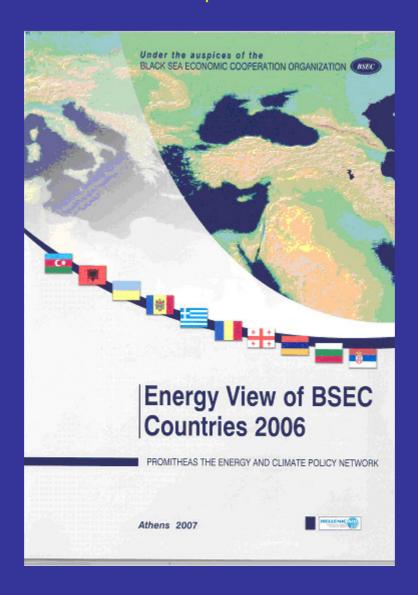
NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS

CULTURAL CENTRE "KOSTIS PALAMAS"

Presentation of the annual edition
"Energy View of BSEC Countries – 2006"
Under the auspices of BSEC



Thursday, December 20th 2007



ENERGY POLICY AND DEVELOPMENT CENTRE (KEPA)

PROMITHEAS: THE ENERGY AND CLIMATE POLICY NETWORK



Energy Policy and Development Centre (KEPA) National and Kapodistrian University of Athens (NKUA)

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PPROMITHEAS Network. the origin of which is the Project Development Fund of BSEC, aims to promote scientific cooperation on the energy and climate policy between issues the countries of BSEC and EU and thus to contribute in knowledge transfer to that region, as a basic precondition for the development of human potential that will materialize policies of cooperation.

PROMITHEAS has (17)members (EECA-Albania, ESC-Armenia, GPOGC-Azerbaijan, **BSREC-**ECC-Georgia, Bulgaria, KEPA-Hellas, INEXCB-Kz-Kazakhstan, PCTC-KG-IPE-Moldova, Kyrgyzstan, ISPE-Romania, MSU-Russian Federation, UOB-CE -Serbia, SoDeSCo -PCTC-Tajikistan, Turkmenistan, TUBITAK-Turkey, ESEMI-Ukraine and IUCPT -Uzbekistan).

More information for the current activities of the network are available at http://www.kepa.uoa.gr/PROMITHEAS 2.index.html

Presentation of the annual edition "Energy View of BSEC Countries – 2006" Under the auspices of BSEC

The edition

The annual edition "Energy View of BSEC countries, 2006" was presented by KEPA on December 20th, 2007 at the "Kostis Palamas" cultural centre of the National and Kapodistrian University of Athens.

PROMITHEAS Network has undertaken the initiative to proceed with the edition of the annual "Energy View of BSEC Countries". The aim of this publication is to present annually updated information concerning the status and the opportunities of the energy sector of the Black Sea Economic Cooperation (BSEC) countries.

The second edition was published under the auspices of BSEC and analyses the energy and climate sectors of ten (10) BSEC countries: *Albania, Armenia, Azerbaijan, Bulgaria, Georgia, Hellas, Moldova, Romania, Serbia and Ukraine*. Financing of this edition was achieved mainly through the "Hellenic Aid" mechanism. Additional sponsorship was received by Hellenic Public Power Cooperation (DEI S.A.), Hellenic Petroleum (ELPE S.A.) and KEPA. Russia and Turkey will participate in the next edition.

This second edition constitutes an upgraded step towards the development of an actual space of data and information exchange among national and international energy stakeholders, interested for investment opportunities and trade transactions in the region.

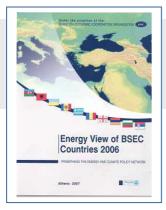
Forward to the edition by Prof. Dimitrios MAVRAKIS

Negative repercussions of climate change over human activities and ambiguities over the security of energy supply, for both developed and developing countries, constitute the main threats of our modern world.

The need for more decisive and rational climate and energy policies emerges as an urgent priority for all the societies of our planet, regardless of their readiness to undertake the cost of implementing them. Renewables and clean technologies are the new powerful drivers to handle these new challenges.

But still hydrocarbons persist in their dominant role in the energy related human activities, with the price of barrel reflecting uncertainties, created by the so called "fear factor".

Security of energy supply for the EU Member - States depends mainly on imports and the absence of a resulting EU external energy policy makes their economies more volatile to international instabilities, associated with the access and transportation of hydrocarbon reserves. On the other hand, the gradual integration



Presentation of the annual edition "Energy View of BSEC Countries – 2006" Under the auspices of BSEC

of the European internal energy markets creates a huge pool of consumers that has an incredible potential of capital and knowledge, necessary for the development and exploitation of energy reserves that lay in countries with developing economies.

Although sometimes there is a tendency among international energy stakeholders to over -estimate their position in the production - transportation - consumption chain, it is only cooperation that in long range can be fruitful for all involved parts.

This cooperation that drives to win - win situations is based on commonly agreed rules and maximum dissemination of information that allows all involved stakeholders to estimate risks and opportunities before and when they are engaged in any investment or commercial activity.

PROMITHEAS network, the origin of which is the Project Development Fund, aims to promote scientific cooperation on the energy and climate policy issues between the countries of BSEC and EU and thus to contribute in knowledge transfer to that region, as a basic precondition for the development of human potential that will materialize policies of cooperation.

Further to that, PROMITHEAS has undertaken the initiative to proceed with the edition of an annual "Energy View of BSEC Countries". The aim of this publication is to present annually updated information concerning the status and the opportunities of the energy sector of the BSEC countries. It is expected that this edition will finally cover all twelve BSEC countries and will be transformed into a useful tool for those who are interested to have reliable information concerning the energy activities in the BSEC region.

Together with the efforts to upgrade the content of the edition, we try to create the relevant reliable network of national independent contact points from where we will be in a position to present the results of our annual view and contribute in promoting regional cooperation.

It is expected that this second edition constitutes an upgraded step towards the development of an actual space of data and information exchange among national and international energy stakeholders, interested for investment opportunities and trade transactions in the region.



Introduction

The present review analyses the energy and climate sectors of ten Black Sea Economic Cooperation (BSEC) Member – States; Albania, Armenia, Azerbaijan, Bulgaria, Georgia, Hellas, Moldova, Romania, Serbia and Ukraine. It features an individual chapter for each country, focusing on the country's economic and political profile, its energy market (including the oil, natural gas, coal, electricity, renewables and nuclear sectors), its national climate policy and potential investment opportunities in the energy sector.



Figure 1: Examined BSEC Member-States.

Economic Performance

The economies of the examined BSEC Member – States are diverse. Azerbaijan had the highest economic growth in 2005, with Gross Domestic Product (GDP) growth of 34%, followed by Armenia (14%) and Georgia (10.5%) while Ukraine (2.4%) and Hellas (3.7%) had the lowest. The GDP growth of the remaining countries ranged from 4% to 7%. As seen in Figure 1, in terms of economic output, Hellas had by far the highest GDP per capita for 2005 (20,587 €), while Moldova had the lowest (556 €).

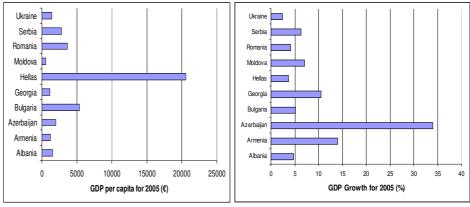


Figure 1: GDP per capita and growth in 2005 for the examined countries.



The Energy Landscape

A common characteristic of all the examined countries is their high dependency on imported energy, with the exception of Azerbaijan that is a net energy exporter (Figure 2). Only Ukraine, Romania and Serbia cover more than 50% of their energy needs with indigenous production.

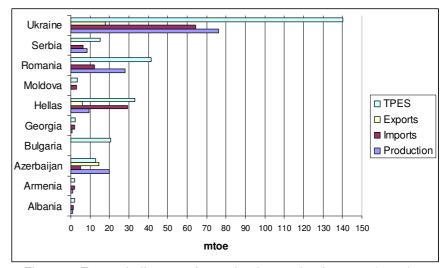


Figure 2: Energy indicators of examined countries for 2005 (mtoe).

Having adequate oil reserves, Azerbaijan has become a net exporter of crude oil and oil products. The oil industry in Armenia and Moldova is not developed as the former has no oil refineries and directly imports oil products, while the latter has only one refinery that begun operation just in October 2006. The remaining countries are net oil importers, highly dependent on Russia. Romania is the only country with adequate oil production to cover a significant part of its demand. Ukraine holds the largest crude oil refining capacity, 51 million tons, although the country is currently operating below maximum capacity, followed by Romania (34 million tons), Azerbaijan (22 million tons) and Hellas (18 million tons).

Table 1: Main hydrocarbon indicators of examined countries for 2005.

Country	Oil (b/d)				Natural Gas (Gm ³)			
	Product.	Imports	Exports	Consum.	Product.	Imports	Exports	Consum.
Albania	7,685	17,510	0	25,195	0.012	0	0	0.012
Armenia	0	0	0	0	0	1.69	0	1.58
Azerbaijan	365,129	0	236,811	128,384	5.818	4.54	0	10.36
Bulgaria	602.7	N/A	N/A	N/A	0.528	2.535	0	3.228
Georgia	66.7	11,148	0	12,000	0.018	1.44	0	1.39
Hellas	2,000	404,380	0	427,199	0.02	2.82	0	2.85
Moldova	5,000	0	4,000	1,000	0	1.419	0	1.437
Romania	104,427	174,715	0	190,781	12.5	4.8	0	17.6
Serbia	13,406	64,574	0	76,762	0.295	2.269	0	2.489
Ukraine	88,940	N/A	N/A	340,000	20.26	55.9	0	76.4



All the examined countries are highly dependent on natural gas imports from Russia. Hellas is also supplied with Algerian LNG (20% of total supply). Azerbaijan, Romania and Ukraine hold significant gas reserves, covering part of demand with indigenous production. Azerbaijan imports gas from Iran to the Nakhchevan region, while supply of Iranian gas to the main country is scheduled for 2007.

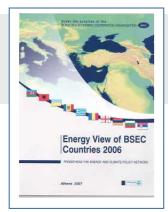
Azerbaijan will become a natural gas exporter after completion of the Baku - Tbilisi - Erzurun gas pipeline (2006) and has strengthened its position as an oil exporter with the construction of the Baku - Tbilisi - Ceyhan oil pipeline. Hellas, Bulgaria and Romania aim to be established as Caspian gas transit countries through the implementation of the Turkey - Hellas - Italy interconnection and the Nabucco project. They also aim to become oil transit countries through the implementation of the Burgas - Alexandroupolis, AMBO or Constanza - Trieste pipeline projects.

The South East European countries use their primary indigenous energy source, low heating value coal (lignite), extensively for electricity production, with the exception of Albania that has nearly ceased its coal production during the past years. Hellas has the largest production, 67.3 million tonnes in 2005, followed by Serbia, 35 million tonnes. The Ukrainian coal industry is also developed; in 2005 demand reached 59.6 million tonnes, mainly in the coking industry and electricity production.

Bulgaria, Hellas, Romania and Serbia are UCTE members and Albanian system is synchronously interconnected to the UCTE system. Installed electricity generating capacity varies among the examined countries, depending on the availability of supply sources. Hellas, Romania and Serbia produce electricity mainly in lignite – fired power plants, Albania in hydroelectric power plants, Azerbaijan, Georgia and Moldova use gas – fired plans, while Armenia, Bulgaria and Ukraine rely mostly on nuclear power. Albania, Azerbaijan, Georgia, Hellas and Moldova import additional electric power to cover demand, while Armenia, Bulgaria, Romania, Serbia and Ukraine are net exporters.

Table 2: Installed capacity of examined countries for 2005.

Country	Installed Capacity (MW)					
	Thermal	Hydro	Other RES	Nuclear	Total	
Albania	54	1605	0	0	1659	
Armenia	1774	981	0	408	3206	
Azerbaijan	4214	968	0	0	5182	
Bulgaria	6422	2828	0	2880	12130	
Georgia	826	2624	0	0	3450	
Hellas	9178	3061	37	0	12276	
Moldova	375.5	16	0	0	391.5	
Romania	9155	3627	1277	655	14714	
Serbia	5524	2831	0	0	8355	
Ukraine	33500	4695	5	13800	52000	



Energy Reform

Hellas being an EU Member – State and Bulgaria and Romania becoming EU Member – States as of 1st of January 2007, are obliged to implement the EU Directives 2003/54/EC and 2003/55/EC regarding the rules of the internal European electricity and natural gas markets. Following this, they have established national energy regulators and are gradually deregulating their electricity and natural gas markets. However the energy markets are not operating in accordance to the internal EU market. This is mainly a result of the dominance of one market player, especially in Bulgaria and Hellas, the lack of effective regulation in the third party access to cross-border trade and the high dependency on Russia for natural gas imports.

Albania and Serbia as Contracting Parties of the Energy Community in S.E. Europe have agreed to implement the European Acquis Communautaire on energy, environment and competition. Serbia is currently in the phase of regulating its energy market, while Albania has not yet proceeded to any market reforms.

Market reform in the remaining countries is still limited. The Armenian energy legislation is currently under development, based on the principles of the Energy Charter and the European internal energy market. Energy sector reform in Azerbaijan is limited to a State Program for development of the national fuel and energy sector, while there is no discrete authority to monitor the market and set legal regulations. Georgia aims to introduce competition in its energy market, through amendments to the existing electricity and natural gas law. The electricity market of Moldova has not yet been effectively deregulated, due to lack of proper regulatory framework and infrastructure. The main regulatory body of the Ukrainian energy sector is controlled by the government, which also owns most of the country's production and distribution.

Climate Policy

Nine countries, except Serbia, have ratified the Kyoto Protocol until to date. The Climate Change Unit of the Albanian Ministry of Environment, Forests and Water Administration, the Armenian Ministry of Environmental Protection and the Georgian Ministry of Environmental Protection and Natural Resources are appointed as Designated National Authority (DNA) for CDM projects. Armenia, Bulgaria and Romania have JI/CDM projects under development. No actual CDM projects have been implemented until present for Georgia. Attempts have been made by Azerbaijan to comply with the Kyoto Protocol requirements. For Albania, Armenia, Greece, Bulgaria and Romania the main source of CO₂ emissions is the energy sector. Hellas, Moldova and Romania have included policies and measures for the promotion of energy efficiency and the exploitation of renewable energy sources.



Investment Opportunities

<u>Albania:</u> World Bank study calculations show that required investments in the transmission network are 204 million \$. These include construction of 400 kV lines Elbasan-Podgorice and Podgorica-Kashar-Elbasan. Approximately 62% of total investments will be commissioned during the period 2002-2005. According to the National Strategy of Energy additional installed capacity of 814 MW is required and will be covered with construction of two thermal and three hydro power plants during the period 2006 – 2012. Future privatisation of 22 hydro power plants is planned (concession or sale) while 16 plants are considered out of use, but there were expression of interests for private operation.

<u>Armenia:</u> The Government is focusing on financial support for projects that have nation-wide significance, are capable of ensuring an adequate level of energy security and independence, and can secure social and economic development. Such projects are construction of the Armenia – Iran gas pipeline (120 million \$) and 3rd electricity transmission line (30 – 40 million \$), implementation of oil and gas exploration activities, modernization and development of the electricity transmission and distribution networks, total gasification of the country (40 million \$) and construction of thermal, hydro and RES units with total installed capacity of 1,490 MW (1,300 million \$).

<u>Azerbaijan:</u> Two thermal power plants with capacity of 400 MW and 506 MW will be constructed. In order to increase the stability of the electricity system the Government is planning construction of a second 330 kV Azerbaijani power plant – Imishli transmission line, a 220 kV Mingechaur – Sheki line and several 220 kV lines interconnecting the new thermal plants to the system. Construction of one 330 kV and two 220 kV substations is also planned.

<u>Georgia:</u> Thermal generation and electricity imports will be gradually replaced by hydro generation. For that reason deregulation of small (up to 10 MW) hydro power plants and construction of new units is planned. High voltage transmission lines interconnecting West and East Georgia and new facilities to ensure energy system stability are scheduled according to national reservation schemes.

<u>Hellas:</u> The new legislation on RES and CHP (law 3299/04), creates a favorable environment for potential investors in power generation. More than 2,500 MW of new RES installed capacity is required for the country to reach the EC target of 20.1% of RES in the national energy balance until 2010. The Hellenic Transmission System Operator will publish two calls for tender for private gas – fired power plants one by the end of 2006 and one by April 2007. DEI S.A. is planning construction of two gas – fired power plants and one lignite – fired power plant. Adoption of the Ministerial Act regarding "Definition of natural gas transport and LNG gasification tariffs"



Romania: The "Romanian Strategy for Renewable Energy Sources Utilization" provides measures for the promotion and utilization of the renewable energy sources. The Government plans the commissioning of new RES units with installed capacities of 431.5 MW up to 2010 and 789 MW for the period 2011 – 2015. Transelectrica plans to upgrade the Gutinas - Bacau Sud - Roman Nord - Suceava and Gadalin - Suceava - Balti (Moldova) transmission lines to 400 kV and to construct the 400 kV Timisoara - Vrsat (Serbia) line and the DC submarine cable Romania – Turkey.

<u>Serbia:</u> The thermal power plant "Kolubara B", with capacity 2x350 MW, a key plant for meeting electricity consumption growth in Serbia for the next decade, is only partially constructed, as construction ceased in 1991. New hydro power plants with total installed capacity of 110.8 MW are scheduled to be constructed. Replacement of the nearly depleted coal mines with new ones in planned in the short-term. In the gas sector, construction of the Niš-Dimitrovgrad pipeline (60 million \$) is the most important investment. The oil refineries need new investments of about 600 million \$ to cover current and future needs. The Serbian government has agreed to the privatisation of the state oil company NIS, aiming to sell up to 49% of the company's shares.

NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS

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Thursday, December 20th 2007

12:30 - 13:00	Registration
	Chairman: Dr. George KAPOPOULOS
13:00 – 13:10	Welcome Address
	Vice Rector Prof. Dimosthenis ASSIMAKOPOULOS
13:10 – 13:20	Introductory Remarks
	Dr. George KAPOPOULOS Journalist "IMERISSIA"
13:20 - 13:50	Introductory Adresses
	 Hellenic Ministry of Foreign Affairs The Secretary General Mr. Theodoros Skylakakis Ukrainian Chairmanship of BSEC H.E. The Ambassador Mr. Valerii TSYBUKH PERMIS-BSEC H.E. The Secretary General Amb. Mr. Leonidas CHRYSANTHOPOULOS BSEC Chairmanship 2nd half of 2006 H.E. The Ambassador Mrs. Ljiljana BACEVIC
13:50 - 14:20	Presentation of "Energy View of BSEC Countries – 2006"
	Mr. Constantinos MANIATOPOULOS President of IENE
	Former Director General of DG-XVII (Energy) – EU
14:20 – 14:30	Concluding Remarks
	Prof. Dimitrios MAVRAKIS Director of KEPA
14:30 – 15:00	Reception



ENERGY POLICY AND DEVELOPMENT CENTRE (KEPA)

PROMITHEAS: THE ENERGY AND CLIMATE POLICY NETWORK





Dr. George KAPOPOULOS Newspaper "IMERISSIA"

studied International Relation and Political Science in (Institut d Etudes Politiques- Ecole des Hautes Etudes en Sciences Sociales). He worked as a research fellow in the Centre d Etudes en Politique Etrangere (the actual IFRI) and the Foundation pour les etudes de Defense Natiolale. Since 1985 he works in the Athens Daily Press (Newspapers Proti, Kathimerini, Ependytis). Today he is foreign and diplomatic columnist in Imerissia daily Newspaper and commentator on the same topics in ERT (Public Radio and Television).

Introductory remarks

First of all I would like to thank the Energy Policy and Development Centre of the National and Kapodistrian University of Athens and particularly Professor Dimitrios Mavrakis for inviting me to preside this panel. The Energy View of BSEC Countries 2006 is being published in a very critical moment for the Energy Market and the Geopolitical Balance of the Black Sea region and Southeastern Europe.

Energy and energy Supply Networks are today prime news not only related to the Energy Demand of EU Countries but mainly as the privileged field of Cold War hostilities between the USA and Russia. If the Challenge of Energy Sufficiency becomes the real priority Energy Networks particularly in the Black Sea Region and in the framework of BSEC can become instruments of stability, cooperation, complementarily and conciliation. If Market and Security of Supply logic prevails then Energy Networks will become a factor of appeasement of overcoming ethnic strife and national and minority problems: They will dictate Realpolitik between Russia and the other countries of the former USSR, they will complement the full membership status to NATO and EU of Bulgaria and Romania denying any hostile significance to the vital interests of Moscow. The above-mentioned interdependence of interests created by Energy Networks can become the best peace brokers in a troubled region like North and South Caucasus. On the contrary if we decide to spent money on rival projects without any Market validity and economic viability we will further destabilize the region harming the vital interests of all concerned parties Energy Networks can overcome the strategic fluidity of the Post Cold War era, they can dispel mutual suspicion and distrust.

So it is of prime importance to evaluate the real exploitation capacities of oil and natural gas fields to trace the most secure routes for oil and gas pipelines. In an age of world interdependence we can remain behind fortified lines of national sovereignty but on the contrary we must generate Direct Foreign Investment and Technology Transfers in order to optimize Energy Drilling and Supply to International Markets. So our discussion today is above all a small contribution to regional geopolitical stability.



Mr. Theodoros SKYLAKAKIS General Secretary Ministry of Foreign Affairs, Greece

Introductory Address

The entire world is confronted with a major challenge, which stems from the need to respond to two critical questions:

The first one is: How do we supply our countries with sufficient and affordable energy? And the second: How do we act in order to ensure sustainable energy production and use?

The first question is linked to economic growth and prosperity. The second refers to further challenges like environmental protection and energy security.

There is a growing global consensus that these issues can only be tackled collectively. Indeed the countries of the BSEC region, should take advantage of the global momentum to address these challenges – ensuring access to energy sources, enhancing energy security and developing greater international cooperation in order to secure sustainable economic growth in an environmentally friendly manner.

Whether as producers of hydrocarbons, actual or potential producers of renewable energies, transit countries, consumers, or all of the above, we are looking for security – security of supply or of demand. This is the prerequisite for sustainable economic prosperity in the years to come.

According to the reports of the International Energy Agency, in the medium term the world will primarily rely on fossil fuels. However, the consumption is expected to increase tremendously and developing countries will account for the largest part of it. Regardless of how efficiently we consume coal, gas and oil, in the end just being efficient won't be enough. Hence, we need to expand and exploit renewable energy sources.

Sharing Europe's objectives, the Greek government therefore applies a national energy policy which includes actions and programmes to the following aims:

- 1. To complete the liberalization of the energy market and to encourage the investments required for new establishments, networks and interconnections.
- 2. To diversify supply.
- 3. To speed up the investments in the field of renewable energy. We are convinced that renewable energies, as part of a sustainable, forward-looking energy supply, offer a number of unparalleled advantages:

Renewable energies increase security of supply. In 2020 the EU might be by seventy percent (70%) dependent on energy imports. At the same time, traditional energy supply structures are becoming increasingly insecure due to the scarcity of resources.

He is the General Secretary of International Economic Affairs and Sustainable Cooperation of the Hellenic Ministry of Foreign Affairs since March 2006. On December 2007 he was appointed Representative of the Hellenic Ministry of Foreign Affairs for climate change. For the time period 2003-2006 he was replacing the mayor of the city of Athens. He was the President of the Municipality Committee. For the period 2003 -2004 he was also responsible for the preparation of the city of Athens for the Olympic Games of 2004. He served also as counsellor for the Prime Minister in 1989, counsellor for the Minister of (1989-1990), Defence counsellor for the Prime Minister and in charge of the Prime Minister's Planning and Communication Office for the period 1990 -1993.

He graduated from the Economics Department of the National and Kapodistrian University of Athens in 1981.

Mr. Theodoros SKYLAKAKIS General Secretary Ministry of Foreign Affairs, Greece

BSEC countries enjoy excellent weather conditions as far as sunshine and wind is concerned. Our cooperation in developing and exploiting renewable energies is a valuable investment for the future.

Renewable energies create jobs and spark technical innovations, but above all, Renewable energy addresses the challenge of economic growth in an environmentally neutral manner. As Special Representative of the Greek Ministry of Foreign Affairs for climate change, please allow me to elaborate on this particular aspect of "green" energy. The United Nations Climate Change Conference in Bali has proved that there are still different approaches regarding the confrontation of the problem, nevertheless there is an emerging consensus about the need to adopt renewable energies to that end. Moreover, the global community realizes the need to channel funds towards developing countries, and especially the LDCs and the SIDS, in order for them to be able to adapt to and to mitigate climate change. This is our moral obligation towards the LDCs, since they will pay the heaviest toll, although they have played a minor role in the creation of the problem. Greece is a leader in this effort: Hellenic Aid, the development branch of the Greek Ministry of Foreign Affairs, has designated the implementation of renewable energy projects as a priority goal in its annual development cooperation program of 2007, and is already funding related projects in Turkey1, Armenia*, Egypt and Lebanon. Moreover, we are working closely with USAID so as to determine the details of a development cooperation project in the field of renewable energy to be implemented in the Western Balkans (Albania*, Montenegro, Bosnia & Herzegovina), Black See and Caspian Countries (Moldova*, Armenia*, Georgia* and Azerbaijan*).

Back to our national energy policy, a fourth goal is:

4. To extend energy cooperation with neighbouring countries. Greece has played a leading role in the foundation of an Energy Community among the countries of South-East Europe in 2005, which aims at creating a regional market for electricity and natural gas and envisages an equally successful role in the BSEC region.

I just outlined the most important elements of the Greek energy policy. I am convinced that the challenges we face, no matter how big they might be, they also offer to our countries tremendous opportunities that are not to be missed. Greece looks forward to working with the other BSEC Member States, building on our common interests and further enhancing our partnership for the benefit of us all.

Wrapping up, I would also like to congratulate KEPA, the Energy Policy and Development Centre, for the publication that is been presented today, which is co-funded by Hellenic Aid.

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¹ BSEC country



the Ambassador Extraordinary Plenipotentiary of Ukraine to the Hellenic Republic since June 2005. His previous position since March 2006 - was Ambassador Extraordinary and Plenipotentiary of Ukraine to the Republic of Albania (with residence in Athens). For the period 1998-2005 he was Head (Minister) of State Tourism Administration of Ukraine. He was Chairman of the Council on Tourism of the Commonwealth of Independence States (CIS) for the period 1999-2005. One year before (1995-1996) he was first Deputy Minister of Transport of Ukraine, Chairman of the Ukrainian Part of the Intergovernmental Commission between Ukraine and Greece. He served for the period 1992-1994 as a diplomat at the Embassy of Ukraine in Russia. For the period 1991-1992 he Head Parliamentarian Committee for Youth, Minister for Youth of the USSR. During the period 1989-1991 he was Member of the Parliament of the USSR.

Mr. Valerii TSYBUKH Ambassador of Ukraine in the Hellenic Republic

Introductory Address

Undertaking the chairmanship, Ukraine pronounced energy projects development as a priority. Within its presidency Ukraine also strives to ensure continuation of large-scale transportation projects, enhance regional security, promote international dialogue and establish a free trade zone in the Black Sea area in accordance with the rules and procedures of the World Trade Organization. Our mission is to promote the idea of dynamic and multilateral cooperation in the Black Sea region. We also see great perspective in implementing joint projects with the European Union in many mutually important areas.

Ukraine is an integral and indispensable part of the regional and world energy infrastructure and what is happening elsewhere affects our economy and – because of the apparent geopolitical reasons – our policy.

Adopted last year the European Strategy for Sustainable, Competitive and Secure Energy names Ukraine as an "essential strategic partner".

We do appreciate the EU's efforts to develop a foundation of the common energy policy after recent events in the energy market. It is crucial for Ukraine to become an integral part of the European energy space as a result of deepening collaboration of our country with the EU, first of all including cooperation in BSEC-EU format.

While addressing environmental challenges, Ukraine, which has suffered from Chornobyl nuclear disaster, strives for concerted international efforts to tackle climate change. Our future depends on our ability to act promptly and effectively.

Ukraine attaches great importance to the Kyoto Protocol. On the national level Ukraine is acting in accordance with improved practice of the Joint Implementation Projects and applying the Clean Development Mechanism.

In 2005 the Government of Ukraine has approved the National Action Plan and introduced an Inventory of greenhouse gas annual emissions. In 2007 we marked another important step - National Agency of Ecological Investments was founded to ensure effective implementation of the projects under the Kyoto Protocol.

Black Sea region is considered to be one of the main energy hubs and ecological systems in Europe. And we would like to emphasize the importance of regional and interorganizational, first of all in BSEC-EU format, approach to the solution of global energy and climate change problems.



Introductory Address

BSEC

Mr. Leonidas CHRYSANTHOPOULOS Ambassador, Secretary General of PERMIS

assumed his duties as Secretary General in the BSEC PERMIS on 1 May 2006 upon the decision of the 14th Council of Ministers of Foreign Affairs held in Bucharest in May 2006. He served as Vice-Consul in Toronto, as Second Secretary at the Permanent Mission of Greece to the EEC, Director of the Diplomatic Cabinet of the Minister in Charge of EEC Affairs, Consul General in Istanbul, Representative of Greece in Charge of Third Committee Questions (United Nations), Deputy Permanent Representative of Greece to the United Nations, Counsellor in Beijing, Alternate Director General for European Union Affairs, Director General for EU Affairs, and Director General for Bilateral Economic Relations and Multilateral Economic Cooperation.

BSEC is very active in the fields of Energy, Protection of the Environment as well as Science and Technology. The respective Working Groups have introduced and are implementing their Action Plans upon the direction and priorities given by the Declarations of the BSEC Ministers in each area of cooperation. Energy, as an area of cooperation among BSEC countries, is extremely important. The Black Sea region is the second most important region in the world in terms of available hydrocarbon resources. We are also significant consumers as well as possess strategic transit corridors crossing our countries to provide oil and natural gas to the rest of Europe. Energy is positioned at the top of the international agenda and therefore the BSEC Region and its Member States are predominantly involved in this issue. I am happy to see that the Energy View presented today as an independent publication will contribute to the information available in this field and hopefully become a practical and beneficial instrument in the hands of the BSEC experts and researchers. It is a pleasure for me today to be among this esteemed diplomatic and academic audience in order to attend the presentation of the "Energy View of the BSEC Countries in 2006". This publication is, after all, an initiative, a product stemming from a project modestly funded by the Project Development Fund of the Organization of the Black Sea Economic Cooperation three years ago.

In October 2004, the Black Sea Economic Cooperation through its newly created financial instrument, the Project Development Fund, funded the programme "Development of the EU - BSEC Network for Energy Policy and Research" which resulted to the establishment of the PROMITHEAS regional Network with several institutions from the Black Sea countries as its members.

I am particularly happy that a modest grant of 15,000 dollars given by BSEC those days created the momentum and managed to lead to a successful scientific project of regional cooperation among at least six partners from six BSEC countries. The PDF project brought together the scientific and research potential of our countries by establishing a network with mutual interest on R&D activities.

It is also important to mention that the establishment of the PROMITHEAS Network managed to develop and be generously funded by the European Union to continue its work as an EU-BSEC Energy and Climate Policy Network. In other words, a programme proposal under the title "PROMITHEAS-2, the EU-BSEC Energy and Climate Policy Network" was approved by the EU and began its activities in September 2006.

Since then, I have been impressed by the multitude of the activities under this new EU-BSEC project. A number of scientific workshops, seminars, e-learning facilities, the bimonthly Newsletter Promitheas2, the website, scientific journals and of course the Energy View that is presented here today are all products of our

Mr. Leonidas CHRYSANTHOPOULOS Ambassador, Secretary General of PERMIS BSEC

regional collaboration which should be able to contribute to the advancement of our Black Sea Region. Many of these events were attended by a representative of BSEC PERMIS, the Permanent International Secretariat of our Organization headquartered in Istanbul.

Only last November, an event involving the countries of the Black Sea Economic Cooperation was organized in Kiev. This important Workshop was an event included in the BSEC Calendar and organized by the Institute of Energy Saving and Energy Management of the National Technical University of Kiev. It was held under the auspices of the Ukrainian Chairmanship of BSEC and, of course, it took place within the framework of the EU-Project "PROMITHEAS-2."

This initiative of the "EU-BSEC Energy and Climate Policy Network", that took place in Kiev, proved useful and very timely because this is the period that the whole planet turns its attention to the issues of Climate Change.

In addition, BSEC hosted last April the "Workshop on Energy and Science and Technology Perspectives for Regional Projects" with the aim to offer the grounds to representatives of BSEC Member States and Related Bodies, the EU, academic and research institutions together with the PDF "PROMITHEAS" Network members to present their views and examine opportunities with respect to project collaboration and funding in the fields of Energy, Environment, Science & Technology and Education in the BSEC Region.

It was at this BSEC event that the second edition of the annual "Energy View of BSEC countries" was initially presented.

As you may know, the Organization of the Black Sea Economic Cooperation is very active in the fields of Energy, Protection of the Environment as well as Science and Technology. The respective Working Groups have introduced and are implementing their Action Plans upon the direction and priorities given by the Declarations of the BSEC Ministers in each area of cooperation.

Today's presentation of the Energy View is not a BSEC publication. But for this reason I express my satisfaction in the sense that useful initiatives can grow around the BSEC activities and produce results able to lead to an advanced cooperation between scientific institutions of our countries. To my knowledge, this useful edition was financially supported from "Hellenic Aid" of the Greek Ministry of Foreign Affairs as well as Greek public utility and other private companies. In this sense, I would certainly like to see more initiatives, stemming from BSEC activities that are able to benefit from financial assistance coming from non-BSEC sources. In addition, it is of course my wish and sincere hope that next year's edition will cover all BSEC countries in comparison to today's edition covering 10 out of 12 Member States. Energy, as an area of cooperation among BSEC countries, is extremely important. The Black Sea region is the second most important region in the world in

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our countries to provide oil and natural gas to the rest of Europe. Energy is positioned at the top of the international agenda and therefore the BSEC Region and its Member States are predominantly involved in this issue. I am happy to see that the Energy View presented today as an independent publication will contribute to the information available in this field and hopefully become a practical and beneficial instrument in the hands of the BSEC experts and researchers.

Finally, let me assure the Ambassadors representing our Member States that BSEC PERMIS is willing to assist and promote initiatives that are implemented in the framework of BSEC cooperation and become useful tools for our peoples.

BSEC has repeatedly emphasized its role as a project-oriented Organization and as the Heads of State and Government reaffirmed during our 15th Anniversary Summit last June in Istanbul.



He is the First Counsellor of the Embassy of the Republic of Serbia in Athens, Greece, in charge of economic affairs.

He was born on 11 September 1970, in Skopje. Traffic and Transportation Engineer by education, joined the Ministry of Foreign Affairs in 1998. After graduating from Diplomatic Academy of the Ministry, Mr. Petrovic served as a diplomatic officer at the Embassy of Serbia in Jakarta, Indonesia, from 2000 to 2004. Before being emplaced to Athens in August 2007, he was posted at the Cabinet of the Minister of Foreign Affairs. He is married and has one child. Speaks English and Spanish.

Mr. Dragan PETROVIC

First Counsellor

Embassy of the Republic of Serbia in the Hellenic Republic (on behalf of her Excellency the Ambassador Mrs. Ljiljana BACEVIC)

Introductory Address

Speaking at the presentation of the "Energy View of BSEC Countries 2006", Mr. Petrovic emphasized the importance of the Energy Sector at this stage of transition of the Serbian economy. He also referred to the significant role of the Energy Community Treaty, which has opened wider possibilities for trans-border cooperation, calling it "most European treaty of the West Balkan region".

As for the report itself, composed at the period of Serbian presidency of BSEC, Mr. Petrovic underlined its straightforward and elaborative approach, which provides very helpful database for future foreign investors and traders.



Mr. Constantinos S. MANIATOPOULOS Chairman of the Institute of Energy for S.E. Europe, Former Director General for Energy of the European Commission

Presentation of "Energy View of BSEC Countries- 2006"

He is the Chairman of the Institute of Energy for South East Europe (IENE), and an Advisor for Energy and Development.

In his long career in the Energy sector has served as:

Director General (for Energy) of the European Commission, Brussels (1986-95), Member of the Governing Board of the International Energy Agency (IEA), Head of the European Commission delegation (1986-95), Chairman of the European Energy Charter WG1, (1992 -94), Chairman and C.E.O. of the EKO Group (Refinery, Chemicals, Marketing of oil products), Greece (1983 - 86), Member of the Oxford Energy (Oil) Club (1986 - 96), Member of the "Club de Nice" - Energy Club, Nice France, (2003), Advisor to the Greek Energy Regulator on the oil market regulation, 2003 - 2004

Advisor to the Public Power Corporation of Greece, on transition to competitive markets, deregulation and restructuring, 1995 – 98 Advisor to the Public Gas

Corporation of Greece, on the

privatization of the gas distribution networks, 1997 – 98. Advisor to the Minister of Energy of Greece, 1981 – 84. Manager / Director/ Analyst of Oil Companies in Greece and France, 1971-82).

It is a pleasure and a privilege for me to participate in the official presentation of this remarkable publication. Let me add that it is an honour to address such a distinguished audience. I think there is no need to analyse the content of the book and the detailed presentation of the very important "facts and figures" exposed in a very precise and reader – friendly form. I wish, however, to point out that the professional approach of important energy market issues that this edition shows is remarkable.

In fact, one can find in this book the basic, the most critical characteristics of the economic and political profile of the energy sector of each country in a very concise and practical form. A first approach on the legislative and institutional structures of each country and of its environmental and a climate – ie Kyoto - policy is also exposed. The professional analyst can find in the book data on energy production and consumption, imports and transit of energy, energy trade, etc., etc., both for the past and for the future.

All this information, together with further details on market stakeholders, development perspectives and potential opportunities of the market sector of every country make this book an extremely useful instrument for planning energy investment, exploring ideas for energy trading and also for the promotion of regional energy cooperation policies. Apart from its practical usefulness, this book gives us the opportunity to discuss some major characteristics of the actual energy scene.

We are witnessing extraordinary evolutions of the energy sector worldwide. Every day we hear about new challenges, new projects, new balances. It is not only the extremely high and inexplicable level of prices. It is not only the mergers of major companies, the bilateral or multilateral energy agreements. It is not only the radical changes in the energy balances and the huge and faster than ever "invasion" of new and renewable energies, of new technologies, of new energy management approaches. The list of developments is enormous and open.

In this context, a few days after the Bali Climate Conference we can not than stress the capital importance of the climate issue in the discussion of our energy future. Nowadays the energy policies have practically become part of the global environmental policies. Restrictions, limitations, penalties, environmental priorities will influence more and more the formation of national energy policies.

Our societies must restructure their energy strategies with more responsibility towards future generations, with scientific and technological knowledge and without negative effects for their social and economic development. It is clear that this is a major discussion we can not continue in this gathering. It is also clear and undisputable that the long-term consideration of energy issues is

Mr. Constantinos S. MANIATOPOULOS Chairman of the Institute of Energy for S.E. Europe, Former Director General for Energy of the European Commission

arising, it remains the principal issue of any energy policy being closely interwoven with competitivity and sustainability.

On the other hand, energy producers are, for their part, seeking regular production outlets, that is to say security of demand. Therefore, consumer and producer interests converge to a global "Energy security", ie regular energy supplies, prices dictated by market laws and a degree of certainty regarding the future.

Moreover it is extremely important to secure the transit of energy. Third party access to the networks is without doubt an essential element for securing the energy flow, especially of natural gas from producers to consumers. In this context, the ratification of the Energy Charter has been the principal issue for the EU and its neighbouring countries. Here we have to stress the extremely high importance of the Energy Charter ratification by Russia, not only for the EU but for all Black Sea and S.E. European countries.

Energy security is reinforced and secured through cooperation between producer and consumer countries, through free energy transit and through open and transparent markets. Accordingly, energy security means stable energy policies combining the internal and external aspects of the energy issues. Energy is par excellence a 'worldwide' commodity and regular supplies must be ensured by means of appropriate policies.

Security of supply for consumers, regular production outlets for producers and free transit for all require a comprehensive political approach, an energy strategy.

It is clear to me that the basis for any energy strategy is the fact that we live in a world of interdependence, that we are 'condemned' to remain interdependent and to coexist particularly in the natural gas sector. In this context a major discussion concerning the political consequences of energy security is under way. A major discussion on alternative suppliers, alternative routes and, I might add, alternative forms of energy as well as alternative technologies.

There are real concerns as regards our dependence from very limited countries and forms of energy, nevertheless,

Are there any alternative suppliers who could produce large energy quantities?

Are there any alternative routes which could offer still greater quarantees of safe passage?

Is there another structure of energy balance, which could involve alternative sources such as cleaner coal, economically viable renewable sources of energy, safe nuclear energy, hydrogen, etc? What is to be done in the medium term?

As long as the answers to such questions remain ambiguous, our energy policies have to be based on the energy partnership, on the energy cooperation through an open and sincere "energy dialogue". I should say that the objective of such a dialogue is to integrate national energy interests into commitments and guarantees based on international agreements and a strong internal legal framework,

Mr. Constantinos S. MANIATOPOULOS Chairman of the Institute of Energy for S.E. Europe, Former Director General for Energy of the European Commission

distinction between the roles of government and business strategy, non-intervention by the State in business or investment transactions and, a reduction of the uncertainty arising from interventionist policies.

In my opinion, it is necessary for the energy dialogue to become more open and effective, seeking to set the ground for strong partnerships in the energy sector. There can be no doubt as to the complexity of the objectives of the energy dialogue and the difficulties in achieving them, particularly at political level. There are difficult issues to be faced such as the importance of alternative energy routes, the risks from the concentration of power in new energy 'hubs', the excessive dependence on one supplier – ie Russia -, the role of the USA, the roles of Iran and Iraq, the political instabilities in S.E. Europe, etc

However, I both fear and hope that honest and open energy dialogue is a one-way process. The importance of energy dialogue is extremely high for a stable and mutually beneficial relationship between

the European Union and Russia,

the Energy Community countries in S.E. Europe,

the countries of the Black Sea Economic Cooperation Organization, the Caspian countries.

In this context I strongly believe on the importance of two already announced Conferences

The first by IENE, the Institute of Energy for S.E. Europe. This Conference will take place next May (on 21st + 22nd) in Thessaloniki. The "2nd S.E. Europe Energy Dialogue" is intended to be the continuation at higher level and with larger participation of the process the Institute has inaugurated with success last year. Please note that I have the honour to be the Chairman of the Institute.

The second by the Promitheas network. The "Energy Investment & Trade Opportunities" Conference of the Black Sea Economic Cooperation Countries will take place next October (on 9th + 10th) in Athens.

I would like to congratulate Professor Mavrakis and KEPA, as well as BSEC Organization, Promitheas network, the Hellenic-aid and all Institutions which have contributed to the preparation and edition of the Energy Review. Let me wish an annual presentation of this review for many years in the future.



Canaludina vamanta

Director of KEPA

Prof. Dimitrios MAVRAKIS

He is the Director of Energy Policy and Development Centre (KEPA) of the National and Kapodistrian University of Athens (NKUA) (Greece) and the Coorinator of the PROMITHEAS Network.

He is an Associate Professor at NKUA. He has a recognized contribution in promoting regional cooperation on energy policy issues in S.E. Europe through E.C. initiatives in the region. He was member of the EAG and WOG on energy of E.C..He is currently the Chairman of the Black Sea Regional Energy Centre (BSREC) Steering Committee.

Concluding remarks

Prof. MAVRAKIS thanked all the distinguished participants that honored with their participation KEPA and all the Institutes from the BSEC countries that their participation have resulted this edition. Along with the political support PROMITHEAS will continue this effort that aims to promote regional cooperation among scientists, decision makers, potential investors and traders on energy policy and climate change policy issues. He also expressed his sincere gratitude to the Hellenic Ministry of Foreign Affairs, the Hellenic Aid and all his ambassadors to the BSEC countries for the constant flow of political, moral and financial support to the above said aims.

He also expressed his sincere thanks to the BSEC permanent secretariat and more specifically to the Secretary General and all the political staff of PERMIS for the firm assistance they provide in our efforts to promote regional cooperation in the BSEC region.

It is worth mentioning that due to the actual support offered by Ambassador Chrysanthopoulos and his distinguished political collaborators PROMITHEAS has organized under the auspices of BSEC with the financial support of European Commission relevant international seminars in Baky, Istanbul, Sofia, Athens, and Kiev while the network has disseminated copies of the presented edition to all BSEC countries. He also thanked the Greek sponsors, DEI, ELPE and 01 informatics for their valuable contribution, since count very much on the future contribution of the private sector.

The PROMITHEAS network organizes an International Conference next October, in Athens under the title "Energy Investments and Trade Opportunities" in BSEC countries and we do count on your contribution to promote energy and climate change investment and trade opportunities in your countries in front of a Greek and International audience of potential investors and traders.

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