not only between good and bad or in resolving an unusual and challenging conundrum as is often brought to the attention of professional ethicists, but in the alignment of priorities between what gets more attention and resources and what gets less. The value of climate protection and clean energy is for most people and governments still a somewhat lower priority than, for instance, national defense, as is reflected in their respective budgets in most countries. While some feel that calculated costs and benefits should always determine political and economic decisions, how one accounts for costs and benefits is a matter of a series of ethical choices. Furthermore political and cultural leaders and active social movements can via their ethical commitments and leadership change the priorities of a nation and thereby alter the budgeting, effort and time priority assigned to each set of activities.

Climate Ethics Is Not Optional

In an earlier post, I have compared the fundamental task in climate policy to overcoming an addiction. In an addiction, impulses to use a harmful substance overwhelm the rational thinking and ethical parts of the individual; for addicts, rationality becomes an instrument to search for the supplies of the addictive substance and cover up its consequences, including lying to others and to yourself. To overcome an addiction, most addicts need to install an “external conscience” in the form of a community of people who monitor them and encourage them for years or for the rest of their lives.

Addiction is about putting short-term gain ahead of long-term viability; similarly a society such as ours that depends on fossil fuels or the overexploitation of the soil and forests is placing immediate satisfactions ahead of long-term sustainability. Over the past two hundred years economic growth and activity has been intimately linked with the use of energy-using devices which worldwide depend for 85% of their power on fossil fuels; one could almost define economic development in the last century as the increased use of fossil, hydroelectric and nuclear energy to do work that would in the past have been done by human or draught animal muscle power. Increasing convenience, the shortening of the distance between a wish and its fulfillment enabled by cheap energy, has become a hallmark of individual and social wealth. To enable us to overcome the pull of cheap fossil energy we need not only to listen to speeches about how bad it is but to have an effective policy framework that guides us to reduce our use of fossil fuels and increase the supply of clean energy.



In chemistry many reactions have to go over an energy "hill" called the "energy of activation" to occur. This "hill" is lowered by the presence of one or more catalysts which lower the amount of energy required for the reaction to occur. Government's role can be viewed as a catalyst for certain economic transactions that don't happen spontaneously but are socially or economically desirable. (Image: UNIScience.net)

A metaphor from chemistry might also help illuminate the challenge facing us. Some reactions in chemistry happen pretty much spontaneously because there is no or very little of an energetic “hill” orenergy of activation to surmount in order for the reaction to proceed. Other reactions, many of them in biological systems, require the presence of one or more catalysts or enzymes(biological catalysts) which decrease or supply the energy of activation of the reaction. The input of energy, like the heat and chemical transformations of a fire, is a catalyst for many reactions including those involved in cooking. Just as spaghetti doesn’t cook itself without boiling water, it is clear that we, as participants in economic systems, are not spontaneously protecting the Holocene climate. Some hold out the hope or subscribe to the philosophy that the only good or “natural” economic activities are those that happen “uncatalyzed” by government or the exertion of ethical will. This philosophy tends to naturalize what already has been

achieved with or without government and has no account for how things change or how new challenges can be met: it is a "just-so" story.

While it would be preferable if good things would happen only “by themselves”, without catalysts, we have discovered that this cannot be counted on to induce us to control emissions of greenhouse gases: too many of our satisfactions have come to depend on the use of fossil fuels and we don't experience the negative consequences directly. Our economies that run largely on narrow self-interest alone will not institute the technological changes necessary spontaneously, because of their costs or the diversions of the other interests that all of us have.

Good climate policy supplies the “energy of activation” or the catalysts for those “reactions” to take place, to enable people to make the decisions they need to make to protect the climate. The basis and power of that policy comes from an ethical commitment of leaders, citizens, and activists to tip the scales in favor of carbon mitigation, and to a lesser degree efforts at adaptation to climate change. In some areas, it may take a mere informational “nudge”, in other areas, it may take a decade or two of costly effort to supply this “energy of activation” yet the costs of inaction are in this case far greater.

Government is the only institution with the potential to enact these ethical commitments on an economy-wide scale and that can level the playing field. Shaping markets is an important part of government’s activities, which is not often welcomed by participants in those markets. This requires the ability to marshal as much support as possible for these tasks from the citizens and business interests as well as the ability to anticipate resistance to these changes from the same groups. There is both economic pain and reward involved both of which should not be ignored.

An embrace of government’s role is not the embrace of a positive utopia or single guiding principle for social and economic life but simply an acknowledgement of a diverse and complex human nature. There are many who struggle against what seems obvious or commonplace in the observation that government plays a necessary but distinct role in the economy, especially in times of crisis or rapid change. There are still many believers in the self-sufficiency of markets which supposes that government’s catalyzing of economic activity is either unnecessary, harmful, or should remain invisible for ideological reasons. Some insist on a largely painless transition to a clean energy future: this is highly unlikely and requires waiting for technological breakthroughs that may not occur in time. Others believe that their policy instrument (cap and trade) will scour the world for all “least cost” opportunities to reduce emissions before any economic pain is inflicted at home. Still others hold out the prospect of a relatively painless status quo, and this seductive notion animates those who deny or minimize climate change.

While we are, in an age of cynicism about government and humanity in general, unused to thinking about government as the instrument of popular morality, most halfway legitimate governments express through the passage of laws and their enforcement the values of their respective communities; without a shared sense of ethical justification for laws, a government quickly loses its legitimacy. By contrast, unregulated markets have tended to promote at best a narrowly utilitarian morality that has little concern beyond the horizon of the next few years, the next few months or the end of the current transaction. Markets encourage most often those transactions that happen pretty much spontaneously, based on a narrow form of self interest as defined by traditional corporate accounting. Governments backed by substantial ethical justification and assent from civil society are the only institutions that can in large number of transactions tip the scales in favor of solutions that address medium- and long-term issues that do not have a major impact on this year's balance sheet.

Thus returning to the formulation in the title, ethics (duty-bound commitments to the future and to the vulnerable on the planet) are the locomotive of climate action and government action and policy aligned with these commitments are the prime vehicle for their realization. Acts of individual and corporate virtue and creativity will be an integral parts of moving us forward but are no substitute for widely held ethical commitment to these goals that include the highest ranks of government.

Cap and Trade's Ethical Trap

The "dressing up" of markets, especially trading-based markets, as agents of morality in the last three decades has come at a time that is unfortunate for the future of our favorable climate. Markets have been held up as "better than" government and government's role. Meanwhile, if viewed dispassionately and without pro- or con-ideology, unregulated markets use resources profligately and without regard for its impacts in search of short-term favorable return on investment. Carbon dioxide emissions do not substantially threaten the economic utility (subjective assessment of value) of the major polluters or many of their customers, in their current perceptions. These factual observations should not be attributable to one political wing or another. Having to re-establish or establish for the first time government's legitimacy in these matters just adds another political challenge to the process of dealing with climate change

Cap and trade is an effort to clothe the administrative and ethical role of government in the supposed ethics and/or efficiency of markets, in this case, the carbon permit market. The twisted result is a huge policy blunder and is not as good as the more straightforward carbon tax/dumping fee or direct regulations, which acknowledge governments' leadership role in these matters. A shorthand way to look at emissions trading is that an artificial permit market is supposed to "emit" the carbon price signal to

the real market for carbon emissions reductions. The substantial effort involved in rerouting the intentions of government leaders via carbon markets ends up obscuring or voluntarily hamstringing the role of government. It is unfortunate that some of these truths are being pointed out by politicians and others who want no climate policy whatsoever; this does not make their observations about cap and trade completely false.

In the 1990's, when cap and trade was formulated, a generalization andexpansion of the role of derivative trading in the economy was considered to be commonsensical and a sign of economic health. The perspective looks different now, after we have experience a monumental financial collapse which was enabled by the meteoric expansion of derivative trading during the last two decades. The designers and advocates of cap and trade make the derivative trading component, the insertion of a vast market of middlemen,seem a trivial addition to the concept of a carbon price, which is represented most simply as a carbon tax or fee. However as we have seen this trading market substantially changes the determination of a carbon price and diminishes its usefulness as a tool to spur investments in real technologies.

In proposing cap and trade systems as the climate policy of choice, governments also try to insulate themselves from taking direct responsibility for carbon mitigation. Once a cap has been set, the work and responsibility of government is obscured by the activities and vacillations of the carbon market which is then "responsible" for the carbon price that is generated. Ultimately this creates a situation where, in the end, no one is directly responsible for climate protection as government can point to the permit market as being at fault for lagging implementation of carbon emissions reduction. Some may view this as positive, perhaps insulating climate policy from the vicissitudes of politics, but in the end this means that the insulated climate policy will be ineffectual, non-transparent, and corruptible by system stakeholders who are interested in maintaining a fossil fueled status quo. Immediately or in the near future this failure has a high probability of becoming a political liability.

The Pricing of Carbon as an Ethical Enterprise

In the "prospectus" for cap and trade is the claim that beyond setting the cap, the government is allowing markets to set the price of carbon. Somehow this is supposed to make the price of carbon seem more "real" and be more "efficient" to market actors. However, what happens, viewed from the point of view of authorship or responsibility, is that government issues a certain number of permits from which it might be expected that a certain average price will emerge yet afterwards allows both auctions and trading to ultimately determine the carbon price; calculations of economic impacts of the policy will always project prices which are the operative economic units, not numbers of permits. The interplay of what market actors think a permit is worth at one point of time or another in bidding or trading, has not that much to do with the cost of mitigation of

carbon emissions or the damage those emissions cause, i.e. their fundamental value. In 2008/2009 carbon prices have doubled and halved in value within the span of a year depending on factors such as the cost of oil and the general strength of the economy; neither of these factors have much to do with pressing on with decarbonizing the economy.

Put another way, the biosphere and atmosphere "don't care" about the opinions of various permit buyers, the price of oil or economic downturns. Pricing carbon is about impressing the impacts of carbon emissions upon the valuation processes of all economic actors, not the other way around. (Furthermore this impressing of the impacts is supposed to occur within and an investment [longer] and not a trading [shorter] timeframe, so there is a fundamental mismatch between the instrument and the task.) We are already at atmospheric concentrations of 387 ppm carbon dioxide, past what most scientists believe to be the optimal set point for carbon concentration in the atmosphere. The real cost then of additional emissions is at this point in time close to astronomical because all emissions now contribute to irreversible warming. While an astronomical price of carbon is not realistic, to sever the ties of that price to the scientific reality by allowing the interplay of market participants to determine the price is a distraction that serves no purpose according the manifest large-scale goals of any carbon mitigation policy. Furthermore this is again, as above, a case of "diffusion of responsibility", where introducing more actors into a situation creates the situation where each actor feels less compelled by ethical standards to take responsibility for the situation.

Instead governments need to take responsibility for their (new) role as protectors of the atmosphere and the climate, one part of which (and this is not the only part) is to set a price for carbon that has a real impact on markets and leads nations and the world to meet emissions targets. The setting of this price involves calculations of what it will cost and how these costs will be paid for and their effects mitigated upon the most vulnerable parts of the population. To whom political leaders will listen most and which concerns will trump others is part of the ethical decision making involved. These decisions will not necessarily be perfect but will start a process by which they will enter a dialogue with their constituents and stakeholders where actions are easily understood in terms of their costs and benefits. Cap and trade, with its focus on trading rather than investing, surrounds political decisionmakers with groups of people, who are for the most part not particularly relevant to the process of cutting carbon emissions.

Recognition and Respect for Carbon Investment Stakeholders

Stakeholders other than government and scientists are important to include in carbon pricing decisions. These stakeholders should include the industrial groups, consumers and lenders that are affected by the carbon price, not third-parties with interests in taking advantage of derivative trading markets. Finance is important as a spur to long-term

investment but the magnification of its trading component in the cap and trade instrument is the injection of an irrelevant foreign element into the carbon pricing process.

By setting the cap and letting the market "decide" government and regulators are disengaging from the process of determining costs even though, at this point in history, government sponsored engineering studies of various climate solutions are about as accurate information as we have about what it will cost to mitigate carbon emissions. The cap and trade instrument allows climate activists and government to occupy the ethically suspect role of the dilettante that want to keep his or her hands "clean" of discussions about actual monetary amounts. To remain in a position that "floats above" the process of discussing money is at this point in time ethically suspect.

The cap and trade instrument is also fundamentally disrespectful of those who will be making the decisions to cut carbon emissions. The variable carbon price without predictability (at least as a reasonable approximation over a 5 year period) does not give investment decision makers adequate tools to assess which investments they should make. Instead, the variable "wild card" carbon price that results from cap and trade, pushes upon them a frightening responsibility to make decisions under increased uncertainty. They are supposed to do "something" or pay "some money" for permits over a period of years but it is not known how much. The politicians and activists prefer the false moral certainty of the cap which pushes both discussions of money and actual decisions to cut emissions to the "polluters". Why not make this job , the most important in the whole policy framework, as easy as possible?

I have no illusions that debating over amounts of money will not be loud and obstreperous. However the fight should be carried out as openly and transparently as possible so as many stakeholders as possible can see and understand the results. By contrast, the setting of a cap only has indirect meaning and impact on constituents and stakeholders, which then does not allow an open and honest dialogue and debate about the costs of climate mitigation. Perhaps in the 1990's, leaders shied away from entering this dialogue because they have not been prepared to do so. Now we can assemble the tools to discuss the costs and benefits of climate action with all. In addition, in the 12 years since Kyoto, it has become more obvious to many people around the world that something is happening to the climate, so open discussion rather than the vague proclamations of intent is more of a possibility.

The Structure of Cap and Trade Defeats the Ethical Force of Climate Action

As it now stands, our short-term self-interests as people living in 2009 are not generally aligned to create a sustainable economy. In the developed world, if it were up to us, we would "party like its 1999" perhaps with a few green tokens that would declare us to be

virtuous people in our own self-estimation. In the developing world, many people want to live some approximation of the lifestyle of those in the developed world with their accompanying reliance on conveniences powered by fossil fuels.

The strongest countervailing forces to these tendencies are our own observations and the observations of scientists that we have started to degrade the world by our activity and that we are concerned about the environment that we will leave future generations or force upon the less powerful or privileged parts of the world. These ethical concerns informed by science are the most consistent source of power for climate agreements and climate policy. We require a clear regime of rules, incentives and disincentives combined with leadership in the right direction that are as directly as possible connected with these sentiments and observations.

The complexity and dysfunctional nature of the cap and trade hybrid instrument does not offer a lever or "button" upon which the combined ethical force of those concerned about the future of our planet can "push" to make the instrument actually make substantial cuts in emissions. Once the cap is set, the supposedly impersonal forces of the market will determine the outcome; within the policy's design by intention no agent is simultaneously directing the investment process and responsive to the calls for climate action. All interactions with low carbon technology and emissions cuts will be filtered through the carbon market paradigm. While this is an advantage to those who want to slow action on climate change, ostensibly the creation of a cap and trade system was to accelerate action on climate change. The policy itself is at war with the ethical justification for its existence.

The declaration of the cap, component "4" of the cap and trade hybrid that I described earlier, also is taken by those who don't bother with or understand the economic decision-making and technology-specific parts of policy options as a seductive ethical quasi-fait accompli. They might think: "I have subscribed to this policy that pledges this goal (with impenetrable economic explanations attached), therefore I have done my duty". Unfortunately the devil is in the details which are difficult to delve into without some understanding of how investment decisions are made. The declaration of the cap however "tight" or not gives subscribers to the policy a sense of virtue without really seeing how the policy itself undermines or makes achievement of an ambitious cap much more difficult.

My friends who support cap and trade will point out that they call for a version of the instrument with 100% auction and tighter caps. Surely, they think, this is putting the screws even tighter on the "polluters" and sending the message via higher permit prices that investment must be made in carbon mitigation. While the "fantasy" version has yet to be enacted anywhere in the world and may very well never be enacted, the problem is that a more rigorous cap and trade system makes the job of the people who actually cut

carbon emissions much more difficult than it has to be. A predictable price will be a spur to investment, while the swings of a carbon market will slow investment in carbon emissions reductions.

Carbon Taxes/Dumping Fees and Direct Regulation Are Responsive to Climate Ethics

If we contrast this with direct regulation or a carbon tax or fee, the ethical structure of the instruments become more obvious. Imposing a tax on an activity, especially framed as a Pigovian "sin" tax, means that we are penalizing that activity or asking for compensation to society for damages. In essence a carbon tax is consistent with the valuation of carbon emissions as "bad" though not criminal. Auctioning permits to emit says that carbon emissions are neither good nor bad, ie. this activity is permitted but has an indeterminate cost and a market value. Already at this level, cap and trade is "protecting" emitting carbon from moral opprobrium. Like it or not, moral concern, anxiety, anger and outrage expressed and directed wisely is going to have a determinative ongoing role in spurring climate action.

Furthermore, as we are recognizing here that relatively speaking governments have an eye to long-term outcomes to a much greater degree than market participants, the carbon tax or fee gives government actors by extension civil society a direct "say" in the accounting of damages and the remedies for those damages. While cap and trade gives governments only a very indirect instrument to influence market behavior, a carbon tax or fee allows government to put its "hand on the scale" to influence economic decision making directly. Remember that the "certainty" of the cap is illusory because of the cap's enforcement problems; placing a "dumping fee" on emissions is a much more direct and practical expression of concern.

Both taxes/fees and cap and trade create revenue streams for government which can be directed or misdirected any number of ways. Within the policy choice between a quantity vs. a price instrument is no formula for how to direct the resulting revenue which will be determined by politics and the local economic consequences of the policy itself. However taxation at least historically is understood as a revenue stream, therefore there is greater chance for a transparent accounting and open discussion of where the money will go.

Additionally and more clearly, direct regulation is consistent with our emerging ethical evaluation of carbon emissions in that specific carbon emitting activities can be made illegal over time. For instance in the US, we could make illegal in 10 years time the use of coal to generate electricity without 95% sequestration of emissions securely. We would be making a major ethical statement about our use of coal and the pollution of our common atmosphere. This law would need to be supported by other measures to enable

a transition to a clean electric generation mix but it is not difficult to achieve with the appropriate will and incentives. There are dangers of "unfunded mandates" or distortion of incentives with direct regulation, but this does not mean that any and all regulation is bad. The blanket condemnation of regulation is still a political discourse with a constituency but economic reality has shown us that we cannot do without any regulation.

Cap and trade represents something like a moral limbo for the climate action movement into which it has marched without thinking too much about giving up its moral power. Once instituted, participants in a cap and trade system would have a legal right of redress that their permitted and potentially valuable rights to pollute would be taken away from them by laws which forbid carbon emitting activities. Cap and trade thus creates a perverse ethical system. Cap and trade is more of an economic thought-experiment than a confrontation with the economic, technological and ethical realities of cutting carbon emissions.

The faith in markets around which the cap and trade instrument has been built overreached its true place in stimulating the targeted market for low-carbon and zero-carbon technologies. One of the instruments that would truly offer this "button" or "lever" is a carbon tax or fee which if demands were made that it ascend high enough, would stimulate low-carbon investments. The other instrument would be laws which with reasonable time frames and imposed-cost calculation, circumscribed or forbade particular high-emissions activities that destabilize the climate.

3. Climate Keynesianism: Already At Work Cutting Emissions

In the first part of this piece, I discussed how the fractured structure of cap and trade is either non-functional or marginally functional. In the second part, I pointed out how cap and trade, due to its structure, is largely non-responsive to the ethical power of the climate action movement and concerned political leaders. Here I offer a context within which individual effective policy instruments can fit together.

As the foregoing account suggests, underlying climate policy and the weighting given to ethical principles in economic decision-making are differences in general theories of economics. The choice of economic frameworks organizes the world into "Gestalts", assemblies of meaningful elements that separately do not have as much meaning as they do together. Certain choices seem to follow more easily from other choices when there are different frameworks for understanding the world.

The monetarist worldview, within which cap and trade emerged, focuses on the effects of prices on the behavior of independent economic actors on a market. If the right carbon price signal is sent, the hope is that demand for low-carbon products will spur invention of and production of low-carbon solutions. Those policy proposals that rely exclusively on a predictable carbon tax or fee also "play by the rules" of the monetarist worldview; a carbon tax/fee is a truer and clearer expression of the monetarist belief in the importance of pricing than the double-decker market of cap and trade. However the carbon tax or fee recognizes or at least does not laboriously circumnavigate government's direct role in representing the general interest and managing overall emissions-reduction efforts.

The events of last year in the financial markets have called in question monetarist orthodoxy as an exclusive guide to economic policy, which broadly defined includes climate policy. While some attribute the crisis to improper government involvement in financial markets, most have taken away a view that there was insufficient government regulation of the financial system. Whatever the causes of that particular collapse, markets in reality require over time the provision of public goods and infrastructure to function, as well as at times the stabilizing force of direct government investment in the private economy. Support for and focus on public goods is de-legitimized or ignored by the monetarist economic framework leading to stealthy, poorly planned or underfunded government initiatives in these areas.

To remind readers of the recent history, in September 2008 the Bush Administration abandoned any pretense of following monetarist restrictions on government intervention in the economy and moved rapidly in combination with the Federal Reserve Bank to stabilize the US financial sector as other governments throughout the world undertook similar efforts to avert a repeat of the Great Depression of the 1930's. The Obama Administration continued these policies and added a $700 billion economic stimulus package which is an effort to bolster economic activity and employment outside of finance. The US stimulus package includes a number of projects in the area of renewable energy and energy efficiency that would help reduce carbon emissions.

These actions of the Bush and Obama Administrations are rightly consideredKeynesian, at a point in history when John Maynard Keynes, the foremost economic theorist of the Great Depression, had been ignored for at least a decade among government and academic economists. Since these events, Keynes has luckily been rediscovered. Despite the dramatic and uncommon nature of major market crashes, Keynesian observations and principles also apply to the relationship between government and markets at less extraordinary times. It is not clear whether the Obama Administration will embrace a variant of Keynesianism as more than a source of emergency help for a faltering economy, as this would be a stance that appears somewhat to the left of the President's desired political position. However circumstances, including rising unemployment, may force him, as they would almost any thinking leader, to adopt a more aggressive Keynesian approach to our Great Recession.

Relative to monetarism, most versions of Keynesianism acknowledge that government needs to provide public goods inclusive of social welfare measures that manage aspects of the economy other than interest rates and the money supply. One of the key focuses of some Keynesian policies is sustaining demand via various government programs: provision of educational benefits, worker retraining, unemployment insurance and health insurance which allow more discretionary spending by consumers, stimulating demand for goods. Though never formalized as a package of obligatory measures, these parameters vary but can be broadly construed as Keynesian.

Keynesianism does not explicitly endorse the interaction of traditional ethics with economics but the validation of government's role in managing the economy and spurring demand has meant that governments with a Keynesian approach to the economy are more responsive to ethical argumentation about new social, economic, and environmental needs. Those who believe in unregulated markets after Adam Smith see this aspect of Keynesianism as a corruption of the ethic of pure or almost pure self-interest, supply and demand that they feel should animate economic life.

While adherents to monetarism or neoliberalism, the philosophy that markets represent a normative ideal that is most often suppressed by government, will resist the movement

towards a new Keynesianism, it seems highly likely that going forward, the lessons of Keynes will be taught once again. Consequently views of government intervention in the economy are shifting from largely negative to a mixture of negative and highly positive.

Climate Keynesianism: Suited to the Tasks of Climate Protection and Our Economic Challenges

There is a fundamental dispute between monetarism and Keynesianism with regard to whether government can at times lead an economy. Monetarists believe it is only private enterprise that can lead the economy while Keynesians believe in a mixture of public and private where the public sector and government can provide leadership in areas where the private economy is incapable of providing direction or delivering services. Whatever your political preferences in the grand scheme of things, in the area of rapid response to climate change, I see no alternatives to recognizing the role of public leadership in restructuring our energy and land-use systems.

The selection of carbon pricing instrument is an important choice within climate policy but is not nearly the silver bullet that advocates imagine it to be. An effective climate policy would yield an unparalleled rapid transformation of energy infrastructure and land use patterns the likes of which the world has never seen. Not only has the building of infrastructure at ordinary pace depended decisively on the help of government but the addition of a rapid tempo of change as part of a plan or stimulus effort to achieve carbon neutrality will require large government investments and planning, often in consultation with private corporations, academics and the general public.

Discussions of high-level climate policy have almost always centered around the addition of the carbon price as the key to progress in cutting emissions. This emphasis, what might be called “climate monetarism”, has overlooked the importance of existing physical infrastructure, both public and private that constrain our energy and transportation choices in ways that a price will not overcome by itself. The major infrastructure projects required to move society within reach of carbon neutrality are a renewable energy supergrid or hypergrid, renewable energy generators that are large or internetworked, electric vehicle recharging networks, and an electrified passenger and freight transport system. Unfortunately, infrastructure projects are not often self-financing but are usually either paid for directly through tax revenue or the financing of those projects is secured using tax revenue as a guarantee.

Put another way, the transition to a zero-carbon economy cannot be easily packaged into "product-sized" units to which the appropriate prices can be attached. Carbon prices will play a role but equally important are the physical contexts within which those products are used. Therefore changing that physical context should pre-occupy leaders as much as or perhaps even more than assigning a carbon price. I have no doubt that a sufficiently

high carbon price, as did the run up in gas prices in the summer of 2008, will have a galvanizing effect. However those behavioral changes will become lasting changes if there is an infrastructure to support markets for low- and zero-carbon goods and services.

Despite the costs of these recommended infrastructure projects they also confer benefits beyond their zero- or low-carbon emissions: we are facing an epic economic crisis which requires both massive economic stimulus and economic leadership to form the basis of the 21st Century economy. Unemployment is creeping towards levels not seen since the Great Depression and an increasing number of commentators have called for a World War II type mobilization to pull the US economy and by extension other economies out of what might become a long period of stagnation. The stabilization of the climate would appear to be a massive project that would offer these additional economic benefits if viewed within some form of Keynesian paradigm.

Is Climate Keynesianism Quietly Doing the Heavy Lifting?

Claims are now being made by the managers of the EU-ETS cap and trade system that a "price signal" has been heard leading to a decrease in emissions in 2008. I have dismissed this above and elsewhere as a suspect assertion given that US emissions fell by approximately the same amount due to the worldwide recession of massive proportions that by some counts started in late 2007 but picked up in 2008. There are however some countries that also are cutting emissions quite rapidly while others are not cutting emissions much at all. Perhaps some are feeling the "price signal" and other are not?

Even if we accept that some emissions cuts are happening intentionally within the EU-ETS, we need to ask "how?" they are happening. What mechanisms are causing people to cut emissions? Is it a price signal or are these government land use, energy efficiency and renewable energy programs that run independently of the EU-ETS? If we take the case of Sweden or Denmark, we see many government programs have already been instituted in the form of carbon and energy taxes to cut the net emissions. Some of the emissions reductions attributed to Sweden, the overachiever in the EU-ETS, are due to work that that government has done in leading initiatives to increase district heating and the use of biomass to heat and generate energy. Furthermore, the Swedish government has been following the mandates of the 2003 EU Biofuels Directive more assiduously than other European country, which means that it now uses E85 (85% ethanol fuel) and ED95 for an increasing number of vehicle miles traveled in buses and private vehicles, much of which is imported from Brazil and Italy. For the purposes of this analysis I want to leave aside the highly problematic nature of refined biofuels (but not waste biomass) as a source of emissions reductions.

The Danish government has also embarked on an aggressive program of decarbonizing the Danish economy by using government-sponsored programs, vehicle and fuel taxation, some of which extends back to the 1970's. The largely government-owned energy company DONG has been working with Better Place to create an electric vehicle charging network, in part as a means to use Vehicle to Grid (V2G) technology to balance the energy production of Denmark's many wind turbines. Tax policy is being reconfigured to give electric vehicles a substantial cost advantage over equivalent gasoline vehicles.

If we take a step further back, we see that Western Europe's many governments have, since the oil shocks of the 1970's, converged upon a response to their dependence on imported energy by taxing gasoline at a high level and paying generally high per unit energy costs for energy, encouraging a much more efficient use of energy than we find in North America. While prior to the 1990's this could not be considered a "climate policy", the Keynesian consensus in Europe's parliaments has not led to serious political challenges of the notion that government needs to shape a "macro" energy policy that looks at longer term needs than this year's wholesale petroleum prices. European governments (and now governments in other parts of the world) have also decided to monetize the positive externalities of clean energy by offering guaranteed premium rates for renewable energy investors (feed-in tariffs) to enable financing of what used to be considered risky investments. While geography and population density have something to do with it, these policies over a 30 year period have led to European economies having a relatively lower carbon intensity than the US and Canada.

For the purposes of this piece, written in relative haste, I cannot do all the research to fill out this picture but I would like to advance the following two hypotheses to stimulate research by those who are following events on the ground in the EU-ETS:

> **Hypothesis #1**: Emissions cuts in the last few years and the near future, controlling for external economic downturns or upturns, will be attributable to government regulations enforcement, energy tax measures, government (including the EU) programs, planning and initiatives that I am calling "climate Keynesianism" and not to cap and trade regulation, with the exception of the cap being viewed as representing a "target" or carbon pledge which reinforces these actions by leaders. It should be fairly easy to test this hypothesis.
>
> **Hypothesis #2:** A continuing trajectory of cuts downward into the future cannot be achieved without the provision of large government investments or programmatic planning and incentives to build out zero-carbon infrastructure (electrified trains, transit, electric vehicle support infrastructure, electric transmission, electricity system reform, renewable energy generation incentives)

If either of these hypotheses are true, the monocular focus on carbon pricing and in particular cap and trade may simply be window-dressing on coordinated government programs that are doing all the work. What is getting the job done is not a carbon market but a government motivated to protect it's people and meet its obligations to its neighbors and the world community. The structure of reward and discussion has been on the design of carbon markets, when in the background governments have been attempting to do the heavy lifting. Why not change the focus to look at the reality rather than strain to create the carbon monetarist utopia?

The "dressing up" of climate Keynesianism as cap and trade would do a lot more than cosmetic damage because it would undermine the prospects of the tool that does the work, an adequately funded government engineering regionally appropriate systemic solutions, to get the political support and tax revenue that it needs to do the job.

Creating a Context for Carbon Pricing

Carbon pricing is very important but it must operate within a context which is shaped in part by economic history and geography and in part by government policy. The focus on carbon pricing and in particular the octopus of cap and trade has crowded out meaningful discussion of what needs to be done on the ground to fundamentally change our use of energy. What I am calling "Climate Keynesianism" is one way that we can understand how we might create a context around these individual measures so they have "meaning" and therefore propulsive power to motivate changes in investor and consumer behavior. Some of this context is supplied by government and government, like it or not, has the best shot of reshaping these contexts within which carbon prices will push us in the right direction.