Executive Summary

The Energy Problem

Throughout human history, people have always sought new resources to make their lives healthier, simpler, and more enjoyable. In this quest, the discovery of new energy sources has played an important role in the development of society. Each society constructs its own energy system: this will depend to some extent on the particular features of the natural environment and the technology of the age. Today's energy model is built almost entirely on fossil fuels. Given the finite reserves of these energy sources and the repercussions of their use on the environment, this dependency is in danger of impairing the very development of society.

Energy demand could double or triple as the global population increases and the economies of developing countries expand, with new regions moving towards greater economic development and consumption of modern energy sources.

Assuring energy supply and respecting the environment are **challenges** currently being faced by business and governments-and by the general public. Some of the ways that a balance can be struck between supply and demand include intensifying international trade in energy, diversifying sources of supply and encouraging society to be more energy-efficient.

These two energy challenges need to be tackled simultaneously from several different angles: economic, political, social, environmental and technological.

Energy is closely bound up with *economic issues*. The possible exhaustion of fossil fuels could cause increased volatility in energy prices, with a consequent slowdown in global economic growth and a rise in inflation. The cost and availability of energy, therefore, will influence economic development and bring an influx of new investment to facilitate the transition towards energy sustainability.

My Notes

Another aspect that will have a major impact on energy will be *political*. At a domestic level, there is a range of legal instruments governments can use: taxation, incentives, penalisation of detrimental practices, etc. At the same time, stable geo-political relations will also be very important, minimising the risk of energy dependency by maintaining a secure supply.

The *social implication* of the energy problem is of key importance in achieving clean and efficient energy. The first step towards a sustainable energy system is to enhance awareness among society at large.

Finally, given the negative impact of energy consumption and the importance of technological aspects (which hold the key to finally overcoming the challenges), the environmental area needs to be examined very closely if we are to resolve the energy problem before the worst consequences of the current model began to impact society.

Conclusions of the Future Trends Forum on the impact of the energy

Given the magnitude of the problem we now face, we can expect that in coming years, ways will be found of assuring energy supply for developed and developing countries, with greater use of renewable energy, protection of the environment using cleaner energy sources, etc. However, trends indicate that the current situation will continue for some time.

Fossil fuels will keep on dominating the energy scenario, driven by massive consumption levels in developing countries and the present energy dependency of developed countries. Renewable energy sources, according to all forecasts, will continue to account for only a very small share of the energy mix. Indeed, it is the opinion of the FTF experts that this situation will continue until a rise in the price of oil and natural gas forces a move towards more efficient energy use amongst society and an increased participation of renewable energy sources.

This change will be joined to growing environmental concern, new investments in clean and efficient technologies and greater regulation of the public sector. Indeed, national, supranational and international governments and institutions will play the predominant role in the general social move towards more efficient energy consumption; they will initiate the drive for change, seeking to guard against a more critical energy situation.

The experts forecast that energy sustainability will eventually be achieved through new technological advances, though there is a significant divergence of opinion as to when technologies will be developed that are capable of resolving the energy problem. In short, there will be several overlapping scenarios on the road to change, although-as the publication explains in greater detail-precise periods are difficult to calculate.

However, there is also a more positive aspect to this situation: new business opportunities are arising out of the search for energy efficiency in all sectors. Transport and construction (residential and commercial) are two of the areas where the FTF experts predict the greatest business opportunities for investors, but they will not be the only ones; all sectors have energy needs.

At the same time, history teaches us that the greatest strides in innovation tend to come at times of crisis or particular necessity. The FTF experts suggest that the leading reaction to a disproportionate increase in the price of fossil fuels will be innovation.

To conclude, the energy challenges we currently face can only be overcome by involving and addressing the different aspects that influence energy, and their impact on society will depend on business investment, government regulation and environmental management.

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