

Forum: Environment Commission

Issue: Proliferating green technologies in times of climate change and globalization

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1. Description of the problem

Green technology (abbreviated as greentech), environmental technology (abbreviated as envirotech) or clean technology (abbreviated as cleantech) is the application of the environmental science to conserve the natural environment and resources and to curb the negative impacts of human involvement. Sustainable development is the core of environmental technologies.

2. Definition of key terms

Sustainable development

Sustainable development is a pattern of resource use that aims to meet human needs while preserving the environment so that these needs can be met not only in the present, but also for future generations.

Climate change

The current climate change is the increase in the average temperature of Earth's near-surface air and oceans since the mid-20th century and its projected continuation. The Intergovernmental Panel on Climate Change (IPCC) concludes that most of the observed temperature increases since the middle of the 20th century was very likely caused by increasing concentrations of greenhouse gases resulting from human activity such as fossil fuel burning and deforestation.

An increase in global temperature will cause sea levels to rise and will change the amount and pattern of rainfall, probably including expansion of subtropical deserts. Warming is expected to be the strongest in the Arctic region and would be associated with continuing retreat of glaciers, permafrost and sea ice. Other likely effects include changes in the frequency and intensity of extreme weather events, species extinctions and changes in agricultural yields. Warming and related changes will vary from region to region around the globe.

Globalization

Globalization describes an ongoing process by which regional economies, societies and cultures have become integrated through a globe-spanning network of communication and trade. The term is sometimes used to refer specifically to economic globalization: the integration of national economies into the international economy through trade, foreign direct investment, capital flows, migration, and the spread of technology.

Technology transfer

Technology transfer is the process of sharing of skills, knowledge, technologies, methods of manufacturing, samples of manufacturing and

facilities among governments and other institutions to ensure that scientific and technological developments are accessible to a wider range of users who can then further develop and exploit the technology into new products, processes, applications, materials or services.

Zhang Ping, director of China's National Development and Reform Commission, recently mooted the establishment of a new fund to support transfer of green technology. Norway has suggested raising money for technology transfer through auctions of national emission rights.

3. Background / general information

Green technologies include but are not limited to the following areas:

Recycling

Recycling involves processing used materials into new products to prevent waste of potentially useful materials, reduce the consumption of fresh raw materials, reduce energy usage, reduce air pollution and water pollution by reducing the need for "conventional" waste disposal, and lower greenhouse gas emissions. Recycling is a key component of modern waste reduction.

Water Purification

Water purification is the process of removing undesirable chemicals, materials, and biological contaminants from raw water. The goal is to produce water fit for a specific purpose. Most water is purified for human consumption (drinking water) but water purification may also be designed for a variety of other purposes, including meeting the requirements of medical, pharmacology, chemical and industrial applications.

Sewage Treatment

Sewage treatment, or domestic wastewater treatment, is the process of removing contaminants from wastewater and household sewage. It includes physical, chemical, and biological processes to remove physical, chemical and biological contaminants. Its objective is to produce a waste stream and a solid waste or sludge suitable for discharge or reuse back into the environment.

Environmental remediation

Environmental remediation is the removal of pollutants or contaminants for the general protection of the environment. This is accomplished by various chemical, biological, and bulk movement methods, in conjunction with environmental monitoring.

Solid waste management

Solid waste management is the collection, transport, processing, recycling or disposal and monitoring of waste materials. The term usually relates to materials produced by human activity and is generally undertaken to reduce their effect on health and the environment. Waste management is also carried out to recover resources from it.

Renewable Energy

Renewable energy is energy generated from natural resources such as sunlight, wind, rain, tides, and geothermal heat, which are renewable (naturally replenished). In 2006 about 18% of global final energy consumption came from renewable energy.

4. Timeline of key events

December 2009:

The transfer of "green technology" from industrialized to developing countries was one of four building blocks of the climate negotiations in Copenhagen.

5. Relevant treaties, UN resolutions and actions taken

1983:

The 1983 General Assembly passed Resolution 38/161; "Process of preparation of the Environmental Perspective to the Year 2000 and Beyond"

March 2005:

UN ESCAP, 5th MCED Ministerial Declaration on Green Growth

6. Positions of major countries involved

China and India:

China and India believe that many climate change-related technologies are unavailable at reasonable prices in developing countries and that this means that these technologies could not be employed in parts of the world where they were needed the most. Furthermore these nations have the opinion that developing nations must have access to environmentally sound technology to fight global warming.

European Union:

Currently the EU is spending about €3bn a year on research and development in clean energy.

United States:

According to a panel of government and industry experts, the United States is falling behind other countries in developing and manufacturing green technologies and will continue to do so unless the federal government provides financial incentives to American companies and changes domestic trade laws.

7. Useful sources and links

http://www.nextgov.com/nextgov/ng_20091007_9384.php

http://ec.europa.eu/news/energy/091008_en.htm

http://en.wikipedia.org/wiki/Technology_transfer

<http://en.wikipedia.org/wiki/Globalization>

http://en.wikipedia.org/wiki/Global_warming
http://en.wikipedia.org/wiki/Sustainable_development
http://en.wikipedia.org/wiki/Renewable_energy
http://en.wikipedia.org/wiki/Waste_management
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http://en.wikipedia.org/wiki/Water_Purification
<http://en.wikipedia.org/wiki/Recycling>
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