

## Draft Recommendations and Annotated Report Outline for the Climate Advisory Team's Interim Report

### 1. Key Introductory Context

- a. Climate change is a critical issue that must be addressed as soon as possible and over the long haul.
  - i. Brief description of global warming
  - ii. References to global and Washington-specific scientific conclusions about what has already happened and what is projected to happen from global warming, in particular the profound disruptions to natural systems
    1. Sources: IPCC, University of Washington Climate Impacts Group
  - iii. Adaptation to some inevitable climate change is a reality, mitigation of current and projected greenhouse gases is a necessity, and effective sustainable action is an imperative response.
    1. Executive Order 02-07 and SB6001 recognizes the reality of adaptation, the necessity of mitigation, and establishes the goals and process for Washington to respond.
- b. A new way of thinking and acting is emerging.
  - i. Unlike other 'pollution' challenges, everyone will need to contribute to mitigating and adapting to climate change.
    1. Leadership on showing the way forward will be critical; persistent action that produces real results will be the measure of success.
  - ii. Creating a 'carbon-constrained' economy is the challenge, and building the 'clean energy' economy is the opportunity.
  - iii. Washington has already begun to both meet the challenge and seize the opportunity.
    1. Brief description of what Washington has already done to address climate change and the economic benefits these actions have begun to create.
- c. The purpose of the Climate Advisory Team and this interim report is to build on what Washington has already done in a comprehensive and integrated fashion in order to provide direction on how best to address Washington's three goals.
  - i. Washington's three goals
    1. Greenhouse gas emission reduction goals
      - a. By 2020, reduce GHG emissions to 1990 levels
      - b. By 2035, reduce GHG emissions to 25 percent below 1990 levels
      - c. By 2050, reduce GHG emissions to 50 percent below 1990 levels
    2. Job creation goal
      - a. By 2020, increase the number of clean energy sector jobs to 25,000 from the 8,400 jobs in 2004
    3. Energy independence goal
      - a. By 2020, reduce expenditures by 20 percent on fuel imported into the state
  - ii. The CAT's motto: "Do what is possible, change what is possible to do."
    1. To meet its goals, over time Washington will need to reduce its carbon emissions. To accomplish this we will need to: use the power and fuel we need more efficiently, produce power and fuels from different energy sources, and have these changes penetrate more broadly throughout the economy and society.
    2. This transformation should be accomplished in the quickest, most innovative, least disruptive and most economically advantageous way possible.

### 2. Brief Description of Washington's Emissions Inventory and Current Status of Washington's Natural Systems

- a. Brief description of what is global warming.
- b. Description of Washington's 'Carbon Footprint' and implications for the emission reduction challenge Washington faces.
  - i. Source: Washington's Emissions Inventory and Projections
- c. Brief discussion of 'business as usual' and implications of business as usual, including the costs of inaction.
  - i. Source: 2006 CTED/Ecology Economic Report
- d. Brief discussion of emissions projections for Washington, and the relationship to the goals.
  - i. Description of what the 2020 goal represents in terms of emissions reductions.

- ii. Description of the long-term emissions reductions trajectory.
- e. Recognize that a key underlying assumption of the sufficiency of actions taken to mitigate and adapt to climate change is the ongoing function and resiliency of natural systems, yet natural systems have been degraded by past practices and will be significantly disrupted by climate change.
  - i. Terrestrial systems will bear the brunt of global warming impacts.
  - ii. Restoration of natural systems is imperative for maintaining and increasing natural terrestrial 'carbon banks' and reducing terrestrial greenhouse gas emissions.

### 3. A Comprehensive Climate Approach for Washington

- a. Consider of the concept of an ecosystem in which all the key pieces are engaged simultaneously and that interact and reinforce/contradict each other. The 'ecosystem' of a comprehensive approach to climate change consists of the following: emission reductions, power and fuel substitution, adaptation to inevitable impacts, restoration of natural systems, investment and technological innovation,, job transition and creation, and education of the workforce and the citizenry on the opportunities and choices this transition represents. To ensure all these pieces are engaged simultaneously, and positively interacting with and reinforcing each other, the CAT recommends the State pursue the following direction:

- i. **Build Market-based Mechanisms to Unleash Investment in the Creativity and Innovation of Washington's Economy to Deliver Cost Effective Emission Reductions.** Legislatively enact a market for carbon that: sends a serious 'price signal' on the necessity to achieve significant carbon reduction targets,; is efficient in offering cost-effective choices or trade-offs in pursuing emissions reductions; is transparent for all market participants so that choices become obvious and apparent; is equitable and avoids artificial financial windfalls, and is legally required so that participants can plan and invest with certainty. By creating such a market, the creativity and innovation of, and investment in, the Washington economy can become the prime driver of the many decisions over time that need to be made in order to reach the State's goals. (This approach complements the other reduction strategies recommended in this interim report). Both leadership and an institutional framework will be needed in order for this potential within Washington's economy to become a significant part of the solution, and therefore, the CAT recommends that the State:
  - 1. Develop and institute the legal, technical, institutional infrastructure that will make a carbon market real and operational as soon as possible.
  - 2. Structure market-based approaches in all specific strategies that whenever feasible:
    - a. Stimulate and support the investments, business practices and behavioral changes needed to reduce GHG emissions;
    - b. Avoid creating artificial financial windfalls within and across sectors and between producers and consumers; and
    - c. Are directed at performance goals/targets and thus be as technology-neutral as possible
  - 3. Continue its participation and leadership in the Western Climate Initiative. The CAT believes Washington should participate to the fullest extent possible in these larger emission trading markets, to maximize the potential for cost-effective emission reductions.
    - a. Brief supporting description of the Western Climate Initiative and explanation of approaches for creating a carbon market, specifically cap-and-trade.
- ii. **Establish Emissions Reporting so that Progress in Emission Reductions Can be Tracked and Acknowledged.** Establish mandatory greenhouse gas emissions reporting. Ensuring emissions releases and reductions are measured is critical to any greenhouse gas reduction program, regardless of the policy instrument.
  - 1. An emissions reporting system is needed in Washington that can track progress towards meeting reduction goals, document early voluntary reduction actions in order to reward early responders, support emissions trading, and enable the potential pursuit of verifiable offsets.
  - 2. Participation with The Climate Registry appears to be a promising and cost-effective way to help Washington accomplish these goals.
- iii. **In Reviewing and Approving Significant Development Projects, Consider Greenhouse Gas Emissions and Mitigation Options Early in the Planning Process.**

Clarify SEPA application to climate change in order to ensure that climate change consideration is fully incorporated into resource and development planning, and supports emissions reductions. SEPA can be engaged to evaluate emissions and to consider mitigation options early in the planning for significant development activities. SEPA should be focused on decisions and projects that will make a difference in reducing emissions

1. Brief supporting description of SEPA and the proposed clarifications.

- iv. **Invest in Worker Training for The Emerging Clean Economy to Ensure Having the Skilled Workforce and to Provide Meaningful Employment Opportunities Throughout the State.** Educate and train the Clean Economy workforce through K-12 curriculum, vocational education, internship and apprenticeship programs, and university research and training. Preparing Washington's workforce at all levels for the Clean Economy can enhance existing clean energy industries in Washington and attract more energy technology development and manufacturing job opportunities to the state.

1. An aging workforce in the trades and ongoing economic development has combined to produce skilled labor shortfalls. Great opportunities for high wage employment in the trades now exist and will increase in the future as the Clean Economy develops. Education that can produce a skilled workforce prepared to meet this opportunity needs to occur throughout all levels of Washington's educational system.

- a. Briefly highlight existing efforts.

2. An opportunity exists to create jobs for nontraditional environmental and energy workforce participants, allowing "those who are most in need of work to do the work that most needs to be done."
3. The State can also support research into promising technologies and applications, which can stimulate University-level participation and help private sector ventures compete in a global marketplace for solutions.
4. This discussion will be also highlight the approach to the jobs goal.

- v. **Give the State Sufficient Resources To Stay A Leader Regionally and Nationally and to Fulfill Its Responsibilities for Structuring Implementation of Emission Reduction Strategies.** Governmental infrastructure and support will be needed for these important components of a comprehensive approach described above to be properly developed, implemented and maintained. In order to provide this support, the State should:

1. Commit sufficient resources to understand how to best integrate the cap-and-trade program being designed by the Western Climate Initiative and the emerging federal proposals into Washington's overall economy.
2. Commit sufficient resources to further develop the recommendations from the Climate Change Challenge process, support education, workforce training and public outreach, and begin to incorporate climate considerations into state operations.
3. Support capacity building for local and tribal governments to fulfill their responsibilities, since many actions will need local implementation or site-specific attention to be successful.
4. Provide modest incentives to assist those areas of the economy that emissions trading markets will not reach, that can help jump-start the business case for change, and that can leverage larger private investments in innovative and promising approaches.
  - a. Standards and regulations should be used judiciously along with incentives to accelerate and sustain change.
5. Develop and implement an 5-10 year strategy for State acceleration of the initial foundational 'start up' of this transition away from a carbon-based economy; the State should be able to assume a diminished role over time as the initial government 'ramp-up' support described above accomplishes its aims, and market-mechanisms begin to take over and drive the choices and investments which will reduce carbon throughout the economy over the long haul.

#### 4. **Sector-Specific Strategies that Reduce Washington's Carbon Footprint in Meaningful Ways.**

- a. Most parts of Washington's economy, and each way in which carbon-based energy is currently produced and used, can be made more efficient, can produce or utilize alternative fuels, and/or be performed in ways that do not emit nearly as much, if any, greenhouse gas emissions. Critical to accomplishing this is identifying these efficiencies and substitutes and making them cost-

competitive, and shaping governmental, business and consumer choices so that these options are both available and implemented through those choices.

- b. Through its Technical Working Groups (TWGs), the CAT has begun the analysis of potential strategies and opportunities for specific sectors of the economy to reduce Washington's existing carbon footprint. (brief description of the TWGs and their processes.)
  - i. Since April 2007, the TWGs have produced a list of potential strategies for each of five sectors of Washington's economy; received CAT affirmation as to which of the strategies should receive further analysis; refined the strategies further; and estimated their impact and their cost on reducing emissions and other factors if they were implemented. (brief description of each TWG.)
  - ii. In assessing the list of 47 strategies that the TWGs analyzed, the CAT believes these strategies highlight the path forward regarding the specific transformations that will need to occur in the economy and society in order to meet Washington's emission reductions, clean energy job creation and energy independence goals.
    1. That path includes taking on and accomplishing the following 'headline' challenges [placeholder language pending CAT discussion 12/4-12/5]:
      - a. Plan and build livable communities in which options such as walking, biking and public transit are affordable, efficient and reliable alternatives to the single occupancy vehicle for many of the trips people now make in their daily lives.
      - b. Ensure Washington has vehicles that get better mileage and use non-carbon or lower carbon intensity fuels developed sustainably from Washington's crops and forests
      - c. Shift Washington's transportation investments from moving vehicles towards moving people and goods and make the most efficient use of our existing transportation infrastructure and capacity
      - d. Design, build, upgrade and operate new and existing buildings and equipment to maximize energy efficiency
      - e. Meet power supply requirements through the efficient use of fuels and from non-carbon or lower carbon intensity fuel sources
      - f. Restore and retain the health and vitality of Washington's farms and forest lands to increase the sequestering and storage of carbon, to reduce the release of greenhouse gas emissions and to support the provision of biomass fuels.
      - g. Reduce waste and Washington's global warming pollution through improved product choices and committed environmental stewardship
      - h. *Proposed:* Build villages that have smart, integrated and networked energy supply and use patterns.
    2. When each of these 'headline' challenges is successfully met, Washington's commitment to reducing emissions will be realized and our contribution to emissions reductions will be secure and 'bankable' in the world-wide effort to combat global warming.
    3. The share of the carbon footprint each 'headline' challenge is trying to address and the tons of emissions reductions associated with each strategy contributing to meeting this challenge, where available, especially the most promising, will be displayed.
  - iii. Explanation of which strategies are considered the most promising, and of the timing that benefits are likely to accrue: short-term (e.g. by 2012), mid-term (e.g. by 2020), or long-term (e.g. beyond 2020), will be included [pending 12/4-12/5 discussion of 'most promising']. "The amount of emissions reductions that these strategies (if ALL were fully implemented in the timeframes estimated by the TWGs), combined with the actions already taken by Washington State (again, if fully implemented in a timely manner), would produce are sufficient to enable us to meet all three emissions reductions goals by 2020 and contribute to the longer-term emission reductions needed by 2050.
    1. Many policy options, particularly those involving energy efficiency or resource conservation, promise cost savings to society. Many options have quantified direct costs; however, these cost estimates do not include what are in many cases very significant co-benefits, such as improved transportation choices or reduced local air pollution, or hedging against energy price volatility. The remaining options are not amenable to straightforward cost quantification. An integrated cost analysis reflecting all quantified options is nearly complete, will include cost estimates for

the recent actions, and will be reported in the by early January. The integrated output of the collective sectors (overall emissions savings, cost impacts, fuel expenditure savings and the jobs goal) will be included for the complete set of strategies.

- iv. The bottom-line issue is how many of these strategies will actually be implemented in time to have the impact in emissions reduction that the TWG estimated they might have by 2020. For each challenge, the CAT has identified those strategies that appear at this time to be the 'most promising' in moving Washington down the path to success. These most promising strategies are discussed below under each headline.
- v. While the actual design and implementation issues associated with these strategies still need, in many cases, further work; and while the actual decision to implement many of them will take significant leadership, courage and foresight; and while implementation will have, in some cases, significant intermediate costs; the CAT believes that these strategies represent its best thinking at this time as to what Washington should do as it takes the threat of global warming seriously and envisions what the transformation to a clean energy economy must accomplish.
- c. Headlines and most promising strategies, along with all strategies for each headline would be described one at a time here in the report. [placeholder pending CAT discussion 12/4-12/5]

**5. Through Sustained Action, Starting Now, With Continued Learning and A Flexible Approach, Washington Can Meet the Climate Change Challenge**

- a. These individual strategies will complement the way that the market-reliant mechanisms discussed above focus societal attention on the need to reduce emissions and establish binding targets for actually reducing emissions over time.
  - i. Both approaches, sector-specific strategies and broad market-based emission reduction requirements, will be needed to achieve Washington's goals.
  - ii. Neither the individual strategies, even taken as a whole, nor any particular market-based mechanism, covers the full range of actions needed to transform Washington's economy sufficiently.
  - iii. Working together, sector-specific strategies and broad market-based approaches increase our options, enable all sectors to contribute to success, and over time, create a broader array of cost-effective choices for all facets of society to select from to meet their fair share of the needed emission reductions.
- b. The CAT realizes that it has not identified nor analyzed all of the possible strategies through which each of the major sectors of the economy could change in order to reduce emissions, nor has it estimated, with whatever degree of accuracy broader economic models may be able to display, the overall interaction within the economy of attempting to reduce carbon emissions in this comprehensive way.
  - i. These acknowledgements do not undercut the validity the CAT's vision or the TWG's analysis, but reinforce the need for constant attention and learning and adjustment as Washington moves forward aggressively to reduce its carbon footprint.
    - 1. Thoughtful and strategic decision-making can maximize our chances for short, mid and long-term emission reduction success, and minimize the avoidable disruption that such a dramatic change in the economy could otherwise represent, provided that continued analysis does not become a substitute for significant and meaningful action to reduce as many emissions as possible as quickly as possible.
  - ii. Many of the strategies have significant additional benefits beyond emissions reductions. Some contribute directly to the states' other goals of clean energy job creation and reducing expenditures on imported fuel. Others have additional air quality benefits or quality of life enhancements, including increased revenue and jobs that are beyond those measured for the clean energy economy.
  - iii. The CAT has also not quantified the costs of delay, or inaction, of implementing these strategies; such delay would contribute to even greater impacts from global warming. The CAT recognizes that these costs, however large that they actually are, underscore the compelling need for action to occur sooner rather than later in implementing its recommendations.
- c. The CAT has identified three fundamental commitments that will be necessary to guide and sustain these comprehensive efforts to mitigate and adapt to climate change successfully:
  - i. The State should play to its 'historic economic strong suits, comparative advantages, and natural landscapes' when deciding where to invest and what to support in seeking reductions, pursuing efficiencies and developing alternative technologies. These could

include solar, tidal, bio energy; information technology, intellectual property and smart grid design; etc.

- ii. The State will need to leverage 'going quickly with going smartly'. In order to act now with viable strategies, Washington should implement strategies as quickly as possible while being cognizant of the uncertainties and consequences of what is being put in place.
  1. The legislature and the Governor should make leveraging "quick and smart" a priority as they strike a balance between the unavoidable tension that arises between moving forward or waiting until additional information is available.
- iii. Like all intelligent interventions in complex systems, the State needs to have an adaptive management attitude and a long term commitment in order to continue learning about what still needs to be done, to increase understanding from what has already been done, and to change direction or programs as needed over time.
  1. Reducing greenhouse gas emissions and adjusting to the impacts of climate change will be a long-term effort, and in order to continue developing a blueprint that can guide implementation of this comprehensive approach and the following sector-specific strategies, continued support for the CAT over 2008 is needed.

## 6. Next Steps.

- a. While responsive to its charge in the Governor's Executive Order, the CAT views this report as an interim report since Washington:
  - i. Is in the middle of developing and implementing many of the recommendations above;
  - ii. Will be extremely active continuing this activity in 2008; and
  - iii. Is in need of an overall blueprint for the coming years to further identify critical next steps, understand the interactions among strategies and recommendations, consider the sequencing of the most promising strategies, and identify costs and benefits in a more rigorous manner.
  - iv. Needs to continue assessing how adaptation to the inevitable impacts of global warming should proceed and how mitigation and adaptation can best be linked together when appropriate and synergistic.
- b. The CAT sees this interim report as the foundation for this blueprint for implementation, and key to helping guide the State as it moves forward in developing a comprehensive approach to reduce greenhouse gas emissions, build the clean energy economy and jobs, and reduce Washington's dependence on imported fuels over the coming years.

## 7. Appendices

- i. Executive Order 07-02
- ii. List of CAT and TWG Members
- iii. Charge to CAT and TWGs, and additional process information
- iv. Emissions Inventory and Projections [full document, or high level summary of points salient to the CAT process and link]
- v. Memo of actions already taken in WA
- vi. Analysis methodology memo and key assumptions
- vii. Job and fuel goals methodology memo and key assumptions
- viii. Integrated results of the suite of sector-specific options
- ix. TWG Analyses and Technical Appendices
  1. Transportation TWG Policy Option Document
  2. Energy Supply TWG Policy Option Document
  3. RCI TWG Policy Option Document
  4. Agriculture TWG Policy Option Document
  5. Forestry TWG Policy Option Templates