

ODUMUNC 2009 Issue Brief
Third Committee (SOCHUM)
**Cooperation in Developing New
And Renewable Sources of Energy**
Britta Rinehard



Far from being a burden, sustainable development is an exceptional opportunity - economically, to build markets and create jobs; socially, to bring people in from the margins; and politically, to give every man and woman a voice, and a choice, in deciding their own future.

UN Secretary-General Kofi Annan, 2007 ¹

Introduction

In the 21st century, energy is no longer a regional concern but has become a global concern with global impact. World energy demand, especially in the developed world, has increased drastically in the past few decades. The projections of energy usage for the next few decades forecast the same trend. This is a two-fold concern. First, the majority of energy produced hitherto comes from fossil fuels, a finite resource. In more recent years fossil fuel prices have significantly increased. Second, fossil fuels contribute to global warming and therefore sustainable developments and usage of renewable energy such as wind, solar, geothermal heat, etc. are indispensable.

Main elements of the issue

Energy prices from fossil fuels are often unpredictable because of price fluctuations, caused by production, consumption, disruptions, weather etc. Throughout the years, prices globally have steadily increased and they will continue to rise. For example, crude oil prices have drastically increased within the last twelve months ranging in the United States, the world's top oil consuming country, from \$ 65/per barrel in August of 2007 to over \$133/ per barrel in July 2008. ² The U.S. imports approximately 60 percent of its consumption of which less than 15 percent come from the Middle East. Increased energy demand and its negative effect for the environment have created one problem.

Another problem in regards to energy is its security. Terrorism and conflicts in the Middle East and other oil producing regions have created security risks. The Middle East represents the biggest oil producing region and also holds the biggest oil reserves worldwide. Oil disruptions and high prices have created major global issues, especially for oil importing countries. Developing countries e.g. India and China, due to their rapid economic growth, have quickly increased their consumption and becoming more depended on oil imports as well. The finite nature of fossil fuels, particularly oil, and high dependency of many developed as well as developing countries has created a high global energy security risk. This fact illuminates the necessity of investing in alternative energy

¹ <http://www.un.org/esa/desa/aboutus/dsd.html#whowear>

² http://tonto.eia.doe.gov/dnav/pet/pet_pri_wco_k_w.htm

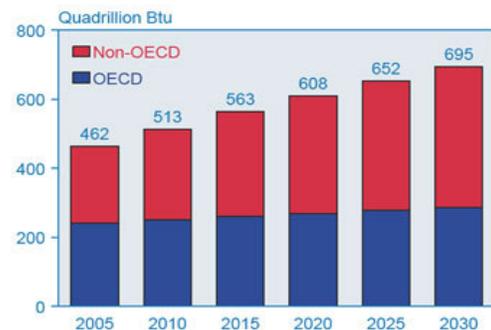
ODUMUNC 2009 Issue Brief
Third Committee (SOCHUM)
Cooperation in Developing New
And Renewable Sources of Energy
Britta Rinehard



sources, e.g. geothermal, solar, hydropower, but also investing in technologies such as electric or hybrid cars to decrease consumption of oil in the transportation sector.

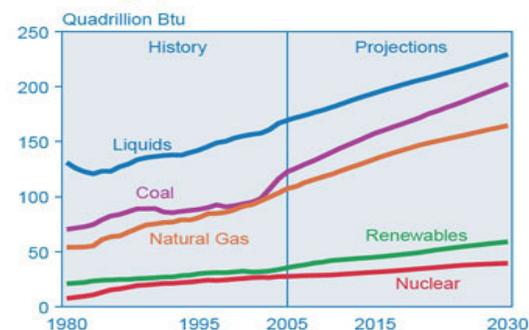
The switch from finite to infinite resources would decrease oil dependency, benefit the environment and consequently us, without having a negative impact on the economy. The graph on the left (figure one) below shows the projected energy consumption until 2030. It clearly shows an increase of world energy consumption. Within a twenty-five year time frame, energy consumption is estimated to increase more than 50 percent. The supply for the increased world energy demand is challenging and planning has to be done now to cover and secure future demands. Figure two shows the projected world energy usage by fuel type such as coal, natural gas. Unfortunately, renewable energy, even though increasing over the next few years, is projected to play only a minor role in the global energy supply chain. The potential of these infinite resources have yet to be explored and implemented on a larger scale.

Figure 1. World Marketed Energy Consumption, 2005-2030



Sources: 2005: Energy Information Administration (EIA), *International Energy Annual 2005* (June-October 2007), web site www.eia.doe.gov/iea. Projections: EIA, *World Energy Projections Plus* (2008).

Figure 2. World Marketed Energy Use by Fuel Type, 1980-2030



Sources: 2005: Energy Information Administration (EIA), *International Energy Annual 2005* (June-October 2007), web site www.eia.doe.gov/iea. Projections: EIA, *World Energy Projections Plus* (2008).

Background

In the 1990's, the burning of fossil fuels, especially of coal, and the linkage to global warming and other negative environmental impact, e.g. acid rain and air pollution, became more of a prevailing subject on the world agenda. It became more and more apparent that a linkage between energy production and consumption as well as environmental issues could be established. In 1992, the United Nations Division for Sustainable Development (DSD) was established to promote sustainable development considering "social, economic and environmental dimensions" and "facilitate

ODUMUNC 2009 Issue Brief
Third Committee (SOCHUM)
Cooperation in Developing New
And Renewable Sources of Energy
Britta Rinehard



intergovernmental negotiations”.³ In 1997, the Ad Hoc Inter-Agency Task Force on Energy was created to “facilitate coordination and cooperation among UN agencies, programs and entities in energy and related areas”.⁴

Key factors

Globally, negative environmental impacts due to the usage of fossil fuels have to be considered. The manner in which we produce and consume energy is of crucial importance to sustainable development, as energy has deep relationships with each of its three dimensions – the economy, the environment and social welfare.⁵ A ten-year plan was established in 2003 to systematically deal with these issue and to create new patterns of higher energy efficiency.

Environmental considerations do not necessarily counteract energy production or consumption. Through sustainable development all of them can fuse together and provide better living conditions in developing as well as developed countries.

Many developing countries lack efficient and reliable existence of energy. This is one of the key factors the DSD is working on. The DSD is working on “accessibility of energy, energy efficiency, renewable energy, rural energy etc. Other key factors are to initiate and facilitate regional and global conferences, work out international agreements and provide worldwide workshops; because energy is no longer a regional problem but has evolved into a global issue affecting each region as much as each continent. Just as important as the governmental support is the support of private investors for renewables as well as the populace to initiate and execute sustainable development worldwide.”⁶

Current situation

Renewable energy worldwide still plays a minor role. Some developed countries e.g. Germany and Japan have been heavily investing for the past twenty years in renewable energy and initiated government incentives to make them more enticing for commercial as well as residential usages. This resulted in decreased acquisition costs, reduced CO₂ output and creation of jobs.

Other countries have followed the lead. “Since 2004, more than 44 countries have invested in renewable energy and energy efficiency through more than 100 projects. Most recently, seven South African cities adopted financial models that allowed them to fund improvements in energy efficiency for their municipal water supply system. In India, four

3 http://www.un.org/esa/sustdev/about_us/aboutus.htm

4 <http://www.un.org/esa/sustdev/sdissues/energy/intergov/iaenr.htm>

5 http://www.iea.org/Textbase/subjectqueries/keyresult.asp?KEYWORD_ID=4119

6 <http://www.un.org/esa/desa/aboutus/keyissues.html>

ODUMUNC 2009 Issue Brief
Third Committee (SOCHUM)
Cooperation in Developing New
And Renewable Sources of Energy
Britta Rinehard



street-lighting projects across the state of Madhay Pradesh resulted in energy savings of 30-40 percent.”⁷

Despite the recent drop of crude oil prices in the United States from \$100.04/per barrel at the end of August to \$88.73/per barrel by mid September of 2008, oil will continue to destabilize energy markets.⁸ Although, The United States imports a limited amount from the Middle East, because of its global implications, disruptions would affect the U.S. as well.

Role of the United Nations

Throughout different divisions and commissions, e.g. Sustainable Development, Commission on Sustainable Development as well as the Committee on Sustainable Energy, the UN tries to tackle the energy, security and environmental issues. These UN sectors, analyze as well as monitor global energy trends, facilitate dialogs between the energy industry and major financial institutions, create workshops for sustainable developments and hold regional as well as global meetings. The UN brings major players together to find solutions to mitigate future environmental issues, decrease oil dependency as well as develop sustainable energy infrastructures in developing countries and encourage developed countries to do the same.

Country Positions

There is not only a rift between developing and developed countries, but also within each group. Two major world economies, highly developed, and with very high oil consumptions are Germany and Japan.

Germany, a developed country within the EU, took leadership role in the region to promote sustainable development at home as well as abroad and continues to invest tremendous amounts of money in renewable energy.

In Asia, Japan has done the same as Germany has done in Europe and is now one of the leading countries worldwide in renewable energy. Japan, imports all of its oil, and Germany almost all of her oil consumption.⁹ Diversification due to oil disruptions, increased concern for the environment, promotion of sustainable development as well as realization of the benefits, has led these two countries to the increased usage of renewable energy for more than twenty years.

The world's no. one economy, the United States, has done very little to promote sustainable development, such as promoting smart growth, stricter building codes for energy efficiency, or to diversify her energy portfolio and invest more in renewables. In 2001, the U.S. consumed 19.7 million barrels of oil per day. During that time the US

⁷ http://www.un.org/esa/sustdev/csd/csd15/media/partnerships_reeep.pdf

⁸ http://tonto.eia.doe.gov/dnav/pet/pet_pri_wco_k_w.htm

⁹ Adams, Neil, *Terrorism & Oil, PennWell Cooperation*, OK, 2002

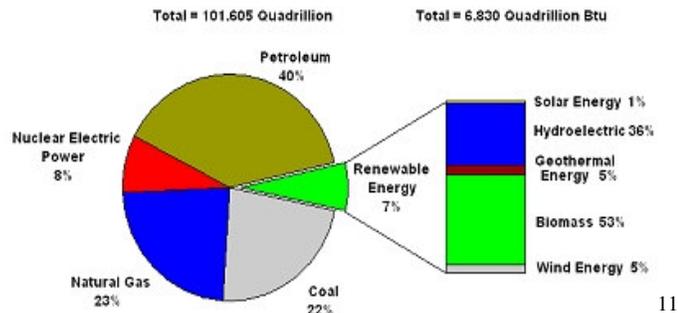
ODUMUNC 2009 Issue Brief
Third Committee (SOCHUM)
Cooperation in Developing New
And Renewable Sources of Energy
Britta Rinehard



imported 59 percent of its total oil consumption and uses 25 percent of the world's total oil production.¹⁰ Figure 3 below illustrates the energy consumption for the U.S. in 2007. It also shows the different shares within the renewable energy section. Last year, seven percent of energy in the U.S. was produced by renewables, of which biomass and hydroelectric represent the biggest share of the pie.

**The Role of Renewable Energy Consumption
in the US's Energy Supply, 2007**

Figure 3



Developing countries showed some efforts in regards to sustainable development, e.g. in Africa, solar cookers are often used to prepare meals, instead of using wood. However, developed countries, because of their financial resources, level of development, infrastructure as well as high level of technology have more opportunities to implement renewable energy on a larger scale and export them to developing countries.

¹⁰ Adams, Neil, *Terrorism & Oil*, PennWell Cooperation, OK, 2002

¹¹ <http://www.eia.doe.gov/fuelrenewable.html>

ODUMUNC 2009 Issue Brief
Third Committee (SOCHUM)
Cooperation in Developing New
And Renewable Sources of Energy
Britta Rinehard



Recommended Readings

Books/Articles:

Adams, Neil, *Terrorism & Oil*, PennWell Cooperation, OK, 2002

Blewitt, John, *Understanding Sustainable Development*, Earthscan, VA, 2008

Goldemberg José, Johansson Thomas B., Reddy, Amulya K. N. and Ambio, Robert H. Williams, *Energy for the New Millennium*, Vol. 30, No. 6 (Sep., 2001), pp. 330-337, Allen Press on behalf of Royal Swedish Academy of Sciences

Quaschnig, Volker, *Understanding Renewable Energy Systems*, Earthscan, VA, 2005

Scheer, Hermann, *Energy Autonomy, The economic, social and technological case for renewable energy*, Earthscan, VA, 2007

World Energy Outlook, International Energy Agency, 2008

Yetiv, Steve, *Crude Awakenings*, Cornell University Press, NY, 2004

Websites:

Department of Energy, Energy Efficiency and Renewable Energy (EERE), Solar Energy Technology Program, <http://www1.eere.energy.gov/solar/>,

Department of Energy, *On the Road to Energy Security*, http://www.energy.gov/media/FINAL_8-14_DOE_booklet_copy_sep.pdf

Department of Energy, *World Total Net Electricity*, <http://www.eia.doe.gov/pub/international/iealf/table62.xls>

Energy Information Administration, http://tonto.eia.doe.gov/energy_in_brief/renewable_energy.cfm

International Energy Agency <http://www.iea.org/textbase/pm/?mode=re&action=result>

National Renewable Energy Laboratory http://www.nrel.gov/learning/sr_solar.html

ODUMUNC 2009 Issue Brief
Third Committee (SOCHUM)
Cooperation in Developing New
And Renewable Sources of Energy
Britta Rinehard



United Nations/ Division for Sustainable Development
<http://www.un.org/esa/sustdev/sdissues/energy/intergov/iaenr.htm>

United Nations/ UN Energy
http://esa.un.org/un-energy/pdf/un_energy_overview.pdf

United Nations/ Sustainable Energy Division
<http://www.unece.org/energy/se/ensec.html>

Bibliography

Adams, Neil, Terrorism & Oil, PennWell Cooperation, OK, 2002

Energy Information Administration
http://onto.eia.doe.gov/dnav/pet/pet_wco_k_t.htm

Energy Information Administration
http://tonto.eia.doe.gov/dnav/pet/pet_pri_wco_k_w.htm

Energy Information Administration
<http://www.eia.doe.gov/fuelrenewable.html>

International Energy Agency
http://www.iea.org/Textbase/subjectqueries/keyresult.asp?KEYWORD_ID=4119

United Nations Commission on Sustainable Development
http://www.un.org/esa/sustdev/csd/csd15/media/partnership_reep.pdf

United Nations Division for Sustainable Development
<http://www.un.org/esa/desa/aboutus/dsd.html#whowear>

United Nations Division for Sustainable Development
http://www.un.org/esa/sustdev/about_us/aboutus.htm

United Nations Division for Sustainable Development
<http://www.un.org/esa/sustdev/sdissues/energy/intergov/iaenr.htm>

United Nations Division for Sustainable Development
<http://www.un.org/esa/desa/aboutus/keyissues.html>