Delegation from

Canada

 **Position Paper For UNEP**

Energy is an essential for life, living things and our planet earth. Canada being the fifth largest energy producer in the world and the eight largest energy consumer of energy. We would like to focus on how to reuse and store our energy so that the future generations would not have to face so many problems. On the other hand the impact of the energy usage and energy waste has huge affects on our world. Such as climate change, air pollution, water pollution, thermal pollution and solid waste disposal. We would like to reduce these affects by the transition to sustainable energy. Sustainable energy can be defined as a form of energy that can be utilized again and again without putting a source in danger of getting depleted, expired or vanished. Canada, with its large landmass and diversified geography, has substantial renewable resources that can be used to produce energy and that energy produced can be used as sustainable energy.

As mentioned earlier energy has a huge part in life but using wrong sources to produce energy comes with disadvantages. And those disadvantages are mostly: greenhouse gas emissions, damage to the environment (such as; air pollution, acid rain, water pollution, soil pollution, Non-biodegradable waste generation, oil spills and depletion of ozone layer), rising cost, not being able to restored, generally non-biodegradable, potential threat to human health and so much more. Also the wrong energy sources can be said as non-renewable energy or unsustainable energy and their sources. For some examples of non-renewable energy sources: Biomass energy, Nuclear energy, Natural gas, Petroleum and Coal. Since the early 1800s till today non-renewable energy is used and it has been affecting our world since then. Observingly we need to stop that and to do that we can start using sustainable or renewable energy. There are a lot of actions taken to start the usage of sustainable energy. For example the international organization SEforALL (Sustainable Energy For All) that works in partnership with UN. Their goal is to achieve Sustainable Development Goal 7 (SDG7) – access to affordable, reliable, sustainable and modern energy for all by 2030 – in line with the Paris Agreement. SDG7, The Paris Agreement and a lot more are also actions taken to start using sustainable energy. Also in Canada renewable energy sources currently provide about 18.9 per cent of Canada’s total primary energy supply. Moving water is the most important renewable energy source in Canada, providing 59.3 per cent of Canada’s electricity generation. But why are all of these organizations putting that much effort into sustainable energy? First up all sustainable energy is a significant and focal aspect of sustainability, an important consideration for human development and activity. Also compared to non-renewable energy it’s better for the environment and it’s much cleaner. On the other hand most of the non-renewable energy sources are estimated to be vanished in about 200 years while sustainable energy comes from natural, unlimited sources such as the sun, the wind and the water. Since sustainably energy comes from nature it’s forms can be defined as: Solar energy, wind power, hydropower, geothermal power and biomass energy. Each one of these have their own advantages. Starting off with solar energy. Solar energy is energy from the sun in the form of radiated heat and light. The sun’s radiant energy can be used to provide lighting and heat for buildings and to produce electricity. Solar power is low-emission. Solar panels produce no pollution, although they impose environmental costs through manufacture and construction. These environmental tolls are negligible, however, when compared with the damage inflicted by conventional energy sources: the burning of fossil fuels releases roughly 21.3 billion metric tons of carbon dioxide into the atmosphere annually. Also solar energy can be harnessed only during the day and if the sunlight is not blocked. Cause of that in Canada the potential for solar energy is lower in coastal areas, due to increased cloud coverage but it’s higher in the central regions. Moving on with wind power. Wind power is the energy obtained from the wind. It is one of the oldest energy sources exploited by humans and today is the most established and efficient renewable energy source. It does not contaminate, it is inexhaustible and reduces the use of fossil fuels, which are the origin of greenhouse gasses that cause global warming. Wind energy is captured only when the wind speed is sufficient to move the turbine blades, but not in high winds when the turbine might be damaged if operated. Canada has large areas with excellent wind resources and therefore a significant potential for the expansion of wind-generated power. One of the most important energy source on earth is hydropower. The natural flow of water in rivers offers kinetic power that can be transformed into usable energy which is hydropower. Hydropower provides benefits beyond electricity generation by providing flood control, irrigation support, and clean drinking water. Hydropower is affordable. Hydropower provides low-cost electricity and durability over time compared to other sources of energy. To produce hydropower, the water flow is directed at the blades of a turbine, making it spin, which causes an electrical generator connected to the turbine to spin as well and thus generate electricity. In 2014, Canada had 542 hydroelectric stations with 78,359 megawatts of installed capacity. Another sustainable source is geothermal energy. Geothermal energy can be captured from the heat stored beneath the earth’s surface or from the absorbed heat in the atmosphere and oceans. And lastly biomass energy. Biomass energy is energy generated or produced by living or once-living organisms. The most common biomass materials used for energy are plants, such as corn and soy, above. The energy from these organisms can be burned to create heat or converted into electricity. With its large landmass and active forest and agricultural industries, Canada has access to large and diversified biomass resources that can be used for energy production. Currently, bioenergy is the second most important form of renewable energy in Canada. All of these energy sources are better for the environment than the current used energy sources. Most of the countries try to start using sustainable energy but it’s not enough. If we don’t speed up the transition to sustainable energy our planet would have to face so many problems.

In conclusion even though it might not seem that important using wrong sources to produce energy but it is really important. The usage of non-renewable energy is on the top currently. But if we do not change that not just we will run out of those sources but our environment will be so polluted. The air we breathe in and the water sources we use will be polluted, all those waste caused by usage of fossil fuels and so much more. As mentioned we can prevent that from continuing that way. By start using sustainable or renewable energy. There are many organizations and countries that are trying to do that and we can have those actions taken as a model and start our actions.

**Resources:**

<https://www.nrcan.gc.ca/maps-tools-and-publications/maps/energy-maps/16872>

<https://www.nrcan.gc.ca/our-natural-resources/energy-sources-distribution/renewable-energy/about-renewable-energy/7295>

<https://www.eea.europa.eu/help/glossary/eea-glossary/environmental-impact-of-energy#:~:text=The%20environmental%20problems%20directly%20related,cause%20of%20urban%20air%20pollution>.

<https://clubtechnical.com/non-renewable-energy>

<https://www.seforall.org/who-we-are>

<https://www.sciencedirect.com/topics/engineering/sustainable-energy#:~:text=Sustainable%20energy%20can%20be%20defined,depleted%2C%20expired%2C%20or%20vanished>.

<https://www.inspirecleanenergy.com/blog/clean-energy-101/renewable-energy-vs-fossil-fuels>

<https://www.nachi.org/advantages-solar-energy.htm>

<https://www.acciona.com/renewable-energy/wind-energy/?_adin=02021864894>

<https://www.energy.gov/eere/water/benefits-hydropower#:~:text=Hydropower%20provides%20benefits%20beyond%20electricity,to%20other%20sources%20of%20energy>.

<https://education.nationalgeographic.org/resource/biomass-energy>