

## A Radioactive Australia

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**I**s Australia truly ready to become a toxic nation? Is it ready to plummet into the dangers and insecurity of nuclear energy? Our government certainly considers this action seriously. When we consider the pros and cons of this uncertain option, who do we agree with? There are numerous alternative options which are safer for our precious environment and for our people, we simply have to be enthusiastic about them.

There are no known ways to dispose of nuclear waste. One thing that would destroy it is ... time. Nuclear waste is like anything living on this planet, with time it gets old and very slowly, after hundreds of thousands of years (240,000 to be precise), it dies. Over the years, as more of the world keeps on using nuclear power, there is a greater need for the storage of nuclear waste. There are currently six countries which are being considered for the storage of toxic waste. One of those is ... Australia.

Our own government has reviewed selected sites in many of our States to host our very own nuclear waste dump for the rest of the world to use. The government is developing waste-management methods which include burying low-level and short-living waste and storing long-living waste in storage containers underground. It is also viewed that small doses of this deadly waste can also be deposited into urban landfills or released into the air! Now that's an idea. Nuclear waste does not only consist of tiny atoms, it includes the clothes worn on nuclear reactor sites and the buildings themselves. It's quite

interesting to see how we'll manage to deposit something like that in an urban landfill.

Let us consider the pros of nuclear energy and storing toxic waste in our country: Creating brand-new nuclear reactors and/or acting as hosts to a nuclear waste site will create many more jobs for everyday Australians. It will also be a slightly cheaper solution to rising petrol prices, as we will not be burning as many fossil fuels as without nuclear energy. The world currently obtains just under 17% of its power from nuclear energy, Australia joining this statistic will not cause an incredibly large decrease in greenhouse-gas emissions, but will still reduce greenhouse-gas emissions by a small percentage. This makes the total stand at 5% of emissions by the year 2050; even this is significantly below the targeted number which has been set to reduce climate change.

Now let us examine the cons of nuclear energy and radioactive waste: Australia has 30% of the world's uranium reserves. If we decide to switch to nuclear energy it will mean that this supply of uranium will be used up by the year 2067 ... then what?

A typical nuclear reactor generates 20 to 30 tonnes of high-level nuclear waste annually. Although nuclear waste can be reprocessed to create more power, it can also be reprocessed to create nuclear weapons and ... more deadly waste.

With talk of nuclear waste sites and reactors in Australia, have we realised that the planet already has over 443 nuclear power plants functioning and a further 284 research reactors in operation? With all these nuclear facilities on the planet, have we not considered that we could be making the situation of pollution even worse?

Nuclear energy and waste will not only harm our ecosystem. Uranium and plutonium are the most deadly substances known to a human being. With ongoing or strong exposure to any one of these substances, serious harm will be done to the human body. Exposure to certain doses over a period of time can cause nervous disorders, kidney inflammation, birth defects and cancers. And we are told it's safe ...

Perhaps Australia will maintain these facilities perfectly and make sure that they are safe, but there are always risks. In the past 33 years, there have been 10 significant nuclear-facility incidents, including Chernobyl, 1986. That is an average of one dangerous incident almost every three years ... These incidents occurred in high-maintenance nuclear power plants in prominent countries such as France, China and America.

With all of these important points in mind, are we not tempted to turn to alternative methods of creating our much-needed energy? Please consider tidal power: creating energy from turbines moved by the shifting tide. Hydrogen power: having heat and water as the only byproducts. Geothermal power: renewable heat energy which can be harnessed from deep within the earth. And what about the trusty solar panels and wind turbines? Yes, they may be expensive, but how would you describe the cost of a nuclear power plant or waste dump? All of the above options will conclude in being more financially and environmentally beneficial over time. And imagine how amazing Australia will look with spectacular, gleaming wind turbines as part of our landscape, like white gulls in the ocean breeze ...

What does Australia think about nuclear power? We know what our prime minister, John Howard, thinks ... "I wouldn't have any objections living next-door to a reactor". Perhaps Mr Howard could visit regions of the now partially contaminated Belarus, the immediately effected country of the Chernobyl explosion and tell us what he thinks. Or perhaps our leader could zoom back to Hiroshima and Nagasaki, to the time almost immediately after the two deadly explosions in 1945, and tell the nation how brutally affected those people were by harmful radioactive substances. His opinion would change...



**Olga Gourko** wrote this essay in 2007 when she was in Year 11 at Lowanna College, Newborough, Victoria.