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Zaim Afiq Zaki Morad Public Utilities 325 — Prof. Rodney Stevenson Public Utility Paper Nuclear Power plant as a new alternative source of energy in Malaysia

The first time the world was exposed the enormous potential power of nuclear was when the United States of America dropped two atomic bombs into Japan which effectively ended World War 2. Almost every country stood by and watched as the bombs made by the simple process of fission of two atomic particles produced enough power to destroy two big cities. The understanding of nuclear was not at a high level during the time but there have been experiments done by scientists all over the world and after witnessing the aftermath of nuclear bombs, along came the idea of applying the potential energy of nuclear for a better use. In 1954, the Soviet Union managed to produce the world first operating nuclear power plant in Obninsk and the plant was able to produce enough electricity to support a power grid. Two years after that, the British opened the world's first commercial power station and the United States followed up with one of its own in Pennsylvania. As of the end of 2010, there are a total of 442 nuclear power plants spread over 30 countries, with the bulk of the nuclear reactors operating in United States, France, Japan and Russia. Although there have been many demonstrations and court cases asking for the proliferation of nuclear power plant and nuclear energy as a whole, a report done by the European Nuclear Society mentions that 65 new nuclear power plants are under construction in 16 countries. In Malaysia, the main source of energy comes in the form of natural gas and Malaysia has one of the biggest petroleum companies in Asia in the form of the Petronas company. The Petronas company is owned by the Malaysian government but is under the management and supervision of a private board with little interference by

the Malaysia government. Other sources of energy in Malaysia comes from coal and fuel and Malaysia also depends on renewable energy sources through hydroelectric and solar powered energy. In recent years however, the supply of natural gas has been depleting and the government has been to find a better option in the form on renewable energy resources to try to spread the imminent case of losing fuel and gas as the main source of energy in the country. History of Public Utilities In Malaysia Before we move on to the main issue context of the article regarding the production of nuclear power plants in Malaysia as the best renewable energy option, we can get a bit more background to the history of public utilities in Malaysia and the current state of public utilities in the country. As of my knowledge, a large number of industries in the country are regulated by the government and can be out under the public utilities category. Most of these industries have monopolistic traits and are fully or partially controlled by the government of Malaysia. The reason why a large number of industries are under the monitoring of the government is probably due to the fact that Malaysia is a developing country and lack the experience to just allow some of the main public utility industries to float in the market. Some of the most common utility companies in Malaysia include Telekom Malaysia in the telecommunication industry, Tenaga Nasional in the electricity industry, Astro in the cable industry and Syabas in the water industry. Almost all of these companies are monopolistic and are partially or fully controlled by the government. The government subsidizes almost all the operational cost in these companies but regulates important matters such as pricing and coverage. The main concern with public utilities in Malaysia is the influence of politics in the industry. Since the government plays an important role in

managing utilities, it is common for people to accuse the government of abusing its powers through the use of utilities. Some of the cases that have been brought forward include bribing in some of the utility industries, government giving away contracts to cronies in order to get money for political campaigns, and also using public utility companies to try and influence elections. While some of these allegations might be true, I personally it is best for the government of Malaysia to keep being in charge of most of the utility companies because Malaysia is still lacking not just in terms of infrastructure but also in terms of education and thinking. Allowing for an industry such as electricity to just follow the market will probably result in catastrophe since the public will have no say at all to the way a company operates and are open to abuses by a small but influential number of executives in that company. While there are still a lot of improvements to be made by the Malaysian government, the way utilities are being handled regulated now works best for a developing country like Malaysia. Building Nuclear Power Plants in Malaysia Last year, the Malaysian government announced that two nuclear reactors will be built and is projected to be up and running by the year 2022 and that finalization on the project should be completed by 2015. The government said that the reason behind this decision is due to the lack of diversity in the country's energy sources and the realization that natural gas and fuel will ultimately run out within the next few decades. No details have been given out as to how the project is going to be done with the most pressing question from the public being whether the government will hire outside help or use local minds to build nuclear power plants. Other issues being raised by the public include the factor of expense and safety, the latter coming from highly regarded leaders

in the country who fear that Malaysia's lack of experience and knowledge in the nuclear industry would mean that the government is taking a very huge risk in building nuclear power plants. Ever since the announcement by the government to build two nuclear power plants in Malaysia, the public have been sporadically protesting the decision and not that many have come out to support the plan. This is perfectly understandable since Malaysia has no experience with nuclear materials, be it nuclear weapons or even nuclear experiments, and add to that the nearest country with nuclear power plant is Japan, which happened to suffer a nuclear meltdown just a few months ago. All the concerns being put forward by various are legitimate concerns but in my opinion the whole project would actually be good for the country and if takes a step back and just try to get different perspective to the case, a majority of the public would see that having nuclear power plant in our own backyard would be perfectly safe and this project could help propel Malaysia into joining the elite group that call themselves modern developed countries.

Safety of Nuclear Power Plants To start off, many critics are leading with the argument that nuclear power plants are dangerous and could pose serious problems for Malaysia. It is a fact that nuclear power plants are open to accidents due to human error or even worse to natural disasters. We can point out to various incidents like the Chernobyl accident, the Three Mile Island disaster, and in recent memories the Fukushima accident. But these can be counted as isolated incidents due to unforeseen circumstances and given the fact that we have more than four hundred power plants running all over the world, these accidents represent little of the total amount of nuclear power plants that we have. The weak argument on the pro nuclear side is that accidents can happen anywhere and with anything. Some try to point

out the BP oil spill disaster and the Exxon Valdez oil disaster as proof that accidents can happen to anything but what most people are worried about is that the effect of a nuclear disaster are definitely more costly in terms of human life and also in the economic perspective. However, while we cannot say for certain that we can ensure the safety of our nuclear power plants, we can set up regulations and laws that would make an accident less likely to happen. And since Malaysia is new in the industry, we stand to have the best chance of making solid regulations and laws. Given the fact that Malaysia has no prior experience in building and operating nuclear power plants, we can take this opportunity to choose the best of regulations that we can find from nuclear powerhouse like Japan or the United States. We can use the experiences of these countries in handling accidents and draw up our own safety plan that would bode well with the infrastructure and size of Malaysia. It will be expensive for us to gather information from other countries since the professionals of the nuclear industry will charge highly for the knowledge that they have attained but if the Malaysian government can show that it is serious in its plan to build nuclear plants and that the government is willing to pay for vital security information on nuclear technology, this will help to deflect most of the fears that the public has on nuclear power plants and maybe even instill some confidence as to the idea of Malaysia having her own nuclear power plants. Another main concern in terms of safety is terrorist threats. Nuclear power plants have been known by some as some sort of a pre-position weapons of mass destruction. Targeting missiles or jetliners on these power plants can definitely inflict unimaginable harm to any country. Some nuclear power plant engineers have pointed out that these nuclear facilities are built to withstand the impact of jetliners with the

thick walls and various other measurements. But any decent educated person could guess that a fully loaded jetliner would at least crack some of the walls on the power plant and any explosion from the plane could cause fire and heat up the whole power plant. That is why countries have regulations regarding flying over nuclear power plant and if Malaysia is concern about it, we should start drawing up our own regulations regarding air traffic and making sure we put this regulation in place before we even start to think about building nuclear power plants. One other concern regarding the safety of nuclear power plant is on radiation and leaking of radiated nuclear materials. While studies done on radiation surrounding power plants have been inconclusive, with some suggesting that those surrounding nuclear will definitely get exposed to some sort of nuclear radiation while other studies suggest that no such effect is taking place, we can take precaution by installing the power plant at a strategic location that would ensure the safety of the public with or without any possibility of radiation. It is not reasonable to put a power plant in a place far from generators or cities but the government has found a few places of which are sparsely populated but are also safely located within range of electricity generators. Leaking of radiated materials is a topic that I did not get much chance to learn about but from what I hear, the public is worried that the lack of government supervision might result in radioactive waste being stolen by terrorist or even worse if they are accidentally lost by untrained employees. That might have sounded funny but only a few years back the government of Malaysia suffered a public embarrassment when the engines of two fighter jets were lost for a year before the engines were found in Uruguay of all places. But while this particular concern is perfectly legitimate

and something that we should all ponder about, I am sure that the government can put certain procedures into place to ensure proper removal of radioactive waste are in place and we could even hire professionals from Japan or the United States to help out for a few years in order to gain the trust of the public before we go local with the handling of nuclear materials.

Cost As A Major Concern Moving on, another major opposition of the power plant centers on the cost of trying to build a new power plant. The government of Malaysia has not put a specific cost on the table yet but approximate figures to build one power plant in the country would be at around 3.2 billion U. S dollars with the cost of managing the plant coming up to a couple more billions of U. S dollars. It is definitely a costly amount especially for such a small country like Malaysia but the public has to remember that the product of nuclear energy could give us a return of more than five billion dollars. To add to that, the public will probably have to incur a lesser cost when it comes to paying electricity bills and the construction of two nuclear power plants would open up job opportunities for local employees. The accounting benefit of the project might be hard to be seen by the public but the total economic cost of building two new nuclear power plants will be massive to the Malaysian economy. Another benefit that most of the Malaysian public cannot see is the fact that having nuclear power plant can actually propel Malaysia to become a leading industrialized nation in the region of Asia. One thing about nuclear power plants is that it symbolizes power. Similar to having an aircraft carrier demonstrates a country's military prowess, having nuclear energy can demonstrate that a country is successful in the production section and that the economy of the country will continue to generate positive results in the future. Malaysia is

still considered a developing country even with our massive economic growth and quality infrastructure but having nuclear power plant in our own backyard might give the impression that we are serious about moving forward and trying to be on par with nations such as China and France. Being the first country in South East Asia to have nuclear power plants will help Malaysia to move ahead of the group and put us under the impression that we have moved forward and not tagged along by some of the poor countries in that region. While some might argue that Malaysia can still move forward with the option of using hydroelectricity as a main source of renewable energy, they must also consider the strategic planning of building hydro electrical dams. Malaysia consists of two peninsular, one surrounded by natural habitat and rainforest and the other filled with cities containing high rise buildings. Malaysia has already built one of the largest concrete dams in the world to generate electricity through hydro-electric technology but what the public is not aware of is the fact that we do not have the spaces to build another large dam, especially since the peninsula most people are talking about is bustled with buildings. When the government made that policy decision to expand the country's renewable energy to include nuclear energy, it did so at the consideration of the public. the decision made by the Malaysian government can be considered as a social policy because in a way, they had to factor in all the needs of the public in terms of cost, location, distribution and many other factors and the decision they made was in the best interest of the public. Politics And Social Policies What the government has to worry about right now is trying to convince the public that there will be no politics when the nuclear power plant project starts and that massive regulation will be in order when the nuclear plants are up and

running. One way of disseminating the problem is making sure due diligent is done before we even start to open bids to companies. When Malaysia announced that it was going to build two new nuclear power plants, companies from Russia, Japan and even China rushed to try and lobby the government of Malaysia into choosing their company as the preferred choice because they are well aware that Malaysia has no prior experience in building nuclear power plants and that the Malaysian government will surely look for foreign help in the process of building those nuclear power plants. Since the public will have no knowledge of these foreign companies, what the government must do is ensure that highly qualified local companies must go through the process of thoroughly checking over foreign companies so that we will not get deceived in any way. This is an important issue because Malaysia has already suffered an unpleasant experience when trying to get their hands on navy submarines. It was a similar case of lacking experience in the industry and being lackadaisical when looking for companies to build us our first ever submarines. The cost was also in the billions and the government really got into trouble with the public when the first arriving submarine was not able to function and properly and had to be shipped back to France to be repaired at additional cost. While there was no evidence that the French company was trying to deceive anyone, it was clear that the company was not good at doing its job and that the Malaysian government could have saved a lot of money if it had gone through the proper process of picking out the best available company to do the job. With this experience in hand, the government should be more careful when doing business in uncommon territory and take all the precaution necessary in order to make sure it does not waste tax payers money again. Still on the social policy of

the topic, one thing the government has to worry about is on who will get the most out of having nuclear power plant in the country. While the board in charge of overlooking the project has already identified some of the most strategic locations to be the bases of two huge nuclear power plants, what they did not mention was on who will be getting the most of the supply. The options given out by the government did not mention that some of the locations were nearer to residency areas, providing massive amount of electricity to some of the residential areas would be a major boost to the real estate industry and will help increase the support from the public since they will be getting the most of having nuclear power plants. Another part of the option was located nearer to the industrial complex of the country, near enough to generate a large amount of power to help support factories and will probably help to increase production from those factories. This will generate the economy but the public will not get to see this even if the government can then create more jobs and reduce unemployment rate in the country. The government will be in a dilemma since both options differ in terms of public support and in terms of economic growth. But I mentioned before that having nuclear power plants will help boost Malaysia to join the developed countries category and if we really want to see that happen than the best option is for the government to locate the power plants near the industrial complex. Apart from the effects it will have on the Malaysian economy, this will also prove that Malaysia is serious in its efforts to become a major industrialized nation and that having nuclear power plant to support its efforts. The public might not see directly the effects of putting nuclear power plants near factories instead of residential areas which would be more beneficial for the public but if everybody can take a step back and really look

at the larger picture, they will clearly see that having nuclear power plants will be a major boost to Malaysia's effort of becoming an industrialized nation. Regulation and Pricing A part of production commonalities mention on natural monopoly and capital intensity and it would be good for the government to approach this matter and inform the public of it. In the case of building two new nuclear power plants in Malaysia, it would probably not be in the best interest of the public for the government to make it a natural monopoly. This will be a new thing for the whole nation and these two nuclear power plants will be some sort of a highly looked upon experiment and the best thing the government can do is to appoint two different companies to handle those two separate plants, be it local or foreign companies. Having two different companies handling two different nuclear power plants in the country will help in getting some sort of a check and balanced system. It will prevent one company from overcharging the government since the other company will also try to set a good standard and having two companies will help to ensure that there will be less political ploys and decrease the possibility of corruption. Having a small competition between these two companies will also help make sure that good service is going to be provided to the public and since the Malaysian public have no prior experience on nuclear energies, having two competitive companies will surely lead to more information being put out on the table for the public to see. Still with regards to competition, the government should set up a structure to ensure that we have an effective competition in play. While it is best for a government not to get involved in an effective competition market, in this case, the public would benefit if the government can play some influence as to regulating the structure of the market. The government

should regulate as to the entry and exit of firms in the industry and the government can always keep track of the market price to ensure no overcharging in terms of rate is occurring since the Malaysian public will have no idea on what the normal rate for nuclear energy would be. In terms of product differentiation, there is nothing much since the main function of nuclear power plants are to produce energy but the firms involved in handling these plants should not be allowed to expand and diversify their businesses for the first few years. The reason would be because Malaysia will be new to this industry and we are already taking a huge risk by building these power plants and we cannot afford to spread our capital and attention as to diversifying products but stay focus to the main focus of having nuclear power plants which are to create renewable energy to support the growth of our economy. As for capital intensity, it is hard for me to delve into the matter since I lack the knowledge on the infrastructure needed to run a nuclear power plant but I think the policy the government should be going for here would be to ensure there is enough capital to support the nuclear power plants during the first few years since there will be a lot of mistakes and errors at the start of the process. The government should make a policy to ensure they have enough budget to support the capital needed to ensure the nuclear power plants are going to run smoothly. Revenues will probably be low during the first few years as we try to figure out the best rate and how we can effectively use all of the resources we have but it is of the most important for the government and the public for that matter to keep being optimistic regarding the project and to provide full support the original policies and not to alter anything halfway. Another important policy is to make sure that we get local engineers and other important players in the

industry to get properly trained so that they will be well equipped to handle all the technical and logistical problems that we might have when running the two power plants. Since the government plans to get the two nuclear power plants up and running before 2022, the government should start implementing new policies that would create more opportunities for students in Malaysia to pursue degrees in nuclear technology or any other field related to running a nuclear power plant for that matter. The government should also start identifying workers for the nuclear power plants and start sending them to other countries like Japan and the United States for specific training. Working at a nuclear power plant will definitely require certain level of knowledge and skill and these workers should be immersed with all the experience they can get so that when the power plants in Malaysia are up and running, this group of people will be more than able to handle any sort of problems that might arise at the nuclear power plants. The issue mentioned above might be viewed as unimportant as compared to the issue of safety and cost but having locals to work on Malaysia's very own nuclear power plants would be a matter of utmost priority for me. The main reason is that having nuclear power plants will definitely generate the economy but if we want to maximize our revenues from this nuclear power plants, we cannot expect to continue to get foreign help for free and that foreign expertise will definitely cost a lot especially in the niche field of nuclear technology. The government will have to seek out help from foreign sectors to help start of the program but the government should also set a dateline on when we can start to fully employ local contractors and local companies to manage our products because that will be the time when we are fully maximizing our use of building two nuclear power plants. Making this policy

will help set the tone that the government are interested in not just finding out a new renewable source of energy but are also keen to delve into the nuclear technology world and put our own bright young talents to the test by teaching and letting local Malaysians to handle our own nuclear plants. Another question that should be raised is if building nuclear power plants in Malaysia is a necessity or if it is just a political ploy or maybe even an investment into the future. This would fall under the concept of demand commonalities. The fact is Malaysia needs a new alternative source of energy and even though we have many other options such as hydroelectricity or expanding our solar power abilities, we actually can consider building the nuclear power plants as a necessity because of various reasons. There is no need to repeat previous arguments on how having nuclear power plant would proper Malaysia forward so a fresh new idea would be that having nuclear power plants would actually help label Malaysia as a green country. Everyone knows nuclear power plants are considered to be green an environmentally friendly despite all the radioactive toxic waste they produce. While hydroelectricity can also be considered green, the vast amount of land needed to build a hydroelectric dam would cause disturbance to the natural habitat of various animals and plants because the only large land areas that can accommodate building a dam in Malaysia would be the rainforest and jungles. Nuclear power plants are definitely a better option when we put the environment into play and since all major countries are going green, building our own nuclear power plants would help put Malaysia on the map as a green country. Nuclear Power Plants as a " Green" Way Forward There are many doubts that nuclear power plants are truly green as the radioactive waste they produce are harmful to the environment and

Chernobyl is an easy case in point where there are no living beings in the area due to continuing leak of radiation. However, with nuclear energy getting the attention of top scientists all over the world and getting the focus from premier academic institutions, there will be new technologies that can help to better secure radioactive nuclear waste. And while it may be expensive for the Malaysian government to acquire those technologies, it will definitely be a positive way to ease to worries of the public. The Malaysian government needs to make it a regulation to ensure we get the latest of technologies no matter how costly it could be because Malaysia has no experience in handling nuclear materials and we cannot accept the possibility of suffering a nuclear accident at the expense of a fraction of the country's budget. In the context of legal foundation or constitutional foundation, there is not much to go on with. This will be a totally new path for Malaysia and there are no legal precedence for this matter. While there have been cases which directly or indirectly involved the utility industry, none have or will be similar as to the legal matters surrounding the nuclear industry. And this is a good reason why the Malaysian government will have to thread very carefully because any policies or regulations they set can be challenged by the public and even after the government announced its intention to build nuclear power plants, there were advocacy groups getting ready to challenge the decision under the legal context that it would harm the public and that a referendum should be held to find out the consensus on this issue.

Legal and Constitutional Issues The constitutional powers of Malaysia is not as strong and tight as the U. S constitution because Malaysia is a relatively new country, gaining independence just over 50 years ago. Any solid constitution will take hundreds of years of amendments and

challenges in order to be a solid constitution and the loopholes in the Malaysian Constitution will ensure that there will be many groups ready to take action if the government slips up in any way. The Malaysian government will have to start drawing up legal process to add fundamentals into the constitution that would ensure the nuclear power plant project would not be halted by court processes. That might sound extremely harsh especially in this democratic world but sometimes tough decisions have to be made in order to get something started and since Malaysia is lagging 50 years behind other countries in the nuclear industry, we need to make sure we get through the project as smoothly as we can. One main concern regarding the judicial process that can be discussed now is will the state governments be given authority to regulate or even monitor the nuclear power plants or are the federal government going to take full control over the authority of the plants. Given that these power plants are going to be public utilities, this issue would be important to address and if a situation comes up within the nuclear power plants, which government is going to be held responsible for it. The most logical answer would be to put the federal government in charge of the whole thing and leave state authorities totally out of it. This would simplify the bureaucratic process that has been pretty common with Malaysia and it will also make it easier to oversee the project with just one authority on deck. The federal government should take full responsibility for anything that happens to the plants and this will help because the federal government would then need to do a better job since it will not have anybody to blame for if anything goes wrong with the project. Pricing would be difficult to touch upon now since we do not know how much the project will cost and how much of taxpayers money are going to be used.

One thing for sure is that the government should make sure the cost of the nuclear power plant project should be distributed equally among all parties involved including the public. To add to that, the government should also make sure that it uses resources from Petronas, a large petroleum company owned by the federal government to try and subsidize as much as possible as to the cost of the project. This seems ironic since a petroleum firm would have to pay to help build another source of energy that would eventually take over the petroleum industry but the Petronas firm has been really successful with the support of the public, being one of the highest revenue making firm in Asia. Making sure that Petronas plays a huge role in the nuclear power plant building project would be like an effective social policy since Petronas have been playing a huge role for the Malaysian public in many other issues.

Rate Structuring and Utility Commissions In terms of rate structures, it will depend heavily on the type of customers the power plant will be going for. If the government decides to generate power from the nuclear power plants for the residential areas, they are going to have to keep the rates low since the main consumer base would be the working class who probably will not be able to afford a high rate on electricity. If the government decides to go for supplying energy to the industrial complex, they can then probably charge a higher rate since their main consumer will consist of firms who can probably afford high rates in terms of electricity.

Rate design elements do not really apply in the case of nuclear power plants since they are going to be producing energy day in and day out and also the fact that Malaysia does not have 4 different weather seasons, providing the opportunity for the power plant to function all the time. Since Malaysia does not have a public utility commissions with regard to nuclear energy, there

should be foundations to start making plans to set up a public utility commissions for nuclear energy. And as far as my knowledge goes, Malaysia does not that many public utilities commissions with regards to other industries as well, given that most prices and regulations are actually being done by the firms involved and the public has not had much to say about how most of the utilities in Malaysia are being priced. However, with nuclear industry it is going to be a whole new world and since Malaysia will be joining an elite group of countries in the world with nuclear power plants, the public will want to understand more on this particular issue and having a nuclear commission on the ready would help to strengthen the support from the public. The decision to start building Malaysia's own nuclear power plant is a big decision, the kind of decision that will have a lasting impact on Malaysia's social and economic policy. In order to make sure that the public will be along the same line, the government needs to appoint people who are highly respected and have some knowledge on this particular area to lead the project. The government cannot afford to choose base on political affections or even factor in cronyism because a project of this caliber will require the trust of the public and one of the most important aspects the public is going to look for is on who will be in charge for the project. If the government can play its cards right this time, it can also mark a change in a policy that has been known for so long to involve corruption, politics and cronyism. While the paper has discussed a lot on how much the cost of the nuclear power plant project, the regulations and policies that we need to put in place and even the environmental effect of nuclear power plants, we did not touch on the industry itself and how Malaysia is going to fit in into an industry worth billions. Getting foreign expertise during the first few years of operation is

perfectly understandable and we already mentioned on getting the locals to come in so that the power plants can be totally domestic but what the government should consider is to try to delve into the industry while we are in it. We lack the experience necessary to just join the industry but while we start to get foreign help, what we can do is build contacts and start to expand our networking in the nuclear industry. It will definitely take decades for Malaysia to even be considered a player in the nuclear industry but since we are going to spend billions of dollars on building nuclear power plants, why not add a couple more and make it a long standing policy to push us into the nuclear arena. The government can start giving out subsidies to help support companies that are interested in field and make sure we are in constant supply of nuclear engineers and scientists. It might take us 30 to 40 years to start building our name in the industry but nuclear power plants have a life cycle of 40-60 years and there will be ample time for the government to set and amend policies that will help to get Malaysia into the nuclear technology field. The most dangerous yet seemingly reasonable fear that we could have on the issue of building power plants in Malaysia was never put on the table by anyone. While we mentioned that we fear of terrorist threats and how we can protect nuclear radioactive waste, we never mentioned that setting policies on learning more about the nuclear weapon might lead to increase interest in building interest in acquiring our own nuclear weapon. Even worse, some of our future nuclear scientists might run off with whatever knowledge and materials they can get on nuclear and start building their own nuclear bombs. It might sound ludicrous but these cases have happened before and Malaysia is also located next to Indonesia, a country that has long been affiliated with terrorist groups in the Middle East.

A small country like Malaysia getting its own nuclear material and located next to a known terrorist hub will likely make Malaysia a soft and viable target for major terrorist organizations who would want to acquire nuclear materials and knowledge. If this were to happen, it would be a major disaster to Malaysia, and probably to the world for that matter and we do not want to put ourselves on the map for all the wrong reasons. What the government needs to start preparing is stringent laws that would scare off potential threats and the government also needs to start beefing up its police and military power in order for the country to be able to protect itself from terrorist threats. The bigger picture would be to toughen up our laws on the borders and start changing our policies with neighboring countries but that should fall under a completely different category under foreign policy and immigration. Securing our country should be a major policy before we start to worry about making it in the nuclear industry or what rate we are going to charge for our nuclear energy products because these terrorist threats are real and the government should be aware of that. In conclusion, the decision made by the Malaysian government to build nuclear power plants in the country by 2022 was a good decision but we need to make sure we cover all the important aspects before we start to step up our gears in the nuclear plant project. The government needs to win the support of the public and we cannot get it if we do not start to change our policies with regards to the safety of nuclear power plants. Our educational policy should be amended in order to equip ourselves with bright young minds and we need to start doing so as early as possible because the process does not just include education but training and working experience as well. Getting nuclear power plants of our own will make Malaysia a force in the industrialized country and we need

to prepare to make changes in our social and economic policies as this will be a big transition for the country. Malaysia will also need to make some changes in its environmental policies since having nuclear power plants provides Malaysia with the opportunity to display that we are a green nation. It will be hard to change the mentality of Malaysians who are not as interested about the environment as people in other countries but we need this change and this will be the perfect time to do it. Getting Malaysia's very own nuclear power plants will definitely mark a change in our history and if we want to make it a success, we need to make sure we get it right every step of the way and enjoy the interesting journey of building our own nuclear power plants at the same time.