



GLOBALIZATION: PROSPECTS FOR FUTURE INTERNATIONAL COOPERATION

Irina Paula Dinu

CNE PROD, Cernavoda, Romania

Abstract

When I say "globalization," I think to that golden beginning when President Eisenhower gave his historical speech, "Atomic Power for Peace," to the General Assembly of U.N.O. in 1953. He proposed, for the first time, an international cooperation for sustaining the peaceful application of nuclear energy. Years later, the global nuclear dream was shaken by Chernobyl. Humankind had seen the reverse of globalization: any lack in project, execution, or operation of an NPP has *global* consequences.

Still, why globalization? Globalization because global urbanization trends are an important factor for energy planners and this debate is vital for fueling the bigger cities of tomorrow.

Methods

There were some efforts to aid international cooperation, such as the creation of the International Atomic Energy Agency (IAEA) in 1957, the highest nuclear forum. Many other international organizations were created after it. Methods to help globalization include:

- Internet technology and its application to internal networks (to become Intranet technology).
- Creating an open, competitive international energy market in electricity where energy can be sold and bought like any other product.
- Promoting the development of clean and safe reliable nuclear energy systems.
- Encouraging international collaboration in science and technology to avoid duplication and maximize global benefits.

Results

Since the beginning, IAEA was mediating and financing the free exchange of information, scientific and technical reports, conferences, and visits of expert delegations. It encouraged research in nuclear reactor technology, plasma physics, radiation chemistry, biology and environment, waste disposal, and many others. Its example was followed by other regional organizations, all having the same purpose: a global overview and an opportunity for each country to attain maximum progress in the benefits from nuclear technology.

Development of Intranets and the spread of Internet services will allow an increased connection between nuclear companies. There is another project called Next Generation Internet (NGI), which will connect thousands of teams of researchers spread across the world.

In February 1999, the European Union Electricity Directive was implemented. It discussed electricity market liberalization, an idea that will bring both challenges and opportunities for the nuclear market as well as for all players in the market. Cost is not the only major factor though. Another one is how to reduce

environmental impact, like waste management, and to create a new generation of reactor designs.

This concern also requires international cooperation. Convention on Climate Change from Kyoto established to reduce greenhouse gas emissions by 2008-2012.

International cooperation is a vital part of the world's science and technology program. The responsible transfer of energy technologies will also play an important role in international cooperative activities. There is much on-going collaboration in science and energy related fields. These include the Russian-American Fuel Cell Consortium, the International Thermonuclear Experimental Reactor Project, and the Large Hadron Collider program collaboration.

Discussion

Creation of international organizations and Internet technology are well known methods in generating a global view of nuclear energy. I would like to discuss the other methods. Companies doing business in the global marketplace are looking for new solutions to market specific challenges. In this competition, the nuclear sector took its share: in the nuclear market, CO₂ (one of the greenhouse gases) emissions are nonexistent, while electricity production costs are competitive with coal.

All concerns about competition and CO₂ emissions are overshadowed by public concern over safety. This fact does not mean that nuclear is less safe than other power generation systems. This only shows that we need, for correct judgement, a system for comparing the global environmental impact to various power alternatives. There is a desire to create a global approach, also in nuclear power: an idea by the International Waste Authority, an IAEA initiative on proliferation resistant reactors and fuel cycles, and international standards for new generation reactor designs. Now, we turn to science and technology re-search, which has many challenges to face: the environment, safety, nuclear waste disposal, nonproliferation, and fusion energy. Regarding this field, our hope is that fusion energy has the potential to provide an economical and environmental option that gives a long-term attraction.

Conclusions

As the world is moving into a new millenium, its energy needs are increasing. Next to nuclear, there is no power generation alternative that creates more concern because of the many global and public issues that were apparent at the end of this millenium. The globalization concept is not an invention of our days, but today, it needs more enthusiasm and support for the future.

We sustain a globalization of diversities, meaning that there are options that involve many parameters we have already mentioned. The most important fact is that energy choices of today must not impede the choices of future generations.