Roadmap for Climate Protection: Reducing Greenhouse Gas Emissions in Puget Sound

The Puget Sound Clean Air Agency
Climate Protection Advisory Committee

Prepared with the Assistance of: Ross & Associates Environmental Consulting, Tellus Institute, The Center for Clean Air Policy, and Thomas D. Peterson

12/29/04

December 29, 2004

Honorable Members
Board of Directors
Puget Sound Clean Air Agency

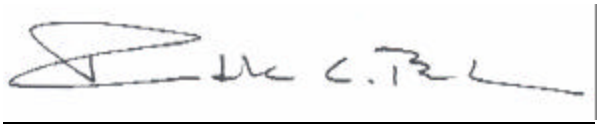
Ladies and Gentlemen:

We, the members of the Climate Protection Advisory Committee convened by the Puget Sound Clean Air Agency in January 2004, are pleased to present you with our final report and recommendations. We are members of organizations with various and different experiences, responsibilities, and roles regarding climate change. Our diversity has been our strength as we came together in good faith seeking to provide direction on effective ways to reduce greenhouse gas emissions in the Puget Sound region, as you charged us to do.

We have come to a consensus on the need for action and have recommended several critical priorities and key actions needed to put the region on the path to reducing greenhouse gas emissions and contributing to climate stabilization. Unless noted in the report, we support the recommendations presented here and will, each in our own way and within the relevancy, expertise, and decision-making of our own organization, continue to participate constructively in their development and implementation. We urge that the Puget Sound Clean Air Agency continue its important leadership on this issue, informed and guided by these recommendations.

We want to gratefully acknowledge and express our appreciation for the support we received in our efforts from the many volunteers who participated as Technical Working Group members and the Agency's staff. We thank you for the opportunity to participate and to contribute to this effort, and we appreciate your leadership and vision on this vitally important issue.

Sincerely,
Climate Protection Advisory Committee Members



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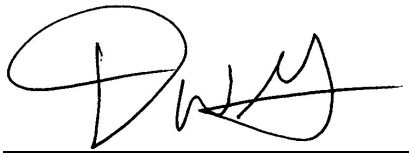

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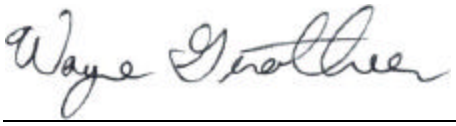

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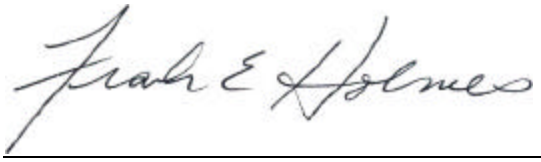

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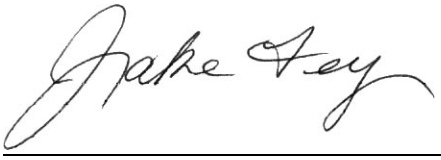

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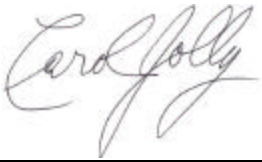

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* Snohomish County PUD is reserving its signature until it has completed its own internal process to consider the recommendations.

** John Cabaniss was an active participant in the CPAC process but chose not to sign the report due to current/potential litigation regarding California Motor Vehicle Standards.

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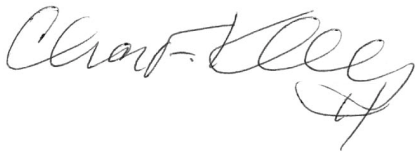

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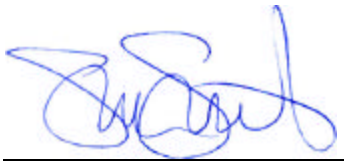

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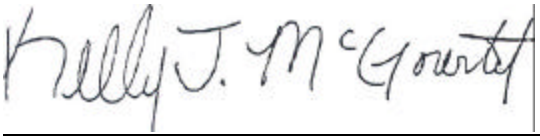

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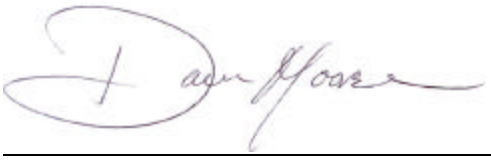

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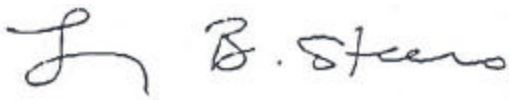

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EXECUTIVE SUMMARY

Global warming is happening and poses an urgent challenge to the citizens in the central Puget Sound region and the world over. Human actions—primarily fossil fuel burning—are the key cause of the problem; and thoughtful, focused human action is the key to the solution. Practical greenhouse gas reduction actions taken now, if implemented quickly and wisely, can help reduce the risks from a warming climate and deliver considerable economic benefits to the Puget Sound region. Significant greenhouse gas emission reductions will be needed over time to stabilize the climate—acting now will make that journey easier and more effective. Acting now will also help ensure that our communities are better positioned to prosper in a world that is transitioning to a low-carbon economy. The Puget Sound region must embrace this challenge directly and decisively.

These are the primary conclusions of the Climate Protection Advisory Committee (CPAC), a group of stakeholders from business, government, and public interest organizations convened to advise the Puget Sound Clean Air Agency Board of Directors on a climate change action strategy. At the request of Washington State Governor Gary Locke, the CPAC also offers recommendations for statewide action to inform the State of Washington's participation in the West Coast Governors' Global Warming Initiative.

The CPAC's report lays out a set of near-term recommendations that will allow the region to turn the corner on global warming emissions—from today's trajectory of increasing emissions to a downward slope within this decade, and significant reductions from today's emissions levels by 2020. It identifies the possibility of large, sustained economic gains associated with the recommended actions. And it calls for development of a longer-term comprehensive framework to reduce greenhouse gas emissions to the levels necessary to stabilize the climate over time.

WHY ACT?

Our region's natural and human-engineered systems are elaborately adapted to long standing climate patterns and rhythms. Abundant winter precipitation, stored as snow in the mountains, anchors our economy and environment. This snowpack is the storage for our hydroelectric system, which produces the nation's cleanest and least costly power supplies. It is essential for our region's and state's agricultural productivity. It provides year-round water supply for people and habitat for salmon. Water, stored as snow, is a critical element of our natural capital. Our customary release and use of this water, based on historic climate patterns, is a critical feature of our natural infrastructure.

But these historic climate patterns have already begun to change due to global warming, and scientific consensus predicts that the trend toward a warmer climate will continue unless humans

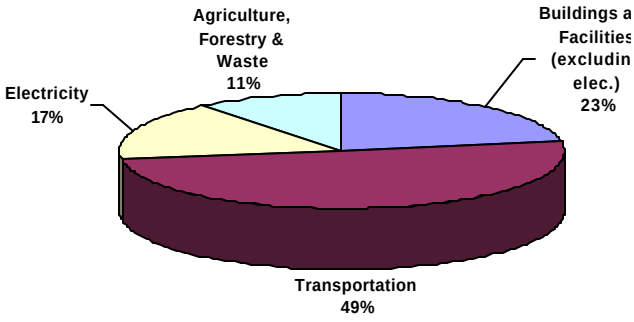
tackle this problem. The Washington Cascades snowpack (or snow water equivalent) has already been reduced by approximately 50% for the period 1950-1995. It is estimated that continued global warming will reduce this precious resource by another 59% by 2050—within the working lifetime of a current college freshman.

Other anticipated climate impacts on the region include: loss of forests to pests and wildfire (and the impact of particulate matter produced by wildfires on air pollution and human health); coastal erosion due to sea-level rise; and more extreme weather events and flooding. Clearly, the impacts from global warming are not just regional; all human and natural systems depend on climate stability, so unchecked global warming would cause widespread disruption of ecosystems and economies.

WHY ACT LOCALLY?

While no single jurisdiction or region can engineer a complete solution to global warming, every place has something to contribute. As such, we need to be a part of the solution. In many cases, reducing greenhouse gas emissions can help us achieve other important local priorities: reducing traffic and sprawl; stabilizing and reducing energy costs; protecting our land, air, and water resources; and increasing the competitiveness of our businesses and industries.

Share of GHG Emissions by Sector, 2000



Most of the world's advanced industrial economies have already formally launched their transition to a low-greenhouse gas future through adoption of the Kyoto treaty. While the U.S. has not ratified the Kyoto treaty, many businesses, states, and local governments here at home are developing and implementing plans to reduce greenhouse gas emissions. They are doing so in response to both the risks and the opportunities that the climate challenge presents. They are positioning their economies for survival and success as the world makes the transition to cleaner, more efficient energy sources and uses.

This region, more than most, can be a leader in solutions. Our extraordinary abundance of technical talent, entrepreneurial skill, and human and natural capital position us to be pioneers in the businesses and policies that will protect the climate. The CPAC believes that the Puget Sound can do more than reduce its own emissions. We are among the best-qualified communities anywhere to pioneer solutions with both local benefits and global applications.

GOALS

The CPAC believes that global warming is occurring, is largely triggered by human actions, and that human induced greenhouse gas emissions must be sufficiently reduced to achieve climate stabilization. The specific emission reduction goals necessary to do so will be set by the science. The CPAC's recommendations, however, represent promising first steps on the path to climate stability. On the way to this long-term goal, the CPAC recommends the following principles guide the region's efforts.

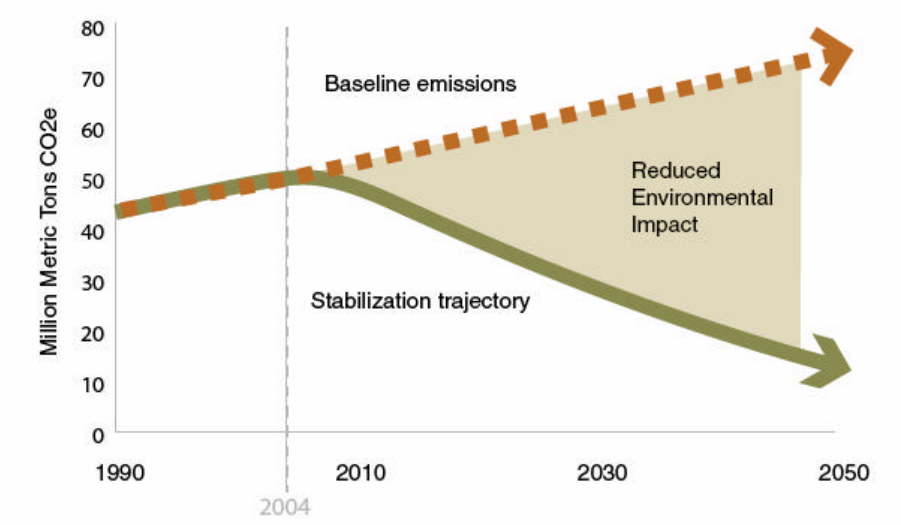
Begin now, and begin with determination. The CPAC's key action recommendations can produce significant financial benefits in the form of lower energy costs. With fossil fuel prices near record highs, these actions deliver large long term economic benefits. With so much at stake and such an attractive first step at hand, now is the time to take these recommendations, craft their implementation path, and put them to work for the region.

Crest the hill as quickly as possible. Achieve declining emissions by 2010. While climate science calls for deep reductions in global warming pollution, emissions in our region are still on the rise. Unchecked, the region is projected to emit 40% more greenhouse gases in 2020 than we did in 1990. Very early, in what will clearly be a long journey toward climate stabilization, we need to turn this emission curve downward. These recommendations, properly designed and implemented, can help do so.

Chart a course to the ultimate goal. Having crested the hill, the region needs to chart a course for reducing greenhouse gas emissions to the levels needed for climate stabilization. From a scientific perspective, the steeper that curve in the near-term, the better. The sooner we achieve reductions, the smaller the impacts will be. We ask that the Clean Air Agency consider the science, set interim and long-term reduction goals, and identify timeframes for action to organize and galvanize the region for the long haul toward climate stabilization. We believe that the ultimate success of the region's climate strategy depends on a clear, measurable, results-oriented framework for action, including goals, timetables, and predictable limits on greenhouse gas emissions.

The CPAC did not identify specific emission reduction goals on the line toward climate stabilization. We have recommended a *trajectory* and a set of recommended actions that constitute necessary, promising first steps in moving our region along that course. As we deliver these directional recommendations to the Puget Sound Clean Air Agency Board and other decision-makers, including the West Coast Governors and the Washington State Legislature and Governor, we urge them to implement those that are ready to go, flesh out those that need further work, and continue to look for additional actions and opportunities that go beyond the CPAC's recommendations.

Puget Sound GHG Emissions 1990–2050



PRIORITY RECOMMENDATIONS AND KEY ACTION ITEMS

Because global warming is truly a global issue, the CPAC recommends one overarching action to the Puget Sound Clean Air Agency: The Puget Sound Clean Air Agency must actively and aggressively participate in efforts to achieve greenhouse gas emission reductions in Washington State, the west coast, nationally and internationally to the maximum extent possible.

In addition to this call for action, the CPAC has identified eight priority recommendations and associated key action items for the region to pursue. The technical analyses indicate that implementing the CPAC's recommendations would result in a reduction of Puget Sound regional GHG emissions back to its 1990 levels and boost the region's economy between $1.4 billion-$2 billion over the next 15 years.

Emission Savings from Key Actions (Million Metric Tons CO2e)

	2010	2020
Buildings, Facilities, Electricity Supply	2.9	7.9
Transportation	0.8	4.9
Agriculture, Forestry & Waste	2.3	3.9
Total	6.0	16.6

1. **Maximize energy efficiency and increase renewable energy in the region's power mix.** Energy-efficient lights, appliances, and buildings can save electricity more cheaply than new

power plants can produce it. Successful utility efficiency programs and building and construction codes have shown that this "saved" energy can be used to meet new demand, providing both a cost-effective energy resource and major reductions in GHG emissions. As well, recent successes in developing renewables such as wind power, demonstrate that the region is poised to accelerate development of renewable energy supplies, build its clean energy industry, and begin to replace carbon-based fuels in the region's existing supply as appropriate. Key actions:

- ➔ Develop standards (or other appropriate mechanisms) that promote meeting new load growth with cost-effective energy efficiencies and renewable energy supplies.
- ➔ Develop standards that support the use of renewable resources when retiring/replacing existing fuel sources.
- ➔ Enact state energy efficiency standards for selected appliances and products.
- ➔ Upgrade the non-residential state energy code and improve local level enforcement, training, and education.

2. **Reduce the greenhouse gas emissions of new vehicles sold:** Petroleum used in transportation accounts for over half the region's GHG emissions. Achieving major reductions from this sector requires steady and significant declines in the emissions these vehicles produce. Key actions:
   - ➔ Actively participate and engage in efforts to urge the federal government to achieve improvements in fuel economy
   - ➔ Adopt California Motor Vehicle standards, which will require stricter emissions standards for new cars sold in Washington State. [1]

3. **Reduce motor vehicle miles traveled:** Reducing overall vehicle miles traveled and providing better alternatives to single-occupancy vehicles are both existing regional priorities and a crucial part of any effective strategy for reducing global warming emissions. Key actions:
   - ➔ Establish a vehicle miles traveled reduction goal.
   - ➔ Implement a series of transit, land-use, and demand reduction strategies.
   - ➔ Incorporate climate protection policies and goals into regional transportation and land-use planning, such as described in the Puget Sound Regional Council's Destination 2030 plan.

4. **Protect natural landscapes and forest biomass:** The Puget Sound Region is blessed with a large and basically still intact base of lowland forested lands, working farms, parks and other natural areas. This significant resource can and should be a significant part of the

[1] Adopting California Motor Vehicle Standards is not a consensus recommendation. The Association of International Automobile Manufacturers did not support adopting these standards. Details regarding the differing perspectives are included in Chapter Six of the report.

climate solution. Managed appropriately, they can store or "sequester" carbon, providing a way to reduce the concentration of carbon in the atmosphere while emission reduction strategies take hold. Key action:

- ➔ Protect and enhance the GHG reduction potential of Puget Sound forests and other working landscapes. Specific actions include forest land conservation; providing incentives to property owners; and forest retention associated with land development

5. **Increase recycling and composting rates; reduce waste**: Reducing, reusing, and recycling waste can significantly reduce GHG emissions in all phases of a product's lifecycle, while also protecting the environment, conserving resources and lowering waste management costs and impacts. Key actions:

   - ➔ Increase food waste composting and waste wood and mixed paper recovery rates to 45%, 50%, and 58% respectively by 2010; increase paper, plastic, metals and other materials recovery rates by 5-20%.

6. **Develop and adopt a climate change policy framework:** An effective climate strategy must combine countless individual actions that collectively reduce GHG concentrations in the atmosphere sufficient to stabilize the climate. These many individual measures must be bound together with a results-oriented policy framework that lends structure, coherence, pace, and accountability to the enterprise. Key actions:

   - ➔ Adopt explicit goals and timelines for GHG reduction.
   - ➔ Establish fair, predictable targets on GHG emissions across sectors and use flexible market-based trading systems, such as a national or regional Cap and Trade, which,,when properly constructed and with appropriate regulatory support, will allow the goals to be reached as efficiently as possible.

7. **Promote public education and citizen/corporate/government action:** Solutions to global warming require action at all levels, from high-level policy development to business investment to individual behavior change. Active engagement by all sectors and a clear understanding of the challenges and opportunities posed by global warming by all citizens are essential. Key action:

   - ➔ Develop a communication and awareness strategy that includes: broad-based climate education; actionable messages; outreach partnerships with related efforts and institutions; and targeted education/advocacy for specific audiences that can implement high-priority GHG reduction strategies.

8. **Encourage Local Government to Act:** Local governments can and should take significant steps to contribute to reducing GHG emissions. They can influence GHG emissions in

several key ways (entities in the private sector can also influence GHG emissions in many of the same ways), including:

- ➔ Leading by example
- ➔ Creating partnerships and leverage existing opportunities
- ➔ Advocating for GHG emission reduction actions
- ➔ Providing technical assistance, funding, incentives and regulation

CONCLUSION

The CPAC's conclusions and recommendations are a good beginning. We hope they help the Clean Air Agency develop a sustained, focused, and effective regional climate change action plan. Much remains to be done to deliver on the promise of the actions in this report. In particular, we urge the Clean Air Agency, as it reviews our recommendations and determines its next course of action, to consider the following roles or actions to provide critical leadership:

1. Advocate and engage with the state and the federal government for action on those recommendations that promote solutions at a scale larger than the central Puget Sound.
2. Support the local governments in the Clean Air Agency jurisdiction as they develop the knowledge and tools needed to reduce GHG emissions.
3. Build partnerships with local governments, business, communities and others to better understand the opportunities and barriers that we face as we move forward.
4. Establish the policy framework needed to set goals, establish timelines and assess progress on the road to climate stabilization.
5. Educate all citizens of the region regarding the causes of global warming and the potential feasible actions and decisions people and businesses can take to make a contribution to the solution.

The recommended actions are just a first step on the ultimate road to climate stabilization. This region, and all regions, will need to stay the course to be successful, ensuring the commitment of all parties and sectors and investing appropriate public and private sector resources. While the challenge may seem formidable, the first steps are well-understood and appear economically attractive. For the future of both our environment and our economy, we can and must begin immediately.

The CPAC members represent the diversity of interests needed to work together over time to successfully achieve climate stabilization. We have converged on the direction we must follow and identified the first essential steps we should take. Our success in doing so reflects the compelling nature of the global warming challenge and hopefully contributes to the momentum and confidence needed to meet this challenge. We urge the Clean Air Agency, and all readers of this report, to determine what they can do to move our recommendations forward and explore how to surpass them, as well.