

Characteristics of Current Electrical Production Forms:

Coal: With about forty one percent of Alberta energy coming from coal. It is one of our most needed energy resources in our province. Although coal not very efficient and is a very dirty energy resource. Which is why coal brings up so much environmental concerns. Coal is used by being burned at an extremely hot temperature. It warms up water into steam which is forced through pipes and spins turbines and the armature to create electricity. Coal is very beneficial because it is efficient, cheap and we have a ton of it. But it is very bad for the environment.

Wind - Wind in Alberta only takes up about 8% of Alberta's energy production, so we don't really use wind energy at all. Using windmills is very clean energy, no fuel to drill or frack and it is easily renewable and sustainable. The cons of using wind energy is that the wind is inconsistent, therefore the energy output will be inconsistent, and they are very persistent in being annoying with their big turbines spinning. Windmills make their energy by the wind spinning the turbine around and creating the armatures inside to spin around and creating electrons to flow.

Gas/Natural Gas - With about forty one percent of Alberta's energy production coming from natural gas, it is needed just as much as we need coal in our province. Natural gas is not near as much of a pollution as coal, as it Emits 45% less CO₂ than coal and 30% less CO₂ than oil, and burns more efficiently. The cons of using natural gas ranges from it being a non renewable resource and being very combustible. NATural gas works like coal in the fact that they use it to heat up war, and use steam to spin the armatures, its just way cleaner but not as efficient.

Hydro: With about six percent of Alberta's energy coming from Hydroelectric dams, it is not a huge factor in Alberta's energy sources although it is a very efficient and renewable resource. Hydroelectric dams are environmentally friendly, but needs a massive water source and takes up lots of space to create and run. Hydroelectric dams work by forcing water through the dam and spins turbines and armatures, generating electricity.

Biomass, fuel oil and geothermal energy production do virtually nothing for energy creation in Alberta because of our geography and the resources poor efficiency.

Nuclear- Alberta does not have any Nuclear energy plants. Nuclear energy is produced by a factory, in the middle of the factory is a reactor core. The reactor core contains a bunch of rods that contain uranium. During this process, water is brought through the factory and right to the uranium rods. The uranium rods are very, very hot and convert the water to steam. Once the steam is created, it is then carried to the turbines where it will turn them, which will turn the armatures and create the flow of electrons. The nuclear plants will not have to worry about the uranium rods overheating because the water that flows through it will be able to keep it cool enough. Alberta is not viable to have Nuclear plants for many reasons. For one, Alberta has no large rivers that will be able to keep the uranium rods cool. If there is not enough water to cool the uranium down, then the rods will overheat and will start melting, causing radiation in a fairly large area, so with Alberta not having large enough rivers to cool down these rods, we can not have nuclear plants in Alberta.

Characteristics of Provincial Influences on Electrical Creation

Economy: The economy influences the electrical production companies towards employing more people, making more money and generating more and more electricity, regardless of the environmental influence. The economy has the largest impact on electrical production.

Environment: - The environment influences the electrical production by attempting to force electrical companies to go with the clean options when creating electricity like hydro and wind while trying to get rid of dirty methods like coal and gas. The environment has a small influence in the electrical production because the economy is more important in most scenarios.

Society - Society of Alberta wants the cheapest and most efficient energy for themselves. With Alberta already doing this with the dirty coal, society doesn't really have a toll on Alberta's creation of energy because they are already doing what they want.

Our plan for Electrical Production in Alberta

For environmental concerns but still considering the society and economy, we will eliminate the Battle River coal plant because of its lack of efficiency for the effect on the environment. All of the other coal plants are going to stay because without those giant plants, Alberta would not be able to produce enough energy. As well, any natural gas plant in which produces less than ten megawatts of electricity will be removed because of lack of efficiency and pollution that is created. We are not going to get rid of any hydro, wind or biomass because it doesn't hurt the environment so there is no harm of keeping it. Although we will be adding some hydroelectric dams and wind power to replace the natural gas and coal plant that are being produced. In the south, wind mills will be placed on farms in which farmers or other land owners will be paid for by wind power companies in

order to use the land, like how oil companies pay for land. In order to maintain and increase energy in Canada and maintain the environment, hydroelectric dams will be made on the Athabasca river along with the North and South saskatchewan river. This will allow for the same or more energy being produced in Alberta that is cleaner and better for the economy and society because more electricity is being produced in a less damaging way.

To add to the above. This plan is based on the next ten years, within that time this is the best option for Alberta because of our vast resource of coal and our low environmental impact. Later on in the future we will continue to create more renewable energy that we have unlimited amount of and does not affect the environment.

Mixed v.s. Market Economy Plan

With our planned government, each company is privately owned but has restrictions set by the government. For example, a company can build or operate a plant for energy production of their choice as long as it passes through with the government. They also have restrictions to meet environmental concerns to keep our environment in good condition. It would be a smart decision to continue doing this because if we do not use restrictions by the government, energy production companies will begin to damage the environment and take control over the economy, so the market economy is not an option. By having the government, there would be more taxes and cost more to create electricity so there is less hassle to have privately owned companies like we have now.

Research Form:

Link to Forum:

<https://docs.google.com/a/wolfapps.wolfcreek.ab.ca/forms/d/13XYhxXOdU1UoWSS5H9uNzKR7fWoDw0qMFE2vqE2FGQo/viewform>

Bluffton AB T0C 0M0
May 20, 2014

Chris Paul
M.L.A
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Dear Chris Paul:

I am a student who attends who attends Bluffton School. Recently my science class has been studying electricity within Alberta. With some research, my class and myself have discovered that Alberta has some areas with its electricity production where it can improve. We as a province need to start considering the environment, so we as a class have come up with way to make Alberta greener but still get enough energy for our province.

Coal has been a dirty and great way to create electricity throughout Alberta, but it creates too much pollution to keep around forever. So instead of coal, we need to look for alternate sources of energy. To replace coal, we will need to change to wind and hydro for energy. At the moment, Wind and Hydro take up only 14% of Alberta's current energy production, so we will have to create a lot more hydro dams and windmills throughout the province. We will use windmills because it does not cause pollution, and it is renewable energy and we will continue to also use more hydro, which is also efficient and renewable energy.

To get rid of all of the coal plants in Alberta, we will need to install a lot of windmill and hydro dams to create the energy that we will be losing. With the windmills, we will treat them like an oil rig. Down in southern Alberta, no one wants to have a loud windmill around, so we will treat it like an oil lease. We will pay the people to put the windmills on their land like

you would with an oil rig so that we can be able to increase the number of windmills immensely. For the hydro dams, we will install three huge dams to replace the coal that we will be eliminating. We will do this by placing dams on the North and South Saskatchewan river and the Athabasca River. These huge dams and great amount of windmills will be able to cover the majority of the coal plants that we will be missing, and Alberta will be more green.

If you have any questions, you can phone me at 123-456-7890 or e-mail me at Miklarry@wolfcreek.ab.ca. I look forward to you considering these ideas and making Alberta a greener province.