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Although supporters of solar energy believes its use will be prominent in hope for the progression of technology in the future, in reality the erection of nuclear power plants will continue to provide people with energy 24 hours a day rather than only half of the day, nuclear energy also creates lasting jobs to help create progressivity in the economy. Research proves that the investment of the new Generation IV reactors will be adequate for the safety of humanity.(Gates) Nuclear energy should be used to supply power because the Generation IV nuclear reactors will be much safer for humans than the reactors built over 20 years ago, the reactors can be ran and maintained 24 hours a day, and the lasting jobs will generate growth within the economy. Gas-Cooled Fast Reactors (GFR), Lead-Cooled Fast Reactors (LFR), Sodium-Cooled Fast Reactors (SFR), Supercritical Water-Cooled Reactors (SCWR), Very High-Temperature Gas Reactors (VHTR), and Molten Salt Reactors (MSR) are the different types of Generation IV nuclear reactors (Chapter). All of these nuclear reactors are sustainable, economical, safe, reliable, proliferation resistant and physically secured. The Generation IV reactors have a more efficient use of Uranium (DOE). These Generation IV reactors are now safer for the environment because the high-level of the radioactive waste production has been reduced significantly. There are still large amounts of radioactive wastes that need to be managed over a long period of time in disposable facilities. On the other hand, research supports there will be far less toxicity in the new designs of the Generation IV reactors (Kromp 2). Of the six reactors, four of them are said to be " fast breeders, " meaning they have the ability to obtain full energetic potential from the element Uranium. Along with the Generation II and Generation III reactors,

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there will still be zero levels of CO₂ emitted into the air in the upcoming generation of nuclear reactors. Another key feature of the Generation IV reactors is the ability to have recycled or reprocessed fuel available (Gen-4). Some do not realize there were massive cost overruns during the construction of the plants in the 1970's and 1980's. Design flaws, non-uniform design and two hurdle licensing all contributed to the significant construction costs. The design flaws led to the Three Mile Island accident which was caused by a leak in the reactor. After the issue was exposed to the public, the plant was under review and required changes in the design. The developers had to obtain a license before constructing the plant and delayed the development which had been very costly. When the developer finally got his license to build the plant, they included their own tweaks and designs which had to be inspected before construction (Nuclearinfo). This was costly but all of these issues can be easily overcome in the future of building new reactors. Ultimately there is a very bright future ahead for the investment of Nuclear energy because technology has improved greatly since the last generation of nuclear reactors (Gen-4). Solar cells are indeed a safe, non-pollutant source of energy and emit zero levels of CO₂ into the air like nuclear plants. Although pollution is not much of an issue for supporters of solar energy, the problem these supporters encounter is inconsistent amount of sunlight that can be absorbed by the panels. Solar are only useful when the sun is out which can be anywhere from 0 to 12 hours per day (Comparative). However the new Generation of Nuclear energy will provide people with power for 24 hours a day only at a cheaper rate. That is because there is only one initial investment when switching to solar energy and this investment will be costly and it could take up to several years before the

solar panel is paid off. The efficiency and improvements of the Generation IV reactors will be a tough problem for solar energy scientists in order for their technology to progress as well (DOE). Supporters and scientists who study solar energy have yet to come up with a way to be able to store more energy from the sun in order to make it as efficient as nuclear energy. Although the construction of solar cell can create several jobs when being installed, there are far more jobs that can be created when constructing a nuclear reactor. A study conducted by The American Council on Global Nuclear Competitiveness shows that 350, 000 jobs will be available in the nuclear power industry by 2030 (Nuclear). Unlike a windmill or solar panel which is constructed in a short time frame which needs little to no maintenance after being built; Jobs at a nuclear plant are lasting (Advantages). These nuclear plants will require 900 full time workers per reactor. For each new reactor constructed, there will have been 3, 500 jobs created at the peak of its development. Having done this will induce billions of dollars into the regional economies. Nearly 15, 000 jobs have been created over the past few years according to the Nuclear Energy Institute. The people who take these jobs earn and above average wage and the operation jobs are likely to be long term and stable (Nuclear). In conclusion both solar and nuclear energy have their advantages. However the investment of nuclear energy will be better in the future partially because of the Generation IV reactors. These reactors are far more efficient than the last two generations and are much safer. Supporters of nuclear energy do not encounter the problem of producing energy only 12 hours out of the day. Nuclear reactors can produce energy constantly and can be stored unlike the energy obtained from the sun. There are far more jobs that can be created in the nuclear power industry. Not only

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are these jobs but they become careers because the jobs are lasting and stable. Nuclear energy should be used to provide power because our technology has improved tremendously over the years, the energy that is produced is produced in a more efficient style that can be stored, and there are well over a quarter of a million jobs that can be created within the next 20 years. Works Cited " Advantages of Nuclear Power." The Daily Energy Report. Web. 10 Mar. 2011. . " Chapter 08: Generation IV Advanced Nuclear Reactors." Intuitech. Web. 25 Apr. 2012. . " Comparative Carbon Dioxide Emissions from Power Generation." : Education : World Nuclear Association. Web. 23 Apr. 2012. . " DOE - Office of Nuclear Energy." DOE. Web. 25 Apr. 2012. . " The Future of Nuclear Power." MIT. Web. 23 Apr. 2012. . Gates, Bill. Bill Gates Sees Future in Nuclear Energy. Youtube. 25 Mar. 2012. Web. 25 Apr. 2012. . " GEN-4 : GIF - About the GIF." The Generation IV International Forum. Web. 25 Apr. 2012. . Kromp, Richard, and Antonia Wenisch. " Generation IV and What the Nuclear Industry Tells Us about It." Science or Fiction. By David Reinberger. Austrian Institute of Ecology, 2007. 2-4. Web. 25 Apr. 2012. . " Nuclear Energy and Job Creation." The Foundry: Conservative Policy News Blog from The Heritage Foundation. Web. 23 Apr. 2012. . " Nuclearinfo. net." Nuclear Power Education. Web. 23 Apr. 2012. .