Draft Proposals of Representative Short and Senator Ericksen

- Incentivize hydroelectric power generation
- Encourage conservation under I-937
- Allow renewable energy credit banking
- Promote R&D for clean technologies
- Modify fuel mix reporting system
- Replace fossils fuels with nuclear generation
- Revisit targets established in 2008
- Study consumption- and generation-based accounting of emissions
- Complete currently insufficient analysis of the costs associated with GHG reduction policies

The Climate Workgroup Process and Consideration of Information

This 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 10 public meetings, three public hearings, and reviewed over 5,000 public comments that have been submitted to the Workgroup. In spite of the rushed process followed by the Workgroup, some useful information has been generated during the process and considered by CLEW members. At times there was productive dialogue among members of the CLEW about the tradeoffs and costs associated with various policies that are relevant to the state's current and future greenhouse gas 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 this 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 at the time. However, 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[1] to both perform a thorough analysis of all relevant studies, and to provide

[1] Section 1 of the Climate Workgroup's authorizing legislation reads, in part, "(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; …" (ESSB 5802, 2013)

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 impact families, affect their household costs and living expenses, and impact 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 greenhouse gasses, 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 state, while potentially driving businesses, such as Boeing, 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, and the adoption of these policies would do nothing to mitigate any impacts of global climate variability on Washington State. Washington's energy-related greenhouse gas 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:[2]

> *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.*

[2] 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.

Since this Workgroup has, from the outset, accepted as fact that the adoption of costly climate policies by Washington State 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 State. 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 greenhouse gas emission reductions achieved, and would result in gas prices that were 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.

Policy Proposals

I. Improving the Cost-effective Achievement of the Goals of Washington's Energy Independence Act

In light of the uncertainty of the costs associated with the various greenhouse gas reduction policies under consideration by the Workgroup, the Legislature and Governor may consider putting in place the legislative proposals described below. Washington is already starting with a much cleaner energy profile than many other states: Washington's per-capita energy-related greenhouse gas emissions are 10th lowest among states, and the state has already taken numerous and costly actions to reduce its greenhouse gas emissions.[3]

These legislative proposals will improve electric utilities' ability to comply with existing laws, especially the Energy Independence Act, in the most cost-effective manner. Additionally, these proposals support the legacy we have inherited in Washington: decades of economic

[3] 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

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

A. Hydroelectric Power Generation

Under the Energy Independence Act (Initiative 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 the Energy Independence Act 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, greenhouse gas emission free resource -- through BPA rates and they must pay a second time in order to comply with the Energy Independence Act 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 the Energy Independence Act.

B. 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 the Energy Independence Act, 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 for up to meet subsequent biennial conservation acquisition targets.

C. Renewable Energy Credit (REC) Banking

Under the Energy Independence Act, 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 they may be used during the year they are 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 only year 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.

II. Research and Development of New Technology

The legislature should consider additional investments in research and development of new technologies that would help the state cost-effectively reduce greenhouse gas emissions. In particular, the legislature should consider investment in research and development of small modular nuclear technology, battery storage that supports the integration of intermittent renewable generation resources, and household energy efficiency technologies.

III. 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 accurately portray the emissions attributed to Washington.

IV. Nuclear Energy

During the CLEW 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. 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.

V. 2008 Goals

This Workgroup process has provided evidence that the existing climate targets in RCW 70.235.020 are arbitrary numbers that don't 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 greenhouse gas emissions that might be able to more cost-effectively reduce their emissions due to the current makeup of their energy profile.

VI. Proposals for Additional Study

If the Legislature decides to extend the Climate Workgroup or authorize a new task force to further study greenhouse gas emission policies, we propose studying the following items in order to address the inadequacies of the Workgroup's rushed process over the last year.

- 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 to 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.

- 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.

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 State 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).[1]	Washington State would see disposable household income reduced by $121 to $256 per year by 2020 and $696 to $1,213 by 2030.[2] By 2030, higher energy prices mean that low income families in Washington State (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].[3]
Science Applications International Corporation (SAIC)	By 2020 Washington State jobs decline by 23,668 to 35,602 jobs (assuming 15% reduction below 2005 levels). By 2030 Washington State jobs decline by 61,519 to 81,891 jobs (assuming 30% reduction below 2005 levels).[4]	Washington State would see disposable household income reduced by $1,083 to $3,512 per year by 2020 and $4,497 to $8,200 by 2030.[5] By 2020, higher energy prices mean that low income families in Washington State (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.[6]
Leidos		Some studies suggest that Cap and Trade will result in significant net savings; others suggest that it will diminish disposable income.[7] There is no consensus among studies as to whether cap and trade would increase or decrease personal income.[8]
The Boston Consulting Group	CA could lose between 28,000 to 51,000 jobs by 2020 as a result of AB 32-related regulation.[9]	California will suffer other negative impacts, including loss of manufacturing expertise and increased cost of living resulting from higher fuels cost.[10]
Heritage Foundation	Washington State jobs decline by 25,718.[11]	Total reduction in personal income of $2.697 billion.[12]
Beacon Hill Institute	Washington State jobs decline by 18,292.[13]	Total reduction in personal income of $5.71 billion.[14] Total reduction in per capita disposable income of $302.54.[15]

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.[i] 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.[ii] A $30/ton tax would add about $6 per car fill-up, or $85 to a 500-gal propane tank fill-up.[iii]
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.[iv] 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%.[v]	
U.S. Congressional Budget Office		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.[vi] 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.

Policy Action			
Feed-In Tariff	**Employment Impact**	**Household Impact**	**Rate Impact**
Leidos	Increase of 20,000 jobs from the Ontario program (Ontario government/Ministry of Energy). Increase of 55,000 jobs in the California program (UC Berkeley).	"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).[vii]	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."[viii] 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).[ix]
Division of Energy Planning Vermont Department of Public Service[x]	FIT "provide a temporary boost to employment (especially construction and related trades)…The impacts quickly diminish as projects are completed…" "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." "All Vermont sectors are not treated alike." "In essence jobs are created in one sector of the Vermont economy as the expense [of] others."	"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." 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."	"To the extent the FIT represents an 'above market cost'; the FIT will increase the cost of electricity to households and businesses."
SmartGridNews.com[xi]		Unless something is done in Germany, electricity will become "a luxury good" in Germany.	

		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.	
The New York Times[xii]		"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." "A new phrase, 'energy poverty,' has entered the lexicon."	Government has shielded about 700 companies from increased energy costs to protect their competitive position in the global economy. "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."

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	Chelan PUD paid the Washington State 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

Policy Action				
Initiative 937 (Energy Independence Act)	**Employment Impact**	**Rate Impact**	**Customer Impact**	**Utility Impact**
			conservation as required under I-937.[4]	audit process.[5]
Tacoma Power				**Renewable Energy Credits** In 2012, Tacoma Power spent $1,560,250 to comply with the renewable portfolio standard (RPS) in I-937.[6] Between 2012 and 2014, Tacoma Power spent on average $1,500,000/year purchasing renewable energy credits (REC) to comply with I-937.[7] 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.[8] **Cost-Effective Conservation** Tacoma Power spent to comply with the conservation requirements under I-937 the

[4] Chelan Public Utility District, Requested Data Related to Implementing I-937 and Feed-in Tariffs Impacts, November 20, 2013.
[5] Id.
[6] Tacoma Power, I-937 Conservation Report to the State for 2010- 2011 and Renewable Energy Report for 2012, May 2012.
[7] Tacoma Power, CLEW Report Cost of I-937 Compliance, December 2013.
[8] Id.

Policy Action				
Initiative 937 (Energy Independence Act)	**Employment Impact**	**Rate Impact**	**Customer Impact**	**Utility Impact**
				following: (1) In 2010, $14,228,003; (2) In 2011, $14,183,648; and (3) In 2012, $14,724,625. For 2013, Tacoma Power has budgeted $14,725,113 for conservation compliance purposes. [9]
Washington Policy Center/The Beacon Hill Institute Study	The RPS part of I-937 will reduce employment in Washington state by up to 11,885 jobs by 2020, or twice the number of jobs currently in utilities and mining industries combined.[10]	Washington's current RPS will increase energy rates by about 13% by 2020.[11]	The RPS will cost: (1) The average household an additional $170/year, with low-income families paying a heavier relative cost; (2) For commercial businesses by an expected $1,135/year; and (3) For industrial businesses by an expected $13,225/year.[12] 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.	

[9] Id.
[10] 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.
[11] Id.
[12] Id.

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.[xiii]	California LCFS and Cap & Trade: increase cost of transportation fuels $0.14 to 0.69 per gal.[xiv]
Charles River Associates	Nation-wide LCFS: estimated national job loss of 2.3 to 4.5 million by 2025.[xv]	Nation-wide LCFS: increase retail price of transportation fuels from 90% to 170% by 2025. [xvi]
Oregon Department of Environmental Quality (cited by Leidos)	Increase of 800-29,000 jobs over 10 years based on different scenarios. [xvii]	0-2% reduction in net fuel spending.[xviii]
California Air Resources Board (cited by Leidos)		$0-0.08 savings per gallon of gas (CARB).[xix]
California Trucking Association	California LCFS: estimated job loss of 616,922 between 2015 and 2020.[xx]	California LCFS: increase retail diesel prices 50% by 2020. [xxi]
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."[xxii]

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.[xxiii] OR's electric vehicle cluster has created 1,500 jobs.[xxiv]	$2.3 billion in cost to manufacturers over 15 years from 2020 to 2035.[xxv] Dealers forced to assume risk of high-priced inventory that may not sell.[xxvi]	
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.[xxvii]	
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 Freemont was an existing active automobile manufacturing facility with thousands of skilled automotive workers that was acquired by Tesla, none of which exists in Washington.[xxviii]		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[xxix]

[i] 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
[ii] Calculated directly from CO2 Emissions Coefficients reported by EIA, http://www.eia.gov/environment/emissions/co2_vol_mass.cfm
[iii] Calculations performed by LEIDOS for Climate Legislative and Executive Workgroup (CLEW).
[iv] ICNU Testimony submitted to CLEW, October 30, 2013.
[v] Robson, A., Australia's Carbon Tax: An Econmic Evaluation. Institute for Energy Research. Accessed September 2013 at: http://www.instituteforenergyresearch.org/australias-carbon-tax/
[vi] 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.
[vii] 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
[viii] Germany: NARUC. *Feed-In Tariffs: Frequently Asked Questions for State Utility Commissions*. June 2010.
[ix] 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/kelin-thesis-ed.pdf
[x] *The Economic Impacts of Vermont Feed in Tariffs by Division of Energy Planning*, Vermont Department of Public Service (December 2009).
[xi] "The World is watching: The German revolt against renewables", SmartGridNews.com, Sept. 24, 2013.
[xii] "Germany's Effort at Clean Energy Proves Complex" New York Times, Sept. 18, 2013.
[xiii] Boston Consulting Group, Understanding the Impact of AB 32, June 19, 2012 (prepared for Western States Petroleum Association).
[xiv] Id.
[xv] Charles River Associates, Economic and Energy Impacts Resulting from a National Low Carbon Fuel Standard, June 2010 (prepared for the Consumer Energy Alliance)
[xvi] Id.
[xvii] 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."
[xviii] 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."
[xix] 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."
[xx] 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.)
[xxi] Id.
[xxii] 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.

[xxiii] Leidos, Economic Impact Summary Significant Programs, November 5, 2013 (chart prepared for CLEW) (citing in footnote 57 jobs created by Tesla plant in Freemont, 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.
[xxiv] Leidos, Economic Impact Summary Significant Programs, November 5, 2013 (citing 2013 Portland State University study of Oregon's electric vehicle industry).
[xxv] Leidos, Task 2 Final Report.
[xxvi] Id.
[xxvii] Washington State Auto Dealers Association, Comments to CLEW, undated.
[xxviii] Association of Global Automakers & Alliance of Automobile Manufacturers, Comments to CLEW, October 30, 2013.
[xxix] 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)).