**POSITION PAPER** 

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**Agenda Item**: Technology and Infrastructure for Prevention, Detection and Responses Regarding Nuclear Security

 Around 4% of the world’s energy supply comes from nuclear energy. Nuclear power holds a threat and a huge opportunity to mankind. It all started in 1940’s. The usage of nuclear bombs during World War Two has changed everything. It was thought to be extremely useful and brought many question marks with it. Will we have super engines working with nuclear energy and will it make the electricity free? While this idea seemed very appealing on paper it didn’t really work out as developing nuclear technology was hard and costly. The nuclear technology would further improve until we hit a checkpoint between 1970s and 1980s as around half of the nuclear reactors were built between these years and further improvements about nuclear energy seemed to basically stop to some extent. Beside nuclear technology being hard and costly, there were other factors why we stopped investing in this area: nuclear safety and weaponry. The development of nuclear weapons gave humanity the ability of self-destruct. During the cold war era many major countries developed their own nuclear weapons and caused many political tensions between them. Any usage of a single nuclear bomb would be the end of our world. This point was almost reached by many political tensions such as the Cuban Missile Crisis. Excluding weapons, the nuclear power plants also caused traumatizing moments in human history. The explosion in Fukushima and Chernobyl were the most notable among them and drastically changed people’s opinion about nuclear energy usage and even pursued countries to prohibit this power by treaties like Nuclear Non-Proliferation Treaty were signed.

 As New Zealand we do not sustain any nuclear energy power plant as 85% of our electricity and 40% of our total prime energy comes from renewable energy and we are the 10th country in the world in terms of renewable energy per capita. New Zealand is a nuclear-free country and a supporter of regulation of nuclear weapons. However this term doesn’t prohibit any search about nuclear power plants and scientific research. 1968 was the year where the first nuclear power plant in New Zealand was proposed. Nevertheless these ideas were mostly abandoned and New Zealand didn’t get any nuclear energy power plant as the countries geography is too good for renewable energy. However that doesn’t mean New Zealand doesn’t support the usage of nuclear energy. In 2005 a survey of business leaders was held and nearly two thirds of the population suggested a further investigation into the world of nuclear and supported the creation of a nuclear power plant in the country. So even if the country doesn’t have any nuclear power plant, that doesn’t mean the country is against nuclear power plants. While New Zealand may not have nuclear power plants, they still don’t oppose the usage of nuclear power plants and are rather in a more cooperative state in foreign affairs by supporting the usage of renewable energy and somewhat nuclear energy against fossil fuels like brown coal to increase sustainability and protection of the environment. In case of Nuclear weapons, New Zealand is more of an opposing state. While there’s no guarantee for any country to give up nuclear weapons and testings, New Zealand suggests pursuing the nuclear-free zone areas and sanctions. New Zealand is also a huge supporter of Nuclear Non-Proliferation treaty and comprehensive nuclear Test Ban Treaty and is looking forward to support countries in favor of safeguarding of Nuclear Security politically.

 New Zealand is in a situation that pursues scientific research and whatever benefits sustainability. That also includes research on nuclear reactors. Thorium is an element that can be used instead of Uranium or Plutonium. For instance, 1 ton of Thorium can generate enough energy as 200 tons of Uranium and it’s also equal to 3.5 million tons of coal. It’s also very hard to create nuclear weapons out of Thorium and about 3 times more abundant than Uranium. However researches about Thorium aren’t concluded yet, so further research should be provided. While Nuclear energy can scare people a lot, it’s actually one of the safest energy sources we have and has also way less carbon-dioxide emissions than other non-renewable sources. According to WHO, Fossil fuels kills around 551 times more people (also included the percentage of use) than Nuclear energy which only kills around 3.5 times more than hydropower. Therefore, Nuclear energy is probably cleaner than how media demonizes it. Some sources suggest 60 thousand deaths in Chernobyl (including the effect of radiation worldwide and in the worst case scenario as its basically impossible to properly know how much people died because radiation can also influence death rates by not being the main reason of death) while WHO suggests around 4 thousand deaths. This is still less than hydropower dam failure in Banqiao dam, China as casualties are estimated to be 85 thousand to 240 thousand, which is higher than Chernobyl. It’s certain that renewable sources will replace fossil fuels in some time in future, but until that point we should decrease our usage of fossil fuels and increase the usage of nuclear power and renewables until we have the right technology to use renewable energy fully sustainably. In terms of weapons however, strict rules should be in case. Usage of weapons or terrorist groups having this technology would be a disaster, so we should pursue nuclear non-proliferation and use sanctions against countries that don’t apply this treaty. While it’s impossible for every country to give up their nuclear arsenal, implications to prohibit furthering the creation and improvements of nuclear weapons should be in case. The existence of nuclear weapons may create some kind of political stability as all the countries know any usage of it will be the end of the world, so they try not to anger one another so a catastrophe is obstructed. The usage of nuclear energy should be focused on the advancement of human society and not for the end of the human society, so strict regulations and bans should be in case.