



**Climate Advisory Team Draft Recommendations
Washington Policy Center Comments
January 22, 2008**

Please accept these as our comments for the Climate Advisory Team's (CAT) Recommendations to address concerns about emissions of greenhouse gases in Washington state. As can be expected when trying to address a process that takes nearly a year and involves thousands of pages of analysis, our comments have been abridged to offer general thoughts about various elements of the proposal. In some cases arguments have been reduced for brevity and simplicity. We are happy to provide additional detail and answer questions about the implications of our thoughts.

Generally we have three concerns about the report:

- The analysis and recommendations are extremely incomplete, with many of the most costly and significant recommendations being omitted or simply "not quantified."
- Where financial estimates are provided, some are extremely rosy.
- Estimates of reductions are often rosy as well and there are several cases where estimates are simply aspirations, not projections.

Many of these problems emerge from the CAT's commitment to a political, regulatory approach. In many cases an approach that more effectively uses market incentives would be more effective and less costly.

Thank you for this opportunity and if you have questions feel free to contact me at tmyers@washingtonpolicy.org or by calling me at (206) 963-3409.

Section II: The Compelling Challenge from Global Warming

Reasonable Risk and Data

The apparent purpose of this section is to set the context for accepting the costs of the various proposals that follow in the report. To that end the draft includes a significant amount of rhetoric that seeks to dramatize the danger without reference to actual potential costs and benefits. In the first page alone we find phrases including¹:

- "a powerful mandate"
- "This clarion call"

¹ Washington Climate Advisory Team, "A Comprehensive Climate Approach for Washington (working title)," December 21, 2007, http://www.ecy.wa.gov/climatechange/CATdocs/122107_1_recommendations.pdf (Accessed December 21, 2007), p. 2

- “meaningful action to drastically reduce”
- “most pronounced destructive impacts”
- “this daunting challenge will be both breathtaking in its scope and exciting in the opportunities”
- “unwavering determination”
- “Unchecked global warming represents incalculable risks.”
- “irreparable harm and untold human tragedy”

Such soaring rhetoric serves not to clarify but to muddle the understanding of the potential risks and costs.

For instance, the introduction says that “stabilizing the climate as quickly as possible...is one of the most critical, if not the defining, issues of the 21st century.”² This is simply incorrect. Stabilizing the climate as quickly as possible would require stopping all carbon-emitting activities including driving, air travel and electrical generation from carbon-emitting sources. This would, of course, impoverish millions. What the reader is to assume, apparently, is the phrase “within reason.” But that is the whole debate. What is reasonable? Phrases like “untold human tragedy” are rhetorical devices designed simply to increase the risk tolerance of political leaders and raise the pain threshold. They do not, however, clarify what is a reasonable level of risk tolerance and cost.

The introduction further says that “global warming represents incalculable risks.”³ This is also incorrect. In fact, the Department of Ecology frequently refers to a study it commissioned in 2006 identifying the potential costs and risks.⁴ Numerous other studies have been created, ranging from the Stern Report published by the UK to modeling done by Yale Economics Professor William Nordhaus, who has been producing such models since the 1970s. The only purpose to define risks as “incalculable” is to eliminate the ability to compare costs to those risks, justifying a much higher level of cost than would otherwise be reasonable.

Further, citing “traditional knowledge of native people and ad hoc observations throughout the populace”⁵ as evidence of climate change reinforces this apparent aversion to data-based decision making. A common statistical insult is that “the plural of anecdote is not data.” The Climate Advisory Team should avoid making this error, replacing rhetoric with accurate risk and cost estimates.

A discussion of what reasonable risk entails may be appropriate here, but to my recollection this was never discussed by the CAT. Tacking on such a discussion at the 11th hour would likely not reflect the position of the CAT but of staff who write and oversee the report.

Economic Opportunities and Opportunity Costs

To offset concern about the potential costs of CAT recommendations, the draft indicates that there is an “unprecedented opportunity to be on the forefront of transforming our economy and our lifestyles.”⁶

² Ibid.

³ Ibid.

⁴ This is not an endorsement of that document and, as evidence of its exaggerated cost estimates, the recent data from the UW Climate Impacts Group on sea level rise in Washington is half of what was used as a “modest” estimate by that report. The highest expected level reported by the UW CIG is one-fifth of the “catastrophic” estimate used in the Ecology report.

⁵ Climate Advisory Team, p. 2

⁶ Ibid.

The report goes on to say “we can seize the economic benefits that will accompany the innovation, investment and jobs creation that this remarkable endeavor will require and create.”⁷

These claims assume that political decisionmakers can accurately predict the future of such innovation and economic opportunities sufficiently to “seize” them. There are several problems with this assumption.

First, it is frequently incorrect. Two recent examples suffice.

While government has focused on incenting the creation of electric vehicles, no government regulations were designed to encourage the development of hybrid vehicles. The market, not political favoritism, provided the incentives to develop that technology. As a result, California altered its 1990 electric vehicle law in 2003 to accommodate hybrids.

Second, as will be discussed more completely below, a number of recent studies have shown that incentives to increase biofuels, like Washington adopted in 2005, are now being questioned both economically and for their impacts on climate change. The January 2008 report by the UK Royal Society notes that “There is evidence that the promotion of biofuels has led to policy getting ahead of the research and technology development needed to achieve the outcomes proposed.”⁸ This report caused European Environment Commissioner Stavros Dimas to comment that “We have seen that the environmental problems caused by biofuels and also the social problems are bigger than we thought they were. So we have to move very carefully.”⁹

Political decisionmakers, quite simply, have a very difficult time accurately choosing the technologies that are most effective, viable and efficient. Assuming that Washington political leaders can have a significantly better record than has been the case in the past is risky.

The second difficulty is that the CAT draft report is not based on an economic analysis. This not only makes it difficult to estimate the potential size of the opportunity, but it ignores the opportunity costs of any recommended policies. Emphasizing “green-collar” jobs means taking jobs away from other sectors of the economy and limiting opportunities for economic growth in other areas. Rather than creating new jobs, new restrictions are likely to reduce either the overall number of jobs in the economy or the quality of the jobs that are created.

Government policies that direct funding to renewable energy projects or other “green” technologies, take capital away from other sectors of the economy. For instance, efforts to entice investment in green energy assumes that investment would not flow there without those regulations or incentives. Since this assumes that renewable energy projects will not be as efficient as the alternative, it will take more capital to do the same work. If the capital for these projects is simply shifted within the energy sector, there will be the same amount of money being distributed among a larger number of workers, putting downward pressure on salaries.

⁷ Ibid.

⁸ The Royal Society, “Sustainable Biofuels: Prospects and Challenges,” January 2008, <http://royalsociety.org/displaypagedoc.asp?id=28632> (Accessed January 19, 2008), p. 63

⁹ Waterfield, Bruno and Charles Clover, “EU Rethink Over ‘damaging biofuels’ warning,” January 15, 2008, <http://www.telegraph.co.uk/earth/main.jhtml?xml=/earth/2008/01/15/eabiofuel114.xml> (Accessed January 19, 2008)

If, however, the capital came from other sectors of the economy to a comparatively inefficient sector, it is possible that fewer jobs would be created economy-wide by putting funding where it would not otherwise go. This transfer from more efficient sectors of the economy has another negative impact.

When investors decide where to put their capital, they look for the greatest return on their investment. In order to encourage investors to put their money into renewable energy, governments provide subsidies, in the form of cash or favorable regulations, to make the economic return more attractive than competing investments. Such subsidies provide a favorable return to investors, but they increase costs to taxpayers. As a result, taxpayers are paying more to receive the same level of energy.

These impacts are felt across the economy in all favored sectors. Addressing this, William Nordhaus says in the introduction to his most recently published economic modeling on climate change, that such approaches “may actually be harmful in inducing economic inefficiencies.”¹⁰

This is also why the job creation goal of 25,000 clean energy sector jobs by 2020 may actually reduce overall wellbeing for both the economy at large and workers. If Washington state works to meet that goal there are three potential outcomes, only one of which is economically benign.¹¹

- 1) If renewable energy continues to be less efficient than the alternative, then government policies that seek to increase the number of jobs in this inefficient sector will increase energy costs for Washington residents. Ratepayers and taxpayers will have to spend more of their money to get the same amount of energy, meaning they will have less to spend on other things.
- 2) If on the other hand renewable energy eventually improves its efficiency, utilities may be able to meet electric demand or CO2 reduction targets with fewer people, falling short of the 25,000 total job target. What then? Would the state require more jobs be created anyway? Would it provide subsidies to encourage utilities to hire more people to do busy work just to meet the 25,000 job target? Whatever strategy they chose, it would involve inefficiently adding jobs to do the same amount of work. Again, the primary result would be to increase the cost of energy to consumers.
- 3) Finally, it could be that the total target of 25,000 clean energy jobs by 2020 is extremely low and will be met with ease as utilities diversify their portfolios. If that is the case, then the target itself is meaningless because meeting the target does not require government intervention. As such, the only value of such a target is political.

Noted economist and *New York Times* columnist Paul Krugman highlights these problems when he notes that “The kinds of jobs that grow over time are not the things we do well but the things we do badly. The American economy has become supremely efficient at growing food; as a result, we are able to feed ourselves and a good part of the rest of the world while employing only two percent of the work force

¹⁰ Nordhaus, William, “The Challenge of Global Warming: Economic Models and Environmental Policy,” September 11, 2007, http://nordhaus.econ.yale.edu/dice_mss_091107_public.pdf (Accessed November, 2007)

¹¹ These comments are taken from our longer analysis on jobs and climate policy in Washington entitled “Washington’s Climate Change Strategy and Jobs: Addition by Subtraction,” published last year. A copy of that analysis has been provided as well to the CAT.

on the farm.”¹² While we may create new jobs as this sector develops, over the longer-term the number of jobs should actually decline as efficiency improves. If it does not, it is evidence that the sector is inefficient, with consequences for the wellbeing of the people of Washington.

The CAT, therefore, should not use job targets as a policymaking guide, since they are at best meaningless, and at worst encourage economically harmful policies with little CO₂-reduction benefit.

Finally, the Governor’s executive order calls for Washington to “reduce expenditures by 20% on fuel imported into the state.” This goal has a number of potential negative consequences both for the economy and for reduction of greenhouse gas emissions.

As noted above, recent data shows that increased use of biofuels may actually have a negative effect on reducing greenhouse gas emissions. The only way to reduce imports is to spur domestic, i.e. in-state, production of biofuels, leading to these potentially negative consequences.

Second, part of creating that “independence” involves purchasing equipment from other states and countries. Most wind turbines are built in Denmark, and while the Danes are certainly more friendly than Venezuela or Iran, there is no reason that increased expenditures for capital from other countries should be ignored while expenditures for petroleum should be emphasized. This is especially true since much of America’s oil comes from Canada and Mexico and much of Washington’s oil comes from Alaska.

Finally, if the concern is dependence, as the emphasis on the word “independence” would indicate, then increasing local production is not the only option. Those who are worried about relying too much on one supplier can also diversify their sources. This is good both for the economy and is the most sustainable use of environmental resources.

For instance, instead of creating incentives to put marginal agricultural land into production to produce biofuels, the U.S. could remove trade barriers against Brazilian biofuels. This would increase the supply of biofuels, reducing their cost and making them more acceptable to the public. It would also diversify our source of fuels, making it more difficult for any individual or group of countries to impact our economy. It also avoids the risk of over-incentivizing biofuels to the point where more energy is used to produce a gallon of biofuel than is returned, leading to a net-negative impact on greenhouse gases.

This is also the best economic policy, not only for Brazil, but for Washington state. Washington residents would see the price of biodiesel fall, increasing their willingness to purchase it and saving money. Paul Krugman writes in his book *Pop Internationalism* that “If the West throws up barriers to imports out of a misguided belief that they will protect Western living standards, the effect could be to destroy the most promising aspect of today’s world economy: the beginning of widespread economic development...”¹³

Obviously, some may argue that opening the U.S. market to Brazilian biofuels will threaten the Amazon rainforest, which has been cleared to make way for crops. My only purpose here is to highlight the fallacy that increasing local fuel production is the only or even best option for Washington’s economy, environment and efforts to reduce CO₂.

¹² Krugman, Paul, *Pop Internationalism* (Massachusetts Institute of Technology, 1996), p. 212-3

¹³ *Ibid*, p. 67

We understand that the goals of job creation and energy “independence” are included in the Governor’s executive order. The CAT, however, has an opportunity to use its advisory role to refine those goals, making sure they more appropriately address the issues of greenhouse gas reduction and economic growth.

Section III: The Context for Action

The Magnitude of Climate Change Impacts

When it began its work, the Climate Advisory Team stated clearly that the question of climate change science was off the table. We don’t dispute that decision. The purpose of the team is not to referee a debate between scientists and whether one believes that the science is settled or in dispute, it makes sense to take appropriate steps to reduce the amount of CO₂ in the atmosphere. Even in a case of uncertainty, it makes sense to reduce CO₂ to reduce the range of uncertainty.

The question, therefore, is not whether we should do something but what is appropriate and responsible, doing more good than harm.

Important in this assessment is a responsible estimate of potential impacts. This is difficult for the CAT to determine, because there was never a debate about what the likely level of impact might be. The discussion was centered about potential responses. A reasonable approach depends on an accurate assessment of potential costs.

For example, the report cites data indicating “an approximately 30% overall decline in the lower Cascades spring snowpack (from 1950-1997).”¹⁴ This data is the subject of debate and the UW Atmospheric Sciences Department has put out a range of numbers, including estimates by two of the researchers that the actual range is more like 10-15 percent.¹⁵ Further, at the time when temperatures have been increasing, snowpack in the Cascades has actually increased during the past three decades.

Second, the recent report from the Climate Impacts Group on sea level increase associated with climate change represents a significant reduction from recent reports by both the Puget Sound Action Team and the Department of Ecology. In 2005, the PSAT report “Uncertain Future” features a chart on page 21 indicating that the “mid-range” estimate for sea level increase for the Puget Sound is 1 meter (about 39 inches).¹⁶ The Department of Ecology assessment used two feet as its “modest” estimate, and 20 feet as its catastrophic estimate.¹⁷ Each of these is twice to three times the revised estimate and the “catastrophic” estimate is up to five-times higher than the revision.

¹⁴ Washington Climate Advisory Team, p. 6

¹⁵ Cornwall, Warren, “How one number touched off big climate-change fight at UW,” Seattle Times, March 15, 2007, <http://archives.seattletimes.nwsource.com/cgi-bin/texis.cgi/web/vortex/display?slug=warming15m&date=20070315&query=mote+albright> (Accessed January 19, 2008)

¹⁶ Puget Sound Action Team, “Uncertain Future: Climate Change and Its Effects on Puget Sound,” October 2005, http://www.psat.wa.gov/Publications/climate_change2005/pdf_files/psat_climate2005_report_lowres.pdf (Accessed January 18, 2008)

¹⁷ Department of Ecology and Department of Community, Trade and Economic Development, “Impacts of Climate Change on Washington’s Economy,” November 2006, <http://www.ecy.wa.gov/pubs/0701010.pdf> (Accessed, January 18, 2008)

Thus, the litany of potential harms listed on page 6 should be considered real, but the magnitude of these impacts is still very much in doubt. We will argue later that in the face of such uncertainty, dramatic, inflexible and costly efforts make little sense.

Economic Estimates of Cost

Without a clear understanding of the cost of potential impacts, the draft report relies on proxy analyses to justify the comment that “by most estimates, the costs of inaction that leaves global warming unchecked would likely dwarf the costs of action to reduce it as much and as soon as possible.”¹⁸ For example the draft report cites the UK Stern Report. While this report is widely cited by those who advocate immediate and dramatic action to reduce CO₂, there is a strong consensus among economists that the analysis is fatally flawed and its results are largely a factor of an accounting trick – making the discount rate essentially zero. This means that saving a dollar today for a future, richer, generation makes sense. Using this analysis, it would have made sense for our depression-era grandparents to set aside dollars to help us today. This would clearly have harmed them greatly and helped us very little.

The same applies to climate change. Making dramatic changes today harms us disproportionately and only minimally helps future generations. This is not an argument against any action but simply an argument to appropriately adjust the estimates to take into account the cost of time. The Stern Report does not do that.

If the CAT assumes that “actions to reduce [climate change] as much and as soon as possible” will always pay off, they will be led down some very costly and ineffective paths.

Market Forces or Political Policies

On page 9 of the report, the drop in CO₂ emissions after 2000 is highlighted. The explanation for this drop is that it is “largely attributable to the response of industries to significant energy price swings,”¹⁹ during that time. This highlights the power of economic incentives to impact CO₂ emissions. This isn’t an isolated example.

Seattle’s recent analysis indicating that the city’s CO₂ emissions in 2005 meet the Kyoto targets attributes most of the decline to changes induced by economic pressures. The report notes that “For economic reasons, natural gas has gained favor over oil for space heating since 1990.”²⁰ Because natural gas emits fewer greenhouse gases than oil, Seattle’s greenhouse gas emissions fell with the switch.

Given that the period in the early part of this decade represents the only time CO₂ emissions have actually fallen and that Seattle’s CO₂ reduction was a result of economic pressures, it should send a strong signal to the CAT about the relative power of economic incentives versus political approaches.

¹⁸ Washington Climate Advisory Team, p. 7

¹⁹ Ibid, p. 9

²⁰ City of Seattle Office of Sustainability and Environment, “2005 Inventory of Seattle Greenhouse Gas Emissions: Community & Corporate, Final Draft,” October 2007, <http://www.seattle.gov/climate/docs/2005%20Seattle%20Inventory%20Full%20Report.pdf> (Accessed November 28, 2007), p. 15

Section IV: The Climate Challenge for Washington Requires a Comprehensive Approach by Washington

Government's Guiding Hand

On page 13 of the draft recommendations, the CAT calls for “specific strategies,” the “tools, resources and authorities government will need to implement and guide this Approach,” as well as “sufficient funding” to pay for the various programs, agencies and subsidies. Using such a government-centered approach is likely to cause numerous distortions. As noted above, political approaches are unlikely to target the right incentives and technologies to effectively and efficiently reduce greenhouse gas emissions. On the other hand, we have already demonstrated that market forces are more flexible and effective at reducing greenhouse gases.

The CAT report acknowledges this deficiency of political approaches when they note that “the opportunities and partnerships for Washington will far exceed those than can be identified here.”²¹ Instead of recognizing the severe limitations that this lack of knowledge imposes, the CAT recommends that “significant work will be needed in 2008 to further scope and develop the specific policies and programs...”²² The very real problem is that government will never be able to adequately gather the information in a timely way to make correct and effective judgments. The above examples relating to hybrids and biofuels are but two examples.

An additional concern about government's guiding hand involves the CAT's belief that “significant interim costs and behavioral changes may be necessary...”²³ The CAT does not clearly identify what “behavioral changes” will be necessary. Whatever the nature of those changes, everyone, left and right, should be concerned about a limited group of political leaders making decisions about the “behavioral changes” of millions of people in Washington. If not for reasons of effectiveness and efficiency, the CAT should strongly argue against government assuming a role that forces significant behavioral changes in the name of climate policy because of the threats to individual liberty, personal choice and privacy.

Given those limitations, the CAT should, reexamine its commitment to having government “guide” approaches to climate change and should place strong emphasis on economic incentives that harnesses the dynamism and power of millions of individual choices.

Market Signals and Standards

Much of the discussion about the form of a cap-and-trade system is contained in the Western Climate Initiative. A couple of comments should, however, be added here.

First, a cap-and-trade system has limits. It cannot, for instance, easily be applied to reducing emissions from transportation. In Washington this is a significant limitation since transportation accounts for the largest category of emissions. Our comments on this limitation will be addressed more completely in the transportation recommendation section.

Second, a cap-and-trade system must be simple and predictable, with an eye to the long term. Europe's difficulties in the first period have come about in large part because of uncertainty about the levels of emissions at the level of individual industry and because credits were not transferrable from period to

²¹ Washington Climate Advisory Team, p. 13

²² Ibid.

²³ Ibid, p. 14

period. This has created wide price swings and reduced the near-term incentive to exceed reductions targets since the value of credits earned from those reductions expires.

We want to encourage the CAT's commitment to policies that are "performance-based and not prescribed for a particular technology."²⁴ Ironically, however, the draft report then modifies this in the same paragraph, indicating that the CAT could set "standards."²⁵ The draft says, "For example, government can set a standard for low carbon fuels, and the subsequent capital attracted to that market opportunity will flow into fuel and vehicle technology that creates the necessary solutions."²⁶ This violates the very principle of not choosing technologies. It may well be cheaper to improve the efficiency of vehicles than to meet the carbon fuel standards. Furthermore, we may find that biofuels meet the standard but the calculation of "low carbon" does not include the energy put into the growing and creation of those fuels. In that case, the standard simply becomes another way to do the thing the draft says the CAT does not want – picking and choosing winning technologies.

The draft then goes on to argue that "incentives may be needed to spur the market response more quickly, and/or demonstrate that specific solutions do or don't work as anticipated, and thus help get more efficient and cleaner technology out more quickly than the market alone would."²⁷ This is certainly possible theoretically, but the CAT must keep in mind a number of downsides to this approach.

First, once established, "incentives" are difficult to remove. Once tariffs are raised and subsidies provided to interest groups, they will have a strong incentive to hold on to them and political leaders will pay a price for efforts to remove them. Thus, even as it becomes clear that a technology or approach doesn't work, the subsidies may remain, continuing to cost taxpayers and providing incentives for ineffective approaches.

Second, subsidizing technologies that turn out to be ineffective not only speeds up their development, it also slows the development of alternative, unsubsidized approaches. A technology that reduces CO₂ at a cost of \$20/ton may be subsidized so that it costs only \$15/ton. A competing technology, however, may exist that reduces CO₂ for \$16/ton. That competing technology will not see capital investment because it is no longer price competitive due to the subsidy.

The effect of such incentives may be to speed up known technologies, but they are also likely to discourage the development of unknown technologies.

The discussion of "investments in human capital through workforce training programs or educational initiatives" will be discussed under the specific recommendations.

Uncertainty of Projections

The draft report notes that if there is "full and timely implementation" the strategies outlined "could yield almost 50 million metric tons carbon dioxide equivalent (MMTCO₂e) in annual emission reductions by 2020."²⁸ Later, however, the draft notes that these reductions are "highly speculative."²⁹ Once

²⁴ Ibid, p. 15

²⁵ Ibid. p. 16

²⁶ Ibid.

²⁷ Ibid.

²⁸ Ibid, p. 17

²⁹ Ibid, p. 22

numbers are produced, they often become reified, losing the caveats associated with them. The CAT cannot be responsible for that use of the numbers, but it should not separate the numbers from the caveats by five pages. Some indication of certainty should accompany the numbers directly.

Cost Estimates

The graph on page 20 indicates a weighting of the various proposals by estimated cost per ton of CO₂ reduced and the magnitude of that reduction. As the draft notes, some of the proposals are “difficult to quantify in terms of incremental cost”³⁰ and are not included. This, however, skews the apparent cost dramatically. For instance, two of the proposals with the largest potential reductions and the largest potential cost, T-1 and T-2, are not included. These two account for the vast majority of the CO₂ reductions in transportation, which is the single most important category. Without these, and many of the other transportation recommendations which are also “not quantified,” this chart and the overall analysis are incomplete and misleading.

Macroeconomic Analysis

WPC has previously written a piece about the need for a complete macroeconomic analysis associated with the CAT recommendations. We have provided that in addition to these comments. The brief discussion of this analysis in the draft requires some comment, however.

The language in the draft highlights the many “co-benefits” of reducing CO₂ and notes that the “cost analysis does not consider the indirect and macroeconomic impacts that would arise as energy savings are ‘re-spent’ on local goods and services, as consumers and businesses respond to changes in energy prices, and as investments and jobs shift towards lower-emission (or carbon sequestering) products and services.”³¹ What must be made clear here is that while the implication of the above is that there are many other economic benefits of the recommendations, there are also many potential costs.

The above paragraph implies that energy prices would increase, which is likely true. CAT staff indicated that this was the case at the November meeting, noting that the cost of renewable energy was higher than expected. Without a macroeconomic analysis, however, this assumption has the perverse result of making regulations mandating efficiency seem *more* cost effective. The less you buy the more you “save.” Using this logic it would make sense to infinitely increase energy costs, leading to massive (indeed, infinite!) savings. A macroeconomic analysis would show the fallacy of this logic, making clear the economy-wide costs.

Since the draft repeatedly refers to the dramatic changes in our economy and lifestyle being attempted, it makes little sense to move forward without an accurate assessment of what the total cost will be, including macroeconomic impacts.

Reduced Fuel Expenditures

The discussion of the savings from reduced fuel expenditures is misleading. The goal, outlined in the Governor’s executive order, calls for a reduction of expenditures by 20% of fuel *imported* into Washington by 2020. The text indicates that Washington residents would have otherwise spent “\$13.3 billion on fossil fuel imports in 2020, with the 20% reduction goal corresponding to \$2.6 billion of avoided expenditures.”³² These are not, however, “avoided expenditures.” They are simply shifted

³⁰ Ibid, p. 20

³¹ Ibid, p. 21

³² Ibid, p. 22

expenditures. Appendix L implies this when it talks about the “biofuels used to replace the imported fossil fuels.”³³ If in-state biofuels cost more, then this would actually *increase* expenditures on fuel. If the intent was to count this \$2.6 billion as “avoided” then it is incorrect. It would be more appropriate to call these expenditures “shifted.”

Section V: Meeting the Climate Challenge

Guarantees and Societal Transformation

In the general statement of principles introducing the 12 directional recommendations, the draft makes three assumptions that are likely to lead to weaknesses in the overall approach.

In listing the range of options identified by the CAT, the draft notes that the recommendations “often look like they are at the margin of business-as-usual...While these kinds of reductions might appear incremental in light of the overall amount of emissions from a particular source, achieving the targeted amount may actually require a transformational approach to accomplish it.”³⁴ There are two problems with this concept.

First, the notion of many small incremental changes adding up to a larger change echoes the “stabilization wedges” concept of Robert Socolow of Princeton University. This is a wise approach that takes advantage of a diverse range of opportunities, rather than putting all of our climate change eggs in one basket. The lesson of this approach is that we should maximize the opportunities to reduce CO₂. The best way to do this is to engage the market, creating incentives for the creativity of millions to find ways to limit carbon-emitting activities and to develop new technologies. No task force or government agency can match this diversity.³⁵ So, while we embrace the CAT’s diversified approach, the emphasis on consensus and bureaucracy makes it cumbersome and heavy. There are many opportunities out there, and the CAT’s approach should be to engage them.

Second, the CAT should soundly reject the notion that they are looking to “require a transformational approach.” Such a sweeping statement is unjustified given the limited mandate of the CAT and is, frankly, a philosophical approach that may reflect the aspirations of some on the CAT, but is the type of top-down government approach that is simply inconsistent with democracy. Implying that the CAT and the agencies that follow in its footsteps are charged with guiding such a transformation is paternalistic.

If, however, that *is* the position of the CAT, they must make that clear. Their belief that a small group should dictate the transformational direction of our society should not simply be one of the statements of principle, it should be the *first* statement of principle from which all recommendations flow and trumpeted on page 1, not page 24.

Finally, the draft claims that fulfilling all of the CAT’s recommendations “guarantees that the State’s goals will be met.”³⁶ This adds an exclamation point to the danger of the above discussion. This statement says, quite simply, that there will be no unintended consequences, or at the very least, that such consequences are so minor they can be ignored. We will point out below that many of the approaches being discussed are already failing to meet expected targets.

³³ Washington Climate Advisory Team, Appendix L, p. 6

³⁴ Washington Climate Advisory Team, p. 24

³⁵ See for instance, Page, Scott, *The Difference* (Princeton, NJ: Princeton University Press), 2007

³⁶ Ibid.

One dramatic example of this hubris are the unintended consequences that have, in some places, accompanied the Endangered Species Act. Steven Levitt, author of *Freakonomics*, highlighted one such example in his Sunday *New York Times* column when referencing a recent study indicating that landowners who feared that their land would soon become suitable habitat for an endangered woodpecker, rushed to harvest. They note that another study, finding something similar, says one can “make the argument for “the distinct possibility that the Endangered Species Act is actually endangering, rather than protecting, species.”³⁷ This should be a cautionary tale. This is not to say that we should do nothing, but there are no guarantees, especially when the goal is societal transformation.

The combination, however, of a proposal that emphasizes a paternalistic approach to transform society with the belief that success is guaranteed could be a real recipe for disaster.

Proposal 1: Market-based Mechanisms

The Washington Policy Center strongly believes that the market is superior to political approaches to environmental stewardship and we applaud the emphasis on these types of approaches. The CAT should not, however, mistake “market-based” with “market-centered” approaches. There are a number of indications that the draft is committed to using the market as long as it can be controlled.

A cap-and-trade system, which we have spoken favorably of in the past, is still fundamentally reliant on top-down decisions. The key decision, where to set the cap, is a political, not market, decision. The market reacts to that decision and a carbon market is superior to simple regulation. It is not, however, a market decision. It is important to remember that this control has added costs and creates distortions and inefficiencies. These inefficiencies should be acknowledged by the CAT. In essence, they are trying to buy increased certainty. The more certainty they want to buy, the higher the cost and the larger the impact on the wellbeing of Washington residents.

One indication that the draft emphasizes political control over market approaches is the discussion of helping Washington “maximize our competitive advantages”³⁸ by choosing a favored economic sector and providing subsidies. This phrase seems to imply policies which are economically unsound and will reduce our ability to reduce CO2 emissions and damage our wellbeing.

It can be assumed that the phrase the draft is looking for is “comparative advantage,” which is a standard economic concept. This is an important concept to understand when determining how best to allocate resources designed to reduce CO2 emissions. Sir Nicholas Stern, author of the controversial UK report on climate economics, recently recounted a story about Nobel prize winning economist Paul Samuelson. When Samuelson was asked what was the most important, non-trivial and non-intuitive, lesson of economics, he responded “comparative advantage.” Stern, in his speech at Princeton, wholeheartedly agreed.³⁹

³⁷ Levitt, Steven and Stephen Dubner, “Unintended Consequences: The Case of the Red-Cockaded Woodpecker,” *New York Times*, January 20, 2008, http://www.nytimes.com/2008/01/20/magazine/20wwln-freak-t.html?_r=1&ref=magazine&oref=slogin (Accessed January 20, 2008)

³⁸ Washington Climate Advisory Team, p. 25

³⁹ Stern, Nicholas, “The Economics of Climate Change: Risk, Ethics, and a Global Deal,” speech to Princeton University, January 7, 2008, <http://www.princeton.edu/WebMedia/lectures/> (Accessed January 18, 2008)

Comparative advantage, however, is not maximized by government policies. It is determined in the market. Political subsidies and favoritism distort the comparative advantage, making some things which are not advantageous (or are today but may not be tomorrow) seem better than is the reality. The irony is that attempting to augment a market-based approach with such counter-economic theories undermines the market approach, leading to poor decisions.

The goal, it seems from the language, is to make Washington more “competitive.” This is a truly anti-market approach. Paul Krugman goes so far to call the concept of “competitiveness” a “dangerous obsession.”⁴⁰ Speaking of this concept with regard to international trade, he writes that “Thinking and speaking in terms of competitiveness poses three real dangers. First, it could result in the wasteful spending of government money supposedly to enhance U.S. competitiveness. Second, it could lead to protectionism and trade wars. Finally, and most important, it could result in bad public policy on a spectrum of important matters.”⁴¹ Although there is little chance of the second when we are talking about state, as opposed to national, policies, the first and third are likely problems. If Washington spends money in the wrong areas in an effort to compete with Oregon, California or others, it not only is wasteful, but makes ineffective approaches to climate change seem more fruitful than they really are.

One alternative is to set a carbon price. A carbon price, as opposed to regulation, has lower dead weight loss, lower transaction costs and, if done correctly, minimizes or eliminates windfalls. Our complete comments on that issue are included in the section regarding approaches to reducing transportation emissions.

Proposal 1: Windfalls

We will not address the structure of a cap-and-trade system here. That is the purview of the Western Climate Initiative. We do want to support the notion that the system must be created in such a way as to avoid “windfalls.” We take the language in the draft to imply a system that auctions, rather than allocates, carbon allowances. We fully support that approach.

Proposal 3: Analyze Greenhouse Gas Emissions and Mitigation Options Early in Decision-Making, Planning Processes, and Development Projects

This is an example of a pure dead weight loss induced by government regulation. Furthermore, it is wholly unnecessary. A carbon price sends a clear signal about the cost and impact of any activity that emits greenhouse gases. Those looking to emit more carbon will consider these costs and make efforts to reduce them.

For example, while a SEPA analysis might take into account the CO₂ impact of a new development, it does not require that actions be taken to mitigate those emissions. Further, it is limited by the accuracy of projections included in the SEPA analysis and accounts only for anticipated emissions.

A carbon price, on the other hand sends signals to builders, potential buyers (both in the carbon-associated costs of the construction, transportation costs and other unanticipated costs), and taxpayers (who see the costs, and taxes for, of pavement increase due to the energy costs of producing concrete).

Adding study upon study creates a false sense of security and understanding of the issue. But it does little, despite the costs, to actually mitigate CO₂ emissions.

⁴⁰ Krugman, p. 3

⁴¹ Ibid, p. 18

Proposal 4: Invest in Worker Training for The Emerging Clean Economy to Ensure Having the Skilled Workforce and to Provide Meaningful Employment Opportunities Throughout the State

We believe that this goal should be dropped entirely. There are numerous flaws with this approach and the reasons cited in the draft document actually contradict each other in some fundamental ways.

We expect that some businesses will support this expenditure, saying it will help their business. This is not surprising. If the CAT is going to assume the role of gift horse, then businesses will assume their appropriate role as well. The question of the merits, however, is not in whether businesses are willing to accept free money, but whether it is wise to offer that money. The answer is clearly no.

It should be clear that this will do nothing to reduce CO2 emissions. This is purely an effort at drawing investment in the “clean economy” to Washington state with an eye on our competitiveness. We have already addressed the costs of an emphasis on competitiveness above. It needs to be clear, however, that whether clean energy is created in Oregon or Washington, it does nothing to reduce the total CO2 emitted.

Along those lines, choosing one sector to emphasize over others is inappropriate. In some instances, businesses argue to increase Washington’s competitiveness. They mean this in the sense that the state should *generally* reduce taxes and regulation to help the economy as a whole. In this case, competitiveness appears to mean that Washington should favor not only the “green” economy but also certain elements of that economy. This concept of competitiveness is troubling.

The draft argues earlier that the state should not pick-and-choose winners in technology. Nor should it do so in choosing economic sectors to favor. Put simply, why is a job in green energy more important than a job in biotechnology, education, computer sciences or elsewhere? The answer appears to be that the “clean economy” is coming and we want to facilitate it. If, however, we can be most productive in biotechnology, information technology or other areas, then we should emphasize those and let others who are best at producing green energy do so. We can trade our biologic medicines for green energy. This is the concept of comparative advantage that Krugman, Stern and virtually all economists embrace as a way to promote the greatest prosperity and wellbeing for everyone.

Even if we are committed to improving Washington’s competitiveness, this approach will not effectively facilitate that. The draft says that a training program “enhances the likelihood of success for existing clean energy industries in Washington and attracts more energy technology development and manufacturing investment opportunities to the State by having a well-qualified and robust work force available.”⁴² This is incorrect for a number of reasons.

First, the existence of a “trained” workforce is a very small part of the success of green energy businesses. Land costs, transportation, location, taxes and many other factors are more important than the presence of a trained workforce.

For example, when Imperium Renewables was deciding where to locate their new biodiesel plant, the largest in the country, they had a number of choices. Among the places they examined were Anacortes, Everett and the eventual location, Grays Harbor. Had a trained workforce been a deciding factor, the plant would have been built in Anacortes, where there is a supply of workers who are experts in the

⁴² Washington Climate Advisory Team, p. 29

refining process. It had other advantages, including a port accustomed to shipping fuels. Ultimately, however, these were not decisive. Land availability and costs and other factors weighed more heavily. When given the chance to choose between a location with a workforce trained in refining and one without, they chose the one without. This indicates that they perceive the cost of training, and the value of a state training program, to be low. Even workers who have been trained in green energy technologies will still have to be trained at the particular company where they are hired. Thus, the benefit of such a state program is only the marginal reduction in training necessary as a result of the program. Such training would only marginally reduce the training costs of a company, costs that are already apparently low.

Ironically, the draft notes that Washington already has “serious skilled labor shortfalls.”⁴³ The result of a high demand for labor and a low supply is certain to drive labor costs up. This has the effect of reducing the relative importance of training. If wages rise as a result of shortages, the percentage of labor costs made up by on-the-job training is reduced further, reducing the value of state-sponsored training.

If the existence of a trained workforce isn’t enough to entice a company to choose one place over another within the state, it is very unlikely that it will have the effect of drawing companies into the state. In fact, Imperium is looking to build additional refineries, but not in Washington. They are building in Hawaii and Pennsylvania. The state with the largest biofuel sector in the country is Iowa. Why? Location is a far more important factor than other considerations. The location of feedstocks draws companies to Iowa. Transportation is an important factor in Imperium’s decision to build refineries in Hawaii, which has high labor costs, and Pennsylvania.

Imperium is not the only example. One of the arguments made to support I-937, the renewable portfolio standard, was that a commitment to becoming a major purchaser of green energy would draw investment into the state. Admittedly the initiative is only a year old, but it has not had the effect of bringing wind manufacturing or other green energy production to Washington in any significant way. The Danish wind turbine manufacturer Vestas has their US headquarters in Portland and Siemens opened a plant in Fort Madison, Iowa (the westernmost plant owned by Siemens). These two companies account for nearly half of the world’s wind turbine production. This will continue to play out, but it is unlikely that I-937 will live up to the economic development promises because other factors are more critical.

If we want to draw business to Washington, we should improve our general business climate. It does call into the question the state’s level of commitment to developing the green energy sector when the most it can offer are small improvements in the preparedness of the workforce but does not offer more enticing options like tax reductions or regulatory changes that would make Washington more attractive to all business.

Some may reply that even given that marginal cost reduction to green energy companies, the program is still worthwhile. This assumes that the training programs focus on the correct areas. What if most programs emphasize biodiesel refining but hydrogen fuels are where the green energy market eventually goes? We will have trained a great number of people in a technology that is now obsolete.

Further, what if we find that we’ve trained a number of people in windmill repair but there is now a shortage of nurse practitioners – a job that pays better? Is our answer that windmill reparations are

⁴³ Ibid.

inherently more important than nurse practitioners? If the answer is “yes,” then we can only marvel at the myopia required to make such a declaration. If the answer is “no,” which is clearly the appropriate answer, then it either indicates that the state must also fund nurse practitioner training or, more wisely, let the market determine what sectors need to offer training and adjust wages to entice people to those sectors.

This is even more true when there are general labor shortages. To understand this, we should think of job training programs as priming a pump. It only works if there is a reservoir of water available. If there is a shortage of water, such priming merely uses energy to artificially siphon water from one area of demand to another.

Similarly, during a labor shortage, companies compete for workers, driving labor costs up as we’ve noted above. Job training programs in this atmosphere have the effect of increasing the amount of money chasing the same, scarce, workers. Such an infusion of funding is simply inflationary and puts other sectors that need labor at a disadvantage simply because they happen not to be in favor.

Finally, if there is a concern that the poor do not have the opportunities necessary, we should use the funding allocated for this to provide general education scholarships. The labor shortfalls we are seeing now are not only in the green energy sector, but in many sectors. A narrow approach to educational opportunities only means that we narrow opportunities for those needing education.

In short, this proposal:

- does not reduce greenhouse gas emission
- is unlikely to draw green jobs to Washington
- is inflationary in a time of labor shortages
- may actually move workers away from where they are needed most
- wastes funding that could otherwise be spent to expand the opportunities that are needed by unskilled workers

Proposal 5: Build and Continue to Redesign Communities that Offer Real and Reliable Alternatives to Single Occupancy Vehicles

The draft notes that transportation-related recommendations are extremely important because “transportation is Washington’s largest contributor to GHG emissions.”⁴⁴ Transportation represents the largest area of CO2 emissions in the state, and we are simply unlikely to meet any meaningful CO2 reduction goals without addressing transportation.

Unfortunately, this is also the area that the Climate Advisory Team has left most incomplete. The most significant recommendations, in scope and cost, are also the least complete. While the draft calls for reductions in Vehicle Miles Traveled (VMT), no method for achieving the goals is offered. Other elements of the transportation proposal are similarly incomplete, assigning goals but failing to clarify how to achieve these goals. There appear to be two reasons for this.

First, as the draft notes, a cap-and-trade system is largely incompatible with many, small sources of CO2 emissions, like cars or trucks. The draft notes that “most cap-and-trade market mechanisms being

⁴⁴ Ibid, p. 30

considered throughout the world at this time do not directly reduce transportation-related emissions.”⁴⁵ This is true, but it does not justify ignoring other market options.

Second, there is a strong bias in the recommendations towards transit, growth management and other regulations designed to get people out of their cars. These efforts have been largely unsuccessful in the past. Indeed, one program offered by the Oregon Climate Trust in the late 90s designed to encourage people to carpool ended up costing the state \$29,000 per carpool.

There are two alternatives that would certainly be less costly and are likely to be more effective. First, there are many recent trends that will reduce Washington’s transportation-related CO₂ in the near and long-term. The recent increase in CAFE standards at the federal level will increase fuel efficiency, reducing transportation-related CO₂ emissions.

Additionally, consumers continue to purchase hybrid vehicles and the variety of vehicles available using hybrid technology continues to grow. It is very likely that these trends will continue, especially as oil prices rise. Further, cars will continue to improve in efficiency. Put simply, emissions are likely to decline both because more families will buy efficient vehicles and because those vehicles will become more efficient.

These trends are not due to government regulation or the increased availability of transit. The percentage of trips in the Puget Sound taken using transit has actually declined from 7.5 percent in 1980 to 6.8 percent in 2000 despite significant funding increases. Given that record, a strategy that seeks only to use or heavily rely on transit options to move people out of their cars is unlikely to be successful.

The second alternative is to use a carbon price to encourage the development of more efficient vehicles and reduce fuel consumption. It is important that we focus on consumption not miles traveled. A survey of the elasticity of demand for oil found that for a 10% increase in fuel price, the long-term reduction in traffic volume would be about 3 percent, but the reduction in fuel consumption was about 6 percent.⁴⁶ Since consumption, not traffic, creates CO₂, that is the relevant statistic. Focusing on VMT implies, correctly or incorrectly, that the priority of the CAT is to guide lifestyles rather than reduce greenhouse gas emissions.

A carbon price would serve to provide incentives to reduce energy use and become more efficient. It would encourage every family and business to find ways to inexpensively cut energy use and cut their own costs. It would provide incentives for technological innovation to reduce energy use and carbon emissions in all sectors. Ultimately, technology will play a much larger role in reducing greenhouse gas emissions than regulation.

Carbon prices are also more effective at dealing with the lack of complete information that plagues policymakers. The CAT draft acknowledges this difficulty. The transportation policies themselves note that further study is needed on all of the transit-oriented options. Invariably, policymakers will err when

⁴⁵ Ibid.

⁴⁶ Goodwin, Phil, Joyce Dargay and Mark Hanly, “Elasticities of Road Traffic and Fuel Consumption with Respect to Price and Income: A Review,” *Transport Reviews*, Vol. 24, No. 3, 275–292, May 2004

it comes to predicting the preferences of future commuters. It is simply impossible to predict the many confounding variables, including economic growth, commute times, commuter preferences and the many other variables that impact fuel consumption and transportation choices.

By contrast, a carbon price provides a consistent and clear incentive without the need to predict future commuter patterns. This is the reason that economists across the spectrum argue that establishing a carbon price is the most effective and efficient way to reduce CO₂ consumption. For example, William Nordhaus, the dean of economic modeling on climate change notes in his most recent analysis of approaches to climate change says this:

“Suppose you hear a public figure who speaks eloquently of the perils of global warming and proposes that the nation should move urgently to slow climate change. Suppose that person proposes regulating the fuel efficiency of cars, or requiring high-efficiency light bulbs, or subsidizing ethanol, or providing research support for solar power – but nowhere does the proposal raise the price of carbon. You should conclude that the proposal is not really serious and does not recognize the central economic message about how to slow climate change. To a first approximation, raising the price of carbon is a necessary and sufficient step for tackling global warming. The rest is largely fluff and may actually be harmful in inducing economic inefficiencies.”⁴⁷

Given the CAT’s difficulty in crafting a coherent and effective approach to transportation-related CO₂ emissions, it should examine other alternatives that do not rely on the heavy hand of inflexible government regulation crafted with incomplete information.

The regulatory alternative, as outlined in the draft, is extremely shaky.

That alternative is based on assumptions that are costly and incorrect. The draft assumes that “cleaner cars and fuels alone will not sufficiently reduce Washington’s transportation related emissions challenge.”⁴⁸ The draft further asserts that “without reductions in vehicle miles traveled (VMT) by single occupancy vehicles, we are unlikely to meet the State’s goals for emission reductions.”⁴⁹

Why are these reasonable assumptions? Although zero-emissions-vehicles have been slow in coming, they are being developed as oil prices go up. The new Toyota Prius offers a limited range on battery only and the Tesla sports car is all electric. As technology advances, the price of these will fall. Roger Eberhard, the former CEO of Tesla Motors, noted in a speech to the Stanford Technology Ventures Program, that new technology typically develops at the high end first and then filters down to the general market.⁵⁰ That process has begun and it is likely that by 2020 we will see zero-emissions-vehicles available. A carbon price would assist that process.

But since we have warned against picking technologies, let us assume that we cannot predict the pace of technological innovation and therefore cannot build a policy around such assumptions. Then, to reach the targets we need a combination of technological innovation (we can assume that the recently passed

⁴⁷ Nordhaus, p. 22

⁴⁸ Washington Climate Advisory Team, p. 30

⁴⁹ Ibid.

⁵⁰ Eberhard, Martin, speech to Stanford Technology Ventures Program, October 9, 2007, <http://www.stanford.edu/group/edcorner/uploads/podcast/EducatorsCorner.xml> (Accessed January 10, 2008)

CAFE standards will be met) and reduction of VMT. The exact ratios of those approaches, however, is unclear. In order to set a rational policy, the CAT must have a fairly good idea of the level of future fuel efficiency of vehicles to determine how much we must reduce VMT to meet the targets. Since this is not possible, any policy will suffer from serious flaws.

This is not a marginal problem since getting drivers out of their cars has been Quixotic as noted above. Any policy that requires significant numbers of drivers to ride transit faces high hurdles. For example, the draft says that the success of these goals “will depend on the willingness of our citizens to invest, one way or another, in creating this set of transportation alternatives and community development patterns.”⁵¹ Given that the voters of Puget Sound, where transportation emission reductions are most likely, rejected one such package only months ago, this doesn’t seem like a fruitful approach. The draft “hopes that the reality of global warming will coalesce the political leadership and the support of the public to see the strategies outlined below...as critical necessities whose time has come...”⁵² Thus, the success of the strategy regarding the single largest category of CO2 emissions relies on drivers doing what they have not done, get out of their car, and voters doing what they have recently rejected. This cannot be considered a serious approach.

Beyond that it is difficult to critique these proposals because they are so incomplete. The CAT admits this, saying clearly that more study is needed.

The final issue regarding transportation is funding. The draft and supporting documents argue that the 2008 legislature must begin to identify potential sources of funding for these programs. What they will cost, however, is not included. Interestingly the documents for the Transportation Technical Working Group list the net present value of recommendation T-1 at \$6.1 billion. The draft, however, lists the costs as “not quantified.”⁵³ Thus, we are left without costs for the two most expensive elements of the transportation recommendations. This renders Table 4, the “Summary of Anticipated GHG Savings and Costs (or Cost Savings)” useless.⁵⁴ That table lists the NPV for the transportation recommendations at \$1.125 billion. The previous NPV for T-1 alone is more than \$6 billion. Simply including that number changes the bottom line valuation of the costs from a savings of \$949 million to a cost of \$5.1 billion.

This recommendation also includes a discussion of RCI-3. Which is designed to promote energy efficient buildings. We have previously commented on this and will attach those comments. Put simply, the assumption that the strategies will result in “reductions of 50% or more by 2020” is not borne out by recent experience. Our research shows that many of the strategies included in the recommendation have actually increased, not decreased, energy use.

Proposal 6: Ensure Washington has Vehicles That Are as Efficient as Possible and Use Non-Carbon or Lower Carbon Intensity Fuels Developed Sustainably from Regional Resources

Two elements of this recommendation deserve comment.

First, the proposal includes AW-2, which calls for increased production of biofuels in Washington. It sets acreage targets for biofuel production. This type of target is the very one identified by the UK Royal Society this month as problematic.

⁵¹ Washington Climate Advisory Team, p. 31

⁵² Ibid.

⁵³ Ibid, p. 50

⁵⁴ Ibid, p. 49

The report calls into question the reduction in total GHG from biofuels. They note:

“To maintain high rates of annual production, arable crops are generally fertilised at rates of up to 350kg/ha/yr of nitrogen. If new land is brought into cultivation for biofuels, as seems necessary to meet policy requirements, after the first year or two sustained production will require regular fertiliser applications, which in turn will lead to an increase in emissions of N₂O. The IPCC estimates that 1% of added nitrogen is returned to the atmosphere through activities that result in the mineralisation of soil organic matter (IPCC 2006). However, a recent paper by Crutzen et al (2007), which considers N₂O release from rivers, estuaries and coastal zones, animal husbandry and the atmospheric deposition of ammonia and NO_x, highlights that it is more likely that the amount of nitrogen returned to the atmosphere as N₂O is in the range 3–5%. Using this larger range of N₂O emissions could significantly reduce the currently assumed GHG emission gains from replacing conventional fossil fuels with biofuels such as biodiesel from rapeseed and bioethanol from maize.⁵⁵”

They go on to say in their conclusions that:

“However, provisions such as those contained within the EU Biofuels Directive are currently not directed towards reducing greenhouse gas emissions, even though this is widely perceived as a motivation for their use, but instead set down national supply targets. As a result, there is no direct incentive to invest in the systems that would deliver the lowest greenhouse gas biofuels, or the wider environmental, social and economic benefits. There is a real danger that a policy framework driven solely by supply targets will result in biofuel pathways being developed that miss opportunities to deliver reductions in greenhouse gas emissions.”⁵⁶

The CAT’s current strategy on biofuels is designed in precisely this way, with supply and acreage targets, not GHG targets. A carbon price would avoid this by rewarding the development of biofuels up to the point until the carbon balance was negative.

Another way to avoid this problem is to develop high-yield feedstocks. Recently, however, some environmental groups have toyed with the notion of the “precautionary principle.” The principle has been used explicitly in other countries to hinder the development of high-yield crops and biotechnology, arguing that biotechnology crops represent a risk and we should precautionarily restrict their development. The CAT should explicitly indicate their support for the development of high-yield and biotechnology fuel stocks. Washington State University is already a leader in this area and the Washington Life Sciences Fund specifically indicates its support for such crops. The CAT’s additional voice in this area would prevent a potential hurdle from developing.

It is difficult to estimate the viability of lignocellulosic biofuels, recommendation F-7. The University of Washington is certainly doing some interesting work in this area. As with other developing technologies, it would be appropriate for the state to provide funding for this basic research at a reasonable level. A

⁵⁵ The Royal Society, p. 40

⁵⁶ Ibid, p. 61

carbon price would also provide an incentive for industry to develop this technology and determine its viability.

We have addressed our concerns about the low-carbon fuel standard above. The CAT should remain true to its commitment to not pick-and-choose technologies. There is no indication that such a standard is the most effective or efficient approach to reducing transportation emissions.

Proposal 8: Design, Build, Upgrade and Operate New and Existing Buildings and Equipment to Maximize Energy Efficiency

Two comments in this proposal indicate the belief that people don't respond to prices in the way that we would expect. This assumption deserves explanation because otherwise the CAT's proposals require costly implementation systems that increase the cost-per-ton of CO2 reduced.

RCI-2, which calls for financial incentives and instruments to encourage energy efficiency improvements, assumes that businesses will not respond to prices. Any system that sets a carbon price for energy production, including a cap-and-trade system, will build in a price signal that companies and consumer will respond to. The graph on page 9 of the draft is testimony to the responsiveness of businesses to price. So too is the City of Seattle's report on 2005 greenhouse gas emissions referenced earlier. Thus, the draft itself seems to testify against the efficiency of proposals like RCI-2. If energy efficiency becomes cost effective, people will undertake those efforts.

The second indication of the belief that prices don't send clear signals is the proposal, RCI-8, to require "consumer education programs" and "labeling of life-cycle energy and carbon content of products and buildings."⁵⁷ This is a significant can of worms. Life-cycle analysis is a seriously debated methodology. Errors in that methodology could lead to incorrect labeling, needlessly favoring products that may not deserve favor.

A good example of this problem is the difficulty with accounting for carbon credit in the current carbon market. Carbon offsets benefit from an established baseline, an auditable accounting of changed practices and the reduction in CO2 emissions that result. Even given this static and closed system, there is tremendous debate about the quality of a range of carbon credits and proper accounting of carbon offsets is one of the most difficult elements of a cap-and-trade system. The Western Climate Initiative highlights these difficulties when it notes that allowing offsets "Poses a risk to environmental integrity of the cap, if issues surrounding additionality, permanence, leakage, quantification or verification are not adequately dealt with."⁵⁸

Now imagine assessing the carbon load of a product that must make a similar assessment at every step of the process, including every supplier of parts or other ingredients in a product. The opportunities for error and even fraud are significant.

Prices are a far more effective at accounting for emissions at each step of a process than incomplete, and potentially misleading, estimates.

⁵⁷ Washington Climate Advisory Team, p. 35

⁵⁸ Western Climate Initiative, "Summary of Major Options for a GHG Offsets System to Support the WCI Program," January 3, 2008, <http://www.westernclimateinitiative.org/ewebeditpro/items/O104F14585.PDF> (Accessed January 20, 2008)

Proposal 9: Deliver Energy from Lower or Non-Carbon Sources and More Efficient Use of Fuels

Much of this proposal has been addressed elsewhere. We will note again that with an appropriate system that sets a carbon price, political subsidies and “incentives” are inefficient and distort the signals sent by a cap-and-trade system.

We will note that in a system of regulated monopoly of energy supply, the concept of decoupling certainly makes sense. It aligns the economic incentives with the goal of energy efficiency. As long as we continue to have a system of regulated monopoly, it is difficult to apply meaningful economic incentives to the energy companies themselves, so some guidance to achieve energy reduction goals will likely be necessary. This intervention, however, should be kept to a minimum because such distortions inevitably increase inefficiency.

One element of this proposal that should be reconsidered is increasing the renewable portfolio standard for utilities from 15 percent to 20 percent in Washington. Washington has only just passed the 15 percent standard, and increasing the target seems premature. Caution is all the more appropriate since CAT staff acknowledged at the November CAT meeting that costs for renewable energy were rising faster than expected.⁵⁹ Utilities are already making adjustments based on the assumption that achieving the current goals will be difficult. One public utility has already virtually eliminated its program to market voluntary, and additional, green energy purchases due to concerns about meeting the mandatory levels of renewable energy.

If the CAT wishes to increase the targets they should allow voluntary purchases to count against the target and allow utilities to earn a profit on kilowatt hours of green energy that exceeds the standard charge per kilowatt hour. This would not only provide an incentive for utilities to meet the new targets, it would allow them to allocate an increased share of the costs for green energy to consumers who voluntarily choose to pay them. Since energy costs are regressive, this would reduce the burden on low-income families and shift costs to those who can afford them.

Proposal 10: Restore and Retain the Health and Vitality of Washington’s Farms and Forest Lands to Increase Carbon Sequestration and Storage, Reduce the Greenhouse Gas Emissions and Support the Provision of Biomass Fuels

The forestry elements of the draft represent a true opportunity to reduce atmospheric greenhouse gases and reduce CO₂ emissions. The CAT should be explicit in its support for increased use of sustainable forestry and local timber harvest, which are implied in many of the recommendations.

The draft notes that the CAT sees “improvements to the health of Washington’s forests as a critical first step in capturing numerous GHG emission storage and biomass energy benefits from forests, as well as reducing GHG emissions from catastrophic fires.”⁶⁰ This is spot on. Some excellent work is being done by the University of Northern British Columbia to assess the impact of forest health on carbon and the best strategies to return those forests to health and maximizing sequestration. Dr. Art Fredeen is in the middle of research studying the impact of unhealthy forests on CO₂ emissions. He notes that “By taking measurements at the same site over a number of years, we’re able to track how a forest that becomes infected by the pine beetle evolves from being a sink for carbon to a source. Last year, our site at

⁵⁹ Comments before the Washington Climate Advisory Team, November 15, 2007

⁶⁰ Washington Climate Advisory Team, p. 38

Kennedy Siding was green; now about 95% of the pine trees are infected.”⁶¹ There are similar problems in Washington state. In discussions with Dr. Fredeen and Dr. Andrew Black at the University of British Columbia they indicated that harvesting bug-killed timber was a net positive for carbon sequestration in the medium and long term.

Factoring in the reduction in CO₂ from forest fires and the potential use of wood for energy production or biofuels, the carbon balance can turn positive even in the short term. Research from the University of Washington supplements this analysis. They have done excellent research highlighting the value of wood as a construction material in reducing overall CO₂ emissions during the life-cycle of construction. Bruce Lippke at the Consortium for Research on Renewable Industrial Materials at the UW published research on “The Role of Forests and Forest Management on Carbon Storage,” highlighting that the use of wood in construction can dramatically increase the amount of carbon sequestered by the timber grown on that land.⁶²

We have argued consistently above that carbon prices will allow the state to better assess what works best to reduce CO₂. This is true of forestry as well. However, the problem in the case of forestry is that the state and federal government act as barriers to harvest. In most instances with energy and transportation, what is needed is an incentive to develop technology or conserve. Here, what is needed is a commitment to remove barriers that exist or ensure that no additional barriers are added.

This is also a critical component of recommendation F-2, which calls for “Reduced Conversion to Non-Forest Cover.” It is now widely acknowledged that providing an economic incentive to keep lowland forests, many of which are owned by families and other small forest landowners, is critical to reducing the pressure to convert forestland. Washington already provides support for these landowners. The Department of Natural Resources web page notes that “Recognizing that these rules would have a disproportionate effect on small, family-owned forests, the legislature also authorized a Small Forest Landowner Office to be created within the Department of Natural Resources to begin assessing ways in which policies could be crafted to support small landowners.”⁶³ Approximately half of all forestland in Washington is owned by these family foresters and a similar percentage of Washington’s timber comes from these lands. Keeping these lands working means that we can continue to have access to timber for construction, biofuels and that we keep these lands in forestry rather than development.

Washington has perhaps the highest standards for forestry in North America and we should continue to support responsible stewardship of our forests. The CAT should make clear that efforts to encourage active forestry and reduction of CO₂ is a critical part of responsible stewardship. Many of the recommendations made by the CAT call for increased use of local timber. There must be a clear statement of support for that increased use. Without such a statement, the success of these forestry recommendations will be eroded over time or will simply fail to materialize.

Proposal 11: Reduce Waste and Washington’s Emissions of GHGs through Improved Product Choices and Resources Stewardship

⁶¹ University of Northern British Columbia, “Climate Change and the Mountain Pine Beetle,” http://www.unbc.ca/media/2007/07_fredeen.html (Accessed January 21, 2008)

⁶² Lippke, Bruce, John Perez-Garcia and Jeffrey Cornick, “The Role of Forests and Forest Management on Carbon Storage,” September 2004, http://www.corrim.org/factsheets/fs_03/index.asp (Accessed January 21, 2008)

⁶³ Department of Natural Resources, “Small Forest Landowner Office,” <http://www.dnr.wa.gov/sflo/> (Accessed January 21, 2008)

Our comments on the recommendations included in this proposal have been addressed elsewhere.

Proposal 12: Give the State Sufficient Resources to Stay a Leader Regionally and Nationally and to Fulfill Its Responsibilities for Structuring and Guiding Implementation of Emission Reduction Strategies

Our comments on the danger of picking and choosing economic sectors in which to be competitive are above.

This section is heavily dependent on the ability of government to choose the correct technologies. It calls for the state to “investigate how modest incentives might accelerate the business case for change toward the Clean Economy, and to leverage larger private investments in innovative and promising approaches.”⁶⁴ The question is how does the CAT or a bureaucracy determine what is “promising.” As noted above subsidies or “incentives” favor those technologies which are seen (or have capable lobbying efforts) over unknown technologies.

The justification for this approach is that emissions trading markets cannot reach all sectors. A carbon price, however, can reach those sectors. An approach that emphasizes regulations and subsidies is justified only because other options are excluded.

A prime example of the danger of the CAT’s suggested approach is the concept that subsidies will be removed “once the initial government support described above accomplishes its aims...”⁶⁵ Subsidies have been provided in other sectors of the economy to achieve a similar goal. If the CAT can provide examples of where the subsidies were removed when the goal was met, we would be interested to learn of those examples. We will gladly provide dozens of examples where subsidies became a structural part of the system for comparison.

Finally, the draft admits that what technologies will emerge is unclear and that the state will continue to learn over time. As we’ve mentioned before, the capacity of a small number of people in a state agency to learn pales in comparison to the creativity and dynamism of the private sector which harnesses many, diverse minds. If the CAT is committed to flexibility, it will maximize the flexibility by providing a general economic incentive to innovate rather than targeted incentives.

WPC does believe, however, that the state should providing funding for basic research on approaches to reducing CO2. This has proven to be fruitful. Economists like Paul Romer, who specialize in the study of technological development, stress that innovation is largely a function of economic incentives. Romer, however, argues that improved education and basic research are important tools that can be used to enhance technological development.⁶⁶ Thus, our position is not one that believes government should be entirely hands off when it comes to technological innovation, but we strongly caution against the inevitable urge to begin picking winners and losers.

⁶⁴ Washington Climate Advisory Team, p. 41

⁶⁵ Ibid.

⁶⁶ See Roberts, Russ, “Romer on Growth,” EconTalk podcast, http://www.econtalk.org/archives/2007/08/romer_on_growth.html (Accessed January 21, 2008)

Section VI: Through Immediate and Sustained Action, Continued Learning, and a Flexible Approach, Washington Can Meet the Climate Change Challenge

We have addressed the issues here elsewhere. Our concerns about “competitiveness” and picking and choosing economic sectors as well as the discussion about Proposal 12 apply to the first bullet on page 44.

Regarding the need to “have an adaptive management attitude,”⁶⁷ we’ve made the case for the superior ability of the market to learn and adapt. The cases of hybrids and biodiesel are two examples we’ve already referenced.

Table 4: Summary of Anticipated GHG Savings and Costs (or Cost Savings)

This table should be scrapped entirely. The goal of this chart is to compare the total GHG savings to the total cost (or savings). But the GHG savings column includes strategies for which there is no NPV estimate. The effect of this is to count the NPV of the GHG savings in T-1, T-2, T-3, T-4, T-6, T-8 and ES-3 as zero. These seven recommendations account for 82.3 MMtCO₂e of GHG savings, minus overlap among those options. Thus, of slightly more than 190 MMtCO₂e of potential reductions in GHG, a significant amount (up to 82.3 MMtCO₂e) comes from proposals where the GHG savings are counted but the costs are not.

As we’ve noted above, one of these, T-1, previously had a listed NPV of \$6 billion. T-6 previously had a listed NPV of \$3 billion. T-8 previously listed a NPV \$146 million. These costs, totaling more than \$9 billion have simply been removed from the final draft due to difficulty in calculating the NPV. Again, although the costs are left out, the GHG savings are still counted in the chart.

Further, given the description of T-2 and the cost associated with these types of proposals, such as the recent RTID plan in the Puget Sound area, there is likely to be an enormous cost associated with this goal.

If this is the case, there can be no excuse to leave this chart in its current form. Given that the inclusion of these costs would move the NPV 2008-20 from -\$949 million to \$8 billion. Leaving it as it is seems to say that the costs of the CAT recommendations and reaching the targets is -\$949 million, which is simply not true.

⁶⁷ Washington Climate Advisory Team, p. 44