Henry Sanders and Ryan Murphy Puget Sound Energy Global Meltdowns

As soon as settlers began taming this land in the 19th century, they brought with them power. Man's greatest creation and the backbone of the industrial revolution. From that point on our society only grew increasingly dependent on energy in our lives for transportation, cooking, heating, and operation of daily appliances. Now, in 2013, it is hard to imagine a world without seemingly unlimited amounts of energy at our fingertips. Unfortunately, we are now aware of the consequences for living this way that no one had imagined in the early days of power development. Climate Change is a serious looming issue in our world today that is almost entirely brought about by our energy consumption. How does an energy company of today balance the ever expanding demand for inexhaustible energy in the future, with the responsibility to not recklessly continue destructive habits that will push us far enough over the climate change cliff we will have no hope of enduring. As the largest energy utility in the state of Washington, Puget Sound Energy (PSE) has been facing this challenge for a number of years. Started in 1873 as Seattle Gas Light Company, PSE has been at the forefront of developing and maintaining the energy infrastructure of the state. Predecessors of PSE were responsible for building the first central power plant and hydroelectric dam in the state and have only been expanding from there. Currently serving over a million households in the state of Washington, PSE should be at the forefront of leading power companies on the road to a solution. As of today, there are many initiatives being taken at PSE to prepare for an energy stable future while balancing emissions for a safe climate as well, such as increased production of clean, renewable energy, efficient plans for consumers to use less while getting the same amount of power, and counteracting

The first, and probably most effective way for a power company to fight climate change would

negative environmental impacts of their projects.

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be by developing methods of producing energy through clean, renewable sources that will cut emissions. Puget Sound Energy has been investing substantial amounts in renewable energy for a number of years and is already the leading producer in the state. With three large wind farms, PSE is the nations second largest producer of wind power, creating enough electricity to power 230,000 homes. Another large renewable energy source for PSE, actually their largest energy source, are three hydroelectric dams on the Baker, Snoqualmie, and Puyallup rivers, all located in Western Washington. They also buy a substantial amount of hydroelectric power, majority of which comes from power utilities in Central Washington with dams along the Columbia River. In total, 50% of the PSE power supply in produced through hydroelectric dams. While hydroelectric power is not considered a renewable energy source by government regulatory standards, this form of power emits far less greenhouse gases than coal fired power plants. Only 1% of the energy in PSE's power supply comes from nuclear energy and there is little expectation that PSE will expand in the area. Although all in all PSE is taking necessary steps and leading energy companies in the move toward earth friendly clean energy, 32% of their electrical power supply comes from coal fired power plants. PSE has partial ownership in one of the largest coal fired power plants in the United States, the Colstrip Power Project, located in eastern Montana. Claiming one third of power produced at this plant, PSE alone receives enough electricity to power 500,000 homes. These coal consuming plants are also the least environmentally friendly, releasing enormous amounts of carbon and doing significant damage to efforts to reverse climate change. The last large source of PSE's energy portfolio are nine natural gas fired power plants operated by PSE, all located in western Washington. These together account for 16% of PSE's total electrical power supply. While these plants due have lower emissions than coal fired plants, natural gas is not a clean, renewable, or sustainable resource and has its own growing controversies over the logic and benefit of investing in natural gas. This has not stopped PSE from continuing to expand its stake in this field with the most recent of these plants being finished in late 2012. Despite all these energy sources owned and operated by PSE, they still only make up 46% of its

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total power supply. The rest is purchased from a variety of independent energy utilities from all around the Western U.S. as well as Canada. PSE has no responsibility or influence over how this power was produced, however, if it was produced using non-green methods, PSE still publicly admits how it was produced and is accounted for in their total power supply calculation.

While converting energy production to renewable methods is the best realistic long term solution to saving the environment, Puget Sound Energy is a businesses with profit in mind above all other things. This being said, they have several dirty coal fired power plants that can not be closed down for the sake of the climate due to the impact it would have on PSE's pocket. This is why PSE has developed a number of ways for homes and businesses to save energy without paying to develop new, cleaner, production techniques. Through a system of energy-efficiency programs, PSE believes over the next 20 years it will help save customers enough energy to power 400,000 homes. This is assuming a stable next twenty years but if climate change begins to affect popular energy habits at a faster rate the number may be much higher. PSE also encourages customers to explore ways to generate their own power, and hands out cash payments to those who produce enough energy to give back more to the grid. The Renewable Energy Advantage Program, PSE's plan to help people turn their homes into green power producers has helped 750 people generate more renewable energy through solar, wind, and anaerobic digesters than their home or business uses in a year. If options like this seem too expensive for the average household, there is also a possibility of only generating a small portion of the energy used by the household. PSE will install a net metering system to monitor the amount of energy being produced and award credits on the bill that allow the participant to save more money than spent on the energy production. With the necessity for emissions to begin declining as soon as possible, it has never been more important to save energy and supply it using the most sustainable methods available. These programs implemented by PSE attempt to do both of those things.

Besides the fact that power companies emit enormous amounts of greenhouse gasses warming

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the planet, energy companies have many other negative environmental side effects. A few very important of these side affects come from hydroelectric energy production, as well as the distribution system used to transport energy from facilities to proper households. The two animal populations that are most affected by PSE's activities are fish and birds. Fish are specifically affected by PSE's three hydroelectric dams. Salmon attempt to make runs up rivers every year where PSE has put in dams making it impossible. However, after years of working with local Native American tribes as well as government agencies, PSE has developed techniques for safely catching salmon when going upstream and preventing populations for being decimated by these dams. Thanks to these collective efforts the sockeye run of 2010 was the biggest in history and salmon populations are doing well. Birds on the other hand have much smaller problems with the dams. Their problem stems from coming into contact with power lines and equipment. Ospreys, eagles, hawks, and swans most commonly fall for these attractive looking perching structures to build their nests. Through innovative design techniques and regular attention paid to migrating birds patterns and tendencies, eagle and small bird mortalities have been on the decline in Washington over the past ten years. Being a profit motivated company in this day and age brings about several difficulties. Normally, saving the environment is an investment that most businesses are simply not willing to take at the cost of raising prices in this competitive and cash strapped economy. Puget Sound Energy, claims they have made the investments to save species and people where it really it really matters to prepare for climate change and whatever kind of symptoms it entails in the next several decades ensuring them to be an energy company of the future.

In the coming decades, the concerns relating to climate change will only continue to grow and press on peoples minds as the reality of the situation we face becomes shockingly clear. Companies will begin to throw themselves on their knees trying to convince consumers that they are the most environmentally friendly and many will be simply deceiving the populace. Puget Sound Energy has taken many steps to provide increasing amounts of renewable or low emission energy. Nevertheless,

there are still large holes in their plan for the future that will be important decisions to pay attention to. What will PSE do about the several coal and natural gas fired power plants around the state? Why are they still building these plants such as the latest one finished less than 6 months ago? Where do they get the energy they buy from other utility companies and how is it produced? This is especially true of the natural gas that PSE purchases from around the western states as well as areas of Canada. With fracking becoming such a common occurrence in many of these areas it is very probable that a large amount of PSE gas comes from these sites. If PSE also continues building more and maintaining the natural gas and coal fired plants, they will be more dedicated to keeping these plants running as long as is profitable, and will be less likely to replace the power produced there with new renewable sources. Another bragging point of PSE is there energy efficiency programs. These programs, while portraying themselves to be wonderfully easy and helpful to the average household, only have helped 750 residencies since they have started. In a company that serves over a million customers, this seems to be a little on the low end, and brings into question how much of in impact a program like this really has versus its value as a bragging point in a campaign to make PSE seem green. The last point PSE makes of caring for the environment by replacing fish and bird populations originally wiped out by their industrial creations smells of complete rubbish. Working closely with Native American tribes and government agencies is most likely code for complied with requirements that they clean up some of the mess they made and probably did so the cheapest way possible. In effect, the policies and programs currently being implemented by Puget Sound Energy will not by itself cut emissions enough to do its part against pending climate disaster. That being said, they are respectfully making advances and leading power companies everywhere who are very reluctant to give up cheap energy for a more sustainable and healthy system. We can only hope that these trends will accelerate, and soon more of the world will understand the importance of the decisions we make, and the path we choose in the coming years.