

## Geopolitics of Energy in the Black Sea Context

Dr. Nicolae Iordan-Constantinescu  
Associate Professor of Economics  
Romanian Banking Institute  
President of Paneuropa Foundation

### Energy - driving factor

For more than a century, energy, politics and power are clearly intertwined as a force in international security and the stakes are getting bigger as such issues go beyond national prosperity and security, to the viability of the entire planet.

If the resource economy is the driving force of globalization - half of the 100 biggest multinational companies in the world belong to the energy and resource economy -, the geopolitics of energy constitutes the driving factor in global prosperity and security and the political nature of energy, which comes to public attention at any moments of crisis, is no longer questionable.

### Challenges

If we look at the **energy dossier**, we cannot ignore its **complexity**, both at the national and international level, for both the developed and developing countries. Such a complexity brings forth a number of challenges to the nations of the world that need to be approached with full responsibility, sense of solidarity and concern for the future of both planet and mankind. Let's name a few challenges:

First of all, we have to note the **paradoxical situation** that there is a constantly *growing demand for energy*, estimated to rise by more than 50% by the year 2030, and there is also an *apparent incapacity* of science, technology and industry *to generate enough alternative energy sources and production*, so that approximately 80% of 2030 needs would still be met by fossil fuels, which are limited resources.

The **energy consumption** is growing constantly. The most energy consuming branches - industry and transport systems, particularly in the United States -, are largely reliant on oil and gas, and such situation will persist for an undetermined period of time.

**Access to energy** has become critical to sustaining growth in China and India and importers have come to compete for supplies, driving up high and volatile prices. Moreover, political instability, natural disasters and other threats reveal the vulnerability of critical energy infrastructure in numerous countries of the world.

**Increasing import dependence** in many countries is paralleled by a **growing interdependence between producing, consuming and transiting countries**, with enormous investments required along the entire energy chain.

The **market power of energy suppliers turned now into a political power**, countries such as Russia, Venezuela and Iran have gained the capacity to play

important roles in shaping the regional and international politics that go well beyond their GDP.

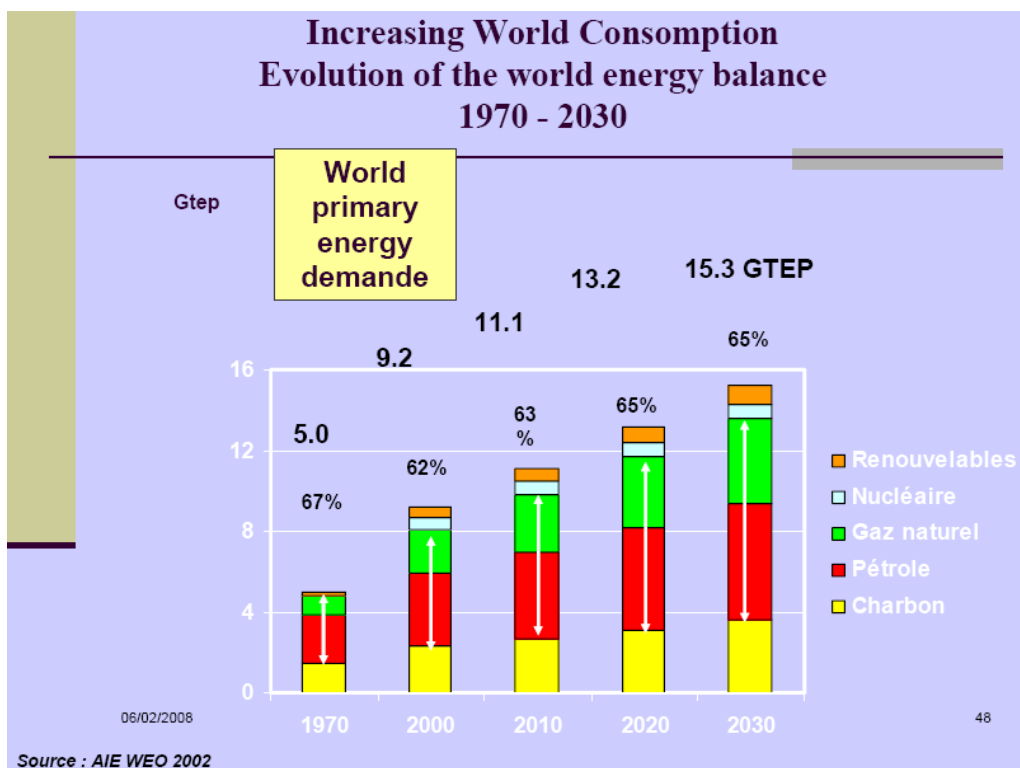
The **failure to deliver on the hope** of greater prosperity could unravel both authoritarian and democratic regimes, as populations become more educated and demanding.

Last, but not least, there is a imperious need to **protect the environment** and to tackle the climate change.

### Supremacy of fossil fuels

Let's examine the table below:

Table nr.1



The table indicates that world primary energy demand will continue to rely, in a long run, on fossil fuels.

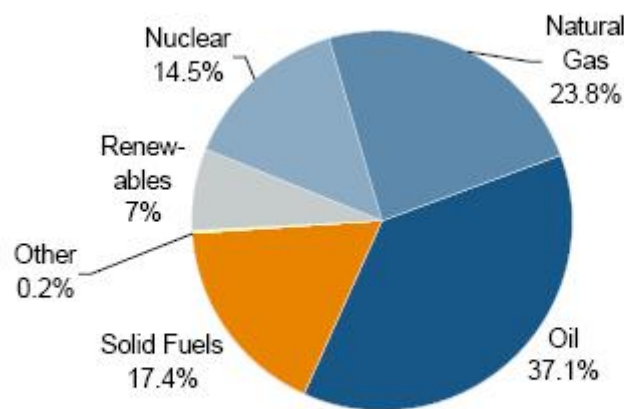
If the relative weight of fossil fuels will continue to remain steady in the overall energy balance, the absolute figure will rise tremendously. So the fossil fuels (CO2 emitters) count for 80% of the energy used, but coal continues to represent a high percentage - 23%, the consumption of which will need to be reduced due to pollution concerns (also true for gas and oil). One ton of coal releases 1,900 m3 of CO2!

Various future energy need scenarios consider that such a trend will continue up until 2050.

In fact, the **world wide consumption** was multiplied 10 fold between 1900 and 2000, going from 1 to 10 Gtep per year (GTEP = gigatone-equals-petrol), which should take us to between 32.5 by 2050 (an identical increase compared with the previous century) and 57 Gtep/ year (an increase based on the current growth for the last 10 years, which is the most realistic!). And that despite the fact that 57% of energy sources used today (gas and oil) will disappear in 50 years (at least in the economic conditions that exist today).

At the level of the **European Union** the situation is not particularly different. The table below shows that the gross inland consumption of the EU-29 is based for about 78% on oil, gas and solid fuels, while the alternate and nuclear energies do not represent yet a real alternative to the classical fuels.

**Figure 4-9** Gross Inland Consumption of EU-29, 2005

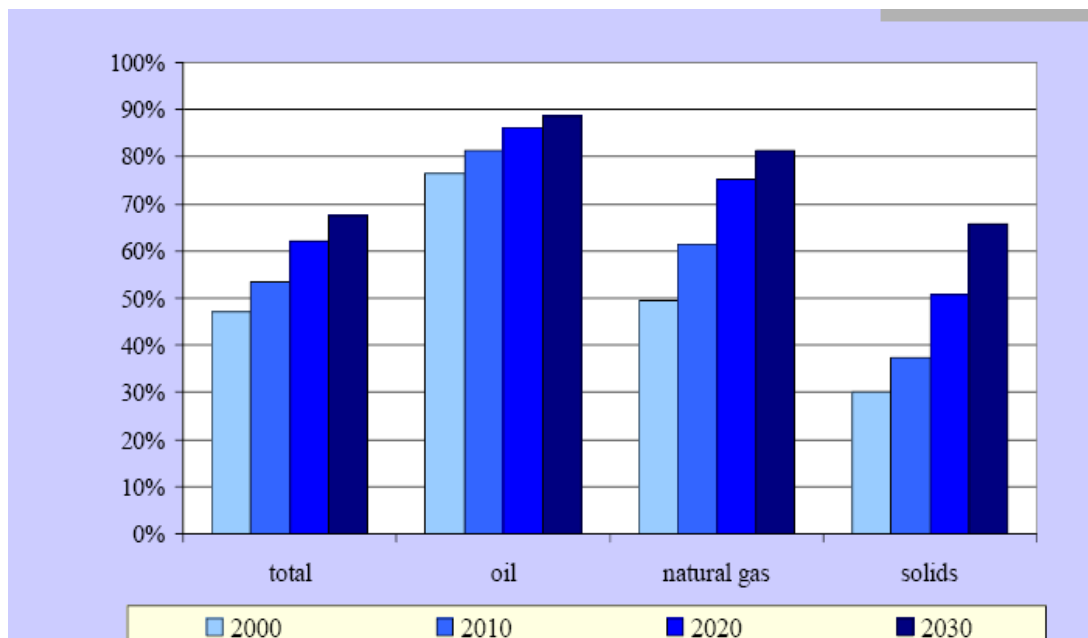


Source: Energy and Transport in Figures, 2006

### Growing dependency on energy imports

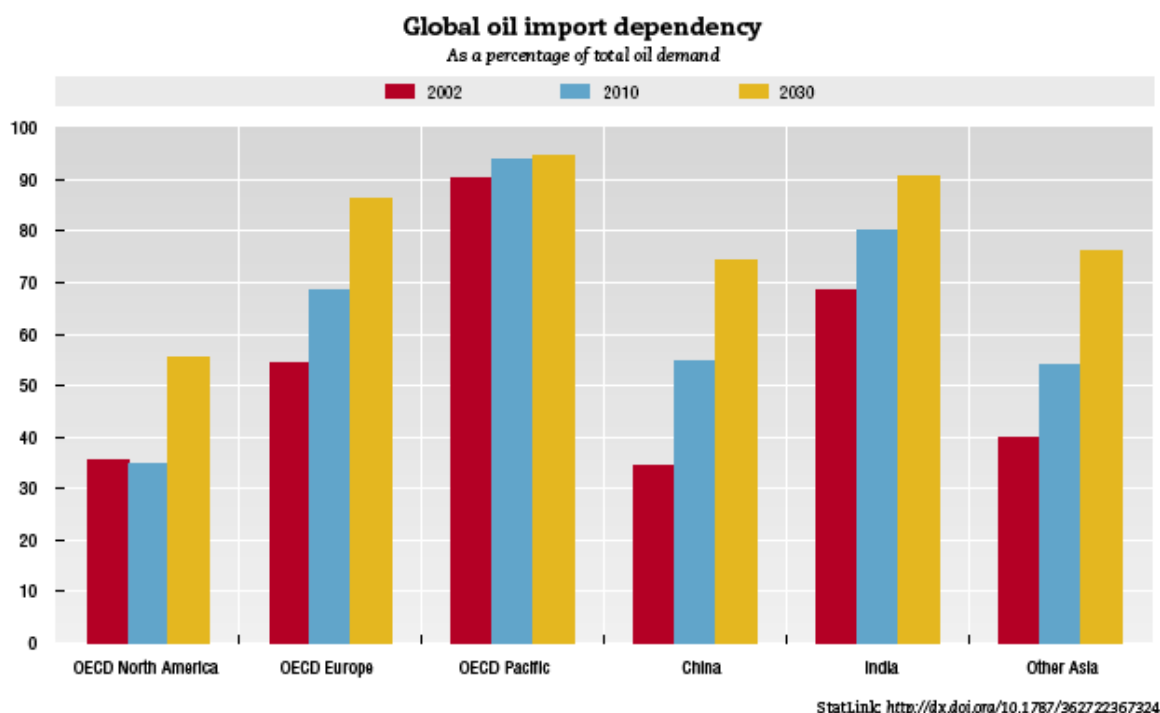
The table below shows eloquently that despite the EU efforts to develop alternate energy sources and reduce industrial and home consumption, there is an increasing dependence on energy importation, a tendency that will not be curved down the years ahead but on the contrary.

**Table nr.2**



At the level of **year 2000**, the EU countries imported **less than 50%** from their needs in oil, gas and solid fuels and it is expected this percentage to rise to **nearly 70% in 2030!** Let's add that these countries import 25 percent of their energy needs from Russia, which may rise to 40 percent in 2030 (another 45 percent comes from the Middle East).

At the same time, U.S. imports 58 percent of its oil and this share will continue to remain at a comparable level in the years ahead.



### World reserves

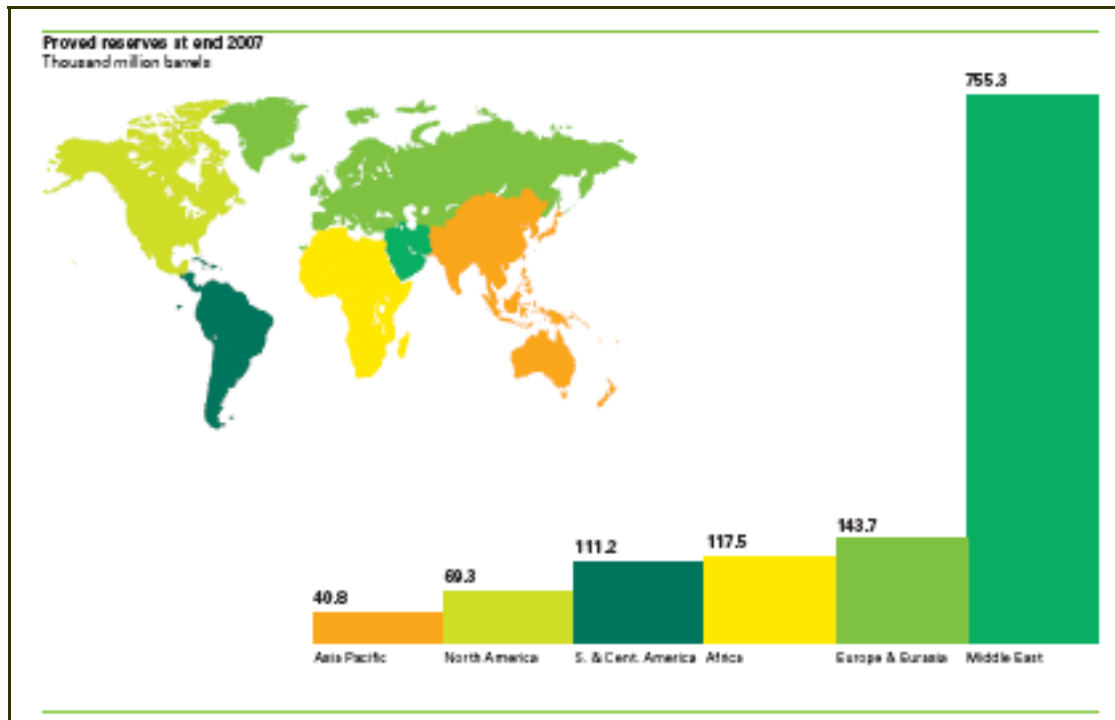
According to the latest BP Statistical Review of World Energy (June 2008), the world proved reserves of oil were of 1,237. 876 billion barrels at the end of 2007, concentrated largely in the Middle East (755,325 billion barrels – cca 61% of the world proved reserves, mainly in Saudi Arabia, Iran, Iraq and UAE, ), followed by Africa (about 9,5%, mainly in Libya and Nigeria) and Central and South America (about 9%, mainly in Venezuela).

As for the world proved reserves of gas, same statistics indicate a total of 6,263.340 trillion cubic feet, concentrated mainly in the Middle East (2,585.351 trillion cubic feet, i.e. 41,31% of the world proved reserves, mainly in Iran and Qatar) and Eurasia (1,881.140 trillion cubic feet, i.e. 30,12% of the world proved reserves mainly in the Russian Federation).

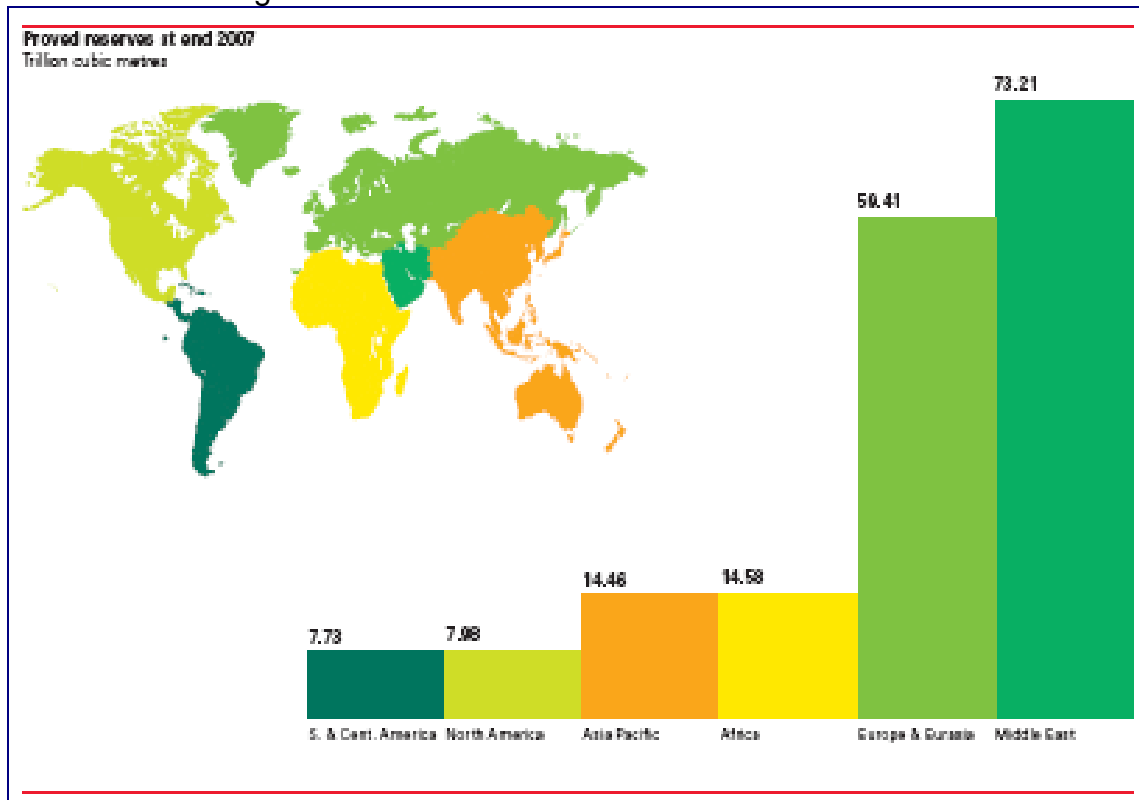
### Issue of Caspian and Central Asia energy

The Caspian Sea region (the South Caucasus and Central Asia) contains about 3-4 percent of the world's oil reserves (47.5 billion barrels at the end of 2005) and 4-6 percent of the world's gas reserves (estimation, no complete data available).

### Proved reserves of oil at end 2007 - BP



### Proved reserves of gas at end 2007 - BP



The states neighboring the Black Sea do not have significant proved reserves of oil and gas. There is a potential of the Black Sea continental shelf in the now disputed

area between Romania and Ukraine related to the Serpents' Island that is supposed to count for about 100 billion cubic meters for gas and to about 10 billion tons for oil, quite insignificant as against the world reserves or even the Caspian potential.

But even if the oil and gas resources in the Black Sea and especially the Caspian and Caucasus areas are not high, they got importance as a result of the energy policies developed by the consumer states in the West to diversify the import sources and so decrease their dependence on resources from Russia and the Middle East.

The main problems concern the transportation and, of course, the security of the very long pipelines that will pass through several countries till reaching their final destination.

The transport of Caspian and Central Asian (Kazakhstan and Turkmenistan) energy supplies to the West via the Caucasus has gained vital importance, as a number of states and organizations are making efforts to end Russia's near monopoly on the transport of energy supplies in the Eurasian region by creating alternative pipeline routes to transport these supplies, which are now operational, under construction or just planned:

- Atasu-Alashankou oil pipeline (China and Kazakhstan)
- Baku-Tbilisi-Ceyhan (B.T.C.)
- Baku-Tbilisi-Erzurum (B.T.E.) pipelines (Georgia, Azerbaijan, Turkey and Kazakhstan)
- Nabucco gas pipeline (European Union, Turkey, Bulgaria, Romania, Hungary and Austria)

In such a perspective, the role of Turkey becomes essential. Even if Turkey lacks significant domestic energy resources, its location makes it now difficult to imagine a gas or oil pipeline not crossing the Russian soil without passing through the Turkish territory.

### Geopolitics of oil and gas

From the above we can present some preliminary conclusions:

1. fragility of international oil and gas markets
  - on the supply side
    - i. limited ability to expand production rapidly in the short-term, and even long-term prospects are mixed
    - ii. Saudi Arabia has limited additional short-term capacity
    - iii. due to commercial disputes, local instability or ideology, Russia, Venezuela, Iran, Nigeria and Iraq are not investing in new long-term production capacity
2. limited supply elasticity encompasses magnified political volatility through rising prices

3. political instability in and around countries considered marginal oil suppliers can cause major price spikes. Example: when Turkey threatened on 17 October 2007 to take its fight against PKK into Kurdish Iraq, oil prices jumped from \$87.40 per barrel to \$94.53 per barrel by the end of the month
4. sources of instability (we shall not enter into details here)
  - conflict in the Middle East
  - risk of Iraq war spilling into the Persian Gulf
  - risk of U.S. conflict with Iran over its nuclear program or over Iranian support for militias in Iraq
  - conflict in the Niger Delta
  - populist state controls in Iran and Venezuela
  - difficulty of securing major oil transport routes

#### A look at Russia

- controls over a quarter of the world's proven gas reserves at 1,680,000 billion cubic feet
- ranks 8th in the world in terms of proven petroleum reserves (60 billion barrels)
- ranks second only to Saudi Arabia in terms of oil production (9.4 billion barrels per day) - Russia is producing at its peak
- world's second largest exporter of oil
- Russia's dependence on the European consumer and Europe's dependence on Russia as a supplier (Europe imports 23% of its gas from Russia), but no comparable reciprocal leverage
- refused to ratify the Energy Charter Treaty, which would guarantee transit rights for energy through Russia regardless of the owner and preclude cutting off energy supplies as a political weapon

#### The issue of nuclear energy

The high oil and gas prices and the actions that must be taken to address climate change make nuclear power a more attractive option in national energy strategies, but at the same time, create legitimate concerns about the risk of nuclear proliferation, as the risk of breakout from civilian power to weaponization would increase dramatically, as well as the risk of materials and technology getting into the hands of terrorists.

Therefore, on the nuclear side, no issue is more important than creating a strong firewall now between civilian power and weaponization programs, before more countries seek to break out from civilian programs.

Today just twelve countries out of sixty states with some form of nuclear capacity can enrich and commercially produce uranium and, arguably, nine countries currently have nuclear weapons.

For economic, environmental and security reasons, one could expect more and more countries to incorporate nuclear power into the mix of their power generation capabilities

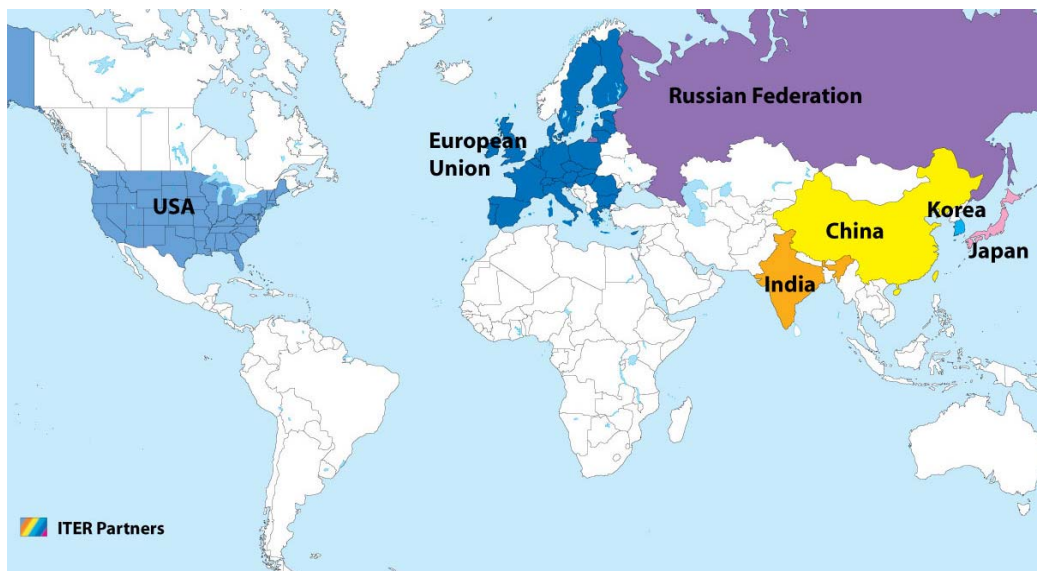
### An alternative: fusion energy

The advantages of fusion energy are now well known – it does no longer use nuclear materials but produces electricity in a safe and environmentally benign way, with abundant fuel resources, capable to meet the needs of a growing and demanding world population.

The long-term objective of fusion researches is therefore meant to harness the nuclear energy provided by the fusion of light atoms and at this stage we can say that the research carried out by scientists from all over the world made tremendous progress over the last decades. Although not all is yet understood of the physics and engineering of a power station based on controlled fusion, the basic principles have been elaborated in detail, what is encouraging.

The fusion community has together designed the international ITER<sup>1</sup> experiment, which aims to show that fusion could be used to generate electrical power and to gain the necessary data to design and operate the first electricity-producing plant.

Current participants to the project:



In June 2005 it was decided to construct ITER in Cadarache, in the South of France.

The construction costs of ITER are estimated at five billion Euro over 10 years, and another five billion Euros are foreseen for the 20-year operation period. The detailed plans for the construction, operation and decommissioning of ITER indicate that the first plasma should be possible in ITER by the end of 2016

### Seeking solutions

---

<sup>1</sup> ITER - "The way" in Latin. Formerly interpreted to stand for International Thermonuclear Experimental Reactor, although this usage has been discontinued

The G8 Summit Declaration on Global Energy Security held in St. Petersburg, in July, 2006 stated that “Neither global energy security, nor the Millennium Development Goals can be fully achieved without sustainable access to fuels for the 2.4 billion people and to electricity for the 1.6 billion people currently without such access in developing countries”.

So, the political goals are already there, on the table, there should be found the necessary “ways and means” to attain these objectives in the shortest possible period of time. Mankind will benefit, the environment will benefit also!

Here the “energy diplomacy” must play an important and decisive role. Diplomacy and effective reserve management must be critical tools in finding solutions to topical energy matters. How can that be done.

First of all, by stimulating the debate around the tough questions related to energy politics. To that purpose, organizing a pan-European conference, which will include compulsorily the Black Sea-Caspian Region, with the participation of both exporting and importing countries could prove very useful to tackle mainly with the security issues in the energy sector and identify transit systems that merit international cooperation and investment.

There must be also a strong commitment at the level of at least the largest economies and energy users as a means to force a focused and sustained agenda on the policies and politics behind energy supply and use.

Countries must be encouraged and accompanied to facilitate a build-up of a nexus among energy security, climate change, and nuclear energy and proliferation.

Certainly, it is important to establish regional security arrangements that can mitigate risk and create shared incentives across states, especially in the Middle East, the Gulf and Central Asia.

It is also important to ensure the completion of the Energy Charter Treaty transit protocol, the signature of the Energy Charter Treaty by Andorra, Monaco and Serbia and the ratification of the Energy Charter Treaty by the Russian Federation and Norway.

#### A shared medium-term strategy

If we could agree on these particular objectives of the future activities in the field of energy production, supply and security, we could also envisage at least a medium-term strategy meant to foster convergence around political, environmental, energy and economic goals.

Such a strategy must revolutionize the way that we acquire and use energy and so break the petroleum dependence and stimulate innovation and job creation with significant political and environmental dividends.

Countries should witness a radical departure from current patterns in the use of fossil fuels which, for most states, compromise national security, and for all nations threaten the planet, and move to a sustainable energy mix.

Such move should be sustained by establishing financing and policy measures to support the development, testing, demonstration, commercialization, and dissemination of clean and efficient technologies that can transform the terms of debate on energy use and climate change.

Last, but not least, there must be introduced measures meant to price carbon emissions and to coordinate prices across states, if not create transnational carbon markets.