Example of research paper on solar energy and politics

Business, Industries

Technology

Innovation is the process of is bringing socially together the skills and knowledge of different persons to generate a new knowledge or skills. These best skills can brought together by hiring best researchers with specific experience and training . If we look at the pre-industrial economy, In limited technological education and knowledge, this combining of best skills has to occur through personal contacts, it show that effectiveness of individual's as an innovator of technology will be dependent on the skill of his social network persons. First we need to understand technology ethics and process involve in saving solar energy through solar panels.

Technology and Ethics

while trying to understand the impact of ethical decisions to technology we must also consider the distinct kinds of ethical conflicts which may arise.

- Distributions of Technology-Related Benefits
- Violations of Exceptionalness Moral Principles
- Technology-Precipitated Value Conflicts
- Harms of Aggregation
- Violations of already Established World Orders
- Exposure to risk Without Prior Consent
- Practitioner Problems
- Technology-Engendered Rights

Applications of solar energy Systems

Our world consumes electricity which is mostly provided by oil, gas, and coal. All These sources, are cheap but have some drawbacks. They pollute our environment when extraction take place and when it burns. The reservoirs of these resources are limited. The world is now turning towards renewable energy sources for meeting its growing energy requirements still there are many problems associated to renewable energy sources so that it is not possible for these sources to become major sources of electricity generation. The main hurdle behind acceptance of solar technology in public is its cost. More research is needed in terms of cost effective solar panels for use in generation of electricity on commercial bases. For commercial use till today it is not been a good idea due to cheap public energy, low efficiencies of the panels, and high installation expenses.

Research show that the Earth’s surface temperature is being increasing rapidly for the last decades. This has large impacts on human and other living beings. A quantitative research of the anthropogenic contribution for the change of climate is hampered with inadequate understanding of relative roles of climate drivers, which are both external and internal. Main external driver is the solar radiative output as the strength of sun energy influence and its important role remain from millions of centuries. Variations in solar energy with total spectral irradiance both are the basic suspects. Solar energy total irradiance is the total of solar energy flux is at the most top of the Earth’s atmospheric place, any changes in the Solar energy total irradiance will affect the overall balance of earth's climate system by changing its energy. Variations in distribution of irradiance especially for

ultra violet and also in infra red has a major effect on the dynamics and chemistry of the Earth’s atmosphere and its balance of energy.

There are many incentives for solar energy industry that are helping in boosting development of solar energy system though out nation. These incentives also have binding legal implications. This has help investors to invest their funds into research and development of technology for solar panels It also help them for solar energy system installation. Global access to latest technology would also bring researchers together from across the world and make reasonable efforts to reduce cost on solar systems and its installation. The development of solar energy systems have help the third world countries in such places where electricity transmission line are not available so with the help of solar panel they can create their own electricity at home without any transmission line. While in developed world commercials projects are more under observation due to good transmission lines of electricity. The use of solar energy will also bring social empowerments to third world where in some remote area peoples have no access to electricity so they can get all facilities attached to electricity and their life would change as they will have access to other utilities after having solar systems installed at their homes. Many private organizations are working in these parts of world to give a better life to these peoples. This has also created jobs in many countries for not only development of solar systems but for installment and maintainers. After installment for first time solar energy become most cheaper energy as comparing to other energy sources.

Political influence and law of energy

We live in an era of challenge and uncertainty . Although every era throughout history may able to make similar claim, but today's problem affects our way of life more than ever before. One of the major problem is production and use of energy which is cost effective and clean. Dependant on low price of the fuels and modern society which relies is not certain. Due to this uncertainty, we have to either develop sources of alternative energy or be ready to face fundamental changes in our life style.

If we look In past few years clean energy by the source of sun is been gaining acceptance among societies as an alternative to traditional energy sources (fuels and gas). For example In San Diego, California new subdivisions are started to equipped with solar hot water heaters. As technologies have develop more and more commercial acceptance of technologies have grown, solar energy is also increasingly gaining acceptance among societies as a viable generation source for general public , public utilities and commercial ventures. The growth associated with solar energy industry in America is phenomenal over the past few years. There are increasing experimentation are taking place for policies which intended to encourage use and growth of solar energy generation. Government programs like Reinvestment Act of 2009 and American Recovery and increasing compliance under renewable standards have also helped this industry. Power buyers weather large or small continue to drawn their focus to solar energy for demonstrating independence from traditional sources and are playing a part in moving economy toward more independent energy future. As solar energy is not yet have reached to most popular

source but the economics of availability and stable in terms of fuel cost are increasingly competitive and attractive. The industry growing and ready to move ahead with vibrant conditions.

Recent legislation for access to sunlight

During the last several years, a number of states in US have passed " solar rights" statutes. This solar rights provide a process for solar energy users to have a legal right for them to unobstructed sunlight. We can divide Solar rights statutes into four categories.

1- common law codifications

2- prior appropriation statutes

3- shade control statutes

4- administrative allocation procedures.

In recent years Legislation is taken place for Identifying Project Needs and distinguishing Land Rights. The first steps for developing solar project is by securing rights for the land needed to operate , construct, and maintain project. Typically, Land rights are established by lease or agreement. In order to maintain deductibility of land by its cost for federal income tax, it is best that the project should not acquire fee title for the land. For large scale projects purchasing fee title is economic which also attach water rights advantages. Solar energy project counsel should mindful of the relative advantages/disadvantages of easements in various states and leases. Such issues can be range from tax treatment differences to no recognition of easements for possessory uses.

Politicians and Government involvement

As we look forward to present government involvement in Solar energy Over the past few years solar energy has been a subject to heavy scrutiny by the public and also by the investors around the world. It is an industry which is considered the future of energy but procurement is now headed for a contraction of this industry as the governments decided to lower subsidies. Now solar companies are reducing their staff and production. The main causes for slowdown in that the solar energy sector is endogenous. In order for solar energy to be a viable substitute source for the fuel energy it should be more competitively by price and technological advance so that less investment is required in terms of instruments. The solar energy sector was been largely subsidized by the governments through initiatives and direct subsidies. If we look at the past three years alone the U. S. government spent more than $100 billion for supporting the alternative energy industry but still it has been unsuccessful in creating low cost energy source and helping the viability of alternative energy sources industry.

The government involvement in the alternative energy sectors is scaling back due to deficit reducing steps which is also reducing production subsidies for alternative energy source industry. The bankruptcy of company Solyndra, a California based producer of solar panels explains difficulties that this industry is facing. The U. S. Department of Energy have guaranteed the company a loan of $535 million but still in less than two years it filed for bankruptcy. The main reasons behind the bankruptcy of Solyndra were high costs, international competition and less demand. Consumer demand is very low for the solar panels due to its cost. Chinese manufacturers are producing

similar solar panels for much cheaper price.

In our futuristic view what is the future of solar energy and what government should do to. The first step is that the loan guarantee program should be retired as its results are not enough. second is the path to commercialization which requires discipline , brains and grit. Our people and government should go for the free market for solar energy. Even if we import solar panels from china or any other part of world on cheap prices it will benefit not only our economy but also increase global usage of solar energy which will automatically reduce dependency on fuels. Our government’s green energy policy has two parts

1- support basic research and aim for developing technologies for green energy

2- giving loan guarantees which helps in the adoption of green energy.

We have already examine that loan guarantee by The Department of Energy’s to Solyndra was an embarrassing example for current system. However, politics have ultimately trumped reason and the bureaucrats awarding financial aid was beholden by political masters in which political leaders had promised us that they are going to fix our economy by producing green jobs. While on the other hand the price of the Solyndra failure is borne by our tax money. It is interesting that its probably undiscoverable to know that how many projects are currently funded by government with loan guarantees. first of all we need to find out the best technology for solar energy and it should be done by private funding and must not only relay on government support. so that bad investments could not be funded at all. But still government has a role to play in supporting basic research by legislating

and making new laws to allow a free market for solar energy resources technologies. Our government's think tanks are already suggesting to lift subsidy to solar energy but the effect will push away investors from investing in solar energy and some investor even can go to court against government if this subsidy is removed.

On the other hand some politicians still argue that we should use fuels for energy because a lot more jobs are dependents on oil and gas then solar energy could produce. World economy is dependent on oil trading and any new technology as solar energy gain access to market by producing cheap solar panels can put a devastating effect on oil markets, petrol pumps, gas stations and other stakeholders. So in this case creation of new jobs would be less then unemployed by the use of new technology. But still as there is a limit to world oil reserves so one day world must have to move towards solar energy and other alternative so this view that there is no need for new energy sources is temporarily and in future we will need more and more green energy to fulfill our energy requirements.

Economic figures about solar energy panels tells us a progressive story as Prices have been continuously falling and the cost that is per watt of electricity produced by solar panels for houses has fallen from USD 9 in 2006 to the USD5. 46 in 2012. Even The average commercial installation price lower at $3. 45 per watt. even in some areas upfront investment is pay back in four to five years. Our media is also promoting use of solar energy by reporting its project stories and its successes. Media have played its role and now peoples are more aware of benefits of solar energy as clean and as a zero pollution energy. Media propagate these stories by the view of

innovation and creativity.

The Association of solar Energy Industry claimed that just in last year around 52, 000 solar panels were installed in residential rooftop in the U. S. which is 30 percent more than the previous year. While in 2010 and 2011, there was a growth in rooftop installations by 109 percent which also include commercial buildings. The solar power revolution is taking place although with a limited speed thanks to the industry’s public support , ingenuity and creativity. it need politicians and our government to involve more seriously on this clean energy source.

Effects of solar energy

Solar energy has potential to dramatically change our life and the way the world is getting energy. The potential can be determined as solar energy falls on 100-square-mile area in the southwestern US is enough to power entire nation. On the other hand solar is the most cleanest forms of energy that the world could get. Although solar energy has positive and minimal negative effects on our environment.

1- Climate Change

The burning of fuels for energy generation is still world number one source in which carbon dioxide emissions take place which increase pollution in environment. While Solar power is also described as emissions-free or zero emission form of energy. Greenhouse gas emissions by sun is negligible.

2- Water

Creating energy is primarily a water intensive process. Alone in the U. S. electricity production though burning fuels cost almost 40 percent of daily freshwater withdrawals. While solar photovoltaic systems has not any requirement of water to generate electricity. Although some solar thermal systems have usage of water but the major point is that this water can be reused so there is no loss of water.

3- Land

4- Hazardous Waste

There are many positive impacts f solar panels but if its damage after usage can contain hazardous materials which could be dangerous for environment.

Conclusion

Green energy specially solar energy could bring a positive change to our society but still it is not cost effective technology more and more research is needed to obtain cheaper solar energy through more advance technology. Still a free market could be beneficial as internationally non oil producing countries need to make their less dependency on oil producing countries and due to less labor cost some countries could provide less cost solar panels. The potential of solar energy will always attract investors and customers to put more funds in it for its technology and distribution. Politicians always want more support by highlighting creation of jobs by green energy but they should also focus more on legislation to make a free market for solar energy . The output from worlds oil reserves are at its peak and each reserve has its limit so solar energy is the ultimate solution for our future.

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