



Synopsis, Conclusions and Recommendations
of the
3rd South East Europe Energy Dialogue

November 2009



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I. Preamble

Last June the Institute of Energy for South East Europe (IENE), for the third consecutive year, organized an international meeting with the participation of important policy and industry leaders who are setting the agenda of energy developments in the greater South East European region. The third South East Europe Energy Dialogue was successfully held in Thessaloniki on June 18-19, 2009 and constituted a joint undertaking, ever since its planning phase, between IENE and the World Energy Council (WEC).

The SEE Energy Dialogue was organized under the auspices of the Hellenic Ministry of Development, the Secretary General, of which Mr. Constantinos Mousouroulis was the keynote speaker at the start of the conference. 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, senior officials of which attended the Dialogue.

With more than 50 speakers, and 130 panel participants representing between from 20 different countries and 4 international organizations, including WEC, the European Commission, the Energy Charter Treaty Organization and the Black Sea Development Bank, the 3rd SEED built on the work of the previous two Dialogue events organized also in Thessaloniki in 2007 and 2008. Key to the 3rd SEEEnergy 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. WEC's interest in the Dialogue was underlined by the participation of WEC's regional representative Mr. Slav Slavov who contributed the second keynote address during the opening session of the conference. Equally important for the smooth running of the Dialogue was the contribution of sponsors and supporters which included Greece's PPC (lead sponsor), DEPA, the Public Gas Corporation (supporter), DESFA, the Gas Transmission Operator (supporter), EGL, the Swiss electricity company (sponsor), and Siemens (supporter). Media partners included "Kathimerini" daily newspaper, the International Herald Tribune, the New Europe newspaper and the websites Energia.gr and SeeNews.

The Dialogue's main points of interest and its conclusions and recommendations follow.

II. Synopsis

The focus of this year's Dialogue meeting was the identification of the threats and the opportunities in the energy markets among the ongoing global financial crisis. Specifically, the prime interest was the economic and geopolitical environment in SE Europe; fostering closer relations between the countries of the region; the security of energy supply; the role of the Balkans as an energy transit region; the liberalization of the regional energy markets; the consolidation of the electricity and gas markets; and the prospects of "green energy" in the region especially in the context of EU Climate Change policies.

Dr. John Desypris, Chairman of IENE, at his keynote speech addressed the impact of the current economic crisis on investments, with particular emphasis on energy security and the diversification of sources. He also noted that there is the need to fund new investments to support basic infrastructures in SE European region such as gas supply pipelines, gas storage facilities and interconnections.

The Executive Director of IENE Mr. Costis Stambolis in his introductory remarks affirmed the goals of the Energy Dialogue and underlined the impact of the global financial crisis on the prices of energy, raw materials and electricity while he stressed the need for increased security of supply in the region. Mr. Stambolis referred to the geopolitical position of the Balkans and the emerging role of S.E. Europe in a global setting as a vital energy bridge, a transit route, between the energy rich countries of the Caspian region and Russia and the energy hungry Europe.

Very important was the speech by the Regional Coordinator of the World Energy Council (WEC), Mr. Slav Slavov, who noted, inter alia, the need for secure energy supplies at low prices, especially in SE Europe. "The security of energy supply is at the top of the WEC priorities", said Mr. Slavov, noting that emphasis should be given to the diversification of sources and the development of additional infrastructure. Furthermore, Mr. Slavov referred to ongoing big energy projects of the region which are in the planning stage like the South Stream and Nabucco Projects which are being seen as promising but competitive alternatives, much more in their upstream and less in downstream sector.



Of particular interest was the keynote speech of the General Secretary of the Hellenic Ministry of Development, Mr. Constantine Moussouroulis, who talked about the continuing crisis in the energy sector due to the huge increase in demand and the lack of sufficient infrastructure. "The crisis should be an opportunity for strengthening the infrastructure", Mr. Moussouroulis said, noting that the top priority of the Greek Government is to upgrade the natural gas infrastructure (e.g. new interconnection with Bulgaria and the expansion of the LNG terminal in Revithoussa) and the implementation of a national energy saving strategy. At the same time Mr. Moussouroulis suggested that efforts should be undertaken to reduce energy dependency and the environmental impact associated with climate change. "In any case, the Greek energy strategy aims to establish reliable and stable institutional, regulatory and supervisory frameworks as well as effective rules for the optimal functioning of the energy markets and competition in order to facilitate the faster penetration of all forms of renewable energy in Greece" Mr. Moussouroulis said.

Mr. Peter Poptchev, Ambassador at large for Energy and Climate Change and Nabucco Coordinator for the Ministry of Foreign Affairs of Bulgaria, stressed the need for strengthening the cooperation between the countries of SE Europe. Mr. Poptchev pointed out that moving from a national to a regional model of managing energy will probably require much more political will than is presently realized by the governments concerned. For this reason, an appropriate solution would be to establish a tri-partite consultative mechanism, involving national companies, governments and the European Commission, to be entrusted with the task of tackling regional cooperation issues.

Prof. Pantelis Kapros, professor at the National Technical University of Athens and Chairman of the Scientific Committee of IENE, presented his research models on the region's energy sector conducted on behalf of the EU. Prof. Kapros current estimates show a significant drop in the future energy demand in the region when compared with estimates made before the financial crisis - two years ago. On the other hand, electricity prices are found to increase steadily (roughly at 1.5% per year above inflation) while energy efficiency and higher electricity imply lower demand for electricity. Prof. Kapros suggested that still much uncertainty surrounds energy system prospects for the Balkans, regarding investment, import requirements and the fuel mix.



Prof. Stavri Dhima, Head of Primary Policies Sector at the Albanian Ministry of Energy, remarked that now is the proper time to consider and to support the most feasible gas projects (from an economic and geopolitical point of view), like TAP and IAP gas projects, which at the same time are of great importance to non gasified countries such as Albania and Montenegro.

The Charge d' Affaires of the Russian embassy in Greece, Mr. Michael Savva, stressed the need for flexibility of supply and he suggested the increase in the capacities of the pipelines, the construction of new storage facilities and the improvement of the legal framework for cross-border energy cooperation. Mr. Savva also mentioned the importance of the South Stream project as it is feasible, low risk and it provides mutually beneficiary solutions to the countries of the region in gas supply whereas Russia has enough financial resources to ensure its implementation, despite the crisis.

Mr. Richard Hall, from the International Association of Oil and Gas Producers, remarked the importance of strong relations between Europe and the oil and gas producing countries. Mr. Hall suggested that to secure the future natural gas supply for Europe must encourage investments and establish economic and regulatory frameworks. Furthermore, promoting European gas and oil production will promote production flexibility while diversification of gas supply routes to the EU from producing countries is needed.

Mr. Marc Seris, the Paris based director of PFC Energy for Europe, FSU and Africa, noted the positive outlook for Europe despite the global financial crisis. He remarked the unsustainability of the previous global growth model and he pointed out that the transition to a more balanced growth model will be difficult and painful. Mr. Seris said that significant energy infrastructure investments still required to support growth while better political and economic integration is critical for the Balkan region.

Mr. Yurdakul H. Yigitguden, Senior Policy Expert at MED-ENEC in Lebanon, mentioned that the decline of the indigenous gas production, the increasing dependency on imports with the parallel increase of dependency on few supplier countries, encourage initiatives for the formation of a gas cartel by major gas producing countries. On the other hand, there is not a common energy policy and market forces alone cannot realize diversification. Therefore the need to establish a common European energy policy and a close



dialogue with supplier countries and companies is urgent and indispensable. The first day of the conference concluded with a series of presentations on the role of the Balkan countries as transit points to the EU and the feasibility of the proposed routes for oil and natural gas supply.

Specifically, Mr. Gokhan Yardim, General Manager of the Turkish firm “ADG Natural Gas Consultancy Company”, stressed the important role of Turkey in SE Europe and its strategic interests. According to his presentation, the 2008 gas consumption in Turkey amounted to 36.8 billion cubic meters while the domestic distribution network serves 56 cities. Mr. Yardim noted that gas demand in Turkey is covered by six suppliers (Nigeria, Algeria, Iran, Azerbaijan, Russia and spot LNG).

Ms. Thea Khitarishvili, Senior Expert from the Energy Charter Secretariat in Brussels briefly presented the Energy Charter Treaty principles and then elaborated on the importance of SE Europe as a Corridor for Energy Supplies to Europe. Ms. Khitarishvili referred also at the major challenges facing the South East European oil and gas industry and analysed how the financial crisis and the investment uncertainty affects current plans for new oil and gas pipelines.

Mr. Milan Zdravkovi of JP SRBIJAGAS talked about the aspirations of Serbia to become a transit point for natural gas to the main European Markets. Mr. Zdravkovi said that the primary target of the Serbian energy policy is to provide and maintain economically viable conditions for necessary investments enabling local community prosperity. He added finally that perspective of new gas corridors across the SE European region should encourage not only internal gas infrastructure development but interconnection projects as well, providing an ultimate need for the regional security of supply.

Mr. Nicholas Katsis, director of Regulatory Affairs and Strategic Planning of DESFA reported on the existing gas network in Greece and related projects especially the ITGI Italy, Greece, Turkey gas pipeline. He also mentioned the role of DESFA in upgrading the participation of natural gas in the energy balance of Greece. Mr. Katsis suggested that the three existing gas Entry Points in Greece guarantee the uninterrupted gas flow in the Balkan region while by promoting the implementation of major energy infrastructure (ITGI, South Stream) will establish Greece as a natural gas hub in the SE Europe.



Mr. Rosen Simitchiev from the Bulgarian Energy Holding EAD talked about the role of Bulgaria in the gas market of SE Europe and he stressed the importance of interconnections with Greece, Bulgaria and Turkey. The recent gas supply/transit crisis between Russia and Ukraine, underlined the serious energy security problems in most SE European countries and which Bulgaria continues to face. In order to confront this energy dependency Mr. Simitchiev stressed the important role of the Greece - Bulgaria Interconnector between the cities of Komotini and Haskovo.

Particularly important was the presentation of Mr. Alexei Biteryakov, Head of contracts and pricing for Gazprom Export, who expressed his optimism regarding the increase of European natural gas demand while he stressed the importance of SE Europe, where the markets according to Gazprom's assessments will continue to grow; in 2008, according to Gazprom's estimates the gas supplies to Europe amounted to 36.0 billion cubic meters. However, as a result of the current economic crisis, natural gas consumption in Europe fell by 6.9% in the fourth quarter of 2008 and by 5.6% in the first quarter of 2009. Finally, regarding the progress of the South Stream pipeline, Mr. Biteryakov estimated the completion of the pipeline in mid 2015.

Mr. Maulen Namazbekov, Director of Energy Focus and executive officer of Kazenergy, in Astana, noted that the proven oil reserves of Kazakhstan currently stand at 5.5 billion tones or 39.8 billion barrels and estimated reserves exceed 17 billion tons and 124.3 billion barrels. Mr. Namazbekov estimated that fuel scale production at the Kashagan oil field - which is the largest discovery in 30 years - will begin in 2015 while the total oil production of Kazakhstan is expected to reach 70 million tons annually in 2010 and 110 million tones in 2015.

The contribution of Dr. Narsi Ghorban, Research Director of International Institute for Caspian Studies in Tehran, which in his absence was presented by Mr. Costis Stambolis, highlighted the high natural gas potential of Iran; Iran's reserves are estimated at about 29.6 trillion cubic meters and are the second largest in the world. The natural gas production of the country currently amounts to 116.3 billion cubic meters and is expected to reach 185 billion cubic meters by 2010, according to government estimates. In his presentation Dr. Ghorban underlined the plans of the Iranian government to promote the construction of cross-border pipelines to supply Europe with gas, one of them bypassing Turkey and reaching the East Mediterranean via an underwater path.



In a parallel session, Ms Fiona Riddoch, Managing Director of Cogen Europe, presented an overview of the state of CHP in Europe. Ms Riddoch was focused on energy efficiency saying that it is fundamental to succeed a sustainable energy policy. Ms Riddoch also mentioned the important role of cogeneration as a key tool in order to achieve Europe's energy efficiency strategy.

Furthermore, Mr. Alvaro Pinto of Cogen presented the current situation in Portugal - where within 15 months CHP production has tripled- and how it overcame some of the barriers to the development of cogeneration technologies in Portugal. Mr. Pinto showed how the Combined Heat and Power (CHP) energy system contributes to save primary energy and he suggested that utility companies should switch in developing such projects that allow electricity large scale electricity production with better efficiency.

Mr. Costas Theofylaktos, Board Member of the Hellenic Association of CHP plants, addressed the situation in Europe, focusing on Turkey, where the installed CHP capacity has increased by 1200% in the last 15 years. He also stressed that Cogeneration of Heat/Cool and Power is a field where cooperation and common actions should take place, benefiting the Environment, the Economy of the Region and improving the living standards of the inhabitants with continuous energy supply, better quality and primary energy sources conservation.

Finally, Ms. Tatiana Tsirakopoulou of Endesa Hellas presented the Greek legal framework of the past 15 years regarding CHP installations. Following the presentations a lively discussion took place focusing on issues relating to the expansion of cogeneration in of Europe and Greece.

At the second day of the conference, in the parallel Hydrocarbon session, Dr. Ioannis Abatzis, G&G Manager of "Aegean Energy" analyzed the state of oil and gas production in Greece. He also referred to the new infrastructure being built and exploration efforts realized by "Aegean Energy" in the Prinos field in northern Greece. Dr. Abatzis was quite optimistic noting that production - currently about 1,400 barrels/day - will soon reach about 7,000 barrels/day as a result of ongoing exploration work.

Mr. Solon Kassinis, Director of the Energy Agency of the Cypriot Ministry of Commerce, Industry and Tourism presented the results of the country's first



international oil round for the licensing of offshore exploration. Mr. Kassinis mentioned that a second licensing round is expected to begin in late 2009 or early 2010, and many international groups (Chevron, Shell, ExxonMobil, Total, etc.) have already expressed interest.

Mr. Vasil Ruykov, Attorney at law with Tabakov, Tabakova & Partners Law Office, in Sofia made a very detailed presentation of the prospecting and exploration licensing regime in Bulgaria, where the three main steps of the licensing process are the classification of the participants by the commission, the proposal by the competent Minister to the Council of Ministers for determination of the winning bidder and finally the decision by the Council of Ministers for granting of a license for prospecting and exploration of oil and gas.

Dr Engjell Prenjasi, Professor at the Polytechnic University of Tirana, showed that failures in hydrocarbon exploration projects in Albania by foreign oil companies happened mainly due to overestimating poor seismic and geological data. Subsequently, a critical evaluation of the reliability of the all geological-geophysical data is of a great importance for the Albanian upstream sector.

Mr. Christos Dimas, General Manager of the "ELPE - Thrace" consortium, gave a presentation on the progress of the Burgas - Alexandroupolis pipeline. The presentations were followed by a discussion on synergies and cooperation in the oil sector and on the role of the new oil that is expected to start flowing through the Black Sea from both Russia and Kazakhstan as early as 2013. Throughout planning, development and implementation of the project, the Trans – Balkan Pipeline is committed to employing best available technologies, applying highest safety standards to minimise any risks and protecting the environment.

In the following session, which covered the electricity market liberalization, all the speakers agreed on the importance of establishing clear rules, both on national and regional level.

Mr. Nenad Stefanovi , senior expert for electricity from Serbian Energy Agency (AERS) and ECRB EWG Chairman, talked about the Coordinated Auction Office (CAO) initiative as the first step towards future SEE regional electricity market and possible creation of the regional SEE Power Exchange; SEE CAO is envisaged as an entity that will facilitate transmission capacity



allocation on regional level and thus represent the basis for unifying the electricity markets within the eight region. Mr. Stefanovi informed that the Energy Community Contracting Parties made a progress regarding the compliance with Regulation 1228/03 and the Congestion Management Guidelines. He stressed that more harmonization of the regulatory framework is needed in SEE and the establishment of SEE CAO will be an important step in this direction and should help establishing a SEE Regional Electricity Market without barriers for traders.

Dr. Evangelos Lekatsas, Chairman of the Greek System Operator (HTSO) stressed the importance of market integration but he also highlighted the significant technical, political and institutional obstacles. Dr. Lekatsas also noted that the creation of strongly harmonized market arrangements is the most difficult and challenging issue. It requires the strong commitment by all governments to develop the appropriate and harmonized legislation and to create a Coordinated Auction Office in order to apply common procedures for cross border congestion management.

Ms Chryssoula Argyriou, of the European Commission referred to the Third EU Energy Package and the new institutional framework which promotes electricity market liberalization, the strengthening of national regulatory authorities and supports innovative renewable energy applications.

Mr. Michalis Thomadakis, Deputy-Chairman of the Greek Energy Regulator (RAE), presented an overview of the gas market in the region of Southeast Europe stressing the importance of the new energy corridors but also underlined the inadequate legal framework and lack of appropriate infrastructure. Mr. Thomadakis stressed that in the coming years the demand for gas in the region of Southeast Europe will increase sharply and perhaps disproportionately to the amount of available suppliers; he also underlined the crucial role that Greece can play as a transit point. Finally, Mr. Thomadakis described the vicious circle created by inadequate legislation, low investment rates and reduced supply resulting in high prices of energy products.

The proceedings of the 3rd Energy Dialogue concluded with a session dedicated to the green energy and its long-term prospects. Prof. Mustafa Tiris, Director of the Energy Institute at the TUBITAK Marmara Research Centre, analyzed the potential for Renewable energy in several countries of



the wider region, highlighting the advantages of RES over conventional forms of energy.

Mr. Kaloyan Kanev, from 2EC Ltd, Bulgaria, addressed the current situation and the market perspectives of RES development in Bulgaria underlining the relatively low regulatory risk and the existence of competitive feed-in tariffs and transparent pricing mechanisms. Dr. Tudor Constantinescu from Romania, described the challenges and opportunities for Renewable Energy and Energy Efficiency projects in Romania and presented with detail the country's renewable potential along with the current legal and regulatory framework.

Prof. Emmanuel Kakaras, professor at the University of Athens reported on carbon dioxide (CO₂) capture and storage technologies stressing the effectiveness of such applications and their relevance for countries such as Greece, Bulgaria and Serbia which use vast amounts of lignite for power generation. Prof. Kakaras identified several areas in Greece where large quantities of CO₂ could be safely stored. Finally, Prof. Michael Fytikas referred to the rich geothermal potential that remains untapped in the region of South-Eastern Europe and he presented numerous geothermal applications.

III. Conclusions

Although important progress has been achieved in several key areas of the energy sector over the last 12 months a large part of the findings of this year's SEEED are formulated along the same lines as those of last year. Therefore, certain parts of the conclusions are inevitably similar to those of the 3rd SEEED. The following summarizes the conclusions of the conference per energy sector:

1. Electricity

- (a) Once more it became evident that the Electricity Markets are at the forefront of energy developments as they have become the faster moving sector of the broader S.E. European Energy scene. 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. The availability of natural gas, which allows the operation of easy to construct CCP's is playing a key role in the development of the sector and the addition of new capacity.

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. A latest example, being Montenegro which is moving fast in order to privatize substantial part of its power sector.

- (b) In spite of the entrance in the electricity sector of IPP's, 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.
- (c) The present situation in the electricity sector of SEE can be summarized as follows:
 - (i) The region is characterized by differing degrees of unbundling in each country but with no single country having achieved full market opening. There is a wide range of free market share. However, the situation has improved considerably over the last two years with the outlook looking positive for a successful unbundling in few countries, notably Greece, Bulgaria, Romania, Serbia, Montenegro and Turkey over the coming years.
 - (ii) Lack of adequate electricity supply in SEE region (each national power system is hardly covering its electricity demand) with exception of Bulgaria, Romania and Greece remains one of the major problems. S.E. Europe faces a clear lack of capacity as SEE

is short on power now and the deficit is likely to deepen as demand growth is expected to recover after recession. S.E. Europe imported a net of 15 TWH in 2007.

(iii) High electricity prices still characterize the SEE region. The range of power prices (wholesale & retail) in SEE is well below the full cost. Notably the power price in some countries does not cover even the variable costs. The full costs of new plants are covered only in few countries like Greece where there is absence of cost-reflective tariff systems (unrealistic low electricity prices for domestic consumers are evident in most SEE countries).

(iv) Potentially there is a vicious circle problem with energy investments. (Lack of capacity → Regulation → Poor return of investment → no investment → increased lack of capacity) The solution is still to be found in full liberalization.

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

(i) Significant progress has been noted towards reaching full compliance with key Regulation (1228/09) concerning network congestion problems. As a result cross border electricity flows have improved with much larger capacity of the interconnections and transmission systems having become available (No pro-rata allocation of capacity and no long term contracts). Regional wholesale market arrangements need to be developed further with EC Energy Community assisting the process. Regional market design can be developed using the existing mechanisms of the Energy Community Treaty.

(ii) There has been a noted improvement in the transparency regarding the allocation of cross – border capacity over the last 12 months with most contracting parties having introduced a market based capacity allocation scheme (50/50 split).

(iii) In spite of progress achieved so far there is need for more harmonization of the regulatory framework and market rules in SEE.

- (iv) There is a need for Harmonized Congestion Management schemes to be developed in the SEE region. There is an urgent need for the establishment of a Coordinated Auction Office.
 - (v) As more RES power capacity comes on stream in SEE (notably wind farms and PV plants) good regional interconnections will be needed as the national grids, in their majority, are rather small and weak if not isolated.
 - (vi) It appears that lack of WMO in the SEE region still remains one of the major reasons for lack of investments in the power generation sector.
 - (vii) Implementation of cost – reflective tariff systems in all countries of SEE region is one of the major prerequisites for the operation of WMO, which will enable gradual transition of electricity prices from social to market values.
 - (viii) 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.). As WMO is affected by PSO’s and national procurements for electricity there is scope for the introduction of special provisions which will obviously differ from country to country.
- (e) The liberalization process in SEE is vital for the opening of the market and the realization of substantial new investments in electricity. The following are some of the most important points raised at the Dialogue:
- There is a need for strong and independent institutions, i.e. regulators, market operators, power exchanges.
 - “The devil is in detail” – while the free market principles may be formally implemented, they would not work unless supported by user friendly and transparent detailed market rules.
 - There is a need to consider all consequences (social, environmental etc.) and on that basis make pragmatic implementation decisions.

- Small markets need to integrate to create “critical mass” and to dilute market power of local incumbents.
- Regulatory independence combined with political commitment to full market liberalization remains the key success factor.
- 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 centres 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.

2. Natural Gas

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 cooperation and strong interaction among Balkan countries is now urgent in order to develop a much needed new energy infrastructure in the region. As some elements of this infrastructure are complimentary to each other the need for dialogue, cooperation and joint projects is more than ever apparent.

South Stream (with its two branches, north and south), TAP, IAP, IGI and Nabucco pipelines create an energy ring with 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.

On the other hand it is inevitable that natural gas sector will grow faster in the SE European region because:

- ❖ The main driver for gas consumption growth is power generation which is emerging as one of the faster developing sectors of the broader S.E. European Energy market.

- ❖ The domestic production is not negligible as there are notable quantities of indigenous natural gas in SE Europe (estimated at 1,00 million Nm³/yr).

- ❖ The countries of South-East Europe will remain the fastest-growing markets in Europe.

- ❖ While each single SEE gas market is relatively small, a regional approach provides a sound basis for development.

However, there are major challenges for the South East European gas industry in view of the current financial crisis which affect plans for new gas pipelines, new gas fired power stations and the development of domestic gas markets because of a decrease in gas demand in the entire region. This financial crisis can easily lead to:

- ❖ Financial uncertainty

- ❖ Increase of regulatory and political risks that influence the expected profitability and therefore the decision to invest

- ❖ Severe decline of total gas consumption due to a significant drop in industrial and power plant output

In spite of this unpleasant economic situation all speakers agreed that the SE European countries will recover earlier and hence grow at a much faster rate than mature markets in other European countries.

On the other hand the last gas supply/transit crisis between Russia and Ukraine, underlined the serious energy security problems most EU states continue to face. This gas disruption demonstrated and revealed that:

- ❖ the existing transmission routes are unreliable

- ❖ there is a lack of easy to operate and reliable interconnectors

- ❖ there is a lack of cohesive and common European energy strategy

- ❖ there is big dependence on Russian gas imports

- ❖ European underground gas storages level are significantly low

- ❖ Domestic production is declining
- ❖ Increase of regional and European gas demand is forecasted on a long term basis

The Balkan Gas Corridor as a vital energy route is recognised as the most reliable solution to the European energy security problem because:

- ❖ The SE Europe as a gas interconnected region will be of benefit not only for the Balkans but also for the entire European energy security
- ❖ There are several alternative routes for the export of gas from Russia, Central Asian Countries and Iran to Europe via SE Europe
- ❖ The prospect of new gas corridors across the region should encourage the development not only of internal gas infrastructure development but interconnection projects as well
- ❖ There is an urgent need to strengthen security of supply (i.e. balanced diversification of supplies supported by indigenous production - creating underground storage capacities to serve domestic and international markets)

A key finding of the 3rd SEED was the urgent need to develop reliable gas interconnector project across the whole SEE region. The current Greek – Bulgarian gas interconnector project serves as a good example. The project was unveiled after the Russian – Ukrainian crisis following the catastrophic impact of gas disruptions in Bulgaria. The Interconnector refers to the construction of a bi-directional natural gas pipeline from Greece's Komotini to the Bulgarian city of Dimitrovgrad. The pipeline will connect the two National Natural Gas Systems and it will guarantee an uninterrupted gas flow. The total length of the pipeline will be app. 110 km, of which 20 km will be in the Greek territory. The project has already secured for 45 million Euros finance through the European Energy Recovery Programme.

3. Hydrocarbons

Both upstream and downstream issues were examined in the relevant session of the Dialogue with emphasis placed on oil and gas exploration.

The current global economic recession and the swift drop in crude oil prices (i.e. almost half in relation to 2008) and the forecasted supply drop which will inevitably follow, is now leading to an oil price rebound, with the US dollar slipping while global recovery has slowly started. One of the main conclusions of the panel was that anticipated higher oil prices (above \$80 p.b.), and forecasted increase of energy demand, combined with shortages of existing resources, create new big challenges in the SE European region for investment opportunities both in the upstream and downstream sectors. Strong cooperation and synergies between, the 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 major oil pipeline 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.

The upstream sector in oil and gas in S.E. Europe continues to present significant opportunities for investment. There are important initiatives under way offshore in the Black Sea area (Bulgaria, Romania and Turkey), where through PSA's several exploration programmes are currently in progress.

In the Western 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 the 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.

A precise and attractive legal and licensing framework in Bulgaria has proved instrumental in attracting considerable interest and investment in hydrocarbon exploration activities both onshore and offshore. Some positive results in terms of proven hydrocarbon reserves are expected to be announced soon thus increasing the region's hydrocarbon potential.

Given the current high oil prices, Greece whose terrain appears more difficult, could become a new destination exploration area. Greece remains one of the least unexplored areas of the Mediterranean and therefore there are considerable investment opportunities. However, the government has yet to be convinced to open the E& P Market. Although there exists an up to date legal framework for hydrocarbon, E & P Greece does not yet have a competent independent authority or department within the Ministry of Development, which can undertake to organize the necessary international oil rounds.

Therefore, the latest undertaking by Aegean Energy to invest in Kavala Oil, the Prinos field operator (Greece's only oil production well) signifies an important turning point in the country's hydrocarbon exploration sector. It must be noted though that Aegean was able to obtain the necessary exploration permit since the Prinos area through Kavala Oil has already been licensed for operation and production since the mid '90's. The Prinos field has been in operation since 1977 and total oil production up to now has exceeded 110 million barrels.

Already production at Prinos has increased threefold (more than 3,000 bd) with much higher production foreseen once the Epsilon field comes on stream (more than 7,000 bd is anticipated). The revitalization of the Prinos oil and gas fields, and the substantial investment already committed, is indicative of Greece's anticipated high oil and gas potential not only in the Thassos – Prinos area but also in many other parts of the country.

Kavala Oil produces hydrocarbons through a system of three offshore oil platforms, one gas platform and a comprehensive onshore plant with storage, offshore loading, desulphurization and power generation facilities. The entire production is sold through an offtake contract to Hellenic Petroleum S.A.

Concession rights are in place to develop two new offshore fields (Prinos North and Epsilon) located in the Gulf of Kavala. New drilling operations at Prinos North commenced in March 2009 and continue today at the Epsilon field.

Another little explored area of the region, in terms of hydrocarbon potential is Cyprus, which two years ago commenced an ambitious offshore exploration programme. Backed by thorough geological and geophysical assessments, including extensive seismic surveys, and following the delimitation of its territorial matters and its Economic Exclusive Zones (EEZ) was able to conduct a first international oil round which attracted considerable international interest. The trust official Offshore Licensing Round closed on August 17, 2007 with the subsequent granting on October 2008 of a Hydrocarbon Exploration license to UK's Noble Energy for an initial period of three years. A second Licensing Round is envisaged for early 2010. According to independent sources Cyprus hydrocarbon offshore potential exceeds 4,0 billion barrels of oil equivalent.

The overall conclusions from the presentations made in this session and the discussion which ensued as part of the Dialogue are as follows:

- (1) There is considerable offshore and onshore hydrocarbon potential in several countries of the region.
- (2) The relatively high oil prices have motivated governments and companies to pursue new or to continue with existing exploration activities.
- (3) New oil and gas production is envisaged in the near future as a result of the above activities thus strengthening SE Europe's energy resource base.
- (4) The region offers excellent opportunities for the overland transportation of crude oil and products through new oil pipelines. The Burgas – Alexandroupolis pipeline, construction of which is due to start in 2010, is a good example.

4. Renewables and Climate Change

The European strategy for the energy and the environment comprises ambitious targets for 2020 with 20% RES penetration in gross final energy consumption together with energy savings and increased energy efficiency to reduce greenhouse gas emissions and comply with the Kyoto Protocol. Those factors also have an important part to play in promoting the security of energy supply, promoting technological development and innovation and providing opportunities for employment and regional development.

The new Directive 2009/28/EC (OJ L140 issued on 05.06.2009) of the European Parliament and of the Council of 23 April 2009 establishes a common framework for the promotion of energy from renewable sources and sets mandatory national targets for the overall share of RES in gross final energy consumption in 2020. The national overall targets for the EU member-states are: Bulgaria 16% from 9.4% in 2005, Greece 18% from 6.9%, Romania 24% from 17.8%, Cyprus 13% from 2.9%. Moreover, aggressive national targets in RES electricity are expected so that 1/3 of power generation in the EU would be produced by RES in 2020. This is very important for the countries in the region of SE Europe with high potential of RES because joint projects between member-states and between member-states and third countries are provided and reinforcement of the interconnection HV lines is expected.

The high potential of renewable sources in Turkey, such as solar, wind, hydro, biomass, was pointed out. New feed-in tariff for photovoltaic power generation was launched recently and a number of wind parks in the north-west part of the country a high wind potential area, have been developed. A national energy efficiency plan with targets is running in Romania and a strategy for RES penetration into the country energy balance has been elaborated. Financial schemes to support the RES applications are mentioned and the idea of green certificates to support RES-electricity was adopted. Hydropower is the most important renewable energy source in Romania and the high potential of biomass was pointed out. Some wind parks have been installed in the country and a pilot program for space heating in 10 schools by geothermal and heat pumps is promoted.

An efficient regulatory framework for RES-electricity based on feed-in tariff mechanism has been elaborated in Bulgaria. Well-designed tariffs for each renewable energy source are attractive for local and foreign investors. A number of projects in photovoltaic, wind, hydro and biomass are in development in Bulgaria, while some others (>5MW) are in the licensing process.

Clean technologies for power generation by solid fuels (coal and lignite) and the European experience were presented. The evolution of supercritical steam technology results into the efficiency increase as well as to power plants' capacity increase. The available options on carbon capture and storage technologies (CCS) and the proposed pilot projects of zero emission fossil fuel power plants (ZEP) in Europe with short-term schedule for implementation have been discussed. The commitment for Green House Gas reduction as well as the purchase of CO₂ allowances is expected to surcharge the electricity generation cost, without reference to the implementation of Carbon Capture and Storage. The CO₂ capture cost for solid fuel units is competitive in comparison to natural gas solutions for electricity production.

The geothermal potential in South East Europe and relevant applications and direct heat uses were presented. The significant potential of low enthalpy geothermal sources for exploitation in the region is pointed out. Challenges for sustainable energy supply leads to the integrated energy systems. Optimization of the energy mix, efficiency enhancement along the entire energy conversion chain and smart grid/systemic optimization with most advanced technology for intelligent grid management are considered the three steps to a sustainable energy supply.

Efficient regulatory framework for RES and supporting tools in order to reduce the greenhouse gas emissions, sharing the same vision in the region, should be introduced in order to meet the targets of the new Directive for RES.

5. [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 various sessions.

- (i) Compared to the Eurozone and until recently (i.e. end of 2008) the economies of SEE region were 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%. The last quarter of 2008 and all this year the growth rate of the various economies of the region have been seriously affected (see attached table). Despite the present economic downturn the long term investment outlook in the region's energy sector remains positive although there is going to be a temporary slow down on investment plans. However, no significant project cancellation has yet been announced.

GDP change of SE European countries 2008-2009			
Country Subject	Descriptor 2008 2009	2008	2009
Albania	GDP - annual % change	6,77	0,38
	GDP - in billion US \$	12.964	11.031
Bosnia and Herzegovina	GDP - annual % change	5,50	-2,99
	GDP - in billion US \$	18.469	16.335
Bulgaria	GDP - annual % change	6,02	-2,00
	GDP - in billion US \$	51.989	51.353
Croatia	GDP - annual % change	2,36	-3,53
	GDP - in billion US \$	69.332	58.650
Greece	GDP - annual % change	2,93	-0,20
	GDP - in billion US \$	357.549	325.190
FYROM	GDP - annual % change	5,00	-2,00
	GDP - in billion US \$	9.569	8.535
Montenegro	GDP - annual % change	7,50	-2,70
	GDP - in billion US \$	4.822	4.266
Romania	GDP - annual % change	7,10	-4,14
	GDP - in billion US \$	199.673	166.471
Serbia	GDP - annual % change	5,43	-2,00
	GDP - in billion US \$	50.061	40.440
Turkey	GDP - annual % change	1,06	-5,10
	GDP - in billion US \$	729.443	552.180
source: International Monetary Fund, World Economic Outlook Database, April 2009 (IMF estimation)			

- (ii) A slag in energy demand growth is anticipated in most countries as a result of the present economic climate. 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, as a 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 a clear priority, especially as there appear to be very satisfactory IRR's.
- (viii) Several cross-country oil and 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, EBRD, EIB, US Aid) are playing an important and active role in implementing energy projects and in attracting investor interest and 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 €60.0 billion is earmarked for infrastructure projects in the energy sector from now until 2015.

IV. Recommendations

The following are the recommendations which have been formulated by the organizing and scientific committee of the 3rd SEE Energy Dialogue.

1. Following the success of the 3rd SEEED, both in terms of content and participation, it is proposed that a 4th SEEED is organized next year (2010). Thessaloniki once more appears as a suitable venue in terms of location and funding which has already been pledged by local institutions and companies. However, this does not preclude the organization of subsequent SEEED's in other parts of SE Europe and IENE, as the organizer, would like to consider the candidacy of other cities as suitable venues from 2011 onwards.
2. The Dialogue meeting presents a first class opportunity for the informal gathering of a representative group of regional energy players, once a year with the view of carrying out a realistic market assessment and reaching certain conclusions as to where the market is heading and what corrective action, if any, is required. Therefore, IENE proposes a closed (i.e. by invitation only) roundtable meeting with a pre agreed agenda to be organized one day before the actual SEEED Conference where major issues and ideas can be discussed by a representative group of between to 25 to 30 people from all different countries of the region (Background documents to be prepared in advance by IENE for the purpose of this meeting). It is proposed that IENE in cooperation with the interested governments and companies undertakes to arrange this one day pre-conference event during next year's Dialogue meeting. The findings of such a meeting, suitably formulated and cleared by all present, to be widely circulated to governments and companies soon after the 4th SEEED.
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 comprehensive work programme and its extensive background studies. Therefore, every effort should be made for WEC's involvement in the SEEED process.
4. 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 who participated in the 3rd SEED in order to prepare and propose such a charter at SEED's next meeting. IENE to undertake to organize the meeting of this Working Group which should convene not later than the end of March 2010.

5. Through the Dialogue's proceedings the need was identified for more up to date information and rigorous analysis on the ongoing investment programmes in all different areas of activity in the broad energy sector. In that sense IENE, further to its ongoing information gathering and analysis work, could undertake the preparation and publication on a regular basis of detailed briefs on the following:

- (i) Oil & Gas upstream
- (ii) Oil & Gas downstream
- (iii) Electricity: Market unbundling and new power generation capacity
- (iv) Solid Fuels
- (v) Oil & Gas Pipelines review
- (vi) RES update
- (vii) Climate Change Policies and how they affect national and regional energy strategies.

6. The Dialogue further identified the need for the organization of specialized and highly focused informal meetings on specific energy topics to be organized regularly in different countries of the region. IENE has already organized one such meeting on "The Nuclear Energy Option for S.E. Europe" (Sofia, May 19, 2009) which could serve as a model for further such events. The following have been proposed as suitable themes for one or two day conferences, seminars and workshops.

- (i) S.E. Europe as a Main Gas Corridor (Sofia, March 2010)
- (ii) Hydrocarbon Exploration in East Mediterranean and the Black Sea (Kavala, Greece, October 2010)
- (iii) Competition in S.E. European Electricity Markets (Belgrade, September 2010)
- (iv) S.E. Europe Renewable Energy Forum, (Istanbul, April 2011)
- (v) Investment Opportunities in Western Balkans Electricity Infrastructure (Podgorica, June 2011)



- (vi) RES Applications and Business Opportunities in Albania (October 2011)
- 7. Following the broad participation in the 3rd SEED, but also in previous meetings, by senior government officials and top company executives from the countries of the region, the Dialogue could evolve into a permanent informal platform for the formulation and presentation of specific ideas and proposals aimed at governments, companies and academia. In that sense it could help if work already undertaken by IENE in setting up a “S.E. European Energy Electronic Platform” (which was first broached by SEED in June 2007 and endorsed by the 2nd SEED) could be speeded up so that the platform can be realized before next year’s Dialogue meeting. The operation of such a platform will contribute enormously in speeding up the process of communication and interaction between the various countries and institutions in the SEE area.
- 8. The findings and key lessons drawn from the 3rd SEED to be incorporated in the major study currently undertaken by IENE on “S.E. Europe Energy Outlook”, to be published early in 2010. Special mention to be made to the SEE Energy Dialogue initiative and its usefulness in assisting with market integration and market opening in S.E. Europe.