

Promoting research into renewable energy

The topic of this research report the promotion of research into renewable energy, to be discussed as the second topic in the International Scientific Corporation. The report will look into how the promotion of renewable energy research came about, as well as countries and organizations that are currently leading the research. Furthermore, the report aims to outline past UN resolutions concerning the topic at hand, and other general attempts at promoting research into renewable energy in the past. Finally, possible ideas as to improvement of the current situation will be suggested.

Key Terms

Renewable energy – “any naturally occurring, theoretically inexhaustible source of energy, as biomass, solar, wind, tidal, wave, and hydroelectric power, that is not derived from fossil or nuclear fuel.”¹

Biomass energy – energy coming from plants; in terms of renewable energy, biomass usually comes in the form of agricultural waste.

Sustainable – something relating to a way of using resources such that the source is not harmed or exhausted

Background Information

Already in the 19th century societies began to be concerned with the possibility of fossil fuels, on which most (if not all) industrialized societies rely, running out. Though wind and water mills had existed for centuries as sustainable power sources, they were not well developed technologies, and so it was the French who began experimenting with solar power as an alternative to the burning of coal and petrol. By 1860, Mouchot had developed the first solar powered engine. For the rest of the 19th century, a wide range of experimentation regarding the generation of electricity found place especially in the US, ultimately leading to discoveries within both solar, wind, hydro and geothermal power. In the 20th century, the concern regarding pollution started becoming a more pressing issue, and hereby research into renewable energy became a more urgent matter. Research was done to replace petrol with alcohol, and by the 1960's, geothermal energy was commercialized. With further research, solar energy began falling in price, slowly becoming a more realistic way to limit fossil fuel pollutants. Today,

¹ <http://www.dictionary.com/browse/renewable-energy>

the race for knowledge within renewable energy represents a larger concern with our planet's quickly vanishing resources, and has in the 21st century become an issue of high priority.

Timeline of energy research and development:

<http://alternativeenergy.procon.org/view.timeline.php?timelineID=000015>

*note that this source is US-oriented

Major Countries and Organizations Involved

Sweden

With an aim to be the world's first country completely free of fossil fuels, Sweden is currently leading the way in regards to the utilization of renewable energy. Already in 2010, more energy was produced using biomass than petroleum. A Research and Innovation for a Sustainable Energy System Bill presented by the government in 2012 outlines future funding for research into renewable energy.

Further info: http://www.iea.org/textbase/nppdf/free/2013/sweden2013_excerpt.pdf

Denmark

In a goal set for the year 2020, it is stated that Denmark aims to get 50% of the country's energy demands from renewable sources. The nation is one of the leading pioneers regarding wind power, and as of 2015 wind energy has been the cheapest form of energy in the country.

China

While China is infamous for its pollution and mines, the nation is also one of the leading in the world when it comes to renewable energy research. Focusing on solar, water and wind energy, one of China's successes has been the drop in price of these technologies, both due to innovation and expanding of the chinese market for renewable resources².

Haiti

While Haiti's technology and research regarding renewable energy may not be as extensive as other nations', Haiti is a key stakeholder when it comes to researching renewable energy sources due to its vulnerability in the face of climate change. Being an island nation, Haiti is particularly unguarded when faced with rising sea levels, and changing weather patterns such as hurricanes. Seeing as these are troubles arising

² https://en.wikipedia.org/wiki/Renewable_energy_in_China#National_laws_and_policies

from increased CO2 levels resulting from the burning of fossil fuels, the republic of Haiti holds special interest in substituting carbon based fossil fuels for renewable alternatives³.

Further information: <http://www.activesustainability.com/top-5-countries-in-renewable-energy>

Relevant UN Resolutions

In 2011, the UN published a resolution on the ‘promotion of new and renewable sources of energy’, which expresses need for reform within the global use of energy in order limit the effect that our energy use has on climate change. The resolution underlines the need for cooperation and coordination when it comes to developing and implementing renewable energy internationally.

Read the full resolution here:

http://www.un.org/esa/dsd/resources/res_pdfs/ga-66/SG%20report_Promotion_new_renewable_energy.pdf

In 2014, the UN launched their “United Nations Decade of Sustainable Energy for All”, which will terminate in 2024. With it, the UN introduced 17 sustainable development goals. Three of these are directly related to renewable energy: goal number 7 on ‘affordable and clean energy’, goal number 11 on ‘sustainable cities and communities’ and goal number 13 on ‘climate action’.

Read more about the specific goals here: https://en.wikipedia.org/wiki/Sustainable_Development_Goals

In relation to these goals, the UN released a report outlining a common approach to sustainability regarding energy. The report underlines the efforts made specifically to reach goal number 7, and emphasises the need for international cooperation in ensuring that we progress when it comes to sustainable energy, partly through research into enhancing renewable energy technologies.

Read the full report from 2015 here:

https://sustainabledevelopment.un.org/content/documents/8533SG%20Report_UN%20Decade%20of%20Sustainable%20Energy%20for%20All-advance.pdf

Previous Attempts to Solve the Issue

As mentioned above, several countries have made individual efforts to develop renewable energy sources, and integrate them into their communities. It is evident that the UN has also put effort into promoting the importance of the issue, not least by making clean energy one of the international goals to be met before 2024.

³ <http://blogs.ei.columbia.edu/2012/02/01/climate-change-in-haiti/>

The UN has also held several climate change conferences, such as the one hosted in Copenhagen in 2009, to discuss how to go about reducing the effect of modern ways of living on the climate. Part of these conferences was of course to discuss how to deal with the problem finite, CO₂-producing energy sources such as fossil fuels, and attempting to establish international cooperation in terms of renewable energy advancement.

Possible Solutions

As the problem faced by those attempting to promote research into renewable energy is mostly related to international cooperation, seeing as sustainable energy has to be an international effort in order to be effective, it would make sense to form an international organization specifically concerned with the advancement of renewable energy technology, as well as the implementation of said technology. This organization could for example be an organization under the UN, which then helps countries with insufficient resources available for the development of clean energy.

Another solution would be to not only involve the government of countries in the research efforts, but also the public, as a project with public support is more likely to be sustainable over time. The involvement of the public could be initiated in many ways, for example through government-managed campaigns, and through youth education.

Bibliography

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