



## Synopsis and Conclusions of the **2<sup>nd</sup> South East Europe Energy Dialogue**

November 2008



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## I. Preamble

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Last May the Institute of Energy for South East Europe, for the second consecutive year, organized an international meeting between major policy and industry leaders who are setting the agenda of energy developments in the greater South East European region. The second South East Europe Energy Dialogue was successfully held in Thessaloniki on May 21-22 2008 and constituted a joint undertaking, ever since its planning phase, between IENE and the World Energy Council (WEC).

The SEE Energy Dialogue was supported by the Hellenic Ministry of Development under the auspices of which it was organized. The inaugural address of the Summit, was given by the Ministry's Secretary General, *Mr. Constantinos Mousouroulis* while Minister *Christos Foliás* was the keynote speaker at the conference's official dinner on May 21<sup>st</sup> at Macedonia Palace Hotel where the summit took place. In addition to the endorsement of IENE's mission by the Ministry of Development, the SEE Energy Dialogue was also supported by the Hellenic Ministry of Foreign Affairs, and in particular the Secretary General for International Economic Cooperation, *Mr. Theodore Skylakakis*, who actively participated in the round-up table discussions of the Summit on May 22.

With more than 70 speakers and panel participants representing 20 different countries and 7 international organizations, including the European Commission, the World Bank, the International Energy Agency and the Energy Charter Treaty Organization, the foundations have been laid for the emergence of the SEE Energy Dialogue as the seminal energy forum for policy and industry leaders in the wider region. Key to the 2<sup>nd</sup> SEE Energy Dialogue's success was IENE's co-operation with WEC, which helped it reach a wider international audience in terms of speakers' involvement and delegate participation. The Dialogue's main points of interest and its conclusions and recommendations follow.

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## II. Synopsis

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South East Europe, a fast developing region with important economic prospects and a big energy market potential was in the epicenter of the 2<sup>nd</sup> SEEED. The following is a synopsis of its deliberations.

### Session I - Plenary

#### **“Introductory”**

**Mr. Costis Stambolis**, the executive director of IENE opened the conference by welcoming the participants and by underlining the importance and need of close cooperation in the energy sector among the different countries as an important prerequisite of the further development of the region. Although the recent rise of oil prices appears to be threatening the economic stabilization of the entire region leading to an unprecedented situation, these energy developments however show the way of political and economic transformation towards energy efficiency, new investments, energy diversity and mainly in reducing oil dependency, one of the biggest problems facing the whole SE Energy region.

**Mr. Konstantinos Maniatopoulos**, the chairman of IENE, noted that several steps in the energy sector should be made in order to achieve energy security, diversity of supplies and stability. Mr. Maniatopoulos clarified that unfortunately there is not enough progress nor in the institutional sector nor in the energy investment sector and this results in the maintenance of poverty and the low rate of economic growth in the entire Balkan peninsula. On the other hand Mr. Maniatopoulos pointed out that several projects are on the table, such as new gas and oil pipelines, which will give an economic boost and therefore he welcomed the establishment of the “S.E. Europe Energy Community” emphasizing the need for the creation of a long-term common European energy strategy that will provide and ensure the energy stability, the technology transparency, the attractive investment environment and finally the energy security. The importance of SEEED revolves around the need for a serious “dialogue” and an essential debate that must be held between the S.E. European countries in order to study the basic energy structure and prospects of the region and identify the key energy challenges and opportunities.

**Mr. Konstantine Moussouroulis**, the General Secretary of the Hellenic Ministry of Development, noted some of the major challenges facing Greek energy policy, such as the serious energy dependency, the increased energy consumption, the environmental considerations, the energy security but also the big projects under development such as IGI and South Stream pipelines which will create a new energy dimension in the region. Mr. Moussouroulis analyzed some of the Greek state's short-term priorities that focus on energy efficiency, new technologies, and RES development and also some of the long-term priorities such as the institutional reformation, with special emphasis on environmental protection and the international cooperation.

In opposition to the above remarks the speech of **Mr. Michael Chrysohoidis**, former minister and head of the development sector of PASOK, the leading opposition party in Greece, reflected the dissatisfaction and the growing disillusionment as too little progress has been made towards energy efficiency and RES development, mainly in the Photovoltaic sector. Mr. Chrysohoidis mentioned that Greece, although it is one of the most energy dependent countries in Europe, however it keeps managing wastefully its energy resources and he added that yet there is not a national strategic plan for the energy sector. Besides, he remarked that the government's policy towards solid fuel is problematic because of the lack of appropriate technology and on the other hand many unclear goals which characterize the government's approach towards nuclear energy.

**Mr. Fabrizio Barbaso**, Deputy Director General of the European Community, mentioned the European future of Western Balkans, and focused on Croatia and F.Y.R.O.M. that are expected in the following years to make important institutional reforms. Mr. Barbaso spoke about the important role of the Energy Community Treaty in order to promote the E.U. energy and climate policies amongst the Balkan countries. Thus, the Energy Community Treaty is a kind of bridge that integrates the internal energy markets and stabilizes the energy relations among the countries. Mainly, he focused his attention on the cleaner energy from renewable energy sources, the security of energy supply for gas and electricity, the energy efficiency and further he gave a strong emphasis to investments in energy infrastructures. Finally, Mr. Barbaso mentioned the geopolitical position of Balkans as a critical oil and gas route and highlighted the Pan-European Oil Pipeline (PEOP), Nabucco and NETS project as some of the

most substantial steps that need to be made to meet the goals of energy diversity and independency in S.E. Europe.

**Mr. Michael Savva**, minister counsellor of the Russian Federation embassy in Athens, remarked on the importance of the European energy security and supported that Russia doesn't play a negative role to this purpose but on the contrary it is a very reliable supplier advocating the energy interests of the European countries. There must be cooperation at a corporate level between producers and consumers that will provide a mutual benefit to both sides. Mr. Savva also maintained that there is no apparent competition or political rivalry between Russia and Central Asian countries since Russia which has the largest deposits of natural gas worldwide and also big resources has nothing to fear of other suppliers with lesser resources, and supported the view that the relation between Russia and these countries is simply complementary. Furthermore, Mr. Savva referred to the big energy projects in the planning stage like the South Stream pipeline that will promote multiple transportation routes and will enhance the flexibility and reliability of gas supply to Europe. He also noted that the geopolitical location of Greece gives it a special advantage, as Greece is a country with proximity to Russia. This fact offers a particular comparative advantage which will enable Greece to benefit from its geographic position.

**Dr. Panos Cavoulacos**, President of EUROPIA, the Brussels based Oil Association, spoke about the European downstream sector and emphasised the importance of a very attentive policy relating to the further development of fuels to succeed adequate supply and energy security and to avoid environmental degradation. Dr. Cavoulacos, said that EU legislation and taxation policies will continue to generate growth in diesel demand and decrease of gasoline. The continuing fuel growth is likely to create an increase of CO<sub>2</sub> emissions and under the policy of minimising emissions more fuel imports will be needed to satisfy the growing demand. Thus, it is presumed that EU policies impact heavily the industry and the profitability in general. Unfortunately, according to studies, future energy efficiency improvements cannot be offset by EU refinery CO<sub>2</sub> emissions due to diesel growth demand. At the same time, emission trade will impose a cost of CO<sub>2</sub> on EU refineries and with non-European refineries gaining a comparative advantage. On the other hand the path toward 10% biofuels is paved with several stumbling blocks like inefficiency of biofuel's technology, consumer

confusion etc. EU policy priorities must remain balanced among Sustainability, Competitiveness and Security of supply.

## Session II -Plenary

### **“Geopolitical Challenges and the Energy Dimension in S.E. Europe”**

The Balkan countries constitute a very special region, close to the European core but simultaneously too far from the European political and economic stability. Especially the countries of Western Balkans, the majority of which belonged to the Former Yugoslavia Republic, have to face many political problems and implement the economic transformation and reformation through new rules and proper legislation. On the other hand, the eastern Balkans are in a transition phase (Bulgaria, Romania), while Greece and Cyprus are characterized by mature and limited growth. Besides, the prospect for EU entry for the majority of Balkan countries, including Turkey, is helping to liberalize markets, develop competition and increase private investments (*Stambolis, Gould*).

The major challenge for the Balkan Peninsula which is characterized by a highly energy dependency, is energy integration that will provide reliability and efficiency in the energy sectors. These goals will be achieved by the reinforcement of public energy administrations and authorities, which will ensure the energy infrastructures and the market liberalization and privatisation process (*Radulov*). The role of the Energy Charter Treaty is important and most relevant as it encompasses the above targets by protecting foreign investment, providing non-discriminatory conditions for trade in energy materials, ensuring reliable cross-border energy transit and promoting energy efficiency in Eastern Europe (Sedat Cal). Of course, the main obstacles toward the energy integration process of the Balkan region is the absence of strong energy security supply policies, the accomplishment of sustainability, and the existence of poverty conditions which used to be found in the entire region (*Radulov*).

New oil and gas pipeline projects, LNG terminals and natural gas storage facilities are in the process of planning or construction and thus a closer co-operation and strong interaction among Balkan countries is now urgent in

order to form a new energy status in the entire region. South Stream (with the two branches, north and south), TAP, IAP, IGI and Nabucco pipelines create an energy ring and important interconnections which affect all the Western Balkans countries, preparing a very fertile ground for natural gas market development and furthermore guarantying the security of gas supply (*Mavrakis, Durovic*). Among the eastern European countries and especially among western Balkans, Croatia can play a strategic role in the enlargement of natural gas network because of its important geopolitical position and in view of the energy infrastructure which already has. On the other hand, a vast amount of investments in renewable energy sector and new energy efficiency technology is needed to ensure the energy sustainability and create a stable basis for environmental friendly future conditions in close correspondence to the European Commission's policies (*Durovic*).

Balkans is a region with enormous hydroelectric potential that can be exploited in connection to other renewables like wind, solar energy as well as the biomass. In addition, despite the fact that Balkans is in a strong development position and there is a growing electricity demand, new intelligent technologies are required to cut the CO<sub>2</sub> emissions. The CCS (CO<sub>2</sub> Capture and Storage) technologies offer a great solution to the problem of CO<sub>2</sub>, but an adequate development of this technology and a wide economy of scales is essential in order to ensure the effectiveness and the sustainability of this kind of solution (*Slavov*).

## Guest Speaker

### **H.E. Mr. Daniel Speckhard USA Ambassador to Greece**

After, the second session and over lunch, Mr. Daniel Speckhard, the USA Ambassador to Athens on key energy issues including the efforts of USA to resolve the environmental degradation, the important role of the "Southern Corridor" for the S.E. European countries and the collaboration with the Greek state in developing an agreement to increase energy efficiency and the use of renewables energy sources in the region. Ambassador Speckhard, said that USA, although is the country with the most CO<sub>2</sub> emissions in the world, has taken several important steps over the past years. Since 2006, US emissions declined for the first time and in 2007 new laws were passed for emission cuts under the Kyoto Protocol. Currently, wind energy is one of the **fastest** growing sectors in United States making it the second largest

source of new power generation. Mr. Speckhard pointed out that by 2030, according to energy plan, 20% of all US electricity will be produced by wind energy and advised the Greek authorities to facilitate and support the development of wind energy market in Greece.

After the brief analysis of CO<sub>2</sub> US policies for emissions cut, the US Ambassador focused his speech on the importance of the two gas pipelines, the TGI and Nabucco, which represent the “southern corridor” and will deliver natural gas from Central Asia, mainly from Kazakhstan and Azerbaijan to the European countries. Mr. Speckhard said that US doesn’t oppose Russia which is the biggest natural gas producer and supplier worldwide but any reactions and objections concern its monopolistic strategy. He suggested that if the European Union wants to ensure energy security, then more energy routes must be found and one of the most reliable route against the Russian monopolistic tension is the “southern corridor” that provides an alternative solution strengthening the ability of European Union in order to negotiate gas prices. Furthermore, Azerbaijan alone has enough gas to fill both Nabucco and Turkey – Greece – Italy pipeline and it is for the interests of the entire region that Greece and TGI have unlocked the door to a whole new supply source. The US Ambassador also noted the cooperation between US Agency for International Development (USAID) and Hellenic Aid on specific projects, including energy efficiency in buildings and activities relating to renewable energy.

### Session III – Parallel

#### **“The Developers Meeting A: Oil”**

The third session consisted of a focused analysis on the development prospects of the oil upstream sector in Greece and in Albania demonstrating the need to invest more in this specific area. The studies show that there is a considerable amount of oil in the Western part of the SEE region (Western Greece basins) and North Greece (Thermaikos, Prinos and Western Thrace Basins) (**Nikolaou, Baltas**). Furthermore, Greek oil and gas fields meet all the fundamental conditions of hydrocarbon existence such as quality, quantity, maturity and appropriate geological time and thus despite the current steady low production, it is worth to be further developed. The active hydrocarbon discoveries, found in both Western and Eastern Greece, attest to the existence of active hydrocarbon systems. Furthermore, gas

fields have been discovered in West of Peloponnesus in Katakolos and in Epanomi, near the city of Thessaloniki (**Nikolaou**).

This year the Greek company Aegean Energy, which was established in 2007, commenced work in Epsilon field, next to Prinos North field, with total investments 210 million USD and estimated production 17.000 bls/d (**Baltas**). Similar conditions are to be found in Albania where oil production has been decreasing rapidly since 1975 (**Nikolaou, Mezini**). Nevertheless, Albania has high oil bearing potential and good opportunities for Oil and Gas Exploration with a good legislation framework on collaboration with foreign companies for the development and production from existing oil fields. Given these facts and following large scale of investments and the technological methods used by the Albanian oil state company Albpetrol, the estimations about oil production in Albania show an increase within the next years. It is estimated that Albania will reach a peak oil production in 2012 having a yearly oil output of around 1.400.000 tons (**Mezini**).

The development of oil fields in Greece and Albania is advisable because of the existence or the planning of new infrastructures and pipelines like the Burgas – Alexandroupoli (BAP) and the Burgas – Flore. Thus, pipelines will relieve the congestion of a huge bulk of oil transportation from the Black Sea to the Aegean Sea via the Bosphorus Straits. Especially, the Burgas – Alexandroupoli pipeline is one of the most suitable bypass alternatives providing cost efficiency, diversification of routings and minimal political, technological, financial and environmental risks. The three sides that constitute the BAP consortium, is Russia (Gazprom Neft, Rosneft, Transneft) with 51%, Bulgaria (Bulgargaz, Technoexportstroy) with 24,5%, and Greece (ELPE, Latsis Group, Prometheus Gas Group) with 24,5% (**Dimas**).

Finally, the session was completed with a brief presentation of the downstream activities of ELPE (Hellenic Petroleum), one of the major players in oil market in Greece and SE Europe. The main activities of ELPE are in the domain of refining, supplying and trading of oil products with a dominant role in almost all the Balkan countries (F.Y.R.O.M, Bulgaria, Serbia, Albania, Bosnia & Herzegovina) and a strong presence in North Africa (Egypt, Libya). ELPE has an ambitious investment plan for the next four years in the domestic market but also in a wide range of countries with the main target to become a major multinational company. On the other hand, it participates in all major oil and gas pipeline projects such as BAP, South Stream and ITGI (**Theodoropoulos**).

## Session IV - Parallel

### **“The Developers Meeting B: Electricity”**

In the sixth session, an analytical consideration of the electricity sector in Greece, Romania and Montenegro was made, presenting the main problems, the challenges and the opportunities of the electricity market. The Greek electricity market is already unbundled under the proper institutional framework and the legal reformation over. The next ten years the independent producers (IPP's) will share a large portion of this market while an additional 10,000 MW of electricity will be added to the existing installed capacity of 12,700 MW today.

Nevertheless, PPC, the Public Power Corporation will remain over the following years the dominant player in the Greek electricity sector with total installed capacity 16,822 MW until 2014. The major challenges that PPC must face are the increased competitiveness and the high tariffs, the reliability, quality and security of supply and of course the environmental regulations of the European Union. PPC plans a wide range of projects in renewable energy, estimating that renewables until 2014 will cover 20% of the electricity needs. However lignite, as a valuable national source, will still be in use for 30-35 years, and coal will be introduced too in the electricity balance. On the other hand, natural gas will be the source with the fastest growth rate in Greece while there will be a significant decrease in the use of oil for electricity generation in the islands. Important investments are planned in the domain of electricity transmission as new interconnections between islands and continental Greece on the one hand and between Greece and Turkey on the other hand are expected to be implemented over the following years. Finally, Sencap, the investment vehicle of PPC and ContourGlobal will help the Greek company to acquire and develop power assets in the wider South East European market by mainly targeting generation investments in a variety of fuels (**Hatziargyriou**).

In opposition to the Greek electricity sector where the unbundling process is at the beginning, the Romanian electricity market is fully unbundled and liberalized. Transelectrica is the public company, which is responsible for the transmission sector with total installed transmission capacity 22,000 MW and available capacity of 17,000 MW. Transelectrica plans to invest until

2012 around 2 billions Euro to modernize and rehabilitate the electricity grid and furthermore has signed several memoranda of understanding with international companies aiming to the achievement of strategic partnership in the domain of electricity transmission and system operation. In addition, Transelectrica is currently exploring opportunities for growth in international markets inside and outside the European Union while it tries to facilitate the integration of renewables to the grid and reduce the cost through rationalization and IT support (**Purdilla**).

On the other hand Montenegro is a net electricity importer with annual cost of 130 million Euros and thus new power plants need to be built in order to reduce and eliminate the electricity deficit. Moreover, the transmission and distribution network need to be rehabilitated. In order to confront the electricity deficit the government of Montenegro plans to construct a new thermoelectric plant with a total output of 225 MW (TPP Pljevlja II) and to exploit further the huge hydroelectric potential of the country with total investments of 430 million Euros. Complementary to these, there is a plan for the construction of a variety of renewable plants as wind, biomass, photovoltaics and small hydropower plants. In the sector of electricity new transmission routes are planned in order to expand the transmission system of the entire region. One of the most important and strategic steps toward the above mentioned goals is the 375 Km DC line of undersea interconnection between Italy and Montenegro, which will have 1000 MW capacity and an estimated cost of 700 million Euros.

Subsequent to the above remarks, the importance of an energy exchange and trade system in South Europe was fully analysed by **Mr. Tomaz Lajovic** who presented the aims of South Pool, which aims to become the leading regional cross-border energy exchange in SE Europe with spot and derivatives markets for power, gas and associated energy products. The South Pool alliance, a co-operation among the Slovenian Borzen, Eurex and some other partners, is a cross-border regional power trading, clearing and settlement in SE Europe. The main goals of South Pool are to secure an efficient and client oriented business infrastructure, to pool liquidity, to minimise financial security risks and costs and finally to provide a wide portfolio of high quality services for energy markets.

## Session V - Parallel

### **“The Developers Meeting C: Renewables”**

World energy production is still very much depended on fossil fuels but during the last decade, mainly after the Kyoto protocol, there is a strong worldwide attention to new environmental friendly sources of energy. Renewable Energy Sources (RES) show a steady growth and some optimistic scenarios predict that RES by 2020 will correspond to the 25% of the world electricity production. Moreover, it is remarkable that by 2050 this percentage will reach an amount between 50% and 69%. Among all renewables, biomass will dominate energy production over the coming years while solar energy, according to the majority of scenarios, since 2030 will be the second most important source in electricity production after biomass (**Hatzivasiliadis, Lalas**).

The European Union's regulations for renewable energy focus on the necessity of RES development and the reduction of Green House Gas emissions (GHG). These regulations called upon the European countries for effective solutions and drastic measures in order to ward off the danger of environmental degradation and to put the European Union on track towards a cleaner, more secure and more competitive energy future. The target of the “20-20-20” is an ambitious goal that aims to achieve 20% energy conservation by 2020, to raise energy consumption from RES by 20% (2001/77/EC) and reduce 20% of GHG by 2020. Furthermore there will be a 10% contribution of biofuels to transport fuel by 2020 (2003/30/EC). However, to achieve the above goals, global decisions are needed with environmental conscience and acknowledgement. There must be a policy of strict measures toward oil independency and reduction in initial investment cost for RES technology(**Lalas, Garris**).

There are many challenges to be faced especially in SE Europe where there is an accelerated process in economic development and thus corresponding higher energy demand. SE Europe is a region with a high potential of RES such as wind, solar energy, biomass, and hydroelectric. Nevertheless, many bureaucratic, institutional and zoning plan obstacles prevent the smooth completion of RES development. Bulgaria, due to appropriate legislation and a feed-in-tariff system for wind and solar power, over the last five years achieved a 10% RES penetration in electricity production. Given the fact that nuclear energy covers around 40% of the country's electricity production and the continuous growth of RES, fossil fuel dependency is predicted to be

substantially reduced by 2020. However bigger steps toward the development of wind, solar and biomass energy are needed in order to exploit the big RES potential in Bulgaria while the great majority of RES used in electricity production originates from hydroelectric and Small hydroelectric systems, with only 3-4% covered from other forms of RES. Nevertheless during the period between 2008 –2020 wind-solar energy and biomass is predicted to contribute 60% of the electricity generated by RES. According to the scenarios RES will contribute by 17% of electricity generation 2020 in Bulgaria with anticipated total installed capacity of 7,780 MW. The current Bulgarian energy policy stimulates the development of RES technology given a high interest by investors, thanks to existing high Feed-in Tariffs. Bulgaria, is expected to achieve the target of 16% RES by 2020 (**Penvhev**).

On the other hand, Turkey with an energy dependency of 73%, must pursue a new course of energy policy in order to develop RES technologies, reduce dependency from fossil fuels and decrease CO<sub>2</sub> emissions. Even the fact that 22,6% of the total electricity production is produced by RES, 99% of this percentage is due to Hydro and Small Hydro while all the other kind of RES are non-existent or minuscule. However, there are many RES projects to be completed over the next years. At the moment there are 600 MW of wind farms under construction while 2126 MW of applications have been granted licence. Moreover, despite the fact that Total was installed 2 MW of photovoltaics capacity more PV installations are expected to be installed in the immediate future. In addition, until 2010, 500 MW of electricity capacity is going to be produced by geothermal energy while biomass will play a strategic role in the development of RES (**Tiris**).

Greece, although it is the most developed country in the region with a big potential of almost all the kinds of RES, it confronts a constellation of problems, which decelerate the renewables development process. Greece has some of the highest solar radiation levels in Europe while there is wind potential for some 14.000 MW and geothermal fields with a production potential of around 350 MW. Moreover, there are many springs and rivers which can be used for hydroelectric power.

Currently, renewable energy in Greece contributes only 10% of the total electricity production occupying the 13th place in Europe (of 25) and according to some estimates it is very dubious whether Greece will finally succeed in achieving the target set by the European Union, that is to reach

18% of total energy production from RES by 2020. That means that Greece needs some 10.000 MW of RES capacity by 2020. However the interest for RES investments in Greece is remains high. Until now the applications for production permits have reached a total amount of 41.209 MW of installed capacity but only 908,6 MW are approved with operation licences. The crucial questions which arise is where and how will be the required 10,000 RES MW will be implemented and under what conditions the above RES energy production will be absorbed by the national grid (**Garris, Seimanidis**).

Over a short-time period wind energy is considered as the most efficient source of renewable energy for Greece. From the extra 10.000 MW that are needed to achieve the goal of 18%, energy production from RES, the 8,500 will be produced from wind power. But wind energy penetration of up to 5,500 MW in the Greek interconnected system is technically feasible only if the following measures are taken: (a) Capacity of uninterrupted supply to the grid under Low Tension for all new wind farms, (b) Possibility of imposition of an upper limit of power production to all wind farms and (c) Ensuring the safety of power supply during the connection of large wind farms. Finally, it is to be noted that the absorption of wind capacity in the order of 5,000 - 5,500 MW requires the construction of important transmission projects, which have been programmed. Moreover, it must be noted that electrical interconnection of the various islands is technically feasible, even if their wind potential were not to be exploited. The increase in RES penetration in the non-interconnected islands reduces their total electrification / interconnection costs with the mainland system (**Seimanidis**).

While wind energy is one of the most efficient sources of renewable energy in a short-time period, however solar energy is viewed as the most preferable option in the long term (**Economou**). Today, the PV technology is becoming mature but the manufacturing process is still costly and support is required for market development and competition with conventional energy sources. In Greece Feed – in Tariffs (FITs) were introduced in 2006 with 450 Euros /MWh and 400 Euros /MWh for over 100KW installed capacity. There are also investment subsidies up to 40% and there is a potential for large grid converted plans (**Zachariou**). PPC plans a 50 MW PV plant in Megalopoli while the Greek PV manufacturing company Solar Cells Hellas S.A. will reach by the end of 2008 a full production capacity of 60 MW. However, the licensing procedure in Greece is very complicated and

there are huge delays in installations and connection to the grid. The initial plan according to the law (N.3468) is to install 700 MW of PVs until 2020. Nevertheless, there are substantial obstacles relating to the licences, the subsidies and the zoning plan while there are also doubts about the maintenance of the high FITs until 2020. Finally, it is undeniable that the advance and support of PV household PV (<20 KWp) and small PV systems (<150 KWp) will be very helpful for the development of the solar energy market in Greece (**Baltas, Despotou**).

## Session VI – Parallel

### **“The Developers Meeting D: Gas”**

During the last two decades natural gas became the fuel of choice in Europe. From around 300 bcm in 1990, gas demand in Europe, including EU-27 countries and other European countries (Albania, Croatia, Former Yugoslavia, Norway, Switzerland and Turkey) reached to 550 bcm in 2007.

In the Balkans and SE European countries in particular, gas demand also increased during the same period, although with a quite different growth pattern, mainly due to the political and economic reforms of the '90s in certain countries of the region. The main driver for this spectacular gas demand, at least during the last years, was without doubt the power generation sector. Only during the last 5 years, gas consumption in the European power generation sector increased by some 50 bcm.

By 2010, some 15 GW of new gas-fired generation capacity is expected to come online in Europe and thus the yearly consumption of the sector will exceed 200 bcm, representing 35% of the total European gas demand. Incremental increases in gas consumption are also expected in nearly all the other sectors of the economy.

In the supply side, EU-27 covered its gas needs in the previous year by indigenous production (38% of its total net supplies) and imports mainly from Russia (23%), Norway (18%) and Algeria (10%). Piped-gas represented 83% of the total EU-27 gas demand in 2007 and LNG the rest 17%, but with a continuous increasing role in the European gas market.

It is not easy to accurately forecast the future for gas. What we could logically expect is that because Europe (and consequently SE European countries) will need more and more energy to fuel their future socio-

economic development, natural gas will continue to gain share, mainly due to its environmental friendly characteristics. However, gas demand growth rates in the long term (especially in the power generation sector), could be affected by a number of factors such as gas availability, high gas prices, coal prices and generation technologies, CO<sub>2</sub> prices under EFS, lack of effective regulatory frameworks especially for gas transiting, growing dependence on gas imports, increase of the RES use etc. etc.

In any case and independently from the exact gas demand growth rates in the years to come, Europe needs new supply infrastructure to fill the widening gap between the growing demand and the declining indigenous production.

Some 100 bcm of new gas supply capacity is currently under construction and expected to come on stream by 2012, while many other projects with a total capacity of 400 bcm are either in the planning phase or under consideration by their sponsors. A considerable number of these new gas supply projects located in our region (TGI, TAP, Nabucco, South Stream and various LNG projects)

If all or some at least of the above gas supply projects are implemented over the next few years, it is obvious that gas demand in the Balkans and SE Europe will be easier covered and the area's security of gas supply will be tremendously enhanced. However, today's dynamic and quickly shifting environment creates many new challenges, obstacles and uncertainties for the European gas industry (including issues related to gas availability), which are expected to shape its future and change the rules of the game once again.

The entire gas market structure is currently under review and a possible application of the ownership unbundling that the Third Directive Package provides will cause further structural changes in the industry, modify the business models currently applied and affect substantially the relationship between sellers and buyers. Furthermore, this completely new business environment along with the increasingly global nature of the gas market, are also affecting commercial conditions and business activities and practices, especially in terms of pricing, contracting and trading of gas.

Regulatory uncertainties, combined with other uncertainties and risks caused by the wider geopolitical, economic and environmental context may

threaten the implementation of certain gas supply projects, which are fundamental for Europe's access to alternative gas sources and for the improvement of its security of gas supply level.

Even worse, under the new world economic reality, caused mainly by the extraordinary economic growth of some developing countries like China, India and Russia, Europe may be forced to compete for scarce gas supplies with other regions. (**Spiros Paleoyannis, Cokhan Yardim, Turkey, Julien Lee, CGES UK, Naske Afezzoli, EGL, Narsi Gorban, International Institute for Caspian Studies, John Desypris, Endesa Hellas, Konstantine Maroulis, Greek Gas Transportation System Operator (DESFA)**).

## Session VII - Plenary

### **“Energy & Environment”**

Environmental degradation, climate change and the urgent need for a cleaner energy sources were in the key points of the seventh session. Over the following years hydrocarbons and coal will continue to play a dominant role in energy production with a major environmental impact for the planet. This situation is aggravated especially by the economic development process in China and India. The policies adopted by EU, aim to stop or decelerate the greenhouse effects by implementing a bundle of radical measures and innovative projects. The SE European countries although most of them are not actually members of the European Union, have however adopted many of these measures in order to plan environmental friendly energy strategies and thus draw closer to EU's accession criteria.

These policies in order to be successful on a long-term basis must target towards investments in renewable energy sources, nuclear plants, CCS technology and gas-fired plants. The success of an energy company in the future is mainly depended on the rate of investment in the above sectors. An illustrative example of that kind of policy is exhibited by CEZ, the Czech energy company, that attempts to penetrate in the central and eastern European energy market with a pack of projects related to nuclear energy (Romania, Slovakia), wind farms(Czech, Romania), clean mechanisms for energy production and gas-fired power plants (Czech, Slovakia, Hungary, Romania and Bulgaria).

It is significant to note that one of the most prominent technologies, which offer the promise for an efficient treatment of the environmental impacts caused by carbon emissions, is the technology of carbon capture and storage (CCS). The specific technology is vital in achieving the energy targets of EU. However it doesn't appear to be yet the most efficient and appropriate method to deal with the problem of carbon emissions mainly because of the high cost of such a technology. It was pointed out that the cost of CCS should go down to around 15 Euros per ton of CO<sub>2</sub> in order for it to be an economically viable solution.

The CCS technology is considered as the third most efficient solution along with energy efficiency and RES in order to confront the carbon emission problem. Worldwide 53% of CO<sub>2</sub> emissions is due to electricity generation plants that use coal, oil and natural gas. Therefore, the domain of electricity production is the main target of this specific technology. There are three different steps in the CCS process. The first is the capture of carbon in the place where it is produced (industries). The second is the transfer of the carbon from the industries to a storage place through pipelines or by the sea. The final step refers to the storage of carbon into deep subterranean cavities or into exhausted oil-gas deposits. In the case of an electricity plant with CCS technology, the construction cost is around 70% more expensive than an ordinary plant, whether the functional cost sometimes surpasses 70% in relation to an ordinary plant. Nevertheless, European Union plans to establish an institutional framework to boost CCS technology in order to give extra motives to the electricity producers and generally to the whole industrial activity.

### Session VIII – Plenary

#### **“Investments & Markets” \***

SEE region is one of the world's fastest growing regions with a big market potential and around 150 million consumers, including Turkey. Moreover, the lack of basic infrastructures mainly in the crucial sector of energy reflects the urgent need to invest more capital in this very promising region. The current situation in the energy sector of the region is characterized by a consistent effort to liberalize energy market and radically reform the legal system calling for a clear European orientation. It seems that this effort, largely aiming towards institutional change attracts more and more foreign direct investment resulting in a strong GDP growth (Romania 6.1%, Albania

6.2%, Turkey 6.8%) with significant improvement in living standards at the same time.

As a matter of fact, this spectacular economic development implies a need for more energy supplies and consequently for adequate electricity production. However, the energy deficit of the region is high and is going to be higher in the years to come. The high electricity import prices have a negative effect in the Balkan economy because most of countries in SEE region import electricity and gas. Even those which are energy balanced are still facing seasonal energy imbalances. Especially in Bulgaria, the closure of the Kozlodyi nuclear plant affected the electricity imports of the entire region.

Given the above parameters, there is a huge potential in SEE region for considerable energy investments and increase of capital flows towards new power generation plants, modernization of existing infrastructures, new transmission facilities and the construction of grid and gas line interconnections. As the SEE region is a very important energy transit route from the energy rich Central Asia and Russia to the consumer countries of the West, severe new energy projects, such as gas and oil pipelines are planned to come on stream the following years. The World Bank and the US Aid are two major financial institutions which are playing a very active role in the region, supporting major energy projects with simplified loan terms. It is estimated that a total of 50 billion dollars will be invested in SEE region in the energy sector from now until 2015. Turkey is the country with the most investments opportunities of the area (hydroelectric, nuclear, natural gas) with rising electricity demand of around 6-9% per annum.

However, one of the major challenges of the region is to secure the energy supplies without worsening the energy dependency caused mainly by oil and natural gas imports. Thus, it is extremely important to invest on energy efficiency, renewable energy and new electricity transmission projects. Moreover, and despite the climate change policies promoted by the European Commission and the Kyoto Protocol, there will be a significant increase over the coming years of coal and lignite use in the Balkan countries, and that implies a renewed interest for investment in the region's energy sector.

Reform actions, good governance, political stability and increased transparency constitute the appropriate investment environment that is

needed to build up investor confidence. Nevertheless, despite efforts of deregulation the SE European power generation market continues to have monopolistic characteristics in both the production and supply sector. Apart of Romania and Bulgaria where the process of electricity market liberalization is nearly completed, the remaining countries have not efficiently liberalized their energy market (e.g. Greece) with the introduction of competition in both the wholesale and retail markets, as well as the assurance of new entrants' access to the market. Consequently, foreign investment growth in the SEE region is likely to be curbed if political and economic reforms are slowed down.

## Session IX – Plenary

### **"The World Energy Council Panel"**

The consideration of the global energy situation shows that there are large disparities by region in the primary energy intensities and in most regions the amount of energy used per unit GDP is decreasing steadily. On the other hand there is a convergence of performance in industry mostly because of globalization with a sharp slowdown in Europe, China and OECD Asia. Within the European Union, although all countries are experiencing a slowdown or decrease in energy consumption, however Spain and Finland have a strong progression of energy consumption (**Dangelo**).

The world energy future is mainly depended on the specific political decisions, choices and strategies of each country. The decision makers influence, plan and manage regional and local energy systems and thus a concerted effort of adequate information and awareness must be directed towards the governmental, regional and local authorities mostly in developing nations targeting to energy security, efficiency and cooperation between countries. The above targets are some of the most important goals of World Energy Council (WEC) that tries to promote modern energy for all people, reliable and secure energy supply and protection of the global environment (**Moncomble**).

According to WEC there are two kinds of policies which lead to different directions. A country can adopt an undemonstrative and insular strategy with inexistence or ineffective international treaties and low international cooperation. Regardless of how strong is a country or what level of energy dependency this country possesses, this specific policy leads finally to the isolation and the low development of the energy sector. On the other hand

the countries which decide to follow an energy policy in cooperation and close relation with other nations usually experience a high level of energy development (**Ulreich**).

According to WEC studies, in order to meet the energy needs of all the people in the world, global energy supplies will have to double before 2050. In order for countries to succeed the above goal and to confront social and environmental degradation, through global collaboration, interaction and integration, they must adjust rationally and with the most effective way their energy resources, knowledge, skills and capital. Consequently, the first step is to promote a global dialogue on the most important key issues such as security of supply, energy efficiency, integration of energy market and technology transfer among different countries (**Moncomble, Ulreich**).

## Session X – Plenary

### **“The SEE Dialogue: A Strategic Overview”**

**Mr. Theodoros Skylakakis** the Secretary General of the Greek Ministry of Foreign Affairs expressed his concern about the situation of the world energy system and he suggested that worldwide the energy balance is undermined by a variety of destabilizing factors. He mentioned mainly the rising cost of energy in relation with the increase of global demand, the uncertainty concerning the energy security and the different geopolitical strategies of each country which prevent the adoption of a common energy policy, especially within Europe. In addition to the above parameters, the climate change is playing also a very important role and already affects significantly the cost of energy. In other words, nowadays, the reasons which affect the energy stability are so many that no one can risk safe predictions regarding energy supplies and use.

The main target of the Greek energy policy is to create a better energy market and establish harmonious relationships and close cooperation with neighboring countries especially in the domain of energy. In order to achieve these goals the Greek government wants to help in liberalizing the regional energy market and at the same time encourage investments to built networks and interconnections, necessary for the further development of energy cooperation with the neighboring countries. Moreover, the implementation of some major energy projects such the TGI natural gas pipeline, the Bourgas – Alexandroupolis oil pipeline, the South Stream, the supply of Algerian gas and the interconnection of the electricity networks of



Greece, Turkey and Bulgaria will provide a better conditions and more favourable terms in order to secure greater diversification of energy supplies.

Finally, one of the biggest efforts of the current Greek energy policy is towards the development of renewable energy as part of a sustainable and forward-looking energy supply offering a number of unparalleled advantages such as security of supply, job creation, technical innovations and sustainable economic growth in an environmentally friendly manner. Mr Skylakakis closed his speech by referring to the Memorandum of Understanding in the field of energy, signed between Hellenic Aid and USAID, aiming at closer cooperation among SE European countries and to further acceleration of investments in renewable energy sources.

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### III. Conclusions

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The following summarizes the conclusions of the Conference per energy sector :

#### 1. Electricity

- (a) The Electricity Markets are emerging as one of the most vibrant and faster moving sectors of the broader S.E. European Energy market. The structure of the electricity sector is changing fast in many countries of the region with the emergence of privately backed initiatives for the construction and operation of new power stations.

Independent Power Producers (IPP's) are gradually finding a place in the market and are continuously gaining market share. (e.g. Romania, Bulgaria, Croatia, Greece, Turkey). However, there are still many countries (e.g. Serbia Montenegro, Bosnia & Herzegovina, Albania, FYROM) where state monopoly in power generation is prevalent. There are positive signs though, indicating that efforts are in place to introduce new players in the market.

- (b) In spite of the entrance in the electricity sector of Independent Power Producers, there is still lack of real competition, since in most cases the market is dominated by the incumbent state controlled electricity companies. Therefore there is a need and scope to encourage competition at all levels. The setting up of national or regional electricity exchanges (as is the case with Slovenia) and the operation of daily electricity markets (as is the case in Greece, Bulgaria, Romania, Turkey etc.), are considered necessary steps in the road towards full market liberalization.

The present situation in the electricity sector of SEE can be summarised as follows:

- Absence of full unbundling in SEE region
- Lack of electricity in SEE region (each national power system is just hardly covering its electricity demand) with exception of Bulgaria and Romania
- High electricity prices in SEE region
- Absence of cost-reflective tariff systems in SEE region (unrealistic low electricity prices for tariff consumers) etc.

Although there are notable differences in the electricity market structure between S.E. Europe and the rest of Europe, and therefore it will take sometime for a successful transition to an open market, the path has been laid towards full liberalization in several countries of the region. These countries can act as drivers and pressure centers in the process of overall market transformation. In this context the current "S.E. Europe energy Dialogue" has an important and useful role to play.

(c) As far as market development is concerned, the following are some key observations:

- Emphasis needs to be given on the development of regional wholesale market arrangements
- There is a necessity to be coherent with ERGEG regional initiatives
- Regional market design can be developed using the mechanisms of the EnC Treaty
- Compatibility of market rules is needed – scope depending on the desired level of market integration
- Commitment of national institutions based on clear benefits for national markets is required

- It appears that lack of WMO in SEE region is one of the major reasons for lack of investments in energy sector in SEE region.
- Implementation of cost – reflective tariff systems in all countries of SEE region is one of the major prerequisites for WMO, which will enable gradual transition of electricity prices from social to market values.
- WMO is mainly driven by political influence and national strategies (there is an evident political energy strategy of all national electricity industries in SEE region to keep being “national champions” in order to fulfill national needs for electricity, slow process of electricity sector privatization, etc.).
- WMO is affected by PSO and national procurements for electricity.
- Creation of Px in SEE region seems to be the most suitable.
- Quick implementation of any proposed solutions for WMO in SEE region is not recommendable, but only an efficient step-by-step approach should be followed.

## 2. Natural Gas

Four were the main categories of the issues raised in connection with natural gas in the current Dialogue.

- (a) The **first category** refers to gas producers/exporters views and it is of paramount importance for gas markets in Europe and in the region.

The Russian representative gave a clear picture to the Conference's participants about Russia's leading role in gas reserves, gas production and gas export to Europe, as well as for its strategic intention and plans, not only to maintain this role, but rather to enhance it. The world's larger gas producer and supplier promises to European consumers gas availability, secured and reliable gas supplies through existing and new pipelines routes

The representative of Iran, the other player in the wider area of the Caspian region (called by some analyst "the sleeping gas giant"), presented country's huge potential in proven gas reserves and country's constant strategic interest to become a new major gas supplier for Europe and Asia, just after the political, technical and commercial conditions allow for that.

- (b) The **second category** refers to various initiatives for the creation of new gas supply infrastructure, mainly gas pipelines.

Representatives from international institutions, research centers, governments and the gas industry presented their views, analysis and efforts to create the critical physical gas supply infrastructure, which will allow gas to be transported from various gas sources (both traditional and alternatives) to the European markets. To this end certain interstate gas pipelines projects were presented and, equally interesting, certain arguments, views and comments were made in favour of the one or the other project.

- (c) The **third category** refers to future gas needs and demand.

All speakers agreed that gas will continue to gain share, at least for the next 15-20 years in Europe and in our region, mainly due to its environmental friendly characteristics, the growing gas demand in

gas-fired power plants and the expected socio-economic development.

(d) The **fourth** and most important category refers to the new challenges, uncertainties and risks that the wider geopolitical, economic, regulatory and business environment provides.

Gas and power companies all over Europe are seeking for new business opportunities to secure their growth and profits. However, European markets, companies, and gas consumers are anxious and seriously concerned about:

- ✓ Extremely high gas prices
- ✓ Delays in up-stream investments, without which additional gas quantities needed, diversification and access to alternative gas sources have no practical meaning
- ✓ Continuous geopolitical competition and possible impacts on certain investment plans for gas production and gas transiting pipelines
- ✓ Possible constraints in meeting future gas demand in Europe, due to increased gas demand from other non European regions (China, India, Russia etc.) and the widening gap between growing gas demand and declining indigenous production within Europe
- ✓ Regulatory uncertainties that might affect on-time investments and funding decisions of certain gas supply projects, as well as decisions for gas supply contracts and gas transiting arrangements.

Regional co-operation at governmental and business level, co-operation between gas producing and consuming countries, clear regulatory frameworks and timely investments and business decisions as well effective risk management strategies are urgently needed to overcome barriers and uncertainties and mitigate relevant risks. Again the SEEED has a useful contribute to make in strengthening regional cooperation.

### 3. Oil

Both upstream and downstream issues were covered in the relevant session of the Dialogue.

- (a) High oil prices, increase of energy demand and shortage of existing resources, create new big challenges in the region of S.E. European countries for investment opportunities in the oil sector. Strong cooperation and synergies between, the regional countries, governments and stakeholders are necessary in order to reduce the investment risks and increase the security of energy supply.

The Bourgas –Alexandroupolis project, the first oil pipe route to S.E. Europe to be built in the region for a long period, is almost ready to enter the construction phase. Through the implementation of this project Bulgaria and Greece aim to become oil transit countries and this is encouraging for the planning of further oil pipelines in the region.

- (b) The construction of new refineries or the modernization of the existing ones is needed in order to meet the growing demand. Although Hellenic Petroleum has planned a very large investment programme in the downstream sector, other refining groups in the region are not that far advanced in their plans. There is however an urgent need for an increase not only of refining capacity (notably in Serbia and Bulgaria), but also for the production of a wider variety of products. (e.g. the region is short on diesel).

- (c) The upstream sector in oil and gas in S.E. Europe presents significant opportunities for investment. There are important initiatives under way offshore in the Black Sea area (Bulgaria and Romania), where through PSA's several exploration programmes are currently in progress. Some promising results are expected to be announced soon.

In the West Balkans, Albania is intensifying its efforts to upgrade existing production facilities. Albania has a good potential capacity in oil fields since their recovery coefficients are very low due to the lack of modern extraction technologies and limited investments for production in oil sector.

At the same time, new exploration areas have been identified and the government will soon announce terms and conditions for the

participation of international companies for undertaking new oil exploration and production activities. Promising oil and gas deposits that need to be explored lie further north, mainly in offshore areas in Montenegro and Croatia.

Given the very high oil prices, Greece whose terrain appears more difficult, could become a new destination exploration area. Greece remains one of the few relatively unexplored areas of the Mediterranean area. Therefore there are big investment opportunities. However, the government has to be convinced to open the E& P Market. Greece does not yet have a competent independent authority or department within the Ministry of Development, which can undertake to organize international oil rounds.

#### 4. Renewables.

The international reaction to the dramatic climate developments dictates drastic reduction of GHG emissions and increased energy produced from renewables. RES technologies for heating/cooling, power generation and biofuels for transportation offer a secure way to meet the new and even higher targets. The new European Directive, in response to the international mobilization, presents an opportunity to increase the renewables share in the national energy mix and thus reduce GHG emissions. Thus, drastic growth of RES is needed for cleaner environment and in order to combat the climatic change.

Given the above and the excellent RES potential at the region, it is inevitable that an investment rush will develop over the coming years. Efficient regulatory framework for RES, sharing the same vision in the S.E. European region, should be elaborated. Special studies are needed regarding the mixing of the RES forms and the development of operation as strategies for the power network at country scale as well as at regional scale with the necessary interconnections. Well-adapted feed-in tariff regimes are the most efficient and effective support schemes for promoting renewable electricity in S.E. Europe.

The development of the hydro and wind potential of the region will contribute significantly to meet the targets. The solar electricity market is booming. By the end of 2007, the cumulative installed capacity of solar photovoltaic (PV) systems around the world had reached more than 9,100 MWp. Installations of PV cells and modules around the world have been growing at an average annual rate of more than 40% since 1998. This clear commercial and political commitment to the expansion of the PV industry means that the current surge of activity in the solar electricity sector represents merely a foretaste of the massive transformation and expansion expected to occur over the coming decades. At present industrial activities for PV cells and module manufacturing are being developed in Greece and Bulgaria.

Solar thermal collectors for water heating are being well developed in Greece and Turkey with local manufacturing facilities. High interest for RES projects for power generation in the region is now evident and some key steps have been proposed to accelerate RES expansion in Greece, Bulgaria, Romania but also in the west Balkan region. For Greece, binding national target for RES share is 18% by 2020. In Bulgaria the current policy aims at stimulating the development of RES and the existing feed-in tariff scheme will contribute in achieving the target of 16% RES electricity by 2020.

Finally, a vision of the future of RES penetration into the energy balance of the region was expounded aiming towards the maximization of the social and economic benefits.

## 5. Environment

Increasing energy security and tackling climate change are two of the world's major concerns and challenges. Both are intrinsically linked to the way we produce and consume energy. Therefore, if we imagine a huge weighing machine standing over the globe and balancing the Carbon Dioxide derived mainly from the combustion of fossil fuels for the production of energy and the Oxygen produced by trees, or saved by applying energy efficiency or renewable energy sources for the

environmental protection, we will realize that this equilibrium is very sensitive and needs special treatment and management. Having in mind that principle, the session focused on the **following issues**:

- How to meet the 2020 E.U. objectives
- Strategies to be applied for the Massive Production of Green-Clean Energies
- Energy Management and Rational Use of Energy
- Carbon Capture and Storage
- The role of investment banks in Wholesale Energy Trading-Challenges and Opportunities in SE Europe, and especially,
- The technologies already in use or to be developed for the environmental protection and for the necessary industrial investments.

Assuming that the consequences of Climate Change are already visible and that both, individuals and governments need to rethink what we are doing to our planet, the main conclusions drawn out (or actions to be taken) of this session were the following:

- The task ahead of us in tackling climate change and energy security is all the more urgent as there is a rapidly increasing demand for energy around the globe. So, action to deal with the consequences of climate change is urgent and indispensable.
- Tough choices must be made in order to both ensure reliable, inexpensive energy and to mitigate the effects of climate change.
- A global agreement must be reached to replace Kyoto.
- Serious energy savings can go hand in hand with economic growth.
- A set of full-scale demonstration projects to cover a wide range of CCS technologies need to be demonstrated in SEE.

- Better interaction between these projects and the portfolio of research activities is needed.
- Promotion of a common approach to public acceptance issues on safety and for different storage options need to be developed to gain public acceptance in SEE region.
- Faster knowledge generation arising from a better sharing of experiences needs to be promoted in SEE.
- Use of proven technologies, which means lower costs and consequently full-scale deployment, must be demonstrated.
- Future ETS will provide the basic motives through stable and powerful prices of the CO<sub>2</sub> emission rights.
- There is not enough time to tackle the problem. The undertaking of actions for the development and verification of CCS technologies is considered to be of high priority.
- CCS technologies can contribute in the reduction of CO<sub>2</sub> emissions from the electricity generation sector.
- Nevertheless, the efficiency penalty and increased capital costs associated to the implementation of CCS technology, increase the KWh costs.

More to the point:

- (i) There is serious lack of reliable data on CO<sub>2</sub> capture and storage capability in the region to enable policy formulation
- (ii) There is a clear need for a comprehensive survey to be undertaken for the whole SEE region in order to identify and the quantify GHGE's and also to study specific (country by country) suitable methodologies and technologies that can be applied in the region.
- The session's final message was: "Please, do not disturb the O<sub>2</sub> Versus CO<sub>2</sub> Equilibrium of the Planet".

## 6. Investments and Markets

It is difficult to arrive at some general conclusions regarding investment prospects and requirements for the region given the great disparity in terms of energy infrastructure and the widely ranging degrees of economic development of the countries in the SEE region. However, some general observations can be made on the basis of the presentations made in the relevant session.

- (i) Compared to the Eurozone the economies of SEE region are developing at a really fast pace, with GDP growth raging from the low of Greece's 3.5% to Romania's 6.1%, Albania's 6.2% and Turkey's 6.8%.
- (ii) Fast economic development implies equally strong energy demand growth. This is very much in evidence in the case of electricity, oil and natural gas consumption.
- (iii) Although there is strong investment drive with high proportion of FDI's in most countries, the result of market reforms over the last 15 years (with high investment / GDP ratios, i.e. Bulgaria 31%, Romania 31.2%, Turkey 25.3%) investment in the energy sector generally lacks behind.
- (iv) Since the formation of the "Energy Community" there has been renewed interest for investment in the region's energy sector. Much needed reforms in energy market operations, aimed toward greater competition, are bound to attract greater investments, especially from the private sector.
- (v) In addition to building new electricity and natural gas infrastructure, there is great scope for upgrading the region's refining capacity. There are also promising opportunities in oil and gas exploration in almost all countries of the region
- (vi) The need to diversify energy imports and supplies, the creation of competitive markets and the improvement of energy efficiency, present serious investment opportunities in almost all SEE countries.
- (vii) As there is an urgent need for an increase in power generation capacity in all countries of SEE, investment in this sector has huge priority, especially as there appear to be very satisfactory IRR's.

- (viii) Several cross-country oil at gas pipelines are in the planning or construction phase and when completed are expected to generate extra income from both local sales but also from transit fees.
- (ix) International donors and global finance institutions (e.g. World Bank, EBRO, EIB, US Aid) are playing an important and active role in implementing energy projects and in attracting funding by providing an independent and transparent investment framework.
- (x) There is considerable scope in the energy sector of SE Europe and according to conservative estimates a total of €50.0 billion is earmarked for infrastructure projects in the energy sector from now until 2015.

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## IV. Recommendations

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The steering committee of the 2<sup>nd</sup> S.E. Europe Energy Dialogue having met following the close of the conference and having carefully considered the contents of the proceedings and the resumes of the various sessions, submitted by the session co-coordinators, has formulated the following recommendations:

1. The S.E. Europe Energy Dialogue process should be continued with the next meeting to be scheduled for the last week of May or early June 2009. IENE shall undertake the organization of the next meeting and the provision of an interim secretariat.
2. Prior to the 3<sup>rd</sup> meeting of SEEED every effort should be undertaken to organize regional meetings in different capitals and major cities of S.E. Europe on selected topics of common interest and with the prospect of broadening the Dialogue on a regional or even country level. Already proposals were submitted by Bulgaria (H. Donchev) for the organization of a one-day seminar on "The Nuclear Option for S.E. Europe", while Turkey (M. Tiris) has also proposed a joint Greek – Turkish forum on Renewable Energy Sources. Another proposal submitted by the Greek – Albanian Chamber of Commerce and Industry calls for a similar one-day meeting in Tirana to examine "Energy and Development" issues in Albania.
3. WEC's role in fostering the energy and environment debate in the region is emerging as crucial, given its excellent network of contacts, its work comprehensive programme and its extensive background studies. Therefore, every effort should be made for WEC's involvement in the SEEED process.
4. It was proposed by some delegates, and was endorsed by several more, that in the next SEEED conference every effort should be made to invite participants from the Caspian and Central Asia area. This is important in view of the considerable oil and gas deposits of the region and the prospects of exports to Europe via SE Europe.

5. In view of the expressed interest for local or regional meetings to be organized under the auspices of SEEED, every effort should be made by IENE but also by other participating organizations to encourage the organization of such meetings with the active involvement of both government and the private sector.
6. There is a need to promote SEEED, both in the region and Europe wide. To that end certain promotional activities need to be undertaken, such as publication of the proceedings of the 2<sup>nd</sup> SEEED, a booklet describing its scope and providing background information and possibly a short video – documentary film as well as a dedicated web site.
7. There is a need for a kind of Charter which will govern the workings of SE Europe's Energy Dialogue and which will be acceptable to all governments and private sector representatives. Therefore, a working group should be set up from representatives of the different countries that participated in the SEEED in order to prepare and propose such a Charter at SEEED's next meeting.
8. IENE should undertake the setting up of an electronic platform, in the form of an intranet website, in order to facilitate communication between SEEED participants and to help launch and support new ideas and projects in the region.
9. In order to organize the SEEED Charter meeting and the electronic platform (as the first steps of making SEEED more effective), IENE should approach governmental agencies, international and regional organizations, as well as private entities, in order to secure the necessary support and funding.