

Committee on Sustainable Energy

*Supporting Countries
in the Implementation
of Sustainable Energy:
Overcoming Barriers
to Investing in Energy
Efficiency*



*Director: Sebastián Mendoza
Moderator: Mauricio Nava*

INTRODUCTION

Around the world, many countries have struggled for a long time to gather enough resources to invest in energy for their daily needs. Sustainable energy is something fundamental for every nation's function. That's why the Committee on Sustainable Energy is doing something to solve this issue. The Committee on Sustainable Energy is an intergovernmental body that provides a platform the members of the state can discuss in. "It is mandated to carry out a programme of work in the field of sustainable energy with a view to providing access to affordable and clean energy to all," (UNECE, 2017) next to the "Sustainable Energy for All" initiative of the Secretary-General, and to help reduce greenhouse gas emissions and the carbon footprint of the energy sector.

This Committee was created by the UNECE (The United Nations Economic Commission for Europe), which was founded in 1947 with the purpose of encouraging its members to support each other economically and to establish a regulated financial environment to create economic growth. It is located in Switzerland, has 56 member states and communicates directly to ECOSOC (Economic and Social Council). When the Committee on Environment Policy was established, its main aim was to "assess countries' efforts to reduce their overall pollution burden and manage their natural resources, to integrate environmental and socioeconomic policies, and to strengthen cooperation with the international community." (Environmental Policy, 2018). The Committee on Sustainable Energy has many objectives, long and short term, and is still working on them successfully to this day. With their main goals being the following: "ensuring access to affordable and clean energy to all and to help reduce greenhouse gas emissions and the carbon footprint of the energy sector." (UNECE: Committee Objectives, 2018). Countries with low amounts of sustainable energy are benefited from this.

Additionally, UNECE is helping countries "to improve management of their natural endowments through the United Nations Framework Classification" (UNECE: Committee Objectives, 2018). (UNFC), an internationally applicable scheme for classifying and reporting energy and mineral reserves and resources and has also published recently recommendations to policy makers about carbon capture and storage.

The use of sustainable energy is something very important that nowadays we, as an international community, should start to develop more, as this can help in a very effective way to reduce global warming and improve living conditions around the world, less polluted for future generations. This is a very big step that we, as an international community, should give worldwide as soon as possible and important leaders around the world must become aware of this and occupy renewable energy sources instead of other types of energy and invest in them, despite the fact that green energies are expensive.

HISTORY OF THE PROBLEM

Since the very beginning of the use of sustainable energy around the world, some people have had a little more trouble in obtaining it than others. Over the years, sustainable energy has turned into an everyday necessity. Nowadays, developing countries are investing in the efficiency of this type of energy with the help of fully developed countries until they are able to invest on their own. The UN took action on this issue since the early 1970s. UNECE was concerned with problems on the environment, which led to the creation and establishment of the Committee on Environmental Policy.

“The Committee provides collective policy direction in the area of environment and sustainable development, prepares ministerial meetings, develops international environmental law and supports international initiatives in the region.” (Sustainable Development, 2015). The CEP works to support countries that need to enhance their environmental governance and cooperation through boundaries as well as to strengthen implementation of the UNECE regional environmental commitments and advance sustainable development in the region.

The organization started using energy during the 1870's, when “peak coal” fears were all over Europe, many people started to think that civilization itself could disappear. The government and scientists knew about those fears and slowed them down on their progress to use coal energy. “Scientists and engineers insisted that solar energy could extend the industrial revolution indefinitely after coal ran

out.” (Sustainable History, 2011). This was considered a bad idea at the beginning until it started to be accepted by citizens and organizations.

In 1921, an article came out with the title of “The Chemists Race to Save Civilization,” written by Edwin Slosson. In this article he says the following: *“Nations are already beginning to snatch at coal and oil as starving children quarrel over crusts. The fate of civilization hangs upon a race against time... Yet the search for new sources of energy would mean that sometime in the future nations may go to war for waterfalls, for the overheated and over-humid lands of the tropics where alcohol and oil may be produced as motor fuel, or for arid deserts where sun engines may be set up.”* (Sustainable History, 2011). This article received mixed opinions from critics, alarming citizens and non-governmental organizations. “In 1949, Presidential science advisor Vannevar Bush said that a defining characteristic of a democracy is the influence of public opinion in the choice of technological paths.” (Sustainable History, 2011). In other words, the social construction of a technology is more important than the apparent nature of the technologies themselves.

Green energy is something that countries try not to use because of important reasons. Countries like The United States, Russia and China spend a lot of energy and money studying green energy. There's no shortage of ideas. For example, San Francisco considered installing giant turbines under the Golden Gate Bridge and harnessing tidal power to be able to generate electricity. There are all kinds of research projects, “coalitions and advocacy groups touting renewable energy, but the country is still heavily reliant on fossil fuels. Only 7% of energy consumed is from renewable sources.” (Investopedia, 2010). This is because it is too expensive. The total cost to research, build and operate brand new green energy plants plus the storage and transmission expenses is significantly higher than traditional coal burning plants. According to the U.S. Energy Information Administration, “the average cost of solar power is almost four times as much as traditional coal burning electric generation.” (Investopedia, 2010). The costs are difficult to compare due to the widely disparate nature of individual technologies, but the net result is that startup costs go down or up hill quickly. The U.S. government is going

to attempt to jump start green energy projects through the American Recovery & Reinvestment Act of 2009 by allocating \$16.8 billion dollars for energy conservation, research and development. These costs include everything from grants to tax credits to encourage the use of green energy. Most projects have a long-term horizon, so results are not immediately available.

During the summer of 1979, “engineers from US aerospace and energy agencies assembled a \$50 million utility-scale wind turbine on an alpine meadow overlooking the college town of Boone, North Carolina.” (Sustainable History, 2011). The 100 feet long blades on the Mod-1 turbine poured two megawatts of electricity into the grid, which is enough to power 800 homes. What happened is that politicians decided that wind energy was an outstanding new way to fight the dependence on foreign petroleum, and this message resonated with the public that was still suffering from the insecurities of the Arab oil embargo.

With the technical help from Danish engineering companies, four hundred students from the Tvind school built a similar two-megawatt wind turbine to the one mentioned before from second-hand parts at a cost of about \$500,000, one percent of the cost of the Boone windmill. The volunteer students and teachers hoped to achieve at finding an alternative to nuclear and coal power. “ The students tied their own reinforcing steel, mixed their own concrete, and created their own factory to cast fiberglass blades. The teachers supervised, contributed labor and even took deductions from their paychecks to keep the project going.” (Sustainable History, 2011). The Tvind turbine is a great example of a major piece of technology that is being used to obtain energy and is still in operation today.

CURRENT SITUATION

Contrary to the popular opinion, governments have strived to adapt properly while using renewable sources of energy to make their countries develop faster and more efficiently. However, some of them have yet to bring these types of energy to their countries due to weak economic systems, low resources, among others. As stated earlier, governments around the world find it very difficult to afford green energy because of its high price. Only a few countries like The United States

and Russia have been able to afford a reasonable amount of green energy such as solar, wood and wind energy over the last couple of years.

The United States, a country with great economic infrastructure, used to be the country that polluted the most. As awareness grew, green energy began to be implemented. Developing countries are unable to buy these products because they can't afford the technology that this energy requires. Now, Energy systems are quickly changing. The importance of individual or untouched energy sources and different options for generating power are evolving, as the ways in which electricity, for example, is shared, transmitted and distributed. With time, "Power generation is becoming more and more decentralized making grid management increasingly complex. Electrical consumption continues to steadily rise all over the world." (Energy, 2018).

For every country using any type of energy, meeting these challenges requires the sale of cutting-edge products and services covering the entire energy value chain. Also, "it calls for a comprehensive portfolio of physical and digital technologies, products and solutions that are being used that allow us to actively build our energy future" (Energy, 2018). Countries struggle to have better energy saving systems because they have very few records in their government energy portfolio.

One major example of a market that has changed due to the use of renewable and electric energy is the automobile market: "In the last ten years, the international electric car market has changed considerably, especially if we think of the growing interest of national governments towards financial investments in renewable energy research and development projects." (Tawaki, 2018).

The United States has been the country that has invested the most in renewable energy research and development, at least until last year, when China's electric cars market had an incredible increase. "Despite the US are continuing to be an important center for investments, China is now leading the way with 2 billion dollars invested in 2016." (Tawaki, 2018). All though, the energy they invest in is not always sustainable.

“Countries like the United Arab Emirates, Benin, Bahrain, Botswana, Kuwait, Libya, Mongolia, Oman, Qatar, Turkmenistan, Trinidad and Tobago, the Republic of Yemen, Saudi Arabia, Hong Kong, Brunei Darussalam, and Singapore are listed by the Data World Bank as countries with virtually 0% of their energy being sourced from alternative and nuclear means.” (world atlas, 2018).

Renewable energies should be used in all countries in order to reduce the global pollution that is causing global warming, and countries like USA and other world powers should help LED countries that do not have the opportunity to buy these products for so generate a greater good to the recovery of the partially natural stala that had the environment when it wasn't so polluted.

UN ACTIONS

The UN started working on this issue years ago. The first urgent action was taken at the 9th session of the Commission on Sustainable Development (CSD-9), which took place in 2001, countries agreed that a stronger focus should be placed on the development, implementation, and addition of cleaner, more efficient energy technologies. Additionally, it was agreed that urgent action was required to further develop and expand the role of alternative energy sources.

“The Johannesburg Plan of Implementation (JPOI), adopted at the World Summit on Sustainable Development in 2002, addresses energy in the context of sustainable development” (Knowledge platform, 2015). Apart from other things, the JPOI calls for action to the following: (1) improve access to economically viable, socially acceptable by everyone and environmentally safe energy services, recognize that energy services have positive impacts on poverty eradication and the improvement of living conditions, develop alternative energy technologies with the purpose of providing a greater share of the energy mix to renewable energy so then an increase in the global share of renewable energy sources can be made; diversify energy supply by developing cleaner and more advanced effective energy technologies, combine a range of energy technologies, including advanced and cleaner fossil fuel technologies to reach the need of energy services, and finally; take action to phase out defects in this area that achieve sustainable development.

Later on, “in 2004, UN-Energy was created in response from a call of the 2002 World Summit on Sustainable Development for a more coordinated and coherent program on energy activities by UN agencies” (Knowledge platform, 2015). CSD-14 and CSD-15 in 2006 and 2007 focused on the formation of a cluster of thematic issues, which included energy for sustainable development.

After these propositions were discussed in the cluster, a 2012 resolution was “passed by the UN General Assembly declaring 2012 as the International Year of Sustainable Energy for All was successfully implemented with many activities and commitments promoting a sustainable energy future” (Knowledge platform, 2015). Additionally, in the outcome of the 2012 Rio+20 Conference on Sustainable Development, members stated to: recognize the fundamental role that energy plays in the process of development, emphasize the need to address the challenge of access to sustainable modern energy services for all, and recognize that improving energy efficiency, increasing the share of renewable energy and cleaner and energy-efficient technologies are important for sustainable development.

In 2014, the resolution made by The General Assembly declared 2014-2024 as the United Nations Decade of Sustainable Energy for All. It entered into effect with many activities and commitments and the establishment of several technical hubs around the world to accelerate the objectives of this SG’s initiative. In 2015, the UN General Assembly adopted the 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs), which include a dedicated and stand-alone goal on energy, SDG #7, calling to “ensure access to affordable, reliable, sustainable and modern energy for all” (Knowledge platform, 2015). As a result, the issue of sustainable Energy now stands at the center of global efforts to induce a great change towards low-carbon energy systems, green economies, poverty elimination and ultimately, sustainable development.

POSSIBLE SOLUTIONS

- Make a list in each country that contains every single source of energy (wind, fossil, etc.) they have at their disposal and the quantity of each and educate them about what they are capable.

- Create a market between countries willing to participate were countries with big amounts of renewable energy can exchange it with countries in need of it and that have resources of their interest. This will produce positive outcomes and agreements.
- Create a sustainable energy organization that will provide basic services to everyone around the world that needs them at a free cost. The energy will be provided by countries with abundant energies and will start in 2020 and end in 2027.
- Create a fund for sustainable energy development for countries in need.
- Help between the countries to the development of renewable energies at a very low average cost for each country, not charging import costs
- Give resources to Light Emitting Diode (LED) countries to generate renewable energy or sell them at the lowest possible cost. The country that will provide such energy will have to analyze the needs of the country that will be benefited and the conditions of the region to know what kind of energy to provide and which one could make the biggest impact (electrical, wind, solar, etc).

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