

Addressing the global energy crisis



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The problem of energy scarcity is widespread and persistent. It has plagued developing countries for decades. Developed countries, too, have now become more acutely aware of the risk to energy supply following recent developments on world energy markets. Long-term solutions will require a holistic approach encompassing practical measures such as the creation of a new all-embracing international energy organisation. But we will also need to develop a new global security architecture that recognises the inextricable links between all aspects of security, including poverty.

In the past year, oil prices have soared and the price of coal has doubled. Countries as far apart as South Africa and Tajikistan are plagued by power cuts and there have been riots in several nations because of disruptions to electricity. Developed countries, no longer strangers to periodic blackouts, are worried about security of energy supply.

In the developing world, some 2.4 billion people still rely on traditional biomass fuels, while 1.6 billion people – around a quarter of humanity – have no access to electricity. Africa suffers particularly severely. In 2005, nearly two-thirds of Africa's 891 million people had no access to electricity. Nearly every aspect of development – from reducing poverty to improving healthcare – requires reliable access to modern energy services. When development needs remain unaddressed, the resulting misery often leads to conflicts and violence, which in turn affect development efforts and impact on regional and global stability.

I believe that fundamental changes are under way in the energy field, the significance of which we have not yet fully grasped. Global demand for energy is rising fast as the population increases and emerging economies such as China and India undergo dramatic growth. The International Energy Agency (IEA) forecasts that the world's energy needs could be 50 per cent higher in 2030 than they are today. Yet the fossil fuels on which the world still depends are finite and far from environmentally friendly. Serious thought needs to be given now to creating viable alternatives. The need for co-ordinated political action on energy and related issues – climate change and poverty, to name but two – has never been more acute. Yet there is no global energy institution in which the countries of the world can agree on collective solutions to such grave problems.

Global energy organisation

We have a World Health Organization, two global food agencies, the Bretton Woods financial institutions and organisations to deal with everything from trade to civil aviation and maritime affairs. Energy, the motor of development and economic growth, is a glaring exception. Although, like food and health, it cries out for a holistic, global approach, it is actually dealt with in a fragmented, piecemeal way. A number of institutions focus on energy, but none with a mandate that is global and comprehensive and that encompasses all energy forms. OPEC, for example, has just 13 members and deals exclusively with oil – from the producers' perspective. The IEA represents the 27 OECD countries from the consumers' viewpoint. Only 51 countries, almost all in Eurasia, have signed the Energy Charter Treaty, whose focus is limited to issues such as trade, transit and dispute settlement.

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The UN co-ordinating mechanism, UN-Energy, is just a few years old. It has 20 member agencies, an indication of how fragmented the UN's energy activities are. UN-Energy has no budget or implementing authority and serves as a mere forum for discussion and information sharing.

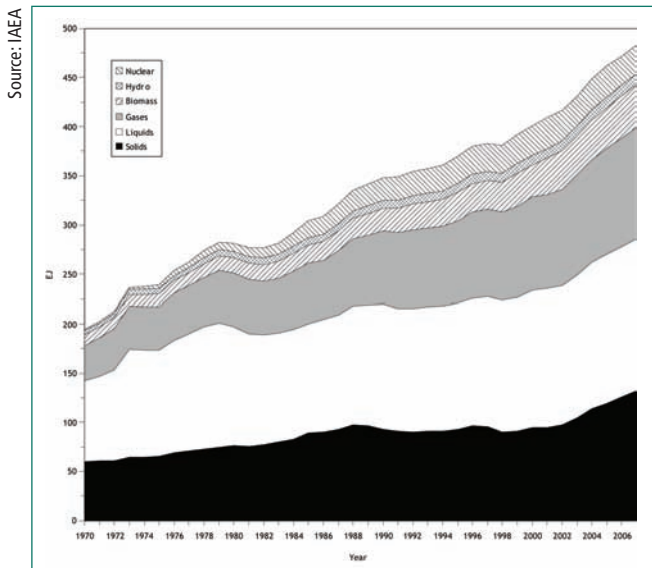


Figure 1. World total energy requirement, 1970-2006.

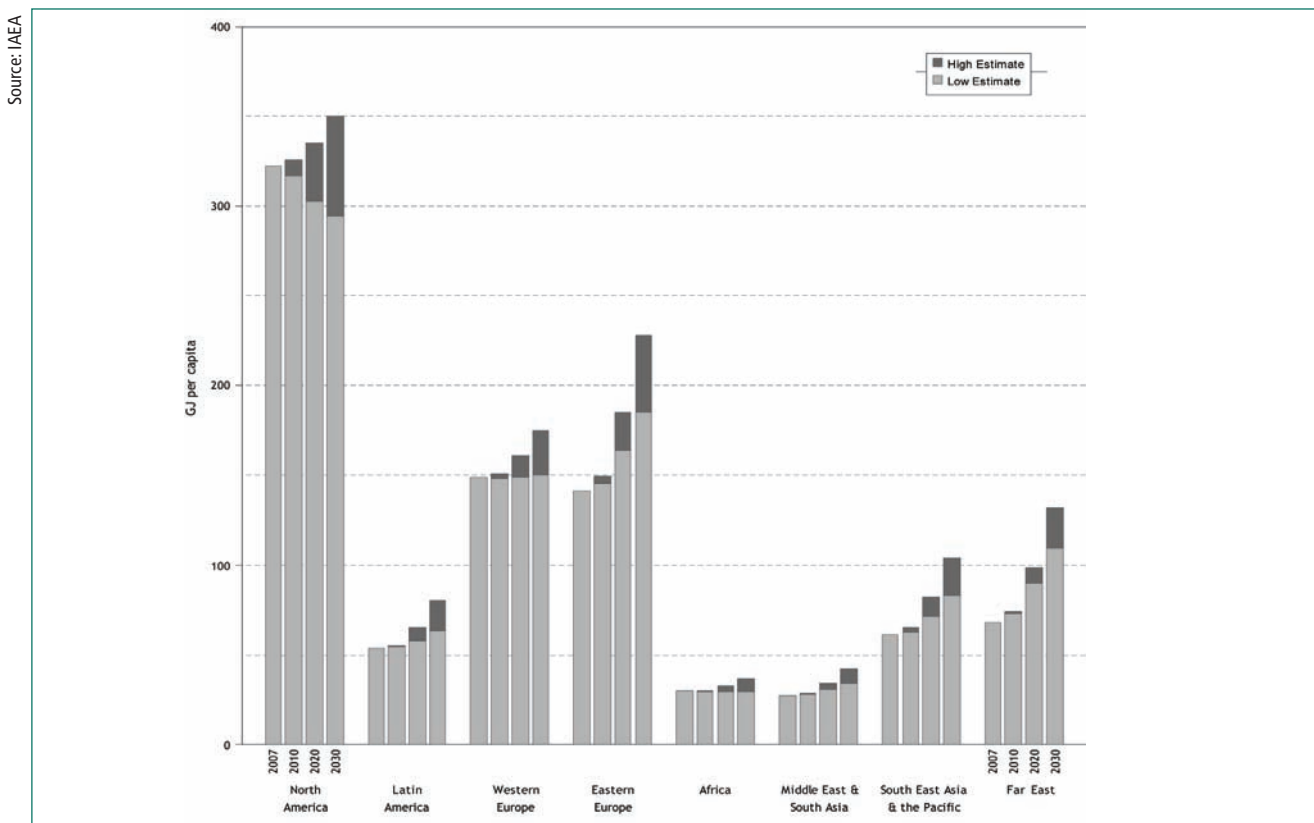
A global energy organisation would complement, not replace, existing bodies. It would bring an essential inter-governmental perspective to bear on issues which cannot be left to market forces alone, such as the development of new energy technology, the role of nuclear power and renewables, and innovative solutions for reducing pollution and greenhouse gas emissions. Here are a few things a global energy organisation could do:

- Provide authoritative assessments of global energy demand and supply and bring under one roof key energy data that are now dispersed and incomplete.

Drawing on its own expertise and that of other organisations, a global energy organisation could also provide authoritative comparative assessments, at global, regional and national levels, of alternative energy technologies, covering, for example, environmental risks. Such comparative assessments might range from the long-term impacts of nuclear waste to the impacts of bio-energy on biodiversity and food prices.

- Speed the transfer of appropriate energy technology to poor countries and give them objective advice on an optimal energy mix that is safe, secure and environmentally sound. This could include building human resources through education and specialist training, strengthening legal and regulatory frameworks and developing more robust national energy grids.
- Develop a global mechanism to ensure energy supplies in crises and emergencies. (The IEA already does this for its members with oil. The International Atomic Energy Agency is considering establishing guarantees of nuclear fuel supplies for reactors.)
- Help countries run their energy services and even do it for them temporarily after a war or major natural disaster. A global energy organisation could pool donor money and manage day-to-day operations.
- Co-ordinate and fund research and development, especially for energy-poor countries, whose needs too often get overlooked by market-oriented R&D. A global organisation could improve methods for assessing financing options and provide training and advice.

Figure 2. Forecast total energy requirement per capita, 2006-2030.



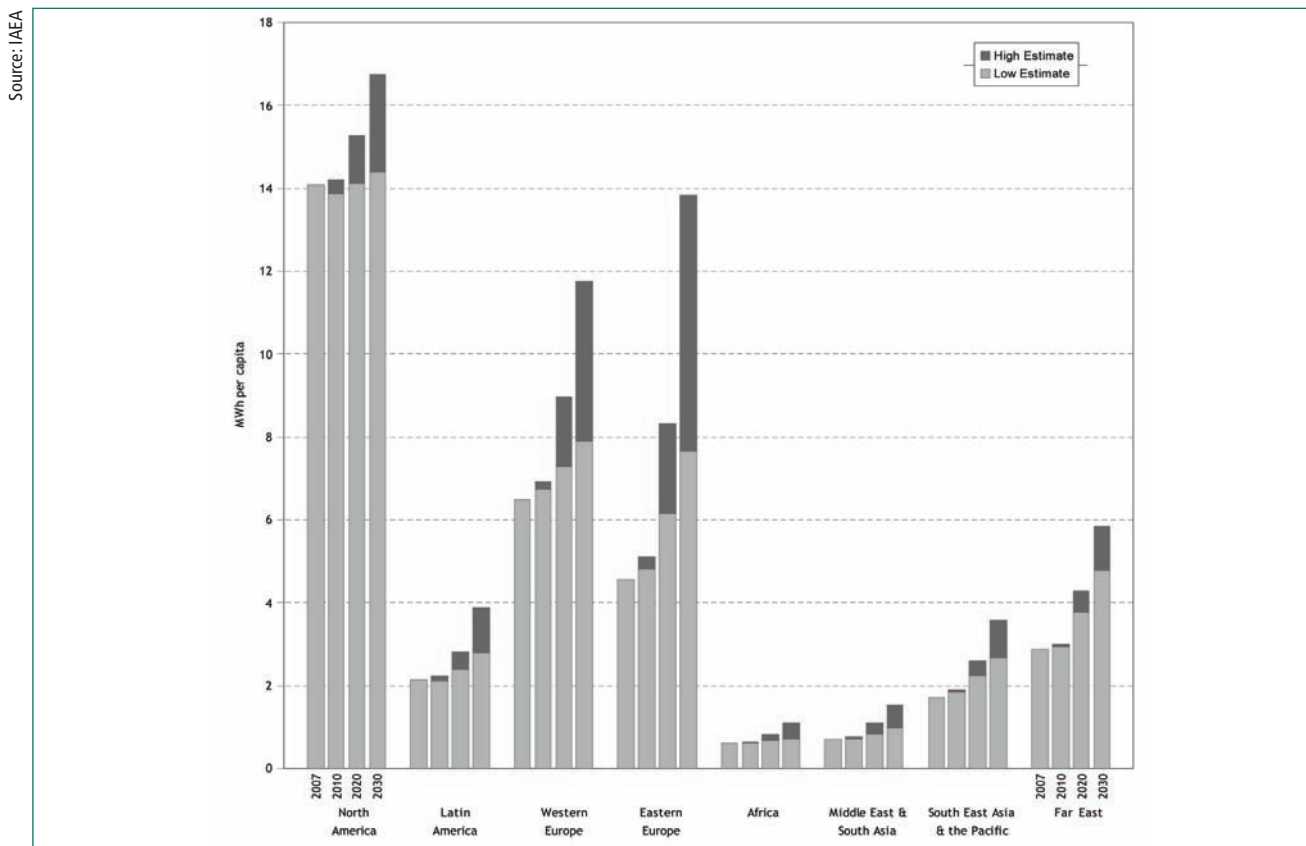


Figure 3. Average annual growth rates, 1996-2006.

- Conduct regular peer reviews of national energy plans, covering environmental, industrial safety and public health assessments related to energy, including assessments of climate change considerations. With help from more specialised organisations, reviews could be conducted of national self-assessments of readiness for advanced technologies such as nuclear power.
- Assess the impact of one country’s energy use on neighbouring countries.

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Efforts in the 1970s to establish a global energy organisation were unsuccessful. The world has changed dramatically since then and the need for joint action to develop long-term solutions to the current energy crisis is now undeniable. It is difficult to see how this can be done without an expert multinational body, underpinned perhaps by a global energy convention, with the authority to develop policies and practices to benefit rich and poor countries alike, equitably and fairly. We need to act before crisis turns into catastrophe.

New security architecture

Pressing though the world’s immediate energy needs are, they cannot be seen in isolation. To address them effectively in the long term, we need to re-visit our collective security system to take account of the inextricable linkage between the various drivers of insecurity. Our current major insecurities are all ‘threats without borders’, whether we are talking about poverty, energy insecurity, HIV/AIDS, arms control or global warming. These issues cannot be solved by any one country alone; by their nature, they demand global responses and multinational cooperation.

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Millions of people die every year from preventable causes such as starvation or waterborne diseases. We must learn to share the wealth of the planet more equitably, recognising that poverty, too, is a weapon of mass destruction. If a fraction of the more than one trillion dollars presently being poured into military spending were to be spent on basic needs and good governance in

the troubled parts of the world, we could do much to address the hopelessness and sense of injustice which fuel violence and extremism.

Nuclear renaissance?

We have seen growing interest from developing countries in recent years in developing nuclear energy programmes. This is understandable. Unlike many renewable sources of energy, nuclear power plants can provide the reliable, large-scale electricity necessary to power the grids of large urban areas. Nuclear power emits almost no greenhouse gases. Uranium resources are in good supply and expectations of a nuclear renaissance have fuelled new uranium exploration. The cost of nuclear-generated electricity has become competitive with other sources. And there have been significant improvements in the reliability and safety of nuclear plants.

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Nuclear energy looks certain to play a larger role in the future energy mix of the developing world. Of the 35 new reactors currently under construction, 17 are in developing countries. It is vital that the expected increase in the use of nuclear power is managed properly, taking into account all economic, safety, security and non-proliferation requirements.

And nuclear power alone is not a panacea for global energy security.

Even the pessimists believe we still have at least a few decades before the oil on which the world's prosperity is built starts to run out. Let us use that time wisely to develop long-term solutions to the world's energy needs which will benefit all humankind.

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The International Atomic Energy Agency (IAEA) is the world's centre of co-operation in the nuclear field. It was set up as the world's 'Atoms for Peace' organisation in 1957 within the United Nations family. The Agency works with its member states and multiple partners worldwide to promote safe, secure and peaceful nuclear technologies.

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