



# A Report to the Legislature on the Work of the Climate Legislative and Executive Workgroup

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Prepared Pursuant to:

E2SSB 5802, Chapter 6, Laws of 2013, "An Act relating to developing recommendations to achieve the state's greenhouse gas emissions targets"

January 2014

# Climate Legislative and Executive Workgroup

## Members

Governor Jay Inslee (Chair)

Senator Doug Ericksen (42<sup>nd</sup> Legislative District)

Senator Kevin Ranker (40<sup>th</sup> Legislative District)

Representative Joe Fitzgibbon (34<sup>th</sup> Legislative District)

Representative Shelly Short (7<sup>th</sup> Legislative District)

## Alternates

Senator Sharon Brown (8<sup>th</sup> Legislative District)

Senator Annette Cleveland (49<sup>th</sup> Legislative District)

Representative Jessyn Farrell (46<sup>th</sup> Legislative District)

Representative Jake Fey (27<sup>th</sup> Legislative District)

Representative Liz Pike (18<sup>th</sup> Legislative District)

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January 30, 2014

Honorable Members, Washington State Senate  
Honorable Members, Washington State House of Representatives

On behalf of the Climate Legislative and Executive Workgroup, we are presenting the report required under Engrossed Second Substitute Senate Bill 5802 (E2SSB 5802, Chapter 6, Laws of 2013).

The Climate Legislative and Executive Workgroup was created by the Legislature “...to recommend a state program of actions and policies to reduce greenhouse gas emissions, that if implemented would ensure achievement of the state's emissions targets in RCW 70.235.020. The recommendations must be prioritized to ensure the greatest amount of environmental benefit for each dollar spent and based on measures of environmental effectiveness, including consideration of current best science, the effectiveness of the program and policies in terms of costs, benefits, and results, and how best to administer the program and policies.”

The Workgroup has been meeting regularly since May 2013, and I have facilitated the Workgroup since August 2013. Each member worked to absorb the data provided by the technical consultant, discussed their differing perspectives, and attempted to reach agreements. The attached report is divided into sections, which present the members' different viewpoints, proposed actions, and recommended paths forward.

Sincerely,

A handwritten signature in blue ink that reads "Robert Wheeler".

Robert Wheeler, President  
Triangle Associates, Inc.

**A Report on the Work of the  
Climate Legislative and Executive Workgroup**

as submitted by

Governor Jay Inslee

Senator Kevin Ranker

Representative Joe Fitzgibbon



January 21, 2014

TO: The Honorable Doug Ericksen, Chair  
The Honorable John McCoy, Ranking Member  
Honorable Members of the Senate Committee on Energy, Environment and  
Telecommunications

The Honorable Andy Hill, Chair  
The Honorable James Hargrove, Ranking Member  
Honorable Members of the Senate Committee on Ways and Means

The Honorable Curtis King, Co-Chair  
The Honorable Tracey Eide, Co-Chair  
Honorable Members of the Senate Committee on Transportation

The Honorable Joe Fitzgibbon, Chair  
The Honorable Shelly Short, Ranking Member  
Honorable Members of the House Committee on Environment

The Honorable Jeff Morris, Chair  
The Honorable Norma Smith, Ranking Member  
Honorable Members of the House Committee on Technology and Economic  
Development

The Honorable Ross Hunter, Chair  
The Honorable Bruce Chandler, Ranking Member  
Honorable Members of the House Committee on Appropriations

The Honorable Hans Dunshee, Chair  
The Honorable Richard DeBolt, Ranking Member  
Honorable Members of the House Committee on Capital Budget

The Honorable Reuven Carlyle, Chair  
The Honorable Terry Nealey, Ranking Member  
Honorable Members of the House Committee on Finance

The Honorable Judy Clibborn, Chair  
The Honorable Ed Orcutt, Ranking Member  
Honorable Members of the House Committee on Transportation

We are pleased to present our report on the work of the Climate Legislative and Executive Workgroup, as required by Engrossed Second Substitute Senate Bill 5802 (Chapter 6, Laws of 2013).

The Climate Legislative and Executive Workgroup was created by the Legislature "... to recommend a state program of actions and policies to reduce greenhouse gas emissions, that if implemented would ensure achievement of the state's emissions targets in RCW 70.235.020."

Every member of the Workgroup was actively engaged in this work. However, we were unable to reach agreement on formal recommendations that could be supported by three or more legislative members of the Workgroup, as specified in the Act. While we do not represent all members of the Workgroup, we respectfully submit this report in fulfillment of the statutory charge.

A tremendous amount of hard work and dedication was devoted to the Workgroup. We reviewed our existing state and federal policies, and the progress we've made toward our carbon pollution limits. We carefully considered the broad scope of policies that have been put to use in many jurisdictions around the world. And we listened carefully to our citizens.

We learned that existing state and federal policies will get us well over half way toward the state's 2020 emission limits. However, our 2020 statutory limits will not be met without additional action, and even further actions will be required to achieve the limits in later years. We learned that we don't have to invent the wheel here, just refine it to fit our state, avoid unintended consequences and commit to finding the solutions that will work best in our state. And we heard loud and clear that our citizens want, and are expecting, leadership on this issue.

We believe the work has provided a strong foundation of knowledge upon which we can continue to make progress.

To meet the Workgroup's statutory obligation, we have identified a set of actions that will secure the additional emission reductions by the required dates, and are recommending that the state move forward to design and implement these actions.

Based on the information reviewed by the Workgroup, we believe the proposed policies are the most effective tools we have available to meet our state emission limits. As we move forward, it will be important to design our actions in a way that maximizes the benefits and minimizes the costs of implementation by directly considering our emissions and energy sources, and our businesses and jobs. To accomplish this work, we must engage our best minds from within and outside government.

The Legislature should be actively engaged in this process through an ongoing executive and legislative dialogue on the actions we should take to reduce greenhouse gas emissions, consistent with the established statutory limits. Once specific proposals emerge, they will be subject to review by legislators, stakeholders and our citizens.

Our proposals for actions are outlined in the report that follows.

We believe action is needed now. Washington must reduce carbon emissions in the most cost-effective way possible, and the longer we wait, the more expensive the carbon reductions necessary to reach a safe level will be. Thus it is in the economic interest of Washingtonians to act now.

By taking action now, we can do our part in preventing climate change from becoming worse while concurrently capturing the job growth opportunities offered by a clean energy economy. This is a tall order, but one we are confident we must, and can, achieve.

We urge your consideration of this report and your support for the next steps we must take.

Governor Jay Inslee

Senator Kevin Ranker

Representative Joe Fitzgibbon

# A Report on the Work of the Climate Legislative and Executive Workgroup

## I. Introduction

### A. Background

The 2008 Washington State Legislature enacted Chapter 70.235 RCW, an act limiting greenhouse gas (GHG) emissions in Washington state. RCW 70.235.020 reads:

“The State shall limit emissions of greenhouse gases to achieve the following reductions for Washington State:

- By 2020, reduce overall emissions of greenhouse gases in the State to 1990 levels;
- By 2035, reduce overall emissions of greenhouse gases in the State to 25 percent below 1990 levels;
- By 2050, the state will do its part to reach global climate stabilization levels by reducing overall emissions to 50 percent below 1990 levels, or 70 percent below the State’s expected emissions that year.”

The Legislature has also enacted a range of policies to track and reduce emissions of GHG in Washington.

### B. Climate Legislative and Executive Workgroup

The 2013 Legislature passed Engrossed Second Substitute Senate Bill 5802 ([E2SSB 5802](#)), an act related to developing recommendations to achieve the state’s GHG emissions targets. The Climate Legislative and Executive Workgroup was created by the act and charged with the responsibility of developing the recommendations.

#### 1. Membership

The Climate Legislative and Executive Workgroup (Workgroup) was composed of the Governor and four members of the Legislature. The Workgroup members are:

- Governor Jay Inslee (Chair)
- Senator Doug Ericksen (42<sup>nd</sup> Legislative District)
- Senator Kevin Ranker (40<sup>th</sup> Legislative District)
- Representative Joe Fitzgibbon (34<sup>th</sup> Legislative District)
- Representative Shelly Short (7<sup>th</sup> Legislative District)

Also appointed to the Workgroup are five alternates: Senator Sharon Brown (8<sup>th</sup> Legislative District), Senator Annette Cleveland (49<sup>th</sup> Legislative District), Representative Jessyn Farrell (46<sup>th</sup> Legislative District), Representative Jake Fey (27<sup>th</sup> Legislative District) and Representative Liz Pike (18<sup>th</sup> Legislative District).

## **2. Purpose of the Workgroup**

E2SSB 5802 Section 2(4) of the act states:

“The purpose of the work group is to recommend a state program of actions and policies to reduce greenhouse gas emissions, that if implemented would ensure achievement of the state’s emissions targets in RCW 70.235.020. The recommendations must be prioritized to ensure the greatest amount of environmental benefit for each dollar spent and based on measures of environmental effectiveness, including consideration of current best science, the effectiveness of the program and policies in terms of costs, benefits, and results, and how best to administer the program and policies. The Workgroup recommendations must include a timeline for actions and funding needed to implement the recommendations.”

The Workgroup’s report must be provided to the appropriate policy and fiscal committees of the Senate and House of Representatives by December 31, 2013 (Section 2(8)).

## **3. Workgroup Process**

The Workgroup began meeting in May 2013 and held eight open meetings by the December 31 deadline. [Agenda and materials](#) for all meetings are posted on the Governor’s website; all meetings were recorded by TVW. Since September 2013, the Workgroup’s meetings were managed and facilitated by Triangle Associates, Inc., which was selected by the Workgroup on a competitive basis.

As required by Section 1 of the act, the Office of Financial Management hired an independent and objective consultant selected by the Workgroup to prepare a credible evaluation of approaches to reduce GHG emissions. Section 2(6) of the act requires the Workgroup to use the evaluation to inform the Workgroup about experiences in other jurisdictions. The Workgroup selected, on a competitive basis, Science Applications International Corporation, which is now doing business as Leidos, to prepare the evaluation.

In addition to its open meetings, the Workgroup held three public hearings in 2013: October 16 in Spokane, October 23 in Seattle and December 13 in Olympia. More than 1,000 people attended the hearings. The Workgroup heard testimony at these public hearings from more than 200 citizens who expressed their views on the Workgroup’s charge, suggested ideas on approaches to reducing Washington’s GHG emissions and provided comments on the Workgroup draft reports. In addition, more than 8,500 written comments were received by email, regular mail or at the hearings. The Workgroup members placed equal value on oral and written comments.

## **C. Evaluation of Approaches to Reducing GHG Emissions**

The act specifies the scope of the consultant’s evaluation of approaches to reducing GHG emissions (See Appendix A – E2SSB 5802 section 1(3)-(5)). In particular, Leidos was charged with:

1. Analyzing Washington state’s emissions and related energy consumption and existing GHG reduction policies as adopted by the state;

2. Examining and summarizing federal policies that will contribute to meeting the state GHG emissions targets; and
3. Evaluating GHG emissions reduction programs adopted in other jurisdictions, including those being implemented in the Pacific Northwest, on the West Coast, in neighboring provinces in Canada, and in other states and countries.

The evaluation final report was submitted in October 2013. Leidos also produced separate reports on each of the tasks outlined in 1 through 3 above, as well as additional selective analyses, at the request of the Workgroup.

The consultant's reports are available online at the links identified in the appendices.

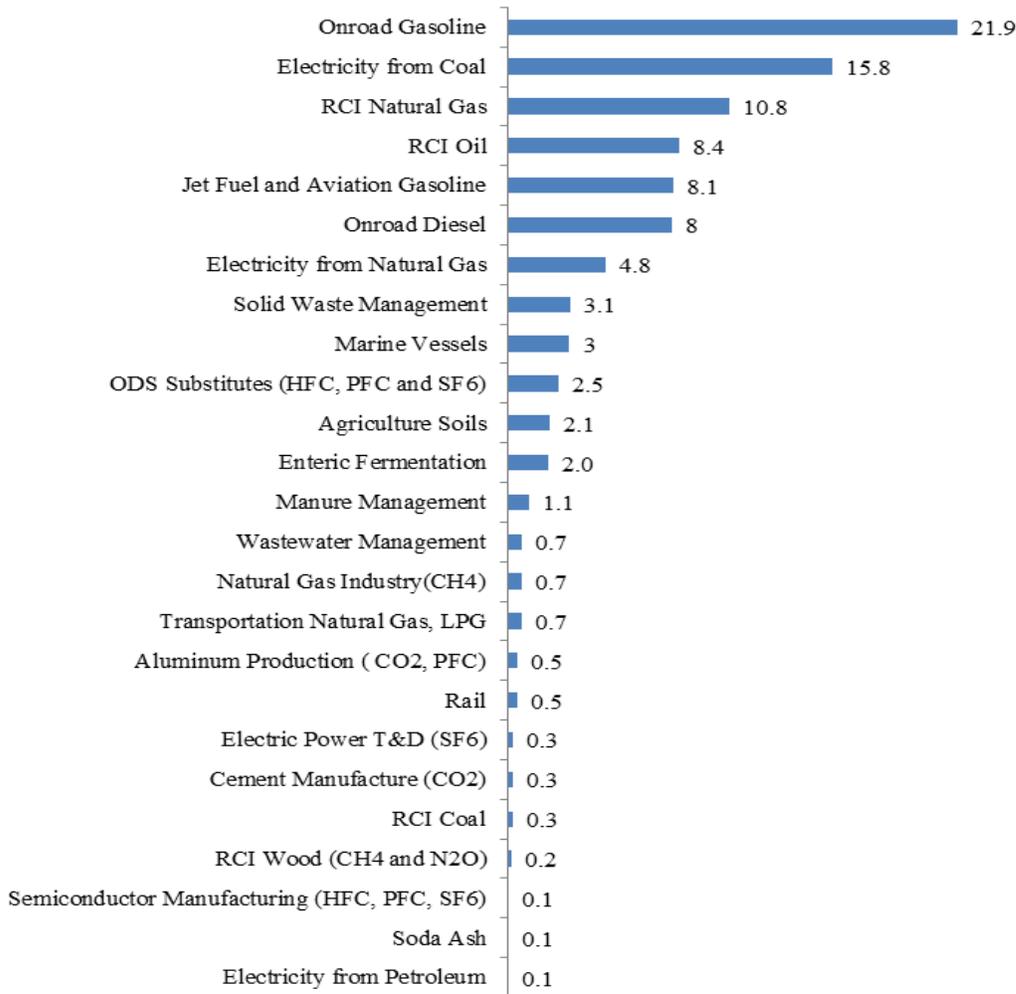
## **D. Summary of Results from the Consultant's Evaluation**

### **1. Washington's GHG Emissions**

Total emissions in Washington in 2010 were 96.1 million metric tons of carbon dioxide equivalents (MMTCO<sub>2</sub>e). Despite declines in recent years, the transportation sector remains the largest source of emissions, and in 2010, accounted for 44 percent of total GHG emissions in the state. Within this sector, the consumption of gasoline in vehicles is the largest single source of emissions, accounting for more than 23 percent of total emissions.

The electricity sector and residential, commercial and industrial (RCI) sectors are the second- and third-largest emitting sectors, respectively. In the electricity sector, coal consumption for electricity is the largest single source, while in the RCI sector, natural gas consumption is the largest source — primarily heating fuel for buildings — followed by oil used in the industrial sector. Figure 1 below illustrates Washington emissions sources and GHG in 2010.

**Figure 1: Washington State GHG Emissions by Source in 2010**



## 2. Progress through Current State and Federal Policy

To date, Washington has implemented a variety of policies that reduce emissions in the transportation, electricity, and residential and commercial sectors. In addition, current federal policies are contributing additional reductions, mostly in the transportation sector. Reductions from these state policies, as well as the federal renewable fuel standard, are summarized in Table 1. Together, these policies are estimated to reduce Washington’s emissions by 17.2, 30.6 and 38.1 MMTCO<sub>2</sub>e in 2020, 2035 and 2050, respectively.

**Table 1: Summary of Current State and Federal Policies**

Current Policy	GHG Emission Reductions (MMTCO <sub>2</sub> e)		
	2020	2035	2050
State renewable fuel (diesel) standard	0.03	0.04	0.05
Washington State Energy Code	0.9	5.1	11.0
GHG emissions performance standards	0.0	2.9	2.9
Energy Independence Act (I-937)	7.9	10.9	10.9
Energy efficiency and energy consumption programs for public buildings	0.03	0.04	0.04
Conversion of public fleet to clean fuels	0.03	0.04	0.05
Purchasing of clean cars	5.5	10.0	11.7
Growth Management Act	1.6	2.4	2.6
Federal renewable fuels standard	1.4	1.6	1.6
<b>Interactive sum of reductions from current policies</b>	<b>17.2</b>	<b>30.6</b>	<b>38.1</b>

### 3. Washington Statutory GHG Emission Limits and the Challenge Ahead

In its final report, Leidos included the following key findings:

“The results of this project indicate that the State will not meet its statutory reductions for 2020, 2035 and 2050 with current state and federal policies. However, the State can meet its statutory 2020 target if near-term action is taken to implement a new comprehensive emission reduction program. In 2020, for example, it is likely that Washington would meet its target if a new cap and trade policy is implemented. The evaluation found, however, that any combination of the policies summarized in this report, at the implementation levels evaluated, will likely be insufficient to meet Washington’s targets in 2035 and 2050. However, decisive actions taken today can set Washington squarely on a long-term path that can be strengthened and modified in the coming years to achieve the emission reductions required for 2035 and 2050.”

Table 2 below shows the gaps.

**Table 2: Washington’s Emissions with Reductions from Current Policies, Statutory Emission Limits and Additional Reductions Required**

	GHG Emissions (MMTCO <sub>2</sub> e)		
	2020	2035	2050
Projected GHG emissions <i>with</i> federal and state policy	97.9	97.5	100.1
GHG emissions limit	88.4	66.3	44.2
<b>Additional reductions required to meet target (gap)</b>	<b>9.5</b>	<b>31.2</b>	<b>55.9</b>

#### **4. Economic Impacts of GHG Emissions Reduction Programs**

As part of the review of comprehensive greenhouse gas emission reduction programs being implemented in other states and countries, Section 1(3) of the act required the consultant to include available information on cost per ton of emission reduction, relative impacts on different sectors of the jurisdiction's economy (including power rates, agriculture, manufacturing and transportation fuel costs) and impacts on household spending (including fuel, food and housing costs). In addition, the act required the consultant to analyze "existing studies of the potential costs to Washington consumers and businesses of greenhouse gas emissions reduction programs or strategies being implemented in other jurisdictions."

Leidos examined and summarized the information on potential costs and benefits to Washington consumers and businesses for each of the reviewed policies (see Task 2 Final Report and Appendix A). In addition, for a sub-set of policies, Leidos performed original analysis and calculations of cost effectiveness to provide a better understanding of the emissions reduction opportunities and costs in Washington. To better illustrate the range of economic impacts of programs implemented in other jurisdictions, Leidos created a [table](#) summarizing the available economic information and data related to each policy or program evaluated under Task 2.

For most policies, the availability of detailed economic information is limited. Costs and benefits for programs implemented in other jurisdictions varied widely due to differences in policy designs and study assumptions.

## **II. Actions Proposed by Governor Inslee, Senator Ranker and Representative Fitzgibbon**

### **A. Findings and Conclusions**

- The Climate Legislative and Executive Workgroup is charged by law “to recommend a state program of actions and policies to reduce greenhouse gas emissions, that if implemented would ensure achievement of the state’s emissions targets in RCW 70.235.020.”
- From the technical evaluation, the Workgroup has learned that, despite significant progress, our statutory carbon pollution limits will not be met without additional action. We learned that current state and federal policies will get us well over half way toward the state’s 2020 emission limits. However, our 2020 statutory limits will not be met without additional action, and even further actions will be required to achieve the limits in later years.
- Action will be needed on multiple fronts, both to ensure that the limits are met and to fairly allocate the responsibility for action. Action needs to start soon to allow the time needed for more gradual changes. Washington must reduce carbon emissions in the most cost-effective way possible, and the longer we wait, the more expensive the carbon reductions necessary to reach a safe level will be. Thus it is in the economic interest of Washingtonians to act now.
- To meet the Workgroup’s statutory obligation, we have identified a set of actions that will secure the additional emission reductions by the required dates, and are recommending that the state move forward to design and implement these actions.
- The law further calls for prioritizing actions based on both environmental and cost effectiveness (i.e., ensuring the greatest amount of environmental benefit for each dollar spent), requiring consideration of the costs, benefits and results of the proposed actions.
- Based on the information reviewed by the Workgroup, we believe the proposed policies are the most effective tools we have available to meet our state emission limits. As we move forward, it will be important to design our actions in a way that maximizes the benefits and minimizes the costs of implementation by directly considering our emissions and energy sources, and our businesses and jobs.
- By taking action now, we can do our part in preventing climate change from becoming worse while concurrently capturing the job growth opportunities of a clean energy economy. This is a tall order, but one we are confident we can, and must, achieve.

## **B. Next Steps**

### **1. Proposed Actions to Meet Washington's Carbon Pollution Statutory Limits**

To meet the statutory charge, we propose the following five programs be developed and implemented in Washington:

- 1) A cap on carbon pollution emissions should be established. It should set binding limits that reduce emissions over time and institute the necessary market mechanisms to meet the cap in the most effective and efficient manner possible. Establishing a cap on carbon pollution emissions is the most certain and fair way to tackle this challenge, and will provide the foundation for other actions.

This cap-and-market program should focus on the larger emission sectors such as transportation, buildings and electricity, as they account for most of the forecasted Washington emissions. The program should include allowance policies, cost containment and other options and measures that help offset the cost impact to consumers and workers, protect low-income households and assist energy-intensive, trade-exposed businesses in their transition from carbon-based fuels. It should also establish a clear framework for oversight and regulation of the markets.

- 2) Adopt measures to reduce our use of electricity generated by coal-powered facilities in other states. We should seek to negotiate agreements with key utilities and others to reduce and eliminate the use of electrical power produced from coal over time. Though coal is used for a relatively small share of our electricity, it generates most of the carbon pollution emissions from this sector.
- 3) Establish an energy smart building program to include promotion of new financing, incentives and support. The program should encourage the construction of new buildings that are as energy-neutral as possible, with advanced building design, efficient appliances, on-site power generation and smart controls. For existing buildings, the program should establish cost-effective, energy-efficiency retrofits as the norm, not the exception, with support systems to assist businesses and homeowners. We know energy efficiency is one of the most cost-effective ways to reduce emissions, shrink costs, increase our productivity and competitiveness and accelerate the creation of thousands of local jobs.
- 4) Take actions to help finance the use of clean energy to include dedicated and sustained funding to help our research institutions, utilities and businesses develop, demonstrate and deploy new renewable energy and energy-efficiency technologies. These technologies will help reduce carbon pollution emissions, grow the state's economy and maintain our global competitiveness.
- 5) Adopt measures that will modernize our system for transporting goods and people by increasing efficiency and reducing costs and emissions. In addition to providing incentives for the purchase of clean cars, and accelerating the use of cleaner fuels, we need to improve how we plan and fund our transportation system. Our land use plans should incorporate climate change considerations and better connect land use and

transportation plans. We should also implement programs to secure broader implementation of multimodal transportation systems and prioritize investments in choices such as transit that reduce carbon emissions.

## **2. Program Design Considerations**

To guide the design and implementation of the above programs, we propose the following design considerations. At a minimum, the program should:

- Be fair in allocating responsibility to sources;
- Be as effective as possible in terms of both emissions and costs;
- Prevent loss of jobs and shifting of emissions to out-of-state sources (“leakage”) to the extent possible;
- Provide clear accountability for, along with appropriate flexibility in, compliance;
- Consider the costs of implementing each program component on Washington businesses and households, and provide appropriate measures to address the needs of small businesses, low-income families and industries that are exposed to competitive disadvantages; and
- Provide for ongoing monitoring, evaluation and adjustment of the program as needed to secure benefits and minimize unintended consequences.

## **3. Economic Considerations**

The Workgroup considered the costs and benefits of similar programs in other states and countries, and found a wide range of possible costs and benefits, depending on how a policy was applied and what assumptions were used in the analysis. Some of the studies brought forward were outdated or not fully applicable to Washington and some did not reflect cost containment measures or lessons learned through implementation.

Several programs implemented in other jurisdictions have demonstrated the opportunity for positive economic outcomes. However, the analysis most relevant to Washington was conducted in 2009. The results of the analysis indicated that the Western Climate Initiative cap and trade strategy, if implemented as designed, would result in a net increase of 19,300 jobs and \$3.3 billion more in economic output in Washington state by 2020.

A complete picture of the economic implications of climate change to the state must also consider the costs of inaction. Studies conducted by the University of Oregon found that, absent additional action to mitigate the impacts of climate change, each household in Washington will pay an additional \$3,633 each year by 2020 (2008 dollars) — a total cost to the state is almost \$10 billion by 2020. These costs come from a wide range of predicted impacts, including irrigation and hydropower impacts from lost snowpack and natural water storage, higher public health-related costs, higher energy costs (more demand and less hydropower supply), higher wildland fire costs, and more coastal and storm damage.

To design an emissions reduction program that will work best for Washington, we will need to conduct our own economic analysis. Analysis of the costs and benefits of these policies for Washington can be used to refine the policies and to put in place actions to offset and mitigate impacts that are not acceptable. If further evaluation shows that an action would

result in unavoidable and unacceptable costs to Washington, the action should be refined or rejected.

This approach will ensure a cost-effective and fair program — one that will both meet our carbon pollution emission limits and improve the economic conditions for Washington businesses and consumers. This will require engaging our experts, businesses and citizens in our next steps.

#### **4. Future Process and Timeline**

- a. Work execution. The policy designs and economic analysis should be organized and conducted by the executive branch in 2014. Affected and interested stakeholders and subject-matter experts should be consulted to ensure full consideration of the relative effectiveness and the costs and benefits of design alternatives. The design group should be informed by the evaluation work done by Leidos and by the lessons from carbon pollution reduction programs in other jurisdictions.
- b. Economic analysis. Once designed, the program should undergo expert economic analysis. The Office of Financial Management Forecasting Office should coordinate this analysis by seeking expertise from qualified and independent consultant(s). The analysis should include cost effectiveness of emission reductions (cost per ton), evaluation of a broad range of costs and benefits for the overall economy and specific business sectors (manufacturing, agriculture, construction, industrial, transportation, etc.), and the effects (positive, negative and net) on jobs, households, fuel and energy prices and other key economic health indicators.

Once completed, the economic analysis should be subject to rigorous and independent peer review.

As warranted by the economic analysis, the policy designs should be revised to maximize benefits and minimize costs to Washington consumers, businesses and citizens.

- c. The Legislature should be actively engaged in this process through an ongoing executive and legislative dialogue on the actions we should take to reduce greenhouse gas emissions, consistent with the established statutory limits. Once specific proposals emerge, they will be subject to review by legislators, stakeholders and our citizens.

CERTIFICATION OF ENROLLMENT

**ENGROSSED SECOND SUBSTITUTE SENATE BILL 5802**

Chapter 6, Laws of 2013

63rd Legislature  
2013 Regular Session

GREENHOUSE GAS EMISSIONS--TARGETS

EFFECTIVE DATE: 04/02/2013

Passed by the Senate March 13, 2013  
YEAS 37 NAYS 12

BRAD OWEN

**President of the Senate**

Passed by the House March 25, 2013  
YEAS 61 NAYS 32

FRANK CHOPP

**Speaker of the House of Representatives**

Approved April 2, 2013, 1:44 P.M.

JAY INSLEE

**Governor of the State of Washington**

CERTIFICATE

I, Hunter G. Goodman, Secretary of the Senate of the State of Washington, do hereby certify that the attached is **ENGROSSED SECOND SUBSTITUTE SENATE BILL 5802** as passed by the Senate and the House of Representatives on the dates hereon set forth.

HUNTER G. GOODMAN

**Secretary**

FILED

April 2, 2013

**Secretary of State  
State of Washington**

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**ENGROSSED SECOND SUBSTITUTE SENATE BILL 5802**

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Passed Legislature - 2013 Regular Session

**State of Washington****63rd Legislature****2013 Regular Session**

**By** Senate Ways & Means (originally sponsored by Senators Ranker, Litzow, Frockt, Cleveland, Billig, Kohl-Welles, Murray, and McAuliffe; by request of Governor Inslee)

READ FIRST TIME 03/01/13.

1 AN ACT Relating to developing recommendations to achieve the  
2 state's greenhouse gas emissions targets; creating new sections; and  
3 declaring an emergency.

4 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF WASHINGTON:

5 NEW SECTION. **Sec. 1.** (1) The office of financial management shall  
6 contract with an independent and objective consultant or consultants,  
7 as selected by the climate legislative and executive work group created  
8 in section 2 of this act, to prepare a credible evaluation of  
9 approaches to reducing greenhouse gas emissions, as outlined in this  
10 section.

11 (2) The evaluation must be provided to the governor by October 15,  
12 2013, for use by the climate legislative and executive work group  
13 created in section 2 of this act, and prior to that date the  
14 independent and objective consultant or consultants selected under  
15 subsection (1) of this section may provide selective analyses, drafts,  
16 or portions of the report to the work group.

17 (3) The evaluation must include a review of comprehensive  
18 greenhouse gas emission reduction programs being implemented in other  
19 states and countries, including a review of reduction strategies being

1 implemented in the Pacific Northwest, on the west coast, in neighboring  
2 provinces in Canada, and in other regions of the country. For each  
3 program, the evaluation must include available information about:

4 (a) The effectiveness in achieving the jurisdiction's emission  
5 reduction objectives, including the cost per ton of emission reduction;

6 (b) The relative impact upon different sectors of the  
7 jurisdiction's economy, including power rates, agriculture,  
8 manufacturing, and transportation fuel costs;

9 (c) The impacts upon household consumption and spending, including  
10 fuel, food, and housing costs, and program measures to mitigate impacts  
11 to low-income populations;

12 (d) Displacement of emission sources from the jurisdiction due to  
13 the program;

14 (e) Any significant cobenefits to the jurisdiction, such as  
15 reduction of potential adverse effects to public health, from  
16 implementing the program;

17 (f) Opportunities for new manufacturing infrastructure, investments  
18 in cleaner energy, and greater energy efficiency and jobs;

19 (g) Achievements in greater independence from fossil fuels and the  
20 costs and benefits to their economy of doing so; and

21 (h) The most effective strategy and the trade-offs made to  
22 implement that strategy.

23 (4) The evaluation must analyze:

24 (a) Washington's emissions and related energy consumption profile,  
25 including:

26 (i) Total expenditures for energy by fuel category; and

27 (ii) The sources of the fuels, including imports of oil and other  
28 fossil fuels;

29 (b) Options for an approach to emissions reduction that would  
30 increase expenditures upon energy sources produced in state relative to  
31 expenditures upon imported energy sources, and how that increase would  
32 affect job growth and economic performance;

33 (c) Opportunities for new manufacturing infrastructure and other  
34 job producing investments in Washington relating to cleaner energy and  
35 greater energy efficiency;

36 (d) Existing studies of the potential costs to Washington consumers  
37 and businesses of greenhouse gas emissions reduction programs or  
38 strategies being implemented in other jurisdictions;

1 (e) Washington state policies to stabilize or reduce greenhouse gas  
2 emissions that will contribute to meeting the greenhouse gas emissions  
3 targets, including:

4 (i) Renewable fuels standard;

5 (ii) Energy codes adopted by the state building code council;

6 (iii) Emission performance standards;

7 (iv) Appliance standards;

8 (v) The energy independence act;

9 (vi) Energy efficiency and energy consumption requirement programs  
10 for public buildings;

11 (vii) Conversion of public vehicles to clean fuels; and

12 (viii) Public purchasing requirements of vehicles that use clean  
13 fuels; and

14 (f) The overall effect on global greenhouse gas levels if  
15 Washington meets its greenhouse gas emissions targets.

16 (5) The evaluation must also examine and summarize federal policies  
17 that will contribute to meeting the state greenhouse emissions targets,  
18 including:

19 (a) Renewable fuel standards;

20 (b) Tax incentives for renewable energy;

21 (c) Tailpipe emissions standards for vehicles;

22 (d) Corporate average fuel economy standards for cars and light  
23 trucks; and

24 (e) Clean air act requirements for emissions from stationary  
25 sources and fossil-fueled electric generating units.

26 NEW SECTION. **Sec. 2.** (1) (a) The climate legislative and executive  
27 work group is created. The work group consists of five members and  
28 includes:

29 (i) The governor, or the governor's designee, who shall be a  
30 nonvoting member;

31 (ii) One member and an alternate from each major caucus of the  
32 house of representatives, appointed by the speaker of the house of  
33 representatives; and

34 (iii) One member and an alternate from each major caucus of the  
35 senate, appointed by the president of the senate.

36 (b) An alternate may serve as a member at a work group meeting only  
37 when a member from that caucus is unable to attend the meeting.

1 (2) The governor or the governor's designee is the chair of the  
2 work group.

3 (3) As required under section 1(1) of this act, the work group must  
4 select the consultant or consultants to be retained by the office of  
5 financial management. The consultant or consultants must demonstrate  
6 that they can perform nonpartisan, objective, and independent work.  
7 The work group may not select a consultant or consultants whose  
8 employer has retained a lobbyist in Washington state during the  
9 immediately preceding five years. Nor may the work group select a  
10 consultant or consultants whose employer or who has personally  
11 contributed to the campaign of a statewide elected official,  
12 legislative candidate, or any other political committee in the previous  
13 four years. No less than four of the work group's five members must  
14 support the retention of a consultant or consultants.

15 (4) The purpose of the work group is to recommend a state program  
16 of actions and policies to reduce greenhouse gas emissions, that if  
17 implemented would ensure achievement of the state's emissions targets  
18 in RCW 70.235.020. The recommendations must be prioritized to ensure  
19 the greatest amount of environmental benefit for each dollar spent and  
20 based on measures of environmental effectiveness, including  
21 consideration of current best science, the effectiveness of the program  
22 and policies in terms of costs, benefits, and results, and how best to  
23 administer the program and policies. The work group recommendations  
24 must include a timeline for actions and funding needed to implement the  
25 recommendations. In order for a recommendation to be included in the  
26 report, it must be supported by a majority of the work group's voting  
27 members. Minority reports or comments must be included in the report.

28 (5) The members and alternates of the work group must be appointed  
29 by May 1, 2013. The work group may meet up to twice per month and must  
30 hold its first meeting by May 15, 2013.

31 (6) The work group shall use the evaluation required under section  
32 1 of this act to inform the work group regarding experiences in other  
33 jurisdictions and may call on the author of the evaluation to respond  
34 to questions. All state agencies shall also cooperate with the work  
35 group in providing information regarding previous and current climate  
36 action reports and analyses.

37 (7) The work group shall schedule one or more meetings or portions

1 of meetings at which the views of the public may be provided to the  
2 work group.

3 (8) The report of the work group must be provided to the  
4 appropriate policy and fiscal committees of the senate and house of  
5 representatives by December 31, 2013.

6 NEW\_SECTION. **Sec. 3.** Nothing in this act may be construed to  
7 enhance or diminish any existing authority regarding greenhouse gas  
8 emissions.

9 NEW\_SECTION. **Sec. 4.** This act is necessary for the immediate  
10 preservation of the public peace, health, or safety, or support of the  
11 state government and its existing public institutions, and takes effect  
12 immediately.

Passed by the Senate March 13, 2013.

Passed by the House March 25, 2013.

Approved by the Governor April 2, 2013.

Filed in Office of Secretary of State April 2, 2013.

## Chapter 70.235 RCW Limiting Greenhouse Gas Emissions

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### 70.235.020 Greenhouse gas emissions reductions — Reporting requirements.

(1)(a) The state shall limit emissions of greenhouse gases to achieve the following emission reductions for Washington state:

(i) By 2020, reduce overall emissions of greenhouse gases in the state to 1990 levels;

(ii) By 2035, reduce overall emissions of greenhouse gases in the state to twenty-five percent below 1990 levels;

(iii) By 2050, the state will do its part to reach global climate stabilization levels by reducing overall emissions to fifty percent below 1990 levels, or seventy percent below the state's expected emissions that year.

(b) By December 1, 2008, the department shall submit a greenhouse gas reduction plan for review and approval to the legislature, describing those actions necessary to achieve the emission reductions in (a) of this subsection by using existing statutory authority and any additional authority granted by the legislature. Actions taken using existing statutory authority may proceed prior to approval of the greenhouse gas reduction plan.

(c) Except where explicitly stated otherwise, nothing in chapter 14, Laws of 2008 limits any state agency authorities as they existed prior to June 12, 2008.

(d) Consistent with this directive, the department shall take the following actions:

(i) Develop and implement a system for monitoring and reporting emissions of greenhouse gases as required under RCW [70.94.151](#); and

(ii) Track progress toward meeting the emission reductions established in this subsection, including the results from policies currently in effect that have been previously adopted by the state and policies adopted in the future, and report on that progress.

(2) By December 31st of each even-numbered year beginning in 2010, the department and the \*department of community, trade, and economic development shall report to the governor and the appropriate committees of the senate and house of representatives the total emissions of greenhouse gases for the preceding two years, and totals in each major source sector. The department shall ensure the reporting rules adopted under RCW [70.94.151](#) allow it to develop a comprehensive inventory of emissions of greenhouse gases from all significant sectors of the Washington economy.

(3) Except for purposes of reporting, emissions of carbon dioxide from industrial combustion of biomass in the form of fuel wood, wood waste, wood by-products, and wood residuals shall not be considered a greenhouse gas as long as the region's silvicultural sequestration capacity is maintained or increased.

[2008 c 14 § 3.]

**Notes:**

**\*Reviser's note:** The "department of community, trade, and economic development" was renamed the "department of commerce" by 2009 c 565.

## Climate Legislative and Executive Workgroup

### Schedule<sup>1</sup>

Schedule	Location	Meeting Content
May 15 (4:00 – 6:00 PM)	Columbia Room	Discussed process and schedule
June 4 (3:30 – 5:30 PM)	HHR A	Interviewed and selected evaluation consultant
July 17 (1:30 – 3:30 PM)	SHR 3	Interviewed and selected project manager/ facilitator
September 11 (1:30 - 3:30 PM)	HHR A	Discussed results of <b>Task 1</b> <sup>2</sup> (Analyses of WA Emissions & Related Energy Consumption)
September 27 (9:00 AM – 1:00 PM)	SHR 3	Discussed results of <b>Task 3</b> (Evaluation of Federal Policies) <b>and Task 2</b> (Evaluation of Comprehensive GHG Emissions Reduction Programs Outside WA)
October 14 (10:00 AM -12:00 PM)	HHR A	Identified list of possible policies and actions and related additional analyses
October 16 (5:00 - 8:20 PM)	Spokane Falls Community College campus	Public Hearing to take public comments
October 23 (6:00 – 9:20 PM)	Bell Harbor Seattle	Public Hearing to take public comments
November 6 (2:00 - 4:00 PM)	SHR 4	Reviewed Leidos' economic analyses of possible policies, and discussed actions and policies identified by members
December 6 (2:00 - 4:00 PM)	HHR A	Discussed the two proposals submitted for public comments
December 13 (2:00 - 5:00 PM)	HHR A	Public Hearing on the two proposals
January 2014		Issued Final Report

<sup>1</sup> Agendas, materials and meeting summaries are posted under Past Meetings in: <http://www.governor.wa.gov/issues/economy/climateWorkgroup/meetings.aspx>

<sup>2</sup> Tasks 1, 2 and 3 are posted under Evaluation Reports: produced by Leidos in: <http://www.governor.wa.gov/issues/economy/climateWorkgroup/default.aspx>.

## Online Links

1. Evaluation reports by Leidos posted in:

<http://www.governor.wa.gov/issues/economy/climateWorkgroup/default.aspx>

Direct links:

[Executive Summary](#)

Task 1 [Part 1 \(energy and expenditures\)](#) and [Part 2 \(Existing State Policies\)](#) reports

Task 2 [report \(Other Jurisdictions' Approaches\)](#) and [Appendix A](#)

[Task 3 \( Federal Policies\)](#) report

[Task 4 Final report](#)

2. Workgroup Meeting Summaries posted under Past Meetings in:

<http://www.governor.wa.gov/issues/economy/climateWorkgroup/default.aspx>

3. Public Hearing Summaries posted under Past Public Hearings in:

<http://www.governor.wa.gov/issues/economy/climateWorkgroup/default.aspx>

4. Written Public Comments are posted under Past Public Hearings in:

<http://www.governor.wa.gov/issues/economy/climateWorkgroup/default.aspx>

(note: some of the files are large)

**A Report on the Work of the  
Climate Legislative and Executive Workgroup**

as submitted by

Senator Doug Ericksen  
Representative Shelly Short



Dear Colleagues,

In 2013 the legislature passed E2SSB 5802, which provided the foundation for the Climate Legislative Executive Workgroup.

For the first time, a legislative and executive group was charged with the task of assessing CO2 reduction policies with regard to potential economic impacts, potential environmental impacts, and to rate each proposal on a cost per ton of carbon reduction basis.

The Workgroup agreed not to debate the science of various climate change theories, but to focus on fiscal, environmental, and real world impacts of proposals to reduce carbon in Washington in accord with the non-binding goals set by the legislature in 2008.

Legislators need accurate, non-biased information on the actual potential impacts of carbon reduction proposals. This is what the Workgroup attempted to provide.

The Workgroup process was hindered by the large scope of the issue at hand, limited time frames, vastly different projected impacts from different consultant studies, lack of generally agreed-to standards for measuring CO2 production, and difficulty in measuring existing industry carbon reductions.

Several items emerged during the process that legislators need to be aware of:

1. Washington is a low carbon producing state due to our existing hydro and nuclear portfolio.
2. Reductions of CO2 in Washington to meet the non-binding targets created in 2008 could have dramatic impacts on manufacturing jobs and energy prices in Washington.
3. Technology, not politics, is the limiting factor to many new types of energy.
4. Opportunities do exist to reduce carbon emissions without increasing energy costs or increasing costs to the taxpayers of Washington.
5. More work needs to be done to provide legislators with the data necessary to make informed decisions.

After one year of service to the people of Washington on the Workgroup, we offer the following report to the legislature.

Senator Doug Ericksen

Representative Shelly Short

## Summary

Senator Ericksen and Representative Short submit the following recommendations.

### Recommended Policies:

- Incentivize hydroelectric power generation
- Replace fossil fuels with nuclear generation
- Promote research and development (R&D) for new technologies
- Encourage conservation under the Energy Independence Act (I-937)
- Allow renewable energy credit banking under I-937
- Modify fuel mix reporting system

### Proposals for Areas of Additional Study:

- Study consumption- and generation-based accounting of emissions
- Complete currently insufficient analysis of costs associated with GHG reduction policies
- Evaluate 2008 non-binding goals in light of Washington's existing low carbon output

### Continue the Climate Legislative and Executive Workgroup (Workgroup):

The Workgroup members have not yet made a formal decision on the continuation of the process. As such, we would like to offer the following proposal for formal approval:

1. Continue the Workgroup process for the coming year
2. Maintain the current Workgroup structure as laid out in the formational legislation
3. Focus on five major carbon reduction policies
4. Remove I-937 as one of the five areas of policy work
5. Complete the analysis of five policies as laid out in the formational legislation
6. Establish policy frameworks as a joint venture of the Executive and Legislative branches
7. Conclude Workgroup process in December 2014

We recommend that if three voting members of the Workgroup cannot agree on consultants and third-party reviewers of the data, up to two consultants and third-party policy reviewers may be selected for each policy area of focus with the approval of two members of the Workgroup. We are still open to negotiation on the continuation of the Workgroup, but we insist on a strong legislative role in the process.

# I. Description of Workgroup Process

## A. Background

In 2007, the Washington Legislature enacted greenhouse gas (GHG) emissions reduction goals for the state, which were codified at RCW 80.80.020. In 2008, the goals were repealed and reenacted as non-binding GHG reduction targets with no enforcement mechanisms. They are now codified under RCW 70.235.020:

(1)(a) The state shall limit emissions of greenhouse gases to achieve the following reductions for Washington State:

(i) By 2020, reduce overall emissions of greenhouse gases in the state to 1990 levels;

(ii) By 2035, reduce overall emissions of greenhouse gases in the state to 25 percent below 1990 levels;

(iii) By 2050, the state will do its part to reach global climate stabilization levels by reducing overall emissions to 50 percent below 1990 levels, or 70 percent below the state's expected emissions that year.

A number of legislative findings and intent statements accompanying the reduction targets are codified at RCW 70.235.005. For example:

(3) It is the intent of the legislature that the state will: (a) Limit and reduce emissions of greenhouse gas consistent with the emission reductions established in RCW 70.235.020; (b) minimize the potential to export pollution, jobs, and economic opportunities; and (c) reduce emissions at the lowest cost to Washington's economy, consumers, and businesses.

## B. Climate Legislative and Executive Workgroup

The 2013 Legislature passed Engrossed Second Substitute Senate Bill 5802 (Laws of 2013, ch. 6) (the Act), which created the Workgroup.

**Purpose:** The Act requires the Workgroup to recommend a state program of actions and policies to reduce GHG emissions that, if implemented, would ensure achievement of the state's emissions targets set in RCW 70.235.020. The recommendations must be prioritized to ensure the greatest amount of environmental benefit for each dollar spent and include consideration of current best science, environmental effectiveness, impacts to households and sectors of the economy, and how best to administer the program and policies. The Workgroup recommendations must include a timeline for actions and funding needed to implement the recommendations. Recommendations must be supported by a majority of the Workgroup's four legislative members in order to be included in the Workgroup's report, which must be provided to the Legislature by December 31, 2013.

**Membership:** The Workgroup consists of Governor Jay Inslee who serves as the non-voting chair and four members of the Legislature:

- Senator Doug Ericksen (42<sup>nd</sup> District)
- Senator Kevin Ranker (40<sup>th</sup> District)
- Representative Joe Fitzgibbon (34<sup>th</sup> District)
- Representative Shelly Short (7<sup>th</sup> District)

Also appointed to the Workgroup are five alternates:

- Senator Sharon Brown (8<sup>th</sup> District)
- Senator Annette Cleveland (49<sup>th</sup> District)
- Representative Jake Fey (27<sup>th</sup> District)
- Representative Jessyn Farrell (46<sup>th</sup> District)
- Representative Liz Pike (18<sup>th</sup> District)

**Workgroup Support:** The Act requires an independent and objective consultant to develop an evaluation of approaches to reducing GHG emissions that could be used to inform the Workgroup's recommendations. The consultant's evaluations are to follow a lengthy list of factors as specified in the Act:

(3) The evaluation must include a review of comprehensive greenhouse gas emission reduction programs being implemented in other states and countries, including a review of reduction strategies being implemented in the Pacific Northwest, on the west coast, in neighboring provinces in Canada, and in other regions of the country. For each program, the evaluation must include available information about:

(a) The effectiveness in achieving the jurisdiction's emission reduction objectives, including the cost per ton of emission reduction;

(b) The relative impact upon different sectors of the jurisdiction's economy, including power rates, agriculture, manufacturing, and transportation fuel costs;

(c) The impacts upon household consumption and spending, including fuel, food, and housing costs, and program measures to mitigate impacts to low-income populations;

(d) Displacement of emission sources from the jurisdiction due to the program;

(e) Any significant cobenefits to the jurisdiction, such as reduction of potential adverse effects to public health, from implementing the program;

(f) Opportunities for new manufacturing infrastructure, investments in cleaner energy, and greater energy efficiency and jobs;

(g) Achievements in greater independence from fossil fuels and the costs and benefits to their economy of doing so; and

(h) The most effective strategy and the trade-offs made to implement that strategy.

(4) The evaluation must analyze:

(a) Washington's emissions and related energy consumption profile, including:

(i) Total expenditures for energy by fuel category; and

(ii) The sources of the fuels, including imports of oil and other fossil fuels;

(b) Options for an approach to emissions reduction that would increase expenditures upon energy sources produced in state relative to expenditures upon imported energy sources, and how that increase would affect job growth and economic performance;

(c) Opportunities for new manufacturing infrastructure and other job producing investments in Washington relating to cleaner energy and greater energy efficiency;

(d) Existing studies of the potential costs to Washington consumers and businesses of greenhouse gas emissions reduction programs or strategies being implemented in other jurisdictions;

(e) Washington state policies to stabilize or reduce greenhouse gas emissions that will contribute to meeting the greenhouse gas emissions targets, including:

(i) Renewable fuels standard;

(ii) Energy codes adopted by the state building code council;

- (iii) Emission performance standards;
  - (iv) Appliance standards;
  - (v) The energy independence act;
  - (vi) Energy efficiency and energy consumption requirement programs for public buildings;
  - (vii) Conversion of public vehicles to clean fuels; and
  - (viii) Public purchasing requirements of vehicles that use clean fuels; and
  - (f) The overall effect on global greenhouse gas levels if Washington meets its greenhouse gas emissions targets.
- (5) The evaluation must also examine and summarize federal policies that will contribute to meeting the state greenhouse emissions targets, including:
- (a) Renewable fuel standards;
  - (b) Tax incentives for renewable energy;
  - (c) Tailpipe emissions standards for vehicles;
  - (d) Corporate average fuel economy standards for cars and light trucks; and
  - (e) Clean air act requirements for emissions from stationary sources and fossil-fueled electric generating units.

Laws of 2013, ch. 6, § 1(3)

The Workgroup selected, on a competitive basis, Science Applications International Corporation, which is now doing business as Leidos, to prepare the evaluation. Leidos submitted its final evaluation report in October 2013.

**Structure and Process of Workgroup Meetings:** The Workgroup held eight open meetings from May to December 2013. Agenda and materials for all meetings are posted on the Governor’s website, and all meetings have been recorded by TVW and shown live. Since September, the Workgroup’s meetings have been managed and facilitated by Triangle Associates, Inc., who was also selected on a competitive basis.

**Scheduled Public Hearings:** The Workgroup held three public hearings: October 16, 2013, in Spokane; October 23, 2013, in Seattle; and December 13, 2013, in Olympia. The Workgroup heard testimony from over 200 members of the public expressing their views and providing ideas on approaches to reducing Washington’s GHG emissions. In addition, over 8,000 written comments were received either by e-mail or at these hearings and about 1,500 postcards were received. All written testimony is posted on the Governor's website. The Workgroup members placed equal value on spoken and written comments.

## II. Workgroup Process and Consideration of Information

The Workgroup has considered a lot of information in a very short amount of time. Since May, Workgroup members have carefully reviewed and considered the information in hundreds of pages of technical reports produced by consultants Leidos/SAIC. Workgroup members have also held eight public meetings, three public hearings, and reviewed over 8,000 public comments that have been submitted to the Workgroup. In spite of the rushed process, some useful information has been generated and considered by the Workgroup. At times there was productive dialogue among

Workgroup members about the tradeoffs and costs associated with various policies that are relevant to the state's current and future GHG emissions profile.

However, in several respects, the rushing of the consultant's work has limited the Workgroup's ability to give the comprehensive consideration that would be deserved by any decisions to enact policies with such potentially damaging economic ramifications. In particular, a critical task of the Workgroup was to consider information about the costs and cost-effectiveness of existing state policies and climate policies enacted in other jurisdictions. However, the Workgroup has not been provided with sufficient information about the costs of climate policies in order to allow it to make responsible recommendations to the Legislature. When the legislation was enacted, we realized it was an ambitious timeline. But once the Workgroup got into the process, we realized that the compressed timeframe was unrealistic. As a result, the Workgroup schedule did not allow the consultant SAIC/Leidos to fulfill its charge per the Workgroup's authorizing legislation to both perform a thorough analysis of **all relevant studies**, and to provide a comprehensive **analysis of the costs** associated with policies considered by the Workgroup. The charts appended at the end of this document illustrate that while SAIC/Leidos did provide certain potentially relevant information on policy costs, it neglected to consider other pertinent sources of information, some of which is included in the charts.

In general, as legislators, it is our responsibility to carefully consider the potential costs, alongside the benefits, of any policies that we might adopt. It is imperative that we know how policies might affect families, their household costs and living expenses, and their ability to get or keep their jobs. In the case of the climate policies that were considered by the Workgroup, there were two primary reasons that it was especially important to have satisfactory information about potential policy costs prior to the Workgroup proceeding with any recommendations.

First, the economic impacts of many of the climate policies considered by the Workgroup would be far-reaching, and could potentially inflict more harm to the state's economy and competitiveness, its businesses, and its families than many of the more limited policies that legislators consider on a routine basis. Our concern is that policies which limit the emissions of GHG, such as a cap-and-trade system, a carbon tax, and a low carbon fuel standard, would inevitably raise the price of gasoline, home heating, and all consumer goods relied upon by the people of Washington, while potentially driving businesses to relocate to states which do not impose such costs.

Second, as this workgroup acknowledged at the outset, even if all of the policies under consideration by the Workgroup were to be adopted — at great cost to the state — **the adoption of these policies by Washington would do very little to mitigate global climate variability.** Washington's energy-related GHG emissions are estimated at 82.6 million metric tons of carbon dioxide equivalent, far behind China, the world's largest emitter, and less than one third of one percent of the 31.5 billion metric tons of carbon dioxide equivalent emitted worldwide.

As Workgroup consultant SAIC/Leidos noted at the outset of the Workgroup's process:<sup>1</sup>

*Washington State's action on mitigating GHG emission will likely not affect the global impacts of climate change in Washington State in the near-term, such as reduced oyster harvests due to increased ocean acidification, severe weather events, or decreasing snowpack and water storage... [I]n the near-term, inaction will likely not create additional costs, compared to action, on these bigger global issues.*

Since this Workgroup has, from the outset, accepted as fact that the adoption of costly climate policies by Washington would not benefit the state by doing anything to mitigate the effects of climate variability, it is especially important to carefully consider the costs associated with the policies in assessing their potential merit.

For both of the above reasons, and because the Workgroup has not been provided with satisfactory information about the potential costs of such policies, we cannot responsibly endorse any policy recommendations that are likely to pose very significant costs to state residents, and put the state at a competitive disadvantage as compared to the numerous other states which will not adopt such policies.

We do note that much of the information on costs that the Workgroup did receive indicates that the costs of policies that other members of the Workgroup would recommend would be extremely costly to the citizens and families of Washington. For example, studies considered by the group show that the adoption of a low carbon fuel standard would likely cost well over \$100 per ton of GHG emission reductions achieved, and would result in gas prices that are over \$1 per gallon more expensive. This would be an unacceptable burden to place on the families of Washington, and to the businesses that employ Washingtonians. Certainly, without additional close consideration and understanding of the costs associated with such a policy, we cannot recommend the adoption of any such policies. Furthermore, we suspect that if there were to be a close tabulation of the true prospective costs of many of the policies under consideration by the Workgroup, the costs of most of those policies would prohibit our recommending their adoption.

### III. Policy Proposals

Washington's energy profile is much cleaner than most other states: Washington's per-capita energy-related GHG emissions are 10th lowest among states, and the state has already taken numerous and costly actions to reduce its GHG emissions.<sup>2</sup> In light of the uncertainty of the costs associated with the various GHG reduction policies under consideration by the Workgroup, the Legislature and Governor should act on the recommendations below. These proposed recommendations will support the legacy we have inherited in Washington: decades of economic development driven by

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<sup>1</sup> SAIC document entitled "CLEW SAIC Input on New Scope Issues," authored by SAIC and circulated by email to Workgroup Members and staff by Keith Phillips (Governor's Office Staff) on June 5, 2013 (emphasis added). The document was a response to a Workgroup member's request for SAIC to consider the costs of inaction when evaluating the costs and benefits of policies and programs in their scope of work.

<sup>2</sup> U.S. Energy Information Administration and LEIDOS "Task 1 Final Report to the Climate Legislative and Executive Workgroup: Evaluation of Approaches to Reduce Greenhouse Gas Emissions in Washington State."

<http://www.eia.gov/environment/emissions/state/analysis/?src=email&src=Environment-f2>

[http://www.governor.wa.gov/issues/economy/climateWorkgroup/documents/Leidos\\_Task1\\_pt2\\_20131011.pdf](http://www.governor.wa.gov/issues/economy/climateWorkgroup/documents/Leidos_Task1_pt2_20131011.pdf)

access to low-cost, GHG emission-free electricity from hydropower generation and energy conservation.

### **A. Hydroelectric Power Generation**

Under I-937, electric utilities that own a hydropower facility may make efficiency upgrades to their facility and the incremental electricity generated as a result of these upgrades may be counted toward a utility's renewable energy compliance requirements. Other electric utilities that do not own hydropower facilities but are customers of the Bonneville Power Administration (BPA) are not allowed under I-937 to count the incremental electricity generated by upgrades made to the federal power system in the Northwest even though the customers of the utilities pay for these upgrades through the electricity rates paid to the BPA.

Under these circumstances, these electric utilities end up paying twice for renewable energy. They pay for the cost of improving the federal hydropower system—a renewable GHG free resource—through BPA rates and they must pay a second time in order to comply with I-937 by purchasing eligible renewable resources or renewable energy credits.

Legislation should be enacted that permits electric utility customers of the BPA to count incremental electricity produced as a result of efficiency upgrades to hydroelectric generation facilities whose energy output is marketed by the BPA to qualify as an eligible renewable resource under I-937.

### **B. Nuclear Energy**

During the Workgroup process there was much discussion about replacing fossil fuels with renewable energy, but there was no serious consideration of what a growing number of climate scientists and environmentalists are concluding: that the only viable option for large-scale reductions in GHG emissions in the electricity sector is nuclear generation. In 2014, the legislature should form an interim workgroup to study the feasibility of replacing the fossil-fueled electricity generation in the state with advanced nuclear generation technology.

### **C. R&D for New Technology**

The greatest barrier to new energy technology is not political or industrial, but technological. The technology does not exist today for the large-scale production of many types of new energy. The reliance of low carbon fuel standards on large scale cellulosic ethanol production highlights the technology gap that exists between goals and reality. Despite billions of US dollars of investment by private entities and government organizations in the area of cellulosic ethanol, large scale production remains years or decades away.

The same can be said for aviation bio-fuels, battery technology, green algae, and other promising new technology areas.

For this reason, we believe that Washington should focus on incentives and partnerships with the private sector, universities and the federal government to bring new technologies on line in a cost effective fashion that will lower the cost of energy to the general public.

#### **D. Conservation Under I-937**

It is well documented that conservation is the least-cost resource available to Washington's electric utilities. Energy conservation has the potential to lower electric rates, depending upon the need of the utility to procure or build new power generation.

Under I-937, each qualifying electric utility must assess all available conservation that is cost-effective, reliable, and feasible and meet biennial conservation targets that are consistent with its conservation assessment. However, electric utilities need more flexibility when trying to meet biennial conservation targets. The conservation targets are too rigid and have the unintended consequence of discouraging aggressive conservation measures. Many energy conservation projects proceed on their own schedules that do not match the biennial timelines, leaving excess conservation achieved in addition to biennial targets unusable in subsequent biennia.

Legislation should be enacted that allows conservation achieved by a qualifying utility in excess of its biennial acquisition target to be used to meet subsequent biennial conservation acquisition targets.

#### **E. Renewable Energy Credit (REC) Banking Under I-937**

Under I-937, electric utilities must use eligible renewable resources or acquire equivalent RECs, or a combination of both, to meet annual targets. A REC is a tradable certificate of proof of at least one megawatt hour of an eligible renewable resource where the generation facility is not powered by fresh water. A REC represents all the nonpower attributes associated with the power. A REC can be bought and sold and may be used during the year it is acquired, the previous year, or the subsequent year.

Legislation should be enacted that extends the period an electric utility may "bank" a REC. Currently, utilities are allowed to purchase a REC and hold it for one year only before it must be used for compliance purposes. If utilities were afforded the flexibility to buy RECs more than a year in advance of the compliance period, utilities would be allowed to purchase RECs when the market price of RECs may be lower, banking these RECs and their associated savings for a later compliance date. By providing this flexibility to the utilities, the cost of utility compliance and the impact on the ratepayer will be lower.

#### **F. Fuel Mix Report**

The fuel mix disclosure report produced by the Department of Commerce has been used in this process to determine the emissions from the electricity-generation sector. But the report's analysis does not reflect the true character of the sector's emissions because it does not account for the buying and selling of RECs, which is the primary basis for complying with I-937. The fuel mix reporting system needs to be modified to account for RECs in order to accurately portray the emissions attributed to Washington.

## IV. Proposals for Additional Study

The Workgroup should continue to study GHG emission reduction policies. We propose studying the following items in order to address the inadequacies of the Workgroup's rushed process over the last year:

- (1) How the state's projected achievement of its GHG targets might differ if production-based emissions accounting is used instead of consumption-based accounting. Because of the lack of guidance from the Workgroup, the consultant used consumption-based accounting in calculating the state's GHG emissions, which neglects to recognize costly reductions the state has already undertaken, such as the agreement that will likely cease coal energy production at TransAlta's Centralia facility. In spite of repeated requests from Workgroup members, the Workgroup was never provided with information about how production-based accounting would affect the state's progress in reaching its GHG targets.
- (2) A comprehensive analysis of the costs associated with state GHG reduction policies considered by the Workgroup. The attached chart ("Comparison of Costs of Policies Considered by the Workgroup") is a first step at supplementing the information provided by Leidos.
- (3) This Workgroup process has provided evidence that the existing climate targets in RCW 70.235.020 are arbitrary numbers that do not take into consideration the state's existing clean energy profile compared to other states, and whose achievement in isolation would do nothing to mitigate global climate variability. We recommend that the Legislature consider revising these targets if further research indicates that achieving the targets would put the state at a competitive disadvantage as compared to other states with higher GHG emissions that might be able to more cost-effectively reduce their emissions due to the current makeup of their energy profile.

## Comparison of Costs of Policies Considered by the Workgroup

Policy Action		
Cap & Trade	Employment Impact	Household Impact
Science Applications International Corporation (SAIC)	By 2030 Washington jobs decline by 41,456 under the low cost case and by 56,459 under the high cost case (assuming 42% reduction below 2005 levels). <sup>1</sup>	Washington would see disposable household income reduced by \$121 to \$256 per year by 2020 and \$696 to \$1,213 by 2030. <sup>2</sup> By 2030, higher energy prices mean that low income families in Washington (with average incomes of \$14,973) will spend between 12.4% and 12.8% of their income on energy compared to a projected 11.5% without [Cap and Trade]. <sup>3</sup>
Science Applications International Corporation (SAIC)	By 2020 Washington jobs decline by 23,668 to 35,602 jobs (assuming 15% reduction below 2005 levels). By 2030 Washington jobs decline by 61,519 to 81,891 jobs (assuming 30% reduction below 2005 levels). <sup>4</sup>	Washington would see disposable household income reduced by \$1,083 to \$3,512 per year by 2020 and \$4,497 to \$8,200 by 2030. <sup>5</sup> By 2020, higher energy prices mean that low income families in Washington (with average incomes of \$14,973) will spend between 16% and 18% of their income on energy compared to a projected 14% without [Cap and Trade]. Others on fixed incomes, such as the elderly will also suffer disproportionately. <sup>6</sup>
Leidos		Some studies suggest that Cap and Trade will result in significant net savings; others suggest that it will diminish disposable income. <sup>7</sup>  There is no consensus among studies as to whether cap and trade would increase or decrease personal income. <sup>8</sup>
The Boston Consulting Group	CA could lose between 28,000 to 51,000 jobs by 2020 as a result of AB 32-related regulation. <sup>9</sup>	California will suffer other negative impacts, including loss of manufacturing expertise and increased cost of living resulting from higher fuels cost. <sup>10</sup>

Heritage Foundation	Washington jobs decline by 25,718. <sup>11</sup>	Total reduction in personal income of \$2.697 billion. <sup>12</sup>
Beacon Hill Institute	Washington jobs decline by 18,292. <sup>13</sup>	Total reduction in personal income of \$5.71 billion. <sup>14</sup> Total reduction in per capita disposable income of \$302.54. <sup>15</sup>

Policy Action		
Carbon Tax	Employment Impact	Household Impact
British Columbia Ministry of Finance (Cited by Leidos)		BC tax of \$30 per ton yielded gasoline and diesel costs at \$0.227 and \$0.265 per gallon, respectively. <sup>16</sup>  British Columbia directs revenues to programs to mitigate impacts to low-income households, ratepayers and reduces other provincial taxes on individuals and corporations.
Leidos		Tax of \$10, \$30, and \$50 per ton CO2 would result in \$0.09, \$0.27, and \$0.44, respectively, per gallon of gasoline. <sup>17</sup> A \$30/ton tax would add about \$6 per car fill-up, or \$85 to a 500-gal propane tank fill-up. <sup>18</sup>
Industrial Customers of Northwest Utilities		A \$30 per ton carbon tax will increase electricity rates in Washington by an average of 11%, resulting in \$663 million in increased annual expenditures. <sup>19</sup> Electricity rates for industrial users will increase 17.9% and expenditures will increase by \$395 million.
Institute for Energy Research (Cited by Leidos)	After Australia's carbon tax (set at approximately \$22 USD per ton of CO2) took effect, unemployment increased by 10%. <sup>20</sup>	

U.S. Congressional Budget Office		<p>A \$28 per ton price of carbon would increase household costs by 2.5% of after-tax income for average households in the lowest one-fifth of the national income distribution. The same price on carbon would increase household costs by less than 1% of after-tax income for average households in the highest one-fifth of the national income distribution.<sup>21</sup></p> <p>A tax of \$20 per ton of carbon would equal 1.8% of pre-tax household income for those in the lowest one-fifth of the income distribution, and 0.7% in the highest one-fifth of household incomes.</p>
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Policy Action			
Feed-In Tariff	Employment Impact	Household Impact	Rate Impact
Leidos	<p>Increase of 20,000 jobs from the Ontario program (Ontario government/Ministry of Energy).</p> <p>Increase of 55,000 jobs in the California program (UC Berkeley).</p>	<p>"Average German household prices were the second highest in the European Union behind Denmark as of November 2012."... "In contrast to household bills, German industrial power prices are below the EU average, Eurostat data shows." The approach of calculating the EEG levy based on the gap between the wholesale power price and the higher fixed FIT has issues. (Business Spectator).<sup>22</sup></p>	<p>Germany's FIT cost consumers a 3% rate increase in the lifetime of the program, with a 5% increase in 2008 alone, averaging \$2.66 to \$8.00 per month."<sup>23</sup> No cost increase from solar FIT, but for wind, "an increase in electricity prices of 0.48 cents per kWh, approx. 3% of the average retail price in German." (Klein).<sup>24</sup></p>
Division of Energy Planning Vermont Department of Public Service <sup>25</sup>	<p>FIT "provide a temporary boost to employment (especially construction and related trades)...The impacts quickly diminish as projects are completed..."</p>	<p>"For households, the economic impact is largely through an income effect whereby households reduce expenditures on 'all other' items to pay for a rising electric bill."</p>	<p>"To the extent the FIT represents an 'above market cost'; the FIT will increase the cost of electricity to households and businesses."</p>

	<p>"Spike in employment" occurs during construction "followed by job losses in following years as above market FIT costs diminish consumer spending and increase the cost of production."</p> <p>"All Vermont sectors are not treated alike."</p> <p>"In essence jobs are created in one sector of the Vermont economy as the expense [of] others."</p>	<p>Industrial and commercial ratepayers "will pay higher electric bills which raise their cost of production and leaves them disadvantaged relative to out-of-state competition."</p>	
SmartGridNews.com <sup>26</sup>		<p>Unless something is done in Germany, electricity will become "a luxury good" in Germany.</p> <p>Der Spiegel claims German consumers will be forced to pay \$26 billion for renewable energy in 2013. The same amount of electricity purchased on the market would have cost about \$4 billion.</p>	
The New York Times <sup>27</sup>		<p>"German families are being hit by rapidly increasing electricity rates, to the point where growing numbers of them can no longer afford to pay the bill."</p> <p>"A new phrase, 'energy poverty,' has entered the lexicon."</p>	<p>Government has shielded about 700 companies from increased energy costs to protect their competitive position in the global economy.</p> <p>"Industrial users still pay substantially more for electricity here than do their counterparts in Britain or France, and almost three times as much as those in the United States, according to a study by the German industrial giant Siemens."</p>

Policy Action				
Initiative 937 (Energy Independence Act)	Employment Impact	Rate Impact	Customer Impact	Utility Impact
Chelan Public Utility District			The cost associated with Initiative 937 (I-937) compliance, including labor directly associated with program implementation, incentives and marketing of those programs to customers is \$8.6 million for 2010-2013. This expenditure allowed Chelan PUD to acquire all cost-effective conservation as required under I-937. <sup>28</sup>	Chelan PUD paid the Washington Auditor's Office (SAO) approximately \$96,000 between April 2012 and November 2013 to perform an audit of our program. This amount includes direct costs to the utility and planning costs which the SAO allocated to the 12 qualifying utilities. In addition, the utility's conservation staff spent 500 hours of staff time supporting the audit process. <sup>29</sup>
Tacoma Power				<p><b>Renewable Energy Credits</b>            In 2012, Tacoma Power spent \$1,560,250 to comply with the renewable portfolio standard (RPS) in I-937.<sup>30</sup></p> <p>Between 2012 and 2014, Tacoma Power spent on average \$1,500,000/year purchasing renewable energy credits (REC) to comply with I-937.<sup>31</sup></p> <p>Projecting into the future, Tacoma Power estimates the following expenditures for RECs:            (1) In 2015, the utility will spend \$2,100,000;            (2) Between 2016 and 2018, \$4,100,000;            and (3) In 2019, \$3,500,000.<sup>32</sup></p>

				<p><b>Cost-Effective Conservation</b> Tacoma Power spent to comply with the conservation requirements under I-937 the following: (1) In 2010, \$14,228,003; (2) In 2011, \$14,183,648; and (3) In 2012, \$14,724,625.</p> <p>For 2013, Tacoma Power has budgeted \$14,725,113 for conservation compliance purposes.<sup>33</sup></p>
Washington Policy Center/The Beacon Hill Institute Study	The RPS part of I-937 will reduce employment in Washington by up to 11,885 jobs by 2020, or twice the number of jobs currently in utilities and mining industries combined. <sup>34</sup>	Washington's current RPS will increase energy rates by about 13% by 2020. <sup>35</sup>	<p>The RPS will cost:</p> <p>(1) The average household an additional \$170/year, with low-income families paying a heavier relative cost;</p> <p>(2) For commercial businesses by an expected \$1,135/year; and</p> <p>(3) For industrial businesses by an expected \$13,225/year.<sup>36</sup></p> <p>I-937 might generate small economic benefits, but Washington electricity customers will pay higher rates, face fewer employment opportunities, and watch investment flee to other states.</p>	

Policy Action		
Low Carbon Fuel Standard	Employment Impact	Household Impact
Boston Consulting Group (cited by Leidos)	California LCFS and Cap & Trade: estimated job loss of 28,000-51,000. <sup>37</sup>	California LCFS and Cap & Trade: increase cost of transportation fuels \$0.14 to 0.69 per gal. <sup>38</sup>
Charles River Associates	Nation-wide LCFS: estimated national job loss of 2.3 to 4.5 million by 2025. <sup>39</sup>	Nation-wide LCFS: increase retail price of transportation fuels from 90% to 170% by 2025. <sup>40</sup>
Oregon Department of Environmental Quality (cited by Leidos)	Increase of 800-29,000 jobs over 10 years based on different scenarios. <sup>41</sup>	0-2% reduction in net fuel spending. <sup>42</sup>
California Air Resources Board (cited by Leidos)		\$0-0.08 savings per gallon of gas (CARB). <sup>43</sup>
California Trucking Association	California LCFS: estimated job loss of 616,922 between 2015 and 2020. <sup>44</sup>	California LCFS: increase retail diesel prices 50% by 2020. <sup>45</sup>
Pacific Ethanol		"The LCFS adds a premium price to the low carbon ethanol we produce and sell in California and supports our efforts to expand production, diversify our feedstocks and develop new technologies to further lower the carbon intensity of ethanol we produce." <sup>46</sup>

Policy Action			
Zero Emission Vehicles	Employment Impact	Business Impact	Household Impact
Leidos Task 2 Report Leidos Economic Impact Summary Chart (Nov. 5, 2013)	Increase of 80-1,000 jobs per auto plant (Tesla) based on actual and projected data from WA and CA. <sup>47</sup> OR's electric vehicle cluster has created 1,500 jobs. <sup>48</sup>	\$2.3 billion in cost to manufacturers over 15 years from 2020 to 2035. <sup>49</sup> Dealers forced to assume risk of high-priced inventory that may not sell. <sup>50</sup>	

Washington State Auto Dealers Association		Consumer demand will only be a small fraction of what would be needed to meet a ZEV mandate; therefore, dealers would be placed in jeopardy if forced to carry ZEV inventory. <sup>51</sup>	
Association of Global Automakers & Alliance of Automobile Manufacturers	California provides a vast array of incentives for electric vehicles and electric vehicle manufacturing that are not available in Washington. Moreover, the Tesla manufacturing plant in Fremont was an existing active automobile manufacturing facility with thousands of skilled automotive workers that was acquired by Tesla, none of which exists in Washington. <sup>52</sup>		Using CARB incremental per-vehicle costs, the total costs of the ZEV mandate to Washington dealers, consumers, government, and automakers, will exceed \$2 billion dollars between 2018 and 2025 <sup>53</sup>

<sup>1</sup> Science Applications International Corporation (SAIC), Analysis of the Waxman-Markey Bill, August 2009.

<sup>2</sup> Id.

<sup>3</sup> Id.

<sup>4</sup> Science Applications International Corporation (SAIC), Analysis of the Lieberman-Warner Climate Security Act, March 2008.

<sup>5</sup> Id.

<sup>6</sup> Id.

<sup>7</sup> Leidos for Climate Legislative and Executive Workgroup (CLEW). November 2013

<sup>8</sup> Id.

<sup>9</sup> Boston Consulting Group, Understanding the Impact of AB 32, June 2012.

<sup>10</sup> Id.

<sup>11</sup> Heritage Foundation, Impact of the Waxman-Markey Climate Change Legislation on the States, August 2009.

<sup>12</sup> Id.

<sup>13</sup> The Beacon Hill Institute at Suffolk University, The Economic Analysis of the Western Climate Initiative's Regional Cap-and-Trade Program, March 2009.

<sup>14</sup> Id.

<sup>15</sup> Id.

<sup>16</sup> British Columbia Ministry of Finance, How the Carbon Tax Works. Accessed August 2013 at: <http://www.fin.gov.bc.ca/tbs/tp/climate/A4.htm>

<sup>17</sup> Calculated directly from CO2 Emissions Coefficients reported by EIA, [http://www.eia.gov/environment/emissions/co2\\_vol\\_mass.cfm](http://www.eia.gov/environment/emissions/co2_vol_mass.cfm)

<sup>18</sup> Calculations performed by LEIDOS for Climate Legislative and Executive Workgroup (CLEW).

<sup>19</sup> ICNU Testimony submitted to CLEW, October 30, 2013.

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- <sup>20</sup> Robson, A., Australia's Carbon Tax: An Economic Evaluation. Institute for Energy Research. Accessed September 2013 at: <http://www.instituteforenergyresearch.org/australias-carbon-tax/>
- <sup>21</sup> U.S. Congressional Budget Office, Effects of a Carbon Tax on the Economy and the Environment, May 22, 2013. Estimated effects listed do not include economic effects related to the use of tax revenues raised by the carbon tax.
- <sup>22</sup> The growing cost of Germany's feed-in tariffs. Web Article from business spectator.com, Feb, 2013. Accessed Aug. 13, 2013. <http://www.businessspectator.com.au/article/2013/2/21/policy-politics/growing-cost-germanys-feed-tariffs>
- <sup>23</sup> Germany: NARUC. *Feed-In Tariffs: Frequently Asked Questions for State Utility Commissions*. June 2010.
- <sup>24</sup> C.A. Klein, "Renewable Energy at What Cost? Assessing the Effect of Feed-In Tariff Policies on Consumer Electricity Prices in the European Union" The Georgetown Public Policy Review. (2013), <http://gppreviewdotcom.files.wordpress.com/2013/02/klein-thesis-ed.pdf>
- <sup>25</sup> *The Economic Impacts of Vermont Feed in Tariffs by Division of Energy Planning*, Vermont Department of Public Service (December 2009).
- <sup>26</sup> "The World is watching: The German revolt against renewables", SmartGridNews.com, Sept. 24, 2013.
- <sup>27</sup> "Germany's Effort at Clean Energy Proves Complex" New York Times, Sept. 18, 2013.
- <sup>28</sup> Chelan Public Utility District, Requested Data Related to Implementing I-937 and Feed-in Tariffs Impacts, November 20, 2013.
- <sup>29</sup> Id.
- <sup>30</sup> Tacoma Power, I-937 Conservation Report to the State for 2010- 2011 and Renewable Energy Report for 2012, May 2012.
- <sup>31</sup> Tacoma Power, CLEW Report Cost of I-937 Compliance, December 2013.
- <sup>32</sup> Id.
- <sup>33</sup> Id.
- <sup>34</sup> Joint study by The Beacon Hill Institute and Washington Policy Center's Center for the Environment, Policy Brief: The Economic Impact of Washington State's Renewable Portfolio Standard, April 2013.
- <sup>35</sup> Id.
- <sup>36</sup> Id.
- <sup>37</sup> Boston Consulting Group, Understanding the Impact of AB 32, June 19, 2012 (prepared for Western States Petroleum Association).
- <sup>38</sup> Id.
- <sup>39</sup> Charles River Associates, Economic and Energy Impacts Resulting from a National Low Carbon Fuel Standard, June 2010 (prepared for the Consumer Energy Alliance)
- <sup>40</sup> Id.
- <sup>41</sup> Leidos, Economic Impact Summary Significant Programs, November 5, 2013, footnote 47 (citing Oregon Department of Environmental Quality data): "LCFS creates 800-29,000 jobs over 10 years, increasing income in Oregon between \$60 and \$2,630 million over 10 years. Overall, the six scenarios modeled in the analysis sponsored by the Oregon DEQ involving in-state production of biofuels (A through C and E through G) have fairly similar gross state product (GSP) impacts, ranging from approximately \$900 million to about \$1.25 billion in additional economic activity."
- <sup>42</sup> Id., footnote 54, quoting 2012 Oregon Department of Energy report: "Reductions in conventional fuel purchase offset increases in spending on lower-carbon fuels. All scenarios showed some reduction in fuel expenditure, though in most cases the savings is well below 1% of the baseline expenditure of \$86 billion. In Scenario D, which emphasized a switch to electricity and natural gas (both of which offered significant savings per mile traveled), the fuel savings approached 2% of the baseline."
- <sup>43</sup> Id., footnote, 53, citing California Air Resources Board.: "According to Leidos, ARB estimated that the policy would result in a net savings over the life of the policy, which would amount to a \$0 - \$0.08 per gallon savings if passed entirely to the consumer. ARB acknowledged that the savings are highly dependent on the future price of fossil fuels, availability of lower-carbon intensity fuels, and the economic recovery. There will be an estimated overall savings in the state of \$11 billion over the 10-year period."
- <sup>44</sup> California Trucking Association, The Impact of the Low Carbon Fuel Standard and Cap and trade Programs on California Retail Diesel Prices, April 25, 2012 (prepared by Stonebridge Associates, Inc.)
- <sup>45</sup> Id.

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<sup>46</sup> Pacific Ethanol, CEO Responds to EPA's Proposed Rules for 2014 Renewable Fuels Standard Targets, November 20, 2013, *at* [http://www.pacificethanol.net/site/\\_documents/news/EPARVO.pdf](http://www.pacificethanol.net/site/_documents/news/EPARVO.pdf).

<sup>47</sup> Leidos, Economic Impact Summary Significant Programs, November 5, 2013 (chart prepared for CLEW) (citing in footnote 57 jobs created by Tesla plant in Fremont, CA and 80 jobs that currently exist in SGL/BMW Automotive Carbon Fiber plant in Moses Lake, WA); Leidos, Evaluation of Comprehensive GHG Emissions Reduction Programs Outside of Washington, Final Report (Task 2 Final Report), September 20, 2013.

<sup>48</sup> Leidos, Economic Impact Summary Significant Programs, November 5, 2013 (citing 2013 Portland State University study of Oregon's electric vehicle industry).

<sup>49</sup> Leidos, Task 2 Final Report.

<sup>50</sup> *Id.*

<sup>51</sup> Washington State Auto Dealers Association, Comments to CLEW, undated.

<sup>52</sup> Association of Global Automakers & Alliance of Automobile Manufacturers, Comments to CLEW, October 30, 2013.

<sup>53</sup> *Id.* (citing California Environmental Protection Agency, Air Resources Board, Initial Statement of Reasons, Advanced Clean Cars, 2012 Proposed Amendments to the California Zero Emission Vehicle Program Regulations *at* <http://www.arb.ca.gov/regact/2013/cfo2013/cfo13isor.pdf> (December 7, 2011)).