
The energy crisis and a bad solution

In 1972, a study conducted by the Massachusetts Institute of Technology (MIT), on growing consumer trends alerted politicians and scientists all over the world. The research titled “The limits of growth” was prepared by an international group of scientists, researchers and industrialists – later to be known as the Club of Rome – and became a classic for the analysis of the relationship between production and environment.

Throughout the seventies and most of the eighties, various theories and studies endeavoured to analyze the problem of the limitations imposed by nature on the development model. In 1990, forceful neo-liberal waves wiped out a considerable part of those efforts and the idea of unlimited growth based on technological progress overwhelmingly prevailed in political and academic circles all over the world.

However now in the twenty-first century it would seem that the energy issue is emerging as yet another reminder of those old announcements which affirmed that in life everything has a limit.

Energy sources and uses

Energy sources are divided into renewable and non-renewable sources. Solar energy, wind energy, geothermic energy (harnessing the heat inside the Earth), plant biomass and hydraulic energy (from water) are virtually inextinguishable sources of energy, some because of the enormous amount of energy they contain and others because they can be regenerated by natural means. Non-renewable energies, once totally consumed cannot be replaced in the short or medium term, for instance as in the case of fossil fuels (formed during millions of years by action of heat inside the earth and the pressure of rocks and soil on the remains of dead plants and animals) and nuclear fuels.

With industrialization coal appeared on the scene and later on (at the end of the nineteenth century), oil and gas. Most of the world energy consumption is based on one of these non-renewable sources: oil, natural gas and coal, adding carbon dioxide to the atmosphere. Today, 80 per cent of the oil consumed in the world comes from wells discovered during the seventies and are now reaching their ceiling for daily extraction. The consumption of oil rose from 2,753 million barrels in 1973 to 3,767 million barrels in 2004. The daily extraction of oil amounts to some 75 million barrels and a 2 per cent annual growth is expected over the next few years. By 2020 some 100 million barrels a day will be needed. This in turn gives rise to the urgent need for new prospecting and discovering of reserves as the present ones can no longer increase their extractive capacity.

There are major differences in the use of energy between rich and poor countries. Although consumption of fossil energy in third world countries has risen at a faster rate, their participation in world consumption has dropped. According to the International Energy Agency, by 2025, 82 per cent of the population of the planet will be consuming 45 per cent of the energy, while in the industrialized countries, 14 per cent of the population will be consuming 43 per cent (the remaining amount corresponds to the so-called transition economies).

The percentage of energy consumed in the United States is some 25% of world consumption for 4.6 per cent of the world population, while in India consumption is 3.1 per cent for 16.6 per cent of the world population. In other words, a US citizen consumes an average of fifty times more than an inhabitant of India.

Disproportionate use of fossil fuels has fed unsustainable economic growth. From the time “The limits of growth” was published and today, increase in energy consumption – and the need to increase supply – was sustained with the argument of economic growth to overcome the poverty of the vast masses of the population. Since then we have undergone an escalation of continuous growth – except for a few years – where increased energy consumption has not been accompanied by the same measure of improvement in people’s living conditions.

Furthermore, the vision mechanically associating growth of trade and consumption of energy with “development” overlooks several key problems, among them the fact that energy imports increase a country’s dependence; energy exports have a strong impact on the balance of payments but also make the producing country extremely vulnerable to changes in importing economies; the use, exploitation and transformation of energy always have environmental impacts left unaccounted in the balance of payments.

Climate change as a result of excessive fossil fuel use

The United Nations has warned that we are going through the largest process of extinction of life on the planet since the disappearance of dinosaurs 65 million years ago. Climate change causing the abrupt increase in the mean temperature of the earth’s surface has been identified as one of the main causes of this process. Additionally, climate change is directly related to an accelerated increase in carbon dioxide emissions together with other greenhouse effect gases as a consequence of the current development models – production and consumption – encouraging an excessive use of fossil fuels and unsound land uses (see WRM bulletin No. 76).

The international community’s response to the threat of climate change has been given through the United Nations Framework Convention on Climate Change, adopted in May 1992. Its declared objective is to stabilize atmospheric concentrations of greenhouse gases resulting from human activities at a level that will not involve risks for the climate system. In 1997 the Kyoto Protocol established obligations for reduction, basically affecting industrialized countries which, so far, do not appear to be willing to change their energy consumption model.

As a response to commitments to reduce carbon emissions, the European Union and the United States are seeking “solutions” that do not imply taking on the cost of radically changing their unsustainable production, trade and consumption patterns based on squandering energy. The way of life of a small sector of the planet is threatening the whole of humanity with a planetary crisis.

Within this context, biofuels enter into the scene

Biofuels are any fuel that derives from biomass — recently living organisms or their metabolic byproducts. Thus it could be oils from plants, manure from cows, wood from trees and so on. We will focus --in this bulletin-- on biofuels that are derived from crops and include biomass that is burnt directly; biodiesel obtained from oil seeds and ethanol produced from the fermentation of sugars found in plants.

Vegetable oil can be used as fuel either pure or blended with gasoline. It can also be converted to

biodiesel through a process using alcohol and a strong alkali to make a more volatile blend based on oil from a variety of plants.

The European Union and the United States have adopted policies promoting rapid biofuel expansion. This has led to the creation of an enormous market in the tropical countries of the South which are converting millions of hectares to bio-energy monocultures to feed European and US automobiles. All this is done without stopping to study the impacts of this expansion on the planet. Effects on the forests of Latin America and Asia and on their people are already being felt.

Facing the present energy crisis or the climate change crisis - the other side of the same coin-, the politicians and technocrats have shown no willingness to adopt strong measures to solve them. In this great vacuum and paralysis largely supported by major corporate interests, false and dangerous solutions are being promoted that urgently need to be submitted to public scrutiny and debate, such as the growing enthusiasm over biofuels which merely worsen existing socio-economic, technical and environmental problems.

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