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BEFORE THE STATE OF WASHINGTON  
ENERGY FACILITY SITE EVALUATION COUNCIL

In the Matter of Application No. 2006-01:  
ENERGY NORTHWEST;  
PACIFIC MOUNTAIN ENERGY CENTER

**EXHIBIT \_\_ (MSB-T)**

**APPLICANT'S PREFILED TESTIMONY**

**WITNESS: MICHAEL S. BURNETT**

**Introduction**

**Q. Please state your name, title and business address.**

A. My name is Michael S. Burnett. I am the Executive Director of The Climate Trust. My business address is 65 SW Yamhill St., Suite 400, Portland, OR 97204.

**Q. Please summarize your education and job experience.**

A. I earned an M.S. in Environmental Engineering from the University of Florida and a B.A. in Biology from Hiram College. I am an environmental engineer and have over 30 years'

1 experience in renewable resources, energy conservation, power planning and climate change  
2 policy, predominantly in the in the Pacific Northwest. I have been working on greenhouse  
3 gas (“GHG”) issues, and specifically project based reductions or offsets for the past ten  
4 years, seven while at The Climate Trust. As the Trust's initial Executive Director, I took the  
5 organization through its start up phase. I now work with the Board on strategic planning for  
6 the Trust, oversee the development of annual work plans and budgets, and manage the staff  
7 to meet the work plans. I oversee our greenhouse gas acquisition activity and am an active  
8 participant in the national and international policy debate regarding GHG mitigation. I  
9 currently serve on The Climate Change Integration Group appointed by Oregon Governor  
10 Ted Kulongoski and on the Steering Committee of the Voluntary Carbon Standard. A copy  
11 of my resume is Exhibit \_\_\_ (MSB-1).  
12

13 **Q. What does The Climate Trust do?**

14 A. The Climate Trust is a non-profit organization. The mission of The Climate Trust is to  
15 promote climate change solutions by providing high quality greenhouse gas offset projects  
16 and advancing sound offset policy. The Climate Trust has put into place projects that are  
17 anticipated to offset more than 2.7 million metric tons of carbon dioxide over their lifetimes.  
18 We have over \$9 million invested in greenhouse gas reduction projects – making us one of  
19 the largest and most experienced offset buyers in the U.S. and world markets. The Climate  
20 Trust also provides the monetary path option for power plants to meet Oregon’s pioneering  
21 Carbon Dioxide Standard.  
22

23 **Q. Please state the purpose of your testimony.**

24 A. My testimony will discuss anticipated implementation of the provisions in the GHG Plan (the  
25 “Plan”) (Exhibit \_\_\_ (TJB-2)) for the Pacific Mountain Energy Center (“PMEC”) that  
26

1 involve the purchase of verifiable greenhouse gas emissions reductions. Energy Northwest  
2 has contracted with The Climate Trust to assist in these aspects of Plan development and  
3 implementation. A copy of our contract with Energy Northwest is Exhibit \_\_\_ (MSB-2).  
4

5 **Summary**

6 **Q. Please summarize your testimony.**

7 A. Geological and biological sequestration are two types of greenhouse gas mitigation  
8 commonly recognized as greenhouse gas reducing activities. The purchase of emissions  
9 reductions could come from power plant efficiency upgrades, output reductions, the purchase  
10 and retirement of GHG allowances under approved cap and trade regimes as well as other  
11 sources. Greenhouse gas offsets can be derived from a wide range of greenhouse gas  
12 reduction activities. As long as rigorous project eligibility and accounting procedures are  
13 followed, verifiable GHG reductions can be derived from a number of sectors and project  
14 types. By allowing for a broad range of mitigation activities, greater supply and price  
15 certainty can be achieved with the same end environmental effect.

16  
17 Real, verifiable emissions reductions can be achieved through a number of different paths in  
18 order to assist PMEC meet its compliance obligation under ESSB 6001 and RCW 80.70.  
19 The Climate Trust is prepared to assist Northwest Energy develop a mitigation plan designed  
20 to achieve its compliance under both laws and evaluate, acquire and manage the necessary  
21 greenhouse gas reductions to meet that plan.

22  
23 **Defining Sequestration, Mitigation and the Purchase of Emissions Reductions**

24 **Q. Are you familiar with a law commonly referred to as ESSB 6001, which was enacted by**  
25 **the Washington legislature as Chapter 307, Laws of 2007 and establishes a GHG**  
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**performance standard, and with an older Washington law, chapter 80.70 RCW, addressing carbon dioxide (CO<sub>2</sub>) mitigation?**

A. Yes, I am familiar with these two statutes. Chapter 80.70 RCW is similar to an Oregon law with which I am very familiar that provides a monetary path to compliance with a GHG offset requirement for new power plants.

**Q. ESSB 6001 uses the terms “sequestration,” “mitigation” and “emission reductions” in various of its provisions, and RCW 80.70 also uses “mitigation”. None of these terms is expressly defined by the statutes. Please explain what these terms mean to you, based on your professional training and experience.**

A. It is important to note that carbon dioxide acts as a global, not local basis. Therefore, all approaches that yield real reductions in GHG levels in the atmosphere are equally effective in the end. The term “sequestration” in the carbon market is commonly defined as the absorption and storage of carbon dioxide after it has been released through combustion. Carbon can be sequestered in “living reservoirs” such as forests and other vegetation, or “non-living reservoirs” such as soil, geological formations, oceans and wood products. Under the Kyoto Protocol, both afforestation and reforestation are recognized under certain circumstances as greenhouse gas removals. Moreover, forest management, cropland management, grazing land management and revegetation are all recognized reduction activities under the Marrakesh Accords.<sup>1</sup> The Climate Trust has funded high quality forestry based sequestration projects under the Oregon Carbon Dioxide Standard and believes that with appropriate risk mitigation measures, these types of reduction projects have an important role to play in reducing global levels of greenhouse gases.

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<sup>1</sup> [http://unfccc.int/kyoto\\_protocol/background/items/3145.php](http://unfccc.int/kyoto_protocol/background/items/3145.php)

1 It is possible to interpret the word sequester using its broader and more common meaning.  
2 Generically, sequester means to set apart, segregate, separate, isolate or remove. Under this  
3 broader generic definition any actions leading to reductions in GHG levels in the atmosphere  
4 would qualify.

5  
6 The term “mitigation” can encompass a broad range of activities and measures. According to  
7 the International Strategy for Disaster Reduction, mitigation is defined as: “Structural and  
8 non-structural measures undertaken to limit the adverse impact of natural hazards,  
9 environmental degradation and technological hazards.”<sup>2</sup> The Canadian Environmental  
10 Assessment Agency defines mitigation as: “A means of reducing the significance of adverse  
11 effects...the elimination, reduction or control of the adverse environmental effects of the  
12 project...”<sup>3</sup>

13  
14 “Emissions reductions” is commonly defined as any activity, measure or means taken that  
15 reduce greenhouse gas emissions.

16  
17 How these terms are defined by EFSEC will have important cost and supply implications for  
18 meeting compliance obligations under ESSB 6001 and Chapter 80.70 RCW.

19  
20 **Q. What if any difference do you see in between terms “sequestration,” “mitigation” and**  
21 **“emission reductions”, and how do they relate to the term “offset”?**

22 A. These three terms are defined above and are separate but related concepts. Generally,  
23 mitigation activities result in emissions reductions and can be achieved through sequestration  
24 or other measures. A greenhouse gas offset, as defined by The Climate Trust, displaces,

25  
26 <sup>2</sup> <http://www.unisdr.org/eng/library/lib-terminology-eng%20home.htm>

<sup>3</sup> [www.ceaa-acee.gc.ca/013/0001/0004/a\\_e.htm](http://www.ceaa-acee.gc.ca/013/0001/0004/a_e.htm)

1 avoids or sequesters greenhouse gas emission through the implementation of a specific  
2 project intended to compensate for greenhouse gas emissions occurring at another source.  
3 Mitigation activities, emissions reduction activities and sequestration activities can all  
4 potentially function as greenhouse gas offsets as long as the activity or project meets the  
5 eligibility criteria of an offset. Sequestration, mitigation, emissions reductions and offsets  
6 can all result in real reductions in GHG levels in the atmosphere.  
7

8 **Q. Are greenhouse gas offsets an effective means of reducing greenhouse gas emissions?**

9 A. Greenhouse gas offsets are an effective means of reducing greenhouse gas levels when  
10 correctly implemented. A wide variety of technological approaches can be employed,  
11 including energy efficiency in buildings, factories, power plants, and transportation;  
12 renewable energy, such as wind, hydro, biomass, and solar energy; cogeneration of electricity  
13 from industrial waste heat; shifting to lower carbon energy sources, e.g., from coal to natural  
14 gas and biofuels; capturing carbon dioxide in forests and in agricultural soils; and capturing  
15 power plant carbon dioxide emissions and storing them underground in geological  
16 formations.  
17

18 Since greenhouse gases are global rather than local in effect, it makes sense from a societal  
19 benefit perspective to direct mitigation funding from emitters to other entities that are better  
20 able to deliver cost-effective greenhouse gas reductions.  
21

22 Offset projects can also produce a number of tangible environmental and economic benefits  
23 that create value for society above and beyond that of the GHG emissions reductions alone.  
24 They can reduce air pollution; improve habitat, watersheds, and water quality; reduce soil  
25 erosion; and preserve biodiversity. They can create jobs, stimulate demand for clean energy  
26

1 products, and save businesses and consumers money on energy. Finally, offsets can drive  
2 funding into “un-capped” sectors, helping to stimulate broad technological innovation and  
3 development toward a lower-carbon future.  
4

5 **Non-Geologic Sequestration**

6 **Q. What is your view of the effectiveness and permanence of non-geologic sequestration?**

7 A. There are a number of different types of non-geological sequestration, including  
8 afforestation, reforestation, forest management, soil management practices, crop land and  
9 grazing land management, among others. Each of these sequestration activities has a unique  
10 set of risks and opportunities that need to be considered and accounted for when being used  
11 as a greenhouse gas offset. With forestry based offsets, permanence is a type of risk that  
12 should be addressed. In the event of a forest fire, for example, the offsets generated by a  
13 biologically based sequestration project can be reversed, that is that the carbon dioxide stored  
14 in the trees can be re-released into the atmosphere. However, as with any other risk,  
15 measures can be taken to reduce that risk. These measures can include provisions for the  
16 replacement of offsets from an alternative site or project in the event of a natural disaster,  
17 geographic diversity in the selection of sights, and the establishment of forest carbon  
18 “reserves” that can provide supplemental offsets in the event of underperformance or a  
19 natural disaster.  
20

21 The Climate Trust has successfully implemented three biologically based offset projects  
22 since 2002 that are anticipated to account for nearly 650,000 metric tons of greenhouse gas  
23 reductions over 100 years. It is our view that with proper risk mitigation measures and  
24 provisions, biologically based offsets are an important part of the solution to global climate  
25 change.  
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There is clear regulatory precedent for the use of biologically based offsets as compliance tools. The Regional Greenhouse Gas Initiative (RGGI) Model Rule allows for offset projects that sequester carbon through the conversion of land from a non-forested to forested condition, also known as afforestation.<sup>4</sup> The RGGI Model Rule provides detailed guidance for quantifying and crediting greenhouse gas emissions reductions from this type of activity. Biologically based sequestration is also recognized under the Kyoto Protocol, as well as the Marrakesh Accords.<sup>5</sup> Moreover, forest sequestration is an allowed type of GHG mitigation under the Oregon Carbon Dioxide Standard (Oregon Administrative Rules, Chapter 345, Division 24) and The California Climate Action Registry (established by California SB 1771) has developed a protocol and methodology for assessing and quantifying the greenhouse gas reductions from forestry based offset projects.

**Q. ESSB 6001 Sec. 1(2) states, “Washington forests are one of the most effective resources that can absorb carbon dioxide from the atmosphere. Forests, and other planted lands and waters, provide carbon storage and mitigate greenhouse gases emissions. Washington contains the most productive forests in the world and both public and private landowners could benefit from a carbon storage trading and banking program.” Would forest sequestration be effective for PMEC?**

A. Forest sequestration is a widely recognized and effective means of reducing greenhouse gas levels at a global scale and an important component of the fight against climate change. With accurate accounting of greenhouse gas reduction benefits and the proper risk mitigation

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<sup>4</sup> RGGI Model Rule section XX-10.5(c), CO2 Offset Project Standards  
<sup>5</sup> [http://unfccc.int/kyoto\\_protocol/background/items/3145.php](http://unfccc.int/kyoto_protocol/background/items/3145.php)

1 measures, forest sequestration could be an effective element of an overall plan to reduce the  
2 greenhouse gas impact of P MEC.

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**Plan to Purchase Emission Reductions**

**Q. Please describe what types of emissions reductions fall within the scope of ESSB 6001 Sec. 5(13).**

A. Geological and biological sequestration activities, as well as efficiency and other measures that directly reduce emissions, appear to be the approved method for GHG sequestration under this section. If P MEC determines that sequestration is technologically or financially infeasible, it has the option of purchasing “verifiable greenhouse gas emissions reductions” from an electric generating facility located within the western interconnection. Verifiable greenhouse gas reductions, as commonly defined in the industry, encompasses a wide range of GHG reduction activities, including sequestration and energy efficiency, among others. These verifiable reductions could occur at the electric generating facility site, or be located somewhere else with the same environmental effect if they are purchased and retired by P MEC in order to meet its compliance obligation under ESSB 6001. These types of projects could include demand side reductions including co-generation at industrial sites, energy efficiency projects, and waste heat recovery, to name just a few. By reducing demand for electricity, less electricity needs to be generated, thereby resulting in a reduction of greenhouse gas emissions from electricity production. These types of projects could also include direct efficiency measures implemented by the electric generating facility on site.

The purchase and retirement of emissions allowances from other capped power systems, such as those regulated by the Regional Greenhouse Gas Initiative or Assembly Bill 32 in California could also potentially contribute towards compliance under ESSB 6001. By

1 taking an allowance out of circulation in a capped system and retiring it, the greenhouse gas  
2 emissions allowed by that unit are permanently removed from the system, thereby resulting  
3 in a verifiable reduction of greenhouse gas levels.  
4

5 **Q. Do you reduce emissions if you pay for efficiency improvements at an existing power**  
6 **plant but allow it to keep operating?**

7 A. Energy efficiency measures mean measures that will reduce the GHG emissions on a per-  
8 kilowatt hour basis. With this approach, if customer demand remains constant, and the plant  
9 continues to operate as it did in the past, you will get a real reduction in GHG emissions  
10 because the same amount of power is being generated with less input. If a plant increases its  
11 operations or output due to the energy efficiency measures the greenhouse gas reduction  
12 benefit of the energy efficiency activities could be reduced to some extent, yet there would  
13 still be lower emissions of greenhouse gases on a per-kilowatt hour basis. Rigorous project  
14 accounting and ongoing monitoring and verification can assure that these considerations are  
15 fully addressed and accounted for over the life of the project.  
16

17 **Q. Would it be effective to pay electric generating facilities to emit less, that is, to cut back**  
18 **or eliminate their output?**

19  
20 A. There are different ways to draw the boundary of where emissions reductions accrue. If only  
21 the stack emissions reduction at a plant reducing its capacity are accounted for, then those  
22 tons could be counted as a reduction and applied to the reduction requirement. If the  
23 boundary is drawn more broadly, the decreased output is trickier due to what is referred to as  
24 “leakage.” In the GHG context, “leakage” occurs when output and emissions from one plant  
25 are reduced, but in order to provide the amount of power necessary to meet an unchanged  
26

1 customer demand, output and emissions – from another plant would be increased. In other  
2 words, if one plant is paid to reduce its output, the same kilowatt hours will probably be  
3 generated elsewhere, but we will not know where they are generated or how much additional  
4 GHG emissions are associated with them. There are existing protocols for accounting for  
5 grid-based reductions from both the Clean Development Mechanism under the Kyoto  
6 Protocol and the World Resources Institute electricity accounting protocol. With any offset  
7 project, leakage is an important consideration when calculating emissions reductions and  
8 should be carefully assessed.

9  
10 **Q. Are there other ways to purchase emissions reductions within the scope of ESSB 6001?**

11 A. Yes, EFSEC could interpret ESSB 6001 to include the purchase of greenhouse gas reductions  
12 owned by a power plant, but not necessarily derived from a project or activity onsite. From  
13 an environmental standpoint, any reduction activity that results in real, additional,  
14 quantifiable and verifiable reductions in greenhouse gas levels has the same atmospheric  
15 impact, regardless of where the project is located. Under this interpretation, as long as the  
16 verifiable emissions reductions are purchased through a contractual agreement with an  
17 electric generating facility on the western interconnection for the life of the facility, the  
18 regulated facility would be able to meet its compliance obligation under ESSB 6001.

19  
20 **Q. Would these other ways be an effective way to address PMEC's greenhouse gas  
21 emissions?**

22 A. Yes, there very well could be. Purchases of allowances from a capped system would require  
23 those subject to the cap to emit less. The development of renewable generating resources,  
24 with the greenhouse gas benefits dedicated solely to PMEC's requirements under ESSB 6001,  
25 would serve to reduce PMEC's net emissions. As long as they are subject to high quality  
26

1 standards, greenhouse gas offsets purchased from an electric generating facility would also  
2 reduce PMEC's net emissions.  
3

4 **Q. Please describe the cost and the availability of the various types of emission reductions**  
5 **within the scope of ESSB 6001.**

6 A. According to The Climate Trust's most recent survey, the current market for greenhouse gas  
7 offsets is at approximately \$5/tonne. Please see Exhibit \_\_\_ (MSB-3), which is a  
8 presentation that The Climate Trust made to the Oregon Energy Facility Siting Council  
9 earlier this year. This report shows the offset market prices over the last several years.  
10 However, the market for greenhouse gas reductions is growing at a rapid rate and it is  
11 anticipated that prices will increase as demand increases and regulations are implemented.  
12 The type and definition of greenhouse gas reduction activities approved under ESSB 6001  
13 and RCW 80.70 will have important implications for the cost and feasibility of meeting the  
14 compliance obligation under the respective laws. Certain types of mitigation activities tend  
15 to be more expensive than others, by allowing for a wider range of mitigation activities,  
16 greater price certainty and supply can be assured. There are many reduction opportunities  
17 available both at the regional and national levels for achieving real, verifiable greenhouse gas  
18 reductions.

19  
20 **Q. How will The Climate Trust and Energy Northwest identify and secure emissions**  
21 **reductions under the Plan?**

22 A. The Climate Trust and Energy Northwest will develop an offset acquisition strategy that  
23 meets the requirements set forth in ESSB 6001 and RCW 80.70 as approved by EFSEC. Any  
24 greenhouse gas reductions will need to meet The Climate Trust's rigorous quality criteria and  
25 standards and result in real, additional, verifiable greenhouse gas reductions. We anticipate  
26

1 that we would generally try to select the most cost-effective measures that meet these high  
2 standards in order to provide energy to consumers at a reasonable cost. The Climate Trust  
3 has ten years of offset project acquisition experience under the Oregon Carbon Dioxide  
4 Standard and is fully qualified and prepared to assist Energy Northwest in their GHG  
5 reduction acquisition process.

6  
7 **Q. What will Climate Trust’s role be in providing verification to EFSEC that Energy**  
8 **Northwest’s purchase of emissions reductions satisfies ESSB 6001?**

9  
10 A. The Climate Trust can verify that greenhouse gas reductions purchased by or on behalf of  
11 Energy Northwest meet the standards set forth in ESSB 6001 and Chapter 80.70 RCW.  
12 Under the Oregon Carbon Dioxide Standard, The Climate Trust engages in the verification  
13 and oversight process through the use of expert assessment and evaluation of greenhouse gas  
14 reduction projects. The Climate Trust is qualified to verify a broad range of greenhouse gas  
15 reduction types, including efficiency measures and biological sequestration. Alternative  
16 verification sources would need to be sought for any greenhouse gas reductions achieved  
17 through geological sequestration.

18  
19 **Q. How will the ownership of purchased reductions be structured both to provide “that the**  
20 **sum of PMEC’s facility emissions and purchased emissions reductions meets the**  
21 **standard for the life of the facility”?**

22 A. Under the Oregon Carbon Dioxide Standard, The Climate Trust is responsible for tracking  
23 and retiring the greenhouse gas offsets purchased on behalf of the regulated entities. The  
24 Climate Trust maintains its own project registry and database for this purpose and has  
25 extensive accounting procedures in place to ensure that tons are adequately tracked and  
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monitored. Each ton of greenhouse gas reductions is assigned a unique identifier and accounted for in our registry, once a ton is permanently retired it cannot be resold or counted as a reduction by any other entity. Any greenhouse gas reduction credits will, in all likelihood, be held on behalf of Energy Northwest by The Climate Trust and be retired as necessary to meet PMEC's compliance obligations under ESSB 6001 and RCW 80.70. Energy Northwest will own and control all greenhouse gas reduction credits acquired on their behalf by The Climate Trust until they are retired by applying them to meet a regulatory obligation. If greenhouse gas offsets are purchased in excess of those needed to meet the reductions mandated by the two laws, those greenhouse gas offsets could then be sold or used by PMEC for other purposes.

**Q. Does this complete your testimony?**

A. Yes it does.

**EXHIBIT LIST**

<b>Ex. No.</b>	<b>Prefiled No.</b>	<b>Description</b>
	MSB-1	Mike Burnett's resume.
	MSB-2	Contract between Energy Northwest and Climate Trust
	MSB-3	Presentation to Oregon EFSC (March 2007)