



## The Nuclear Option for SE Europe: A Critical Appraisal

*A One Day Workshop Convened by IENE  
Sofia, May 19th 2009*

### **Introduction**

In the light of the recent developments in international energy politics and acknowledging that the debate over the re-emergence of nuclear power in Europe has made a powerful comeback, the Institute for Energy in South East Europe hosted a one day workshop in Sofia, Bulgaria on May 19<sup>th</sup> 2009 on the Nuclear Option for SE Europe, in order to establish a forum that will discuss the challenges and opportunities for nuclear power development in SE Europe. The advantages and disadvantages of nuclear energy took center stage during the first event organized in Bulgaria by the Athens-based IENE. The one-day workshop was held at the Sheraton Hotel and it gathered substantial interest from stakeholders from Bulgaria, Greece and Romania.

The event was part of IENE's increasing regional outreach, along with the "S.E. Europe Energy Outlook" report - expected to be published by Q4 2009 - encompassing all aspects of the region's energy industry. IENE expects this report, upon its completion, to constitute a major reference study for the entire S.E. European energy market.

The workshop was held under the auspices of the Bulgarian Ministry of Foreign Affairs and the Ministry of Economy and Energy, while nuclear energy experts from countries with installed nuclear generating capacity such as Bulgaria and Romania participated and shared their insight. Furthermore, government officials, E.U. representatives and officers from major energy companies also attended. The workshop provided an opportunity for all actors involved in the energy sector to assess the prospects for nuclear power development in the region taking into consideration all social, economic and climate change aspects. The participants debated whether nuclear energy can increase its share in the Balkan energy mix. The sufficiency of the existing nuclear power plants was also discussed. Furthermore, the issue of nuclear energy's role in energy security was broached and safety concerns were voiced. During the workshop the participants provided information about the public sentiment regarding nuclear energy in several EU countries and updated the audience on the nuclear energy regulatory framework of each country.

Speakers included Mr. Peter Poptchev, from the Bulgarian Ministry of Foreign Affairs, Mr. Boris Pekov - Chairman of the Board of Directors of the Bulgarian

Energy Holding Company (BEH), Mr. Henry Donchev from the Bulgarian Ministry of Economy and Energy and Mr. Bogomil Manchev, chairman of Bulatom. From the Greek side Mr. Rafael Moisis President of the Hellenic National Energy Strategy Council and Mr. Ioannis Papazoglou from the Research Institute “Democritos” presented the position of Greece towards nuclear power.

## **Nuclear Renaissance – In South East Europe and Worldwide**

The ever-increasing global energy demand accentuated by escalating fuel prices, the pressing need for energy security and most importantly concerns over climate change make the case for a “Nuclear Renaissance”. Despite its bad reputation on the environmental front, nuclear power is an every day reality for millions of consumers worldwide since it provides almost 15% of the world's electricity. To day, there are more than 400 nuclear power reactors in operation in 31 countries around the globe with an installed capacity of 370GWe. While the issue of new nuclear capacity is still controversial in many European countries, almost 30 new reactors are being built today and another 90 are planned to come online shortly with China, India and Russia spearheading the development.

Many European countries - such as Bulgaria, the Czech Republic, Romania, Slovakia, Slovenia and Turkey - are building or planning to build new nuclear power. Furthermore, Sweden has already abandoned plans to decommission its nuclear power; Hungary and Spain are planning for life extensions on their existing plants; and a recent UK government energy paper endorsed the replacement of the country's ageing nuclear reactors with advanced modern designs. Italy, a long time skeptic, is considering a revival of its scrapped nuclear program, and Italian energy companies have already invested in reactors in Slovakia while they plan to build new capacity in neighboring Albania.

In the fast developing and energy hungry area of SE Europe, nuclear energy can play an important role in the regional energy balance. The decommissioning of Bulgaria's ageing Kozloduy reactors prior to the country's accession to the European Union in 2007 created a severe power deficit in the region forcing cross border electricity prices to skyrocket.

## **The Nuclear Option: Overcoming the Obstacles**

However, nuclear energy comes with a lot of baggage. The 1979 Three Mile Island incident and the 1986 Chernobyl disaster with 56 dead on site and 4.000 cancer deaths turned public opinion against nuclear power. While recent technological advances on passive fail-safe technologies have addressed most of the safety issues, no substantial progress has been achieved for the secure management of radioactive waste. Furthermore, the construction of new facilities is highly expensive, time consuming and requires complex processes regularly plagued by long delays and cost overruns. The vast capital costs and the long payback periods discourage commercial investors if no substantial government subsidies and guarantees are in place skewing the playing field of market competition and even reducing the support needed for the development of RES.

Whereas nuclear energy is still a hard sell, increased awareness of the impending adverse effects of climate change has led scientists, decision makers and a large part of the public to realize that low carbon energy resources are the only viable alternative for the long run. Nuclear power is a well proven, large-scale technology able to provide the base load required for the expansion of RES and capable to open the way for the establishment of a carbon-free hydrogen economy.

## **Nuclear Power in SE Europe: Regional Developments and Prospects**

In his introductory remarks, Mr. Costis Stambolis – the Executive Director of IENE – addressed the reasons for which IENE decided to examine the true role and prospects of the Nuclear Energy Option in SE Europe and to organize the Workshop. He stressed that Nuclear Energy has not received the proportionate attention, despite the fact that it provides a significant part of the East Balkan's power and contributes in curbing Greenhouse gas emissions on a long term basis. At the same time he noted that a considerable infrastructure work is under development in Bulgaria and Romania, while plans are in progress for the introduction of nuclear energy for power generation in Turkey and Albania. Following Mr. Stambolis' remarks, Mr. Panagiotis Deriziotis – Senior Research Associate at IENE – presented the current state of Nuclear Power in SE Europe, highlighted the future trends, and underlined the most important policy issues that plague the nuclear debate: Public Acceptability & Licensing; Safety concerns & Waste Disposal; Climate Change; and Security of Energy Supply.

Ms. Albena Trassieva - State Expert, Energy Strategy Directorate of the Bulgarian Ministry of Economy and Energy - analyzed the role of nuclear energy in Bulgaria's energy policy emphasizing that a lower carbon energy mix, stable prices and opportunities for growing export can only be achieved through the sustainable development of nuclear energy. Along these lines Mr. George Ftikas of the KLC Law Firm presented the relevant Regulatory Framework for Nuclear Energy in Bulgaria. Mr. Boris Pekov, Chairman of the Board of Directors of the Bulgarian Energy Holding Company, assured about the safety of Belene NPP which is being designed as one of the most modern nuclear plants in Europe. He said that it will consist of state-of-the-art technologies – a combination of the best Russian reactors of the “third generation plus” coupled with French-German control and protection systems ensuring a top safety level.

The workshop also served as an information-gathering tool for IENE. Insight on nuclear energy is intended to enter the "South East Europe Energy Outlook", an IENE study slated to cover all aspects of the energy mix and serve as a reference for energy actors in the South East European region. In this sense, the workshop had its breaking news as well. Mr. Rasho Purvanov, Operations Manager at Kozloduy nuclear power plant announced the plans for the development of a new unit in Kozloduy. The idea is yet to cloak with action and garner investor interest. From a technical perspective Mr. Purvanov said that the project is feasible and that the site fulfills all the requirements to host it. Taking into account the already available infrastructure, it would cost twice as cheap compared to a unit on a new site, he said.

Ms Camelia Dumitrascu - Head of the Trade Department of Nuclearelectrica - presented the CERNAVODA UNITS 3&4 PROJECT and the Romanian nuclear infrastructure that apart from the NPPs includes a Heavy Water Plant a Fuel Fabrication Facility and staff with proven experience in construction, commissioning and operation of NPPs.

## **SE Europe Countries: Diverging Strategies – Common Needs**

The conference explored the dominant strategies of each country: Greece and Bulgaria and Romania, respectively, stand on opposite sides of the nuclear energy dialogue, the workshop confirmed. As Mr. Moissis of the Hellenic National Energy Strategy Council highlighted, in Greece, authorities, parties and the public alike, remain firmly opposed to the nuclear power. That is also the position that the Energy Council supports unanimously. However, the Council underlines the need for alertness, awareness and preparedness and a serious, impassionate public discussion, a position also endorsed by the Academy of Athens at a recent report on nuclear energy. Mr. Ioannis Papazoglou from the Research Institute “Democritos” presented research underlining the impending power deficit in Greece. He suggested that it is necessary to seriously explore the possibility of introducing in the Greek system Nuclear Power Stations to cover the electricity needs for the period beyond 2020.

In contrast, Bulgaria and Romania are adamant on backing nuclear option; the two countries are the “nuclear strongholds” in the Balkans and are also planning to expand their nuclear capacities while Turkey and Albania (jointly with Croatia) have intentions to joining the nuclear club in the near future. The energy strategy of many countries lists nuclear power cheap and environmentally friendly. At the conference was underlined the fact that in March 2009, 61 electricity generating companies from the 27 European Member States (including PPC of Greece) signed an open declaration in Brussels, committing to generate electricity with zero emissions of CO<sub>2</sub> by 2050, with a wide range of clean electricity solutions, among which nuclear energy was included.

IENE’s forum on “The Nuclear Option for SE Europe” successfully addressed all these controversial issues and initiated a fruitful cross border public debate for the prospects and limitations of nuclear energy development in the region.