University of Alberta High School Model United Nations 2011

GA2: Economic and Financial Committee – The Question of Sustainable Technological Development

Scope of the Problem

Sustainable technological development is an increasingly important interdisciplinary topic that must work within the boundaries of social, economic, and environmental issues that affect the world today. As originally defined by the Brundtland Report (World Commission on Environment and Development, 1987), "sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs". Since issues with technology in the present day are predominantly environmental in origin, sustainable technological development is a compromise between economic growth and responsible environmental stewardship.

Ever since Agenda 21, the United Nations Conference on Environment and Development (held in Rio de Janeiro in 1992), technology has been an important part of in sustainable development. The agreement was ratified by 178 governments, although implementation of actions recommended by the program remained under voluntary discretion of each government. Following the conference, the UN Commission on Sustainable Development was created to ensure the effectiveness of the Agenda 21 agreement. In 1997, the UN General Assembly held a special conference, Rio5, to assess the effectiveness of the Agenda 21 in the intervening five years. Agenda 21 had proved largely disappointing, with continued environmental degradation and increasing economic disparity. In 2002, the World Summit on Sustainable Development was held in South Africa, but once again reaffirmed that Agenda 21 and subsequent agreements had barely managed to scratch the surface of the issue.

The original Agenda 21 agreement recognized many environmental issues that required action, including atmospheric pollution, misuse of land resources, increasing drought and desertification, poor agricultural practices, threats to biodiversity, damage to oceans and coastal areas, contamination and overuse of freshwater resources, and the release of toxic chemicals and sewage into the environment. Technology was at once the cause and the solution to many of these problems. Economic growth in the 20th century had fuelled countless technological advances, however these 'dirty' technologies were primarily aimed at maximizing profit at the expense of the environment. As a result, as technologies developed, environmental degradation often followed. Non-renewable resource depletion had reached unprecedented rates and extraction methods had become increasingly more damaging to the environment. A perfect example is the Alberta Oil Sands. Since the technology to extract oil from the oil sands became economically viable, carbon emissions, toxic chemical release, and water pollution have skyrocketed.

In the last few decades, developing nations have taken measures to decrease environmental degradation by developing more efficient and cleaner technologies. A good example of technological success is the near almost-overnight decrease in the emission of CFCs, which are air pollutants from aerosols that caused degradation of the atmospheric ozone later. The Montreal Protocol was an agreement that banned CFC use, and CFCs were phased out of the market, replaced by less harmful technologies. At this point, however, research indicates that small steps may not be enough. The problems identified in Agenda 21 are global in nature and require significant action to be taken on a global level.

In an ideal world, it would be easy to point the direction of technological development towards more sustainable ways and simply let it take its course. Unfortunately, there are still significant issues that need to be addressed, among the largest that technological development is far from consistent worldwide. Developed nations are far ahead of others, especially where green technology is concerned. There are more resources and more capital available in these nations to pursue cleaner technologies. There is also often unfair pressure on developing and third-world nations to carry their weight in the implementation of sustainable technologies, largely to address problems created by developed nations. Developing nations suffer twice, not only because of the significant capital necessary to implement these technologies, but also because of the money lost on dirty, 'quick-money' production and consumption. For nations dependent on 'dirty' resources such as oil, gas, and coal, a complete economic overhaul may be required. It may be years before many of these countries benefit from implementing greener technologies.

Technology is also hard to address with blanket policies due to the disparity of development at present and the unequal distribution of resources. Pressures to switch to alternative energy sources, for instance, place a much heavier burden on those nations where fossil fuels are much more easily accessible, or where efficient and green technologies are decades behind. Environmental agreements often reach an impasse where major polluters—developed nations especially—refuse to commit to targets unless other nations play their part, while developing nations have no incentive and often no ability to make a change.

Possible Solutions

There are two key solutions that the United Nations has discussed in the last decade. The first is the concept of technology transfer. Technology transfer, simply put, is the process of knowledge and technology sharing. This can occur on an institutional level in order to facilitate cooperation and therefore more effective technological development, or on a national level. Technological transfer between nations places the responsibility on developed nations to share their technologies and research resources with less developed nations, so that globally cooperative action can be taken. The second solution, one that the UN ECOFIN committee is especially fond of, is the use of information and communication technologies as a development tool. This approach is relatively simple to pursue and essentially advocates 'linking' the world community together. The major difference from the technology transfer solution is that communication

technologies spur development across the board, not only in technology-related ways, but social and economic ones as well.

Resources

If you have any questions or are in need of more in-depth information, more sources are available at the links below:

Agenda 21 - http://www.un.org/esa/dsd/agenda21/
Past ECOFIN committee sessions - http://www.un.org/en/ga/second/archives.shtml
International Institute for Sustainable Development - http://www.iisd.org/
OECD - http://www.oecd.org/topic/0,2686,en_2649_34499_1_1_1_1_37425,00.html
Sustainable Development Technology Canada -
  http://www.sdtc.ca/index.php?page=home&hl=en_CA
Africa -http://www.iaabd.org/pdf/2010peerReviewed.pdf