

The Risk and Regulation of Energy Production/ Distribution

In the last decade one of the major topics that the entire world has been talking about is Energy. Specifically, natural energy, the production and conversion from current non-renewable sources. As more and more countries get industrialized the amount of pollutants going into the atmosphere has drastically increased. This has led to the global discussion about trying to solve this. However just because the world would like less pollutants in the atmosphere the world still needs energy this has led to global leaders as well as CEO's wanting to convert to natural resources. Natural resources are fantastic however they do not come without their own drawbacks that need to be addressed.

Due to energy production being talked about and assessed around the globe there are quite a few regulations that have come to light. One of the major ones is the *Procedures for Determining eligibility for Access to Classified Matter and use of Special Nuclear Material*. This regulation is incredibly important as the use of nuclear energy can be incredibly dangerous to all those who are involved if the proper precautions are not taken into account. While nuclear energy is one of the more controversial options for a replacement to fossil fuels there is no denying its ability to create an impressive amount of energy. While that regulation pertains particularly to nuclear energy there is also other laws/ regulations talking about what needs to be in place in order to put up wind farms, solar farms, as well as hydro plants. This is because there are quite a few problems that could arise if these regulations were not in place. Recently there have been more and more regulations coming up about fossil fuels. One such example is the *Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals From Electric Utilities; Amendments to the National Minimum Criteria*. This puts a limit on the amount of CCR that a company is allowed to get rid of (which in turn will stop the amount of use). Countries such as China and India are not necessarily responding well to these kinds of regulations due to the vast majority of their economy relying on industry and right now the cheapest way to make power is through non-renewable means. Production is not the only thing that gets regulated however distribution of energy also comes with its own regulations. The FERC (Federal Energy Regulatory Commission) are the ones in charge of the distribution of energy regulations. In 2017 they approved of construction of a large number of export facilities due to the high amount of Natural Gas that the United States creates.

Some would say that these new regulations and laws are not necessary and are only going to serve to hurt production and in turn the economy. However, these laws and regulations are incredibly important for many reasons that people do not even think of. Many regulations have to do with the locations in which energy plants are created, this is because they are trying to stop harm to natural ecosystems. Often renewable resource plants are the ones that cause great harm to these ecosystems. There are many cases of Hydro plants or Dams being built and it completely ruining the former river/ stream beds where many species of animals lived and thrived. As this continues there more and more animals are being affected. There are groups that are doing their best to make sure that locations are picked and technology that focuses on preservation. In the near future it is safe to assume that there will be more regulations focusing on animal safety. Most of the non-renewable regulations are focusing on preservation of the atmosphere. Harmful greenhouse gases play a major role in destroying the ozone layer and in turn the governments of the world have been enacting laws and regulations to try and counter that. Not only is the focus the ozone layer but air quality in general is a major concern. This affect is not as felt in America or many other first world countries but in the industrial hubs of China and India it is often unsafe just to breath in the air. Countries such as these it is essentially a necessity to wear masks in order to keep yourself healthy. The legislative bodies are not completely out of touch however to try and completely get rid of natural gas, oil, and coal all at once. The reason that the limitation is only in what could seem like small increments is to try and ween countries off the resource rather than to cut it at once. If this were the case, there would be many economic disasters. France has proven this when they spike gas prices and the people ended up protesting/ revolting against the governing bodies.

All of the regulations are in place in order to work against one risk or another. By limiting who can build a Nuclear reactor and where it can be built mitigates any random person off the street from being able to set up an incredibly dangerous operation. This also addresses the ecosystem by focusing on where it be built. The coal regulation addresses the situation of the deteriorating ozone layer by having less emissions being produced. Laws focused on energy farms such as solar, wind and hydro are mostly focused on ecosystems but as well as making sure these systems are not dangerous to people. By requiring a perimeter around a wind farm, you are mitigating harm to people due to a turbine injury. There is legislation in place that require a certain amount of the yearly energy production come from renewable means, this is

addressing many things, but one people may not think of is countries dependency. A country should never be dependent on a specific thing for that can lead to problems down the line. Having a well-rounded production when it comes to energy is one way to mitigate that problem.

The big question is, are these laws and regulations actually working to help the world as a whole. That obviously is a loaded question due the fact that when it comes to energy production there are so many laws in regulations in place. The short answer is yes and no. The regulations in place for nuclear reactors are absolutely working this is shown by there being a slow increase in nuclear reactors being used and at the same time there being very dew problems involving them. Regulations involved with ecosystem protection are improving mitigation of animal harm. The new technologies being created have done incredible things to help out the marine life that would be involved in hydro plants. On the other hand, regulations when it comes to CO² emissions is not working as intended. This is due to many countries not signing on to these regulations and they are coming at too small of increments (for economic reasons). There is hope though as the recent pandemic has shown (COVID-19) there is hope for the environment. Due to lack of people working in factories, repairs to the ozone layer have become evident as well as air quality increases around the world. In the future with this information there may be more push for regulations. Even after non-renewable regulations have been put in place the United States (a major industrial nation) which creates 101.3 Quadrillion Btu as of 2018 and only 11% is renewable and 8% is nuclear. As far as safety regulations go those are a success for there are very few casualties as a result of energy production. A major contender was coal mining while it is still dangerous there has been much legislation that focuses, particularly on it.

Reference Page

- “Annex A to Appendix A to Part 710-National Security Adjudicative Guidelines for Determining Eligibility for Access to Classified Information or Eligibility to Hold a Sensitive Position.” *Electronic Code of Federal Regulations (ECFR)*, www.ecfr.gov/cgi-bin/text-idx?SID=7665a990b5ea7e10ab471e0f14d8b245&mc=true&node=pt10.4.710&rgn=div5.
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