

Forum: United Nations Environmental Programme

Topic: The question of ensuring further development of sustainable energy sources in UN member nations

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Introduction

Since the beginning of the 19th century, fossil fuels have been used as a mean to produce energy. The utilization of such technology has influenced over 80% of the world's population. In fact, without electronic devices, electricity and vehicles, the population would live as the ancestors used to live about 200 years ago.

The usage of fossil fuels caused countless issues to the environment and many of them are endangering the survival of animals and humanity itself.

Global Warming

Deforestation and fossil fuels combustion increase the concentration of greenhouse gases, notably carbon dioxide, in the atmosphere and they enhance the greenhouse effect. It is believed that from 1880 to 2012, the average temperature has increased by 0.85°C and that the year with the highest weather anomalies until now recorded was 2014

Acid Rains

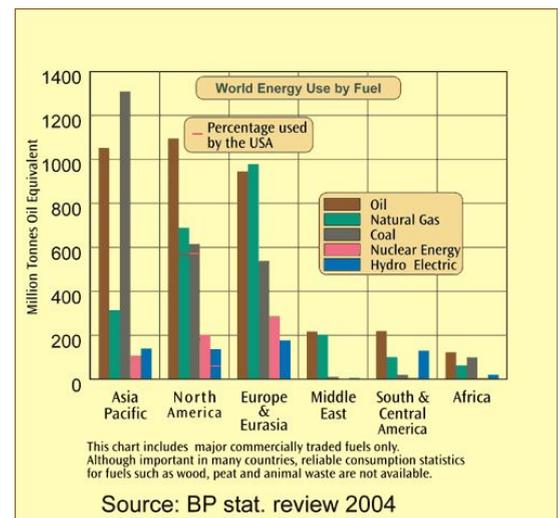
The production of non-renewable fuels leads to the generation of sulfuric, carbonic and nitric acids that may generate acid rains. Those rains, besides the dangerous effects for human health, flora and fauna, they also affect negatively on both natural and built environment

Environmental Pollution

Furthermore, the combustion of fossil fuels releases in the atmosphere many deadly substances for the environment. Between others, pulverised fuel ash, is one of the most dangerous.

Not only the combustion, but also the extraction of fossil fuels harms the environment!

For instance, the extraction of carbon in mountain peaks and open-cast mines has a negative environmental impact; offshore oil extraction is a danger for marine living beings. In addition, oil refineries could pollute both water and air. Finally, environmental pollution could damage human health with effects and illnesses such as: premature death, acute respiratory diseases, bronchitis and aggravated asthma.



What is Sustainable Energy?

In general, it is the energy produced from a source that is not depleted when used and its consumption avoiding environmental pollution.

Sustainable Development can be categorized in: Sustainable production of renewable energy, Energy efficiency and conservation, reduction of environmental pollution.

Sustainable production of renewable energy

Scientists do classify renewable sources of energy in three generations, from the ones discovered during 19th century to the ones discovered recently:

First-generation energy - discovered during the industrial revolution at the end of the 19th century: biomass combustion, geothermal power and hydropower.

Second-generation energy - technologies that include solar heating and cooling, wind power, biofuels and solar photovoltaics. They are now used since the 1980s.

Third-generation energy - technologies that are still under development and include advanced biomass gasification, biorefinery technologies, hot dry rock geothermal energy and ocean waves energy.

Nuclear energy

Although the World Nuclear Association declares that nuclear energy sources may be considered as renewable sources of energy, many scientists disagree. Generally, nuclear energy depends on the extraction of minerals. As far as minerals are different from fossil fuels, nuclear energy will never be closely "renewable". Nevertheless, it might be classified as "sustainable". Considering the fact that nuclear waste is toxic and hardly disposable, it is also well controlled and less polluting than fossil fuels. In addition, nuclear energy does not affect the greenhouse effect since carbon dioxide emissions are almost irrelevant while productivity is very high

What the world is doing

1992 The UN Conference on the Environment and Development is held in Rio de Janeiro. It results in the Framework Convention on Climate Change.

1997 the Kyoto Protocol extends the FCCC

2001 the Clean Development Mechanism is one of the Flexible Mechanisms of the Tokyo Protocol with the aim of achieving sustainable development and contributing to the ultimate objective of the United Nations Framework Convention on Climate Change (UNFCCC)

2009 the Copenhagen Accord, a document that endorses the continuation of the Kyoto Protocol

2016 the Paris Agreement was signed. It is an agreement with the aim of "holding the increase in the global average temperature to well below 2°C above pre-industrial levels..."

One of the Paris Agreement's main goal is "to contribute to the mitigation of greenhouse gases and support sustainable development". This will be achieved through the Sustainable Development Mechanism. Though the structure and processes are not yet determined, this mechanism could be considered the direct successor to the Clean Development Mechanism under the Kyoto Protocol.

During the last years, Member States are relentlessly investing in sustainable energy. According to UNEP's analysis, between 2006 and 2007 investments raised from approximately \$150 billion to \$200 billion.

UNEP goals:

- By 2030, ensure universal access to affordable, reliable and modern energy services
- By 2030, increase substantially the share of renewable energy in the global energy mix
- By 2030, double the global rate of improvement in energy efficiency
- By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology
- By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular, least developed countries, small island developing States, and landlocked developing countries, in accordance with their respective programmes of support

Questions a Resolution must answer:

- **How to ensure universal access to sustainable energy?**
- **How to increase even more the share of renewable energy in the global energy mix?**
- **How to convince the Member States to increase investments in renewable energy sources?**
- **How to provide advice to developing country governments on policies that create a more favourable environment for renewable energy?**
- **How to Provide information, and dispelling myths about renewable energy?**

Bibliography and Useful links

“Sustainable Energy.” Wikipedia, https://en.wikipedia.org/wiki/Sustainable_energy ;

United Nations Environment Programme and New Energy Finance Ltd. (2007), p. 17;

“UNFCCC Process.” UNFCCC, <https://unfccc.int/process> ;

“UN United Nations Treaties.” *United Nations*,

https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-7-d&chapter=27&clang=_en

List of signatories Members of Paris Agreement;

United Nations Environment Programme, <https://www.unenvironment.org>

UN Sustainable Development Goals, <https://www.un.org/sustainabledevelopment/>

UNEP DTU Partnership, <http://www.unepdtu.org/what-we-do/thematic-programmes>