



Environment Committee

## **Supporting the basic energy needs of developing countries through sustainable energy**

### **Introduction**

For the last 200 years or so, growth in energy consumption has been associated positively with rising levels of prosperity and economic opportunity in large parts of the world. Now, however, humanity finds itself confronting an enormous energy challenge. It has become evident that the current patterns of energy use are environmentally unsustainable. There is an overwhelming reliance on fossil fuels, and this in particular, threatens to change the Earth's climate to such an extent that could have huge consequences for human and natural systems in the future. At the same time, access to energy continues to divide the 'haves' from the 'have-nots' – the rich and the poor.

Globally, a large part of the world's population - at least 1.3 billion people currently live without electricity and 2.6 billion people are without clean cooking facilities. More than 95% of these people are either in sub-Saharan African or developing Asia and 84% are in rural areas. Developing and emerging economies face a significant energy challenge in the 21<sup>st</sup> century. Access to reliable and affordable energy services is important to alleviating extreme poverty and meeting other societal development goals and should be one of the main objectives for developing countries. However, access to sustainable modern energy services not only contributes to poverty eradication, improves health and helps provide for basic human needs, but is also essential to social inclusion and gender equality, as well as energy being a key input to production.

As emissions from developing countries are growing rapidly and consequently contributing to climate change and worsening air quality, they also put the health and prosperity of especially people in poor countries at risk. Sustainable energy is necessary to help curb climate change and improve the air quality once again. We should be striving towards increased energy efficiency and lower-carbon energy sources. Goal 7 of the 2030 Agenda for Sustainable Development is to ensure access to affordable, reliable, sustainable and modern energy for all. It encourages international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promotes investment in energy infrastructure and clean energy technology. The main aim is to expand the infrastructure and upgrade the technology for supplying modern and sustainable energy services.

### **Historic Energy Trends**

Before the industrial revolution, humans relied on natural energy flows and animal and human power for heat, light and work. Between 1850 and 2005, the overall energy production and use grew more than 50-fold (IEA, 2007). As societies industrialized, they not only began to use more energy, but also began to use energy in different forms than before. As household incomes rose, people wanted better living standards and traditional fuels as wood for example, were replaced by more commercial forms of energy - fuels that can be bought and sold - oil, natural gas, propane and electricity.

The energy use of human societies has historically been marked by four broad trends:

- Rising consumption of energy as societies industrialize, become wealthier and consequently shift from traditional sources of energy (mostly biomass-based fuels such as wood and charcoal) to more commercial forms of energy (primarily fossil fuels).
- Steady increases in both the power and efficiency of energy-producing and energy-using technologies.
- Diversification of fuels, especially for the production of electricity, throughout most of the 20th century.
- A reduction in the quantities of conventional pollutants associated with energy use.

Each of these trends has contributed to the shaping of our current energy situation. All of these points will also be important in determining the nature and size of the sustainability challenge that humanity will have to confront in the future. The ability of developed and developing countries to manage the consequences of rising consumption and demand for commercial forms of energy will be tested. It will largely depend on whether the progress toward higher efficiency, more decarbonization, greater fuel diversity and lower emissions can be achieved.

In the absence of new policies, the number of people relying on biomass will increase to over 2.7 billion by 2030 because of population growth. That is, one-third of the world's population will still be relying on these fuels. When resources are harvested unsustainably and energy conversion technologies are inefficient, there are serious adverse consequences for health, the environment and economic development.

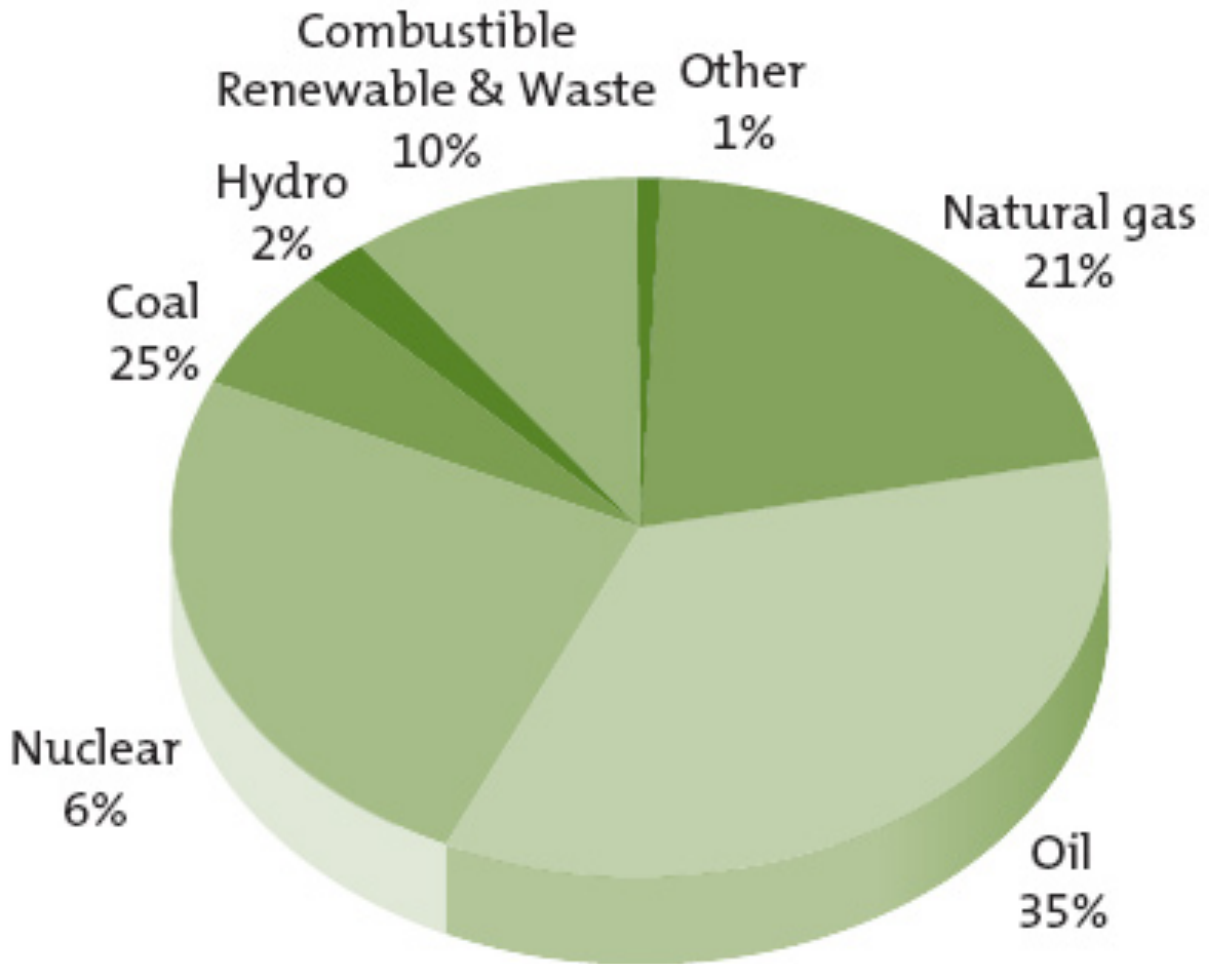
### **Climate change and sustainable energy use**

The United Nations Climate Change Conference in 2015 (COP21) has been the latest effort to talk about how climate change needs to be stopped and how uses of renewable sustainable energy are important in this as well. According to the organizing committee before the conference began, the expected key result was an agreement to set a goal of limiting global warming to less than 2 degrees Celsius compared to pre-industrial levels. The agreement especially stressed limitation of greenhouse gas emissions and to transfer to more sustainable energy sources. In the adopted version of the Paris Agreement, the parties will "pursue efforts to" limit the temperature increase to 1.5 °C.

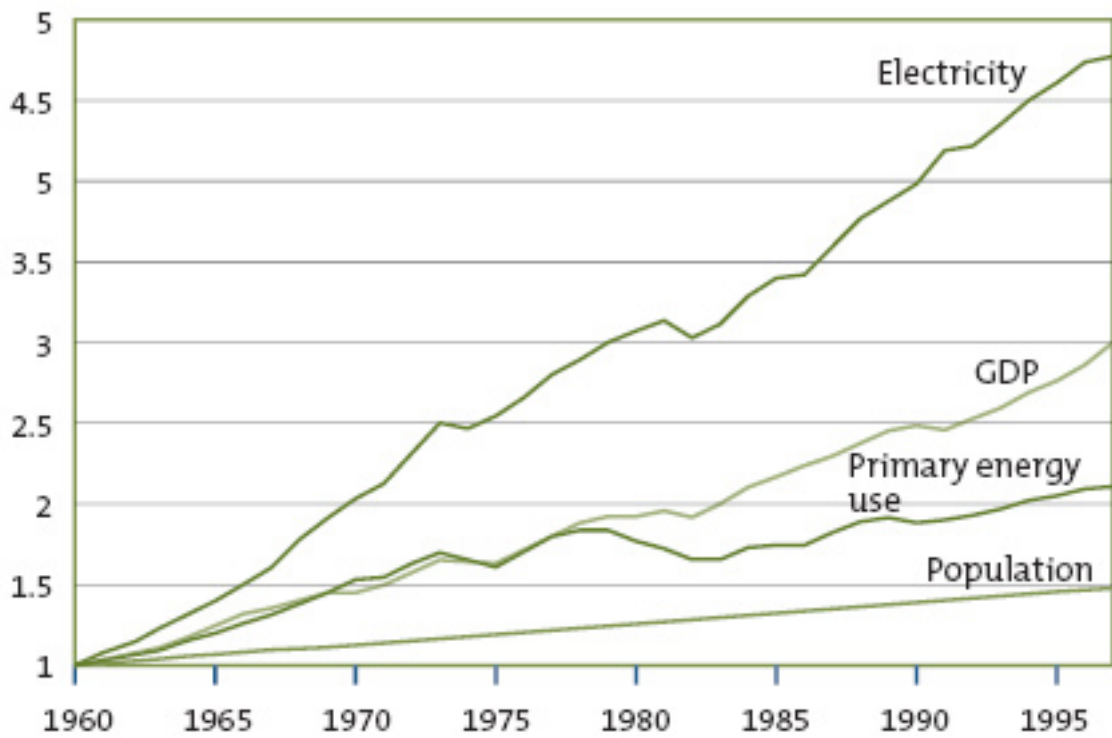
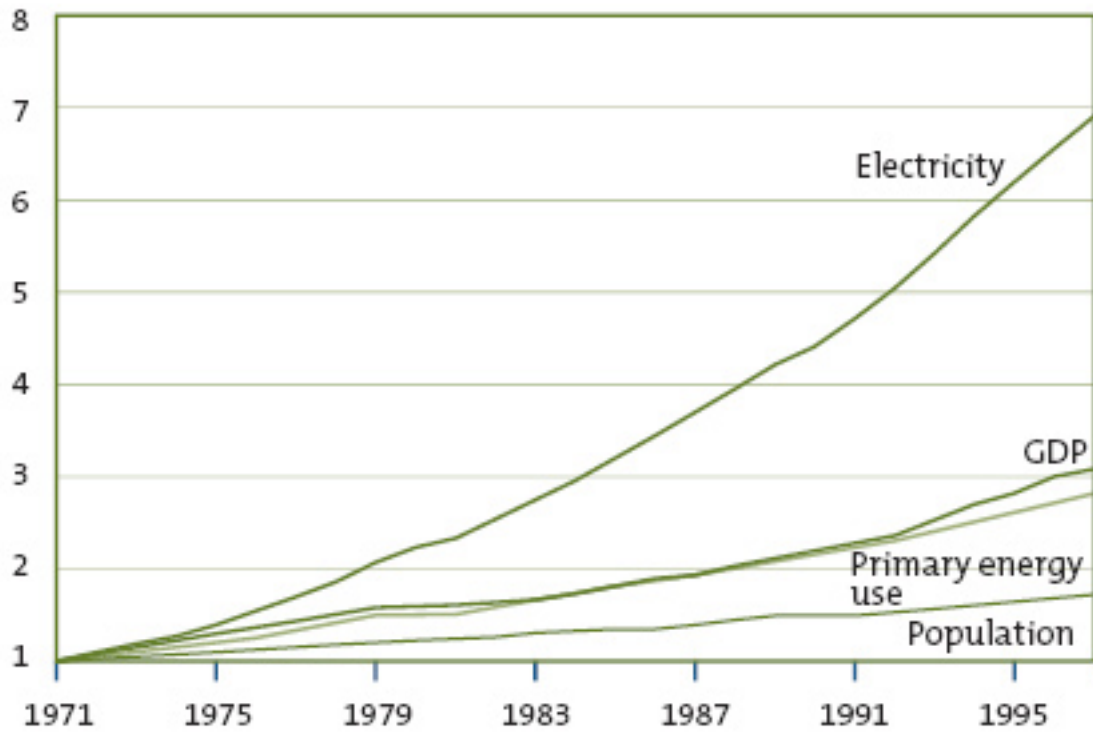
China: Among other efforts, China was pressing companies to make renewable energy more affordable. The government hoped to cut solar costs by 2 percent a year, and wind costs by 3 percent to 5 percent annually.

**Facts and figures**

Share of the world's primary energy supply in 2005



Correlation between Changes in GDP, Population and Energy Use



**Sources and links:**

- [International Energy Agency \(IEA\)](#)
- [UN: Sustainable Development Knowledge Platform](#)
- [The Global Environment Facility](#)
- <http://www.nytimes.com/interactive/projects/cp/climate/2015-paris-climate-talks/china-raises-its-targets-for-renewable-energy>