

Climate Legislative and Executive Workgroup (CLEW) DRAFT Meeting Summary

September 27, 2013, 9:00 a.m. – 1:00 p.m.

Action Items

	Requested Clarifying Actions	Person Responsible
1.	Stay with the existing plan for holding 3 Public Hearings and encourage electronic or written comments to complement these public hearings.	Triangle/State
2.	For Public Hearings, extend the public comment period to 3 hours.	Triangle/State
3.	Update the public hearing agenda to explicitly ask the public for not only the policies/actions they want to see but policies/actions that they do not want to see implemented.	Triangle
4.	Clarify how replacement energy and associated emissions are being accounted for in sectors other than coal production, specifically the cement industry.	SAIC
5.	Analyze different levels of investment in seed funding for PACE programs and associated greenhouse gas (GHG) reductions.	SAIC
6.	Confirm the costs of the German Feed-in-Tariff model.	SAIC
7.	Highlight where co-benefits and cost impacts of the analyzed policies fall in the report, such as public health and costs and benefits that accrue to a Washington State family.	SAIC
8.	Provide the Workgroup with information on the original data used for the hydropower assessment under I-937, and how it changed for the revised analysis.	SAIC/State
9.	Explain why the aluminum industry projections decreased. Was this due to pot line upgrades or a decrease in electrical usage?	State
10.	Confirm the institutional basis of the consumption approach for accounting for GHG emissions.	State
11.	Explain why aviation fuel emissions are projected to decrease between 2010 and 2020.	State
12.	Explain how renewable energy under I-937 that is potentially consumed out-of-state was taken into account.	State
13.	Describe how consumption is defined for air or other transportation means when it originates within the State but crosses the State line.	State
14.	Clarify how emissions associated with petroleum manufacturing and refining are accounted for. Specifically, is the same standard in the electricity sector applied to petroleum refining?	State

Additional Information Requests*	
1.	Work to use two types of numbers in analysis: 1) for numbers with greater uncertainty or lesser confidence, use a range of numbers to show results, and 2) for numbers where there is less uncertainty or a higher level of confidence, use the number that is calculated or determined.
2.	Determine if and how the CA LCFS has led to job or industry displacement.
3.	Separate the costs/ton into specific costs and benefits (e.g. jobs, disposable income) and apply costs on a per capita basis.
4.	Research the return on investment for R&D of specific technologies.
5.	Research programs that have targeted energy efficiency in the natural gas and oil use industries.
6.	Compare the Feed-in-Tariff program with the current WA program to determine if it is possible to design a program that saves rate payers money while reducing GHG emissions.
7.	Evaluate a regulatory approach to reducing GHG emissions.
8.	Clarify the tax implications of the PACE programs and how it relates to the property tax cap.
9.	Clarify the assumption that 90% of the power from TransAlta will be replaced with natural gas.

**It was discussed at the meeting that SAIC, under Task 5, may address these additional information requests pending decisions and direction from the State.*

Welcome/Introductions

Governor Inslee called the meeting to order at 9:05 a.m. and the Workgroup briefly discussed the newly issued Intergovernmental Panel on Climate Change (IPCC) report. Each Workgroup member committed to recommending 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.” Members agreed to focus on this charge and not debate the science behind climate change. Bob Wheeler (facilitator) then introduced the consultant team and briefly reviewed the agenda.

September 11 Meeting Summary

The meeting summary can be used by Workgroup members as a reference, and by members of the public or those that were not able to attend the meeting. The September 11 meeting summary was accepted by consensus.

Work Plan

The Work Plan was updated based on information from the September 11 meeting and will continue to be updated throughout this process.

Operating Procedures

The Workgroup’s operating procedures have been finalized with the full Workgroup charge.

Summary of Communications

A summary of communications of all conversations between the facilitator and Workgroup members and alternates is being maintained for transparency purposes. The summary of

communications for this meeting captures conversations between September 11, 2013 and September 20, 2013. The facilitator spoke to Workgroup members between September 20, 2013 and the meeting, which will be reflected in the next version of the summary of communications.

Public Hearings Preparation

The public hearings preparation focused on the purpose of the public meetings, progress made in the planning process, the proposed approach, and key questions for Workgroup members to consider and provide input. The proposed approach is outlined in the AIF for Public Hearings.

In addition, Triangle recommended:

- To continue to accept public comment until each person who wishes to speak is heard, as opposed to ending the meeting at 7:00 p.m. (or 8:00 p.m. for Seattle);
- To take comments in sequential order of those who signed up;
- To have the alternates in attendance join the CLEW members on stage;
- To hold a fourth public meeting in December on the Eastern side of the state; and
- To use public comments in the Workgroup's decision-making process.

Questions and Comments

- *There was concern that more time for public comment would be necessary.*
 - It was agreed by consensus to increase the length of the public comment period to 3 hours.
- *It was noted that the commenter sign-up time should be specific and advertised beforehand so that individuals will know when to sign up.*
 - This will be publically available information and individuals will be allowed to sign up to speak during the meeting as well.
- *A request was made to be explicit in asking for not only policies that individuals want to see implemented, but also policies and actions that they do not want to see implemented.*
- *Should it be required that individuals be present in order to sign up to speak?*
 - It was agreed that if an individual signs someone up to speak who is not present, it can only be one person and not a group in order to avoid groups unfairly dominating the public hearing.
- *The Workgroup agreed by consensus to allow all legislators in attendance to sit upfront with the Workgroup.*
- *It was also agreed upon that individuals will be selected randomly to speak, as opposed to first come, first serve.*
- *The Workgroup agreed that three public meetings will be adequate given the current schedule and the opportunity to comment electronically or in letter form.*
 - The Workgroup does not value in-person testimony more than it values e-mail or letter testimony. The group is comfortable with keeping the meeting schedule as planned, as long as the public is aware that the Workgroup will accept comments by e-mail or letter.
- *There will be a significant amount of information for the public to respond to by the first public hearing.*

Response on Questions from Task 1 – Analysis of WA GHG Emissions & Related Energy Consumption

As of September 30, 2013, SAIC will be known as Leidos. This will be a name change only, and the same team will be working on the project.

SAIC reviewed five outstanding questions from Task 1. SAIC's answers can be found in the AIF for Task 1 Questions.

Questions and Comments

- *For numbers that have large ranges based on small changes in inputs, would it be possible to report ranges? On the other hand, when numbers are more certain, ranges may not be necessary. This would show the Workgroup where there is more certainty in the numbers and where there is uncertainty.*
 - SAIC agreed that this type of sensitivity analysis could be done under Task 4 or 5, pending direction from the State.
- *What is the difference between Commerce's revised estimate and SAIC's 2nd revised estimate?*
 - SAIC has been tweaking the revised estimate based on technical changes, not on any major assumption changes.
- *What was the range of years SAIC looked at for its original hydropower assessment? Who advised SAIC to revise the estimate? What is the current range?*
 - SAIC originally took data from one year, which it believed to represent a mid-range year for hydropower production. The State Energy Office advised SAIC to revise the estimate. For the new analysis, SAIC is using a 10-year average.
 - SAIC will provide the Workgroup with specific information on the original data used, and how it changed for the revised analysis.
- *In all sectors, do we account for emissions from replacement energies, as we do for TransAlta? If not, this will make it difficult to compare reductions across sectors.*
 - If there were significant emissions from replacement energies in any of the policies, SAIC's approach was to try and capture that. For TransAlta, the assumption is that the energy source will need to be replaced once the plant is closed.
 - SAIC is applying this approach to other sectors, such as transportation (a decrease in fuel will lead to an increase in electricity consumption). SAIC is unsure if this approach was applied to the cement industry, however, it is working to take into account leakage (shifting emissions or economic activity out-of-state).
- *How did you take into account renewable energy production under I-937 that may actually be serving consumers out-of-state?*
 - SAIC would have to research this.
- *There was a request for more information about the assumption that 90%¹ of the energy would be replaced by natural gas.*
 - Later in the meeting it was confirmed that SAIC's estimate for 90% of the energy to be replaced by natural gas was reasonable. Upon TransAlta closing, the statutory premise created an expedited permitting process for a replacement natural gas facility.

¹ After the meeting, it was determined that the natural gas plant will cover approximately 60% of the power. This estimate is based on future load and sources, as well as forecasted market demand.

The natural gas facility will not generate as much energy as TransAlta, but it is believed, due to market trends, this will not be necessary.

Status Update on Progress of GHG Emission Forecast

Schematic of GHG Emissions Forecast

The schematic is a visual representation of how SAIC will provide the Workgroup with an update on the GHG emissions inventory forecast. It is understood that the Workgroup will need this information before the October 14 meeting.

Ecology updated the GHG inventory and baseline projection. Under Task 4, SAIC is accounting for the interactions between policies and adjusting Ecology's updated baseline in order to guarantee that reductions are not double-counted. Once the interactions are quantified, SAIC will estimate from the updated baseline inventory projections the impacts of each policy on WA's GHG emission reduction targets and the sum of the reductions.

Updated Table of WA's Historical and Projected GHG Emissions (the Projection Table)

The latest inventory was prepared from 2010 data. Accounting only for policies that were enacted by the baseline year, it is projected that emissions will be 101.3 MMTCO₂e in 2020, which is approximately 12.9 MMTCO₂e away from the 2020 target. For per capita emissions, WA produces approximately 14 metric tons per person, as compared to 22 metric tons per person for the U.S. as a whole.

Questions and Comments

- *If the TransAlta facility were to completely shut down and be replaced with non-carbon producing electricity, would the State meet its 2020 goal?*
 - Not from the net consumption approach. The magnitude of emissions generated at TransAlta do not all get credited as reductions as discussed earlier. Also, there is projected to be an increase in emissions between now and 2020.
- *To clarify, the reason that shutting down TransAlta will not cover the emissions gap is because of the assumption that the energy will be replaced mostly by natural gas and because of population increases.*
 - Yes, and for two other reasons: 1) some of the energy from TransAlta is consumed out-of-state, so WA would not get credit for those emission reductions; and 2) the current schedule requires TransAlta to close its first boiler at end of 2020 and the other boiler in 2025, so there will be no reductions registered in 2020.
- *Can you clarify how you got to the 2020 target of 88.4 MMTCO₂e?*
 - The 88.4 is the 1990 level, which is WA's 2020 target. On the projection table, the 2020 level represents where WA is expected to be without additional policies.
- *Are the estimates in the projection table solely based on population?*
 - The estimates are based on population, sector specific energy use, and employment growth rates.
- *To make the projections, Ecology looked at current energy use and current emissions today (2013) and then applied labor forecasts, energy outlook forecasts, and population forecasts. Ecology ramped up the economy out to 2020, 2035, and 2050 to show, at current rates,*

where WA is headed. The forecasts show where WA will be based on current economic growth. Ecology determined that in 2020 WA will be at approximately 101.3 MMTCO_{2e}, meaning WA is around 12 to 13 MMTCO_{2e} short of achieving 1990 levels. However, the projections do not include existing policies at the federal and state level where compliance dates kick in after the baseline year.²

- *Where are the numbers embedded for policies that are under adoption right now?*
 - For I-937, the elements currently in compliance are embedded under electricity because it is part of the current amount of energy the State is using to produce electricity. The transportation footprint includes the clean cars already in place.
 - Most importantly, SAIC is on to the next step, which involves calculating the reductions that each of the individual policies might produce going forward. If the Workgroup starts to predict what SAIC's number will come out to, we will see that a lot of the gap will be covered by current policies. Also of note, the State may be able to reach the 2035 goal with some of the policies discussed in Task 2. It will be very difficult to reach the 2035 goal if we do not adopt policies now.
- *Do the 2010 projections already have the policies in place embedded in them?*
 - Yes, to the extent that they have been implemented.
- *Are you assuming that the TransAltra transition would be to natural gas? Would this result in about 50% of GHG emission reductions?*
 - The concept of replacing baseload power from the coal plant is embedded in the statutory premise by having created an expedited permitting process for a replacement natural gas facility. It will not be at scale to fully replace the coal power because the future load requirements likely won't require full replacement.
 - We can debate what the market will be in 2020, and if we will need as much baseload power. The equation may overestimate the amount of energy that will be needed from natural gas.
- *On the aviation fuel projections, why does it go down between 2010 and 2020?*
 - SAIC will need to research the decline.
- *On the aluminum projections, does the decrease in emissions have to do with energy reductions or pot line upgrades? Where do the reductions come from?*
 - SAIC will need to research the decline.
- *Should we get a positive credit for hydropower that gets sent out-of-state?*
 - We decided for accounting purposes that the Workgroup will use the net consumption approach. We would not count coal that generates electricity in our GHG inventory that goes out-of-state. When we reduce our coal production that goes to another state, we are not getting credits for the reductions because we aren't using it. Therefore, it would not make sense to have a positive credit for hydropower.
 - SAIC can provide this information, but it does not make sense to have positive credits for hydropower in our inventory and calculations.
- *It may be helpful to see a comparison of what the State's inventory would look like from a consumptive basis and from a generational basis.*
 - Every jurisdiction known to the Workgroup, including the federal and state inventories, uses the consumptive basis. If the State switched to the generational

² After the meeting, it was determined that some federal and state policies with compliance dates after the baseline year were captured in the SAIC analysis. This point is explained and clarified in SAIC Task 4.

basis, all the coal power coming from TransAlta, including coal going out-of-state, would need to be included in WA's energy portfolio.

- The State will confirm the institutional basis of the consumption approach.
- *Are the consumptive metrics only used in electricity or other sectors as well? How do we account for refining fuel within WA's borders? Wouldn't WA's GHG emissions reductions decrease dramatically if the same standard was applied to petroleum manufacturing?*
 - For the State inventory purposes, it is just electricity.
 - The national inventories do not include fuel consumed in international waters.
 - The fuel is accounted for when it combusts.
 - Each policy under Task 2 has clear assumptions associated with it.

Presentation on Task 3 - Evaluation of Federal Policies

Project Big Picture

Michael Mondshine, SAIC, evaluated federal policies and how the policies will impact WA's GHG emissions. SAIC's analysis will show the specific contribution of each federal policy toward WA's target goals.

Task 3 Presentation

SAIC looked at federal policies from three levels of granularity for its analysis – national, regional, and specific to Washington. SAIC analyzed policies that were requested in the scope of work; policies that would likely alter GHG emissions from the baseline in future years; and policies that were likely to be implemented in the next several years, which included:

1. Renewable Fuel Standards (RFS-1 and RFS-2);
2. Tax incentives for renewable energy (PTC and ITC);
3. CAFE standards;
4. Clean Air Act (CAA) requirements (mercury and air toxic standards; CAIR or CSAPR; and the aggregate of all other CAA regulations, including the Regional Haze Regulations);
5. Renewable Portfolio Standards (RPS) in all 30 states and the District of Columbia; and
6. Low Carbon Fuel Standard (LCFS) in CA.

SAIC examined but did not model:

1. New CO₂ emissions standards for electric generation plants. *These were released the week of September 16, 2013, and can be looked at in Task 5. The standards may be captured in TransAlta policy;*
2. Incentives for renewable power on federal lands;
3. Elimination of oil and gas depletion allowance;
4. REIT and MLP Parity; and
5. Expansion of natural gas exports.

SAIC used the National Energy Modeling System (NEMS) to model these policies. NEMS is a deterministic model that provides a point estimate for each calculation. However, there are uncertainties associated with each number. The results for each policy are most valuable for understanding magnitude, trends, and for comparison over two policies.

SAIC concluded that federal policies are likely to have a limited impact on the ability of WA to meet its GHG goals because the policies are likely to overlap with what the State is already doing.

Questions and Comments

- *How did you extrapolate the benefits of CA LCFS to WA? Are you looking at the benefits of a WA LCFS?*
 - A WA LCFS is looked at in Task 2.
 - There is such a large transportation sector in CA that the production of fuels in CA may have a large impact on the market and have spillover effects in the region. When SAIC downscaled to WA based on the historical ratio of fuel consumption, by definition, the estimate of GHG reductions due to the CA LCFS was overestimated.
- *How do you handle displacement of jobs due to CA LCFS?*
 - This is not in the scope of this study and NEMS would not be the tool to consider this. If this is an important question, SAIC could look at it in task 5.
- *Does the projection table include reductions from the Task 3 federal policies?*
 - No. The projections include the federal policies in place, not the ones analyzed in Task 3. For example, NEMS accounts for the CAFE standards through 2016 because this is what is currently implemented. SAIC analyzed the incremental benefits of CAFE beyond 2016.
- *Once SAIC factors in the savings from federal policies discussed in Task 3, would this decrease the gap?*
 - It would be lower by approximately 1.4 to 3.7 MMTCO₂e.
- *Would it be correct to say that the federal policies will affect WA at a lower rate than other states because of WA's unique energy mix?*
 - Yes.
- *The CA auto standards are already built into the projections table because of a policy already in place in WA, not a federal policy, correct?*
 - Correct. SAIC's job is to figure out if the overlap between the federal standards will include any additional GHG reductions.

Presentation on Task 2 – Evaluation of Comprehensive GHG Emissions Reduction Programs Outside of WA

Project Big Picture

Christina Waldron and Tim Kidman, SAIC, looked at GHG emission reduction projects in different jurisdictions and applied promising policies to WA. The purpose of Task 2 is to help fill in the gap between the baseline and the reduction targets.

Task 2 Presentation

SAIC determined that the three most significant sectors for GHG emissions in WA are: 1) the transportation sector, 2) the electricity sector, and 3) the residential, commercial, and industrial sector. Together, these three sectors account for 80% of the emissions in WA. To look at the cost of each policy, SAIC analyzed the existing literature, including well-established marginal abatement cost curves, adjusted the estimates to 2010 dollars, and provided ranges based on the

lowest and highest estimates. Based on their analysis, SAIC determined that a cap-and-trade system results in the biggest opportunity to lower GHG in the State.

Questions and Comments

- *What does cost effectiveness mean?*
 - This is a measure of the cost per ton of reduction. It illustrates the cost benefit transfers within the economy; it is the net outcome.
- *It is important to separate the costs and benefits in order to see what the specific costs are. The net outcome approach makes it difficult to see the financial costs. If we can separate the costs and benefits, we will be able to understand the tradeoffs more accurately. The net outcome presentation dilutes the costs.*
 - SAIC could do this, but it is not in their existing scope. Some of this information is within the body of the report and in the appendix – to the extent that the literature answered this question. In a lot of cases, this information was not available because the policies are relatively new.
- *One option is to propose doing additional work around the economics of each of these policies in the upcoming legislative session.*

Economy-wide Policies

1. Cap and Trade:

- **Action:** implement an economy-wide cap and trade program covering and reducing emissions from electricity, transportation fuels, and RCI sectors.
- CA and Quebec are early in the implementation of their cap and trade programs, and will be linking programs next year.
- The East Coast (through RGGI), European Union (EU), New Zealand, and Kazakhstan all have cap and trade systems in place.

2. Carbon Tax:

- **Action:** implement a tax on carbon emissions in WA.
- British Columbia (BC) has a surcharge on different fuels and Australia is in the early stages of implementing a carbon tax.

Questions and Comments

- *Has BC seen a reduction in GHG emissions because of the carbon tax?*
 - Yes, but it is difficult to attribute the reductions to the tax.
- *Can we convert liters to gallons?*
 - Yes, this is in the Task 2 report.
- *If WA implemented a gas tax, but returned all the revenue to the citizens through social programs, etc., how would you score that in terms of cost?*
 - It could be revenue neutral, but you would have to consider the broad economic impacts, who gets the money, and who spends the money.
 - If it went back to the consumers on a direct consumption base, it would cancel out the benefits of the policy and eliminate the price signals.

Transportation Policies

1. Low Carbon Fuel Standard (LCFS)

- **Action:** LCFS of a 10% reduction in the carbon intensity of the fuel mix over a 10-year time period.
- Modeled off CA's LCFS and based on life-cycle emissions, which includes out-of-state emissions, e.g. growing the biofuels.

Questions and Comments

- *Are you taking into consideration the legal complications of this policy, e.g. CA is currently in litigation on the fuel standard? Is there any type of analysis looking at supply? Would WA have enough fuel since we would need to compete with CA?*
 - The SAIC scenarios did not look at specific types of fuels, but rather the potential carbon intensity of the fuels. SAIC made assumptions on when fuels with specific carbon intensities would be developed and available on the market (high, medium, and low carbon intensities).
 - SAIC did not look at competition with CA.
- *If the fluctuations in biofuels are taken into account, the Workgroup should not forget that the cost of petroleum-based fuels also fluctuates. There was a study done recently looking at the oil shock in WA between 2005 and 2006, which had dramatic impacts. WA industries were highly sensitive to these fluctuations. The study associated a 7.5% loss in fruit production, a 9.7% loss in animal production, and a 21% drop in aviation transportation with the adverse spikes in the 2005/2006 oil shock period.*
- *How did you incorporate upcoming technologies into the LCFS?*
 - SAIC prepared a number of different scenarios based on the carbon intensity of fuels. The scenarios were based on projected improvements in carbon intensities, as opposed to particular fuels.
- *One strategy the Workgroup may be able to support is funding R&D in order to overcome the barriers to implementation on many of these transportation policies.*
 - SAIC proposed R&D as part of a Public Benefit Fund option, but it was not quantified.
 - SAIC can look into R&D as part of Task 5.
- *Is it worthwhile for SAIC to give the Workgroup some concept of the return on investment on R&D? Or R&D in the energy sector, specifically battery technology? Or the return on investment for several technologies?*
 - This can be done as part of Task 5.

2. Zero Emissions Vehicle (ZEV) Mandate

- **Action:** implement a ZEV mandate in conjunction with adopting LEV III.
- A ZEV rule was considered in WA in 2008.
- There is concern that if WA does not pursue a ZEV mandate the State would not get first choice of the ZEVs that are in the marketplace.
- Included in the cost is a \$2,500 incentive, which is based on CA's purchase incentive.

Questions and Comments

- *What does the "T" in TZEV stand for? Did this replace PZEV?*

- The “T” stands for transitional. In essence, TZEV replaced PZEV.
- *What does PZEV/TZEV mean?*
 - This came from CA’s ZEV rule, where it gave partial credit for some actions.
- *Do you know what WA’s current % of ZEVs are and how close WA is to 22% ZEVs?*
 - There is a significant gap. The exact numbers can be found in the report.
- *Is CA on track to meet their 22% goal by 2025?*
 - SAIC assumed CA would in its analysis.
 - It was reported that some legislators in CA felt very comfortable that the goal would be met.
- *Who gets the \$2,500 rebate?*
 - The customer who purchases the car.

3. Renewable Fuel Standard (RFS)

- **Action:** strengthen WA’s existing RFS from a volumetric 2% to a universal 5% biodiesel requirement and extend existing infrastructure for alternatively fueled vehicles, biofuel production and distribution, and infrastructure beyond current expiration dates.
- Gasoline rules have been superseded by the federal rule. The diesel goal is currently unenforceable.
- Many incentives and programs related to RFS may sunset at the end of the year, such as incentives for producers and infrastructure.

4. Vehicle Miles Traveled (VMT)

- **Action:** Implement a mileage based user fee (MBUF) in place of the gasoline tax, and require companies to provide a pay-as-you-drive insurance offering.
- Historically, VMT reduction is very hard to do, and people are more likely to drive a new, more efficient car than drive less.
- Relatively little information is available on how effective these are as GHG reduction policies.

Questions and Comments

- *Do CAFE standards actually reduce GHG emissions? Or does it just encourage individuals to drive more?*
 - There was a peak in per capita driving in about 2004, and the recession affected people’s driving standards. SAIC does not have a quantified answer to whether CAFE standards resulted in people driving more; however, more efficient cars is not the most significant reason an individual would drive more. The increase has more to do with an increase in wealth.

5. Investments in Public Transit Infrastructure

- **Action:** improve overall transportation system efficiency and reduce delay, establish an increased ridership goal, and fund proportionally expanding service miles when ridership and demand exceeds current system capabilities; continue to provide and potentially increase grants, technical assistance, planning, communication and coordination; consider increasing the “local option” sales tax rate to allow local transit authorizes to raise

- revenue; review the classification of public transit as it pertains to the 18th amendment of WA's Constitution, potentially allowing gas tax revenues to be used for transit purposes.
- This option would have significant costs, and SAIC did not quantify emission reductions.

Questions and Comments

- *SAIC's outcome may be correct, but the assumption underlying it is a problem. Agencies are drafting budgets based on political realities, not necessarily what is best for WA.*
 - The cost of the option helped SAIC prioritize which options to analyze and was not meant as a suggestion about what the Workgroup should or should not consider.

Energy and Residential, Commercial, and Industrial Policies

1. Public Benefit Fund (PBF)

- **Action:** create a clean energy business and economic development PBF; create a PBF to serve electric utilities exempt from I-937 and natural gas utilities; create a PBF to pursue efficiency that becomes cost-effective only when the price of carbon is included.
- PBF's can be a revenue collection system – a pool of money that can be used for energy efficiency programs or renewables. A PBF could also be used to fund R&D.

Questions and Comments

- *How is the PBF different from the carbon tax?*
 - The revenue collected from RGGI effectively functions as a PBF. A PBF is a way of collecting the fund. Unlike the carbon tax, it is a standard rate – the user pays the same fee regardless of the source.
- *There's been a lot of experience with PBFs and programs that achieve electricity conservation. Did SAIC analyze any programs that have actually gone after energy efficiency in the natural gas and oil use industries?*
 - The PBF can be used to target these industries.
 - More research would be needed to answer this question fully.

2. Property Assessed Clean Energy (PACE)

- **Action:** remove barriers to local administration of PACE programs, which support energy conservation and renewable energy.
- This voluntary program allows loans to be taken out for energy efficiency projects for homeowners and businesses. The loan is repaid through a property tax-like instrument, allowing the cost of the project to stay with the home.
- Major issue is seed funding (also legal challenges in the residential sector).
- Generally implemented at the local level, but some barriers of implementation can be overcome if implemented at the state level.

Questions and Comments

- *To clarify, a homeowner gets a loan to complete an energy efficient project, and then that loan is transferred to the next person who buys the house if it isn't paid off?*
 - Yes.

- *What kind of returns would the State see if it made a larger investment in this type of program?*
 - The number is scalable. SAIC can look at different investments in the seed fund.
- *Right now there is a cap in the State on the amount of money that can be collected through property taxes. Are there any barriers to implementation because of this?*
 - There are many administrative barriers to PACE programs, but SAIC does not believe this qualifies as a property tax.
- *Is the tax on the actual investment? How is it financed?*
 - It is financed with loans of 10, 20, and 30 years depending on the program. These are usually relatively low-interest rate loans, and the payments will stop once the loan is paid off. Many programs have restrictions, for example the PACE loan can only be x% of the homeowner's property loan.

3. Feed-in-tariff (FIT)

- **Action:** replace WA's existing combination of net metering and tax incentive mechanism with a FIT.
- Germany has had a lot of success with a FIT program, though it has increased electricity prices. It has attracted a lot of green investment, particularly solar.

Questions and Comments

- *Does the cost of FIT include getting rid of WA's existing system?*
 - Just the cost of the feed-in-tariff.
- *Would it be possible to design a FIT that saves rate payers money and reduces GHGs? Did SAIC compare the costs of FIT with net metering costs?*
 - SAIC did not compare this, and this is something to consider.
- *If the State's goal is to reduce GHG emissions, which of these programs best incentivizes energy providers to use fewer high carbon sources?*
 - The most efficient way is to increase the price of high carbon sources. The more noise you have between the policy and the price, the less effective it will be. However, this answer does not include any of the equity issues associated with increasing the price.
- *As far as the program cap, how does that compare to Germany's program?*
 - It was set at about half of the CA cap based off consumption. The cap is a scalable number, so if there is a cap the Workgroup would like to see, SAIC can analyze the numbers for the Workgroup to find out associated GHG emission reductions.
- *Why is the cost so spread out (between \$30/ton to \$500/ton)?*
 - The scenario SAIC ran was relative to the cost of the alternative resource, which was 9.1 cents per kilowatt hour. SAIC then applied the current tax incentives that WA has for different technologies (scenarios included the low, high, and median costs) to determine the additional incentive for the FIT and the net increase in cost for the energy that would be generated under the cap. Those numbers come directly from the level of the tariff; the higher the tariff, the higher the cost.
- *What would the cost be if the State wanted to replicate the German model?*
 - The cost for wind energy was about \$50 and solar energy was about \$700. SAIC will confirm this information and provide it to CLEW.

Additional Policies

1. Landfill Methane Capture

- **Action:** implement a Landfill Methane Capture policy similar to CA.
- Scaled reductions from CA estimates and determined WA could see approximately 400,000 tons of reduction per year.
- Cost was approximately 9 cents per month per CA resident.

Questions and Comments on Task 2

- *What is the difference between Ecology's numbers and SAIC's estimates?*
 - SAIC's reflect the full implementation of policies, and assumed that the State would meet all its goals. These numbers came from Task 1.
 - Ecology's instead reflect reductions based on where the policies are at this point in time and hold these reductions steady for future years.
- *Going forward, can we start applying costs on the individual family/business level?*
- *As we start evaluating the costs, we should make sure we are looking at the benefits of a green economy and the reductions of GHG. The European Union estimates billions of dollars in fuel savings because of their GHG emission reduction policies. CA has seen a reduction of over 75 million barrels of oil imports due to their cap and trade program. We need to be looking at both positive and negative short-term and long-term impacts of these policies.*
- *It will be very important to note what these policies will do for the average family. The Workgroup should not be making decisions in a vacuum when thinking about the costs on families.*
 - *This is exactly what the Workgroup is trying to achieve. We are looking at a variety of tools to meet our statute in order to find the most economically efficient way to achieve the goal of the statute.*
- *The best current estimate of the gap is 18 MMTCO_{2e}.*
- *The legislation required the evaluation of co-benefits, such as public health. Can SAIC identify how this information will be included and incorporated into the final report?*
 - Yes, SAIC can highlight where this information is in the report.
- *We have not evaluated a straight regulatory approach here. Is there a reason for that?*
 - SAIC constructed its list based on the criteria mentioned in the Task 2 presentation and the list received from the Workgroup. SAIC wanted to think about policies that would not unfairly affect any specific sectors.

Next Steps

The Facilitator reviewed the October 14th meeting date and tentative agenda, noting that the time was changed to 10:00 a.m. – 12:00 p.m. The Governor expressed his feeling that the meeting was productive, but that there was more work to be done. The Governor adjourned the meeting at 12:54 p.m.