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## Great economic growth versus sustainability.

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Energy and Environment: Economy and Policy – ENSC 230

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### Great economic growth versus sustainability.

The question of this development era is the connection between how a country can have a great economic growth and how a country can be sustainable at the same time. The global view is changing rapidly because of reasons linked to the environment, energy and the global economy. Although at first thought they may seem different, these three areas are in fact completely interconnected. The first two are already concerned issues, due to the greenhouse effect and global warming associated with the use of fossil fuels. Regarding the economy, it will show the effects that the international financial system will have on the energy and on the environment sector. The only sure thing is that the three sectors will be permanently affected. Consequently, it will necessarily have to go through a radical change in the world energy matrix, with a strong increase in the use of renewable sources.

How could we use renewable sources and have a great economic growth? Nowadays, it is one of the most discussed subject in many countries. Unfortunately, the predominance of petroleum, coal and natural gas, which are the main energy sources in the world, has been a big problem for the environment. In the context of concerns about energy and climate changes, the use of renewable energies are essential. They are able to promote greater energy security for countries that use them, and their utilization on a large scale is a powerful instrument to combat

climate changes. Moreover, renewable energy sources contribute for social and economic development.

The main sources of renewable energy in the world are solar energy, hydroelectricity and wind energy. The two main technologies to produce energy from the solar power are photovoltaic and solar thermal. The United States and German have nowadays a great capacity of solar energy. Moreover, there is other countries, such as Italy, Spain and Japan, which has a significant percentage for using it.

The hydroelectricity is from water energy of rivers. In Brazil, this kind of energy source is important to the development of the country, especially in remote areas of industrial cities. According to Portal Brazil, the use of hydraulic energy in Brazil is among the five largest in the world.

The wind energy is from the kinetic energy of the air in movement. This kind of energy source has had a significant growth, especially in China, United States, Germany and Spain.

As we can see, all energy sources cited have been a great thing to the development of each country. They are not just good to the population and to the environment, they are also very important to the economy of the country.

To promote increased participation of renewable resources becomes indispensable to adopt policies that stimulate changes in the traditional energy systems. For this purpose, many countries utilize some politics to promote the development of renewable energies. According to Uczai, there are three main categories of politics for promoting research and development those energy resources. They are: tax breaks, which reduce costs and risks related to investments in renewable energy; state mechanism of operation, which main objective is funds to be invested in renewable energy; and regulatory policies, the establishment of rules that must be obeyed. The

last cited category is the most important. It is based on the amount of clean energy that must be achieved for each country.

Some countries, as United States, achieved significant results in some energy sectors through the adoption of energy policies. United States, whose energy matrix predominates the use of fossil resources, especially petroleum, is the second largest consumer of energy in the world. Moreover, as cited, United States has a huge field of wind energy. In the federal ambit, according to the article The American Reinvestment and Recovery Act, there was a law in 2009 called “American Reinvestment and Recovery Act”, which goals were research, development and deployment of clean energy. Moreover, this law had goals to create jobs, to improve the packages in middle class families, and to protect health care. Resuming, that law was important to the world environment, to the population and to the economy of United States.

Nowadays, there is two states in Unites States that are imposing their own norms related to renewable energy and limits related in the emission of CO<sub>2</sub>. California, which has a powerful economy, has a law that the decreasing of the emission of CO<sub>2</sub> is the main goal. Novo Mexico also approved a limit of carbon for the energy companies and industries that emit greenhouse gases. It raises the hope that the United States, as a powerful country, may soon control the greenhouse gases significantly and radically change the energy matrix of the world.

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