



*Energy Community Regulatory Board*

**2007 ECRB South East Europe  
Gas Survey**

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**ECRB Gas Working Group**

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## 1. Preface

This Report is a Gas Survey of the 15 members of the Energy Community Regulatory Board (ECRB) Gas Working Group (GWG): Albania, Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Former Yugoslav Republic of Macedonia, Greece, Hungary, Italy, Montenegro, Serbia, Slovenia, Romania, Turkey and UNMIK—Kosovo (hereafter, UNMIK). The 2007 ECRB South East Europe Gas Survey is intended to offer a state of play analysis that will serve as a foundation for further gas sector developments in the South East Europe region.

On 10 February 2005 the Natural Gas Task Force of the Council of European Energy Regulators Working Group for South East Europe Energy Regulators (CEER WG SEEER) issued a Report on the South East Europe Natural Gas Market. That report covered the signatories of the 2003 Memorandum of Understanding, by which the states in the region agreed to adopt Directive 2003/55/EC (the “Gas Directive”) and presented the status of the natural gas infrastructure and legal regulatory framework in the South East Europe region as of 31 December 2003.

The present South East Europe Gas Survey is the successor to the 2005 CEER WG SEEER Report. Both documents cover the same region, though the status of some participants to the survey has changed: Bulgaria and Romania, for instance, are now EU member states; Montenegro is an independent nation; and all signatories to the Treaty establishing the Energy Community (Treaty) are included in the Survey, resulting in the additional review of the (potential) gas markets in Albania and UNMIK.<sup>1</sup>

This Gas Survey thus reflects the existing gas sector conditions in South East Europe following the evolution from the non-binding political commitments of the early regional energy market development process, captured by the Athens Memoranda of Understanding, to the binding framework of Energy Community Treaty (hereafter: the Treaty). On 1 July 2006, the Treaty came into force (replacing the above mentioned Memorandum of Understanding and the predecessor regional agreements). Pursuant to the terms of the Treaty, the signatories are bound to implement the legal requirements set forth therein by 1 July 2007. Moreover a decision by the Ministerial Council required Contacting Parties to also implement Regulation No. 1775/2005 and Directive 2004/67/EC (the “Security of Gas Supply Directive”).

The ECRB is one of six institutions created under the Treaty, which in turn incorporates requirements of the Gas Directive. The objective of the Gas Directive is to promote an internal cross-border market in natural gas. At the most basic level, to achieve this, the EU member states require both (1) a legal and regulatory framework with harmonious rules and standards in the energy sector; and (2) the infrastructure to physically allow the market to work, such that adequate levels of gas networks exist in the different parties. Without these fundamental criteria, a competitive market, characterized by high levels of security of supply, cannot

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<sup>1</sup> The 2005 CEER WG SEEER Report covered: Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Greece, Hungary, Italy, Former Yugoslav Republic of Macedonia, Romania, Serbia, Slovenia and Turkey.

develop.<sup>2</sup> Most recently the EU energy market has been divided into four regional markets as an interim step toward such an internal market<sup>3</sup>. The Energy Community process aims to extend the EU internal market to the South East Europe region, and the ECRB seeks ways to facilitate the regulatory aspects of such extension. The 2007 ECRB Gas Survey is designed to provide the data on the existing legal, regulatory and physical framework, with the goals of the Gas Directive and Treaty in mind, to facilitate energy market development progress in the region.

This Survey is developed pursuant to the 2007 ECRB Work Programme and is produced under the leadership of the Greek and Serbian energy regulatory authorities, with the co-operation of the ECRB Section of the Energy Community Secretariat. The kind support of USAID for the initial drafts of the study is gratefully acknowledged.

## 2. Introduction

This Survey covers parties that currently participate in the GWG:

- Seven Contracting Parties to the Energy Community Treaty (CPs): Albania, Bosnia and Herzegovina, Croatia, Former Yugoslav Republic of Macedonia, Montenegro, Serbia, UNMIK—Kosovo (hereafter, UNMIK);
- Seven EU members of South East Europe, which are CP neighbors and are mentioned in Art. 27 of the Energy Community Treaty (SEE-EU): Austria, Bulgaria, Greece, Hungary, Italy, Slovenia, Romania;
- One observer: Turkey.

The objective is to provide an analysis of the region as a whole, including comparisons between the Energy Community, its neighbors in South East Europe from the EU, and Turkey. While the diversification of supply and construction of new infrastructure are critical to developing a robust regional gas market, equally important are the identification of existing capacity vis-à-vis available capacity and regulatory mechanisms that can be applied to free up contractual limitations so as to benefit gas market development and otherwise contribute to the advancement of cross-border trade.

The applicable legal framework upon which this Survey relies is the Gas Directive, incorporated as part of the Treaty acquis.<sup>4</sup> All participants in this Survey are bound to the Gas Directive and

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<sup>2</sup> See discussion in Christopher W. Jones, *EU Energy Law, Vol. I, The Internal Energy Market*, 2nd Edition, Chapter 16 – The Internal Market and Neighbouring Countries, 16.1, pp. 357-359.

<sup>3</sup> The North and North-West markets have been developed jointly. The so called South-South East market includes Poland, The Czech Republic, Slovakia, Austria, Hungary, Italy, Slovenia, Romania, Bulgaria and Greece.

<sup>4</sup> The Treaty energy acquis includes: Directive 2003/54/EC concerning common rules for the internal market on electricity, the Directive 2003/55/EC concerning common rules for the internal market in natural gas, and the Regulation 1228/2003/EC on conditions for access to the network for cross-border exchanges in electricity. (Treaty, Art. 11) The Treaty includes too an acquis on environment (Treaty, Art. 12-17); an acquis on competition (Treaty, Art. 18-19) and an acquis on renewables (Art. 20).

indeed all elements of the Treaty acquis, with the exception of Turkey which is not a signatory to the Treaty. Turkey, however, has committed to adjusting its legislation to meet the requirements of the EU energy acquis, consistent with its accession negotiations with the European Union. In addition, the Survey takes a preliminary look at regional gas issues addressed by EU Regulation 1775/2005 on Gas Transmission and EU Security of Gas Supply Directive 2004/67/EC,, which have been included in the Energy Community Acquis in December 2007.

Regulation 1775 is particularly important in light of its focus on transparency, though the transparency requirements set forth in Regulation 1775 are not by themselves sufficient to facilitate the development of an efficient, effective and integrated market. Nonetheless, the absence of clear, transparent arrangements creates obstacles for competition, trade, and integration of different national systems, with the effect of impeding overall gas market development. We note too that consideration has been given to provisions set forth in the 3<sup>rd</sup> Energy Package proposal, issued by the European Commission on the 19<sup>th</sup> of September. This Survey should be examined within the context of numerous regional and EU gas sector guidelines, reports and initiatives, including but not limited to important work by CEER, the European Regulators Group for Electricity and Gas (EREG). In particular, the Survey takes into account EREG's Gas Regional Initiative for South-South East Europe, monitoring work by the Energy Community Secretariat; and ongoing initiatives supported by donors, notably the World Bank – KfW Gasification Study<sup>5</sup>

## 2.1. Methodology

In recognition of the valuable contribution of the 2005 CEER Report, the ECRB GWG in developing this Gas Survey applied a methodology that relied on revision of the questionnaire used for the previous CEER Report, rather than to start the process anew. These questions were revised with an aim to increase the focus on the legal and regulatory component and also to introduce questions relating to infrastructure investment. The revisions to the questionnaire were vetted by ECRB GWG members; after several rounds of revisions, the GWG agreed to a final questionnaire, which was then circulated to all GWG members for responses. GWG members were asked to update their 2003 answers and to answer the new or amended questions in full, consistent with the present state of play. The final questionnaire was submitted to GWG members in July 2007, and answers were provided in July and August, with opportunity for amendment of the data and the Report body and analysis by the ECRB up and until the date of publication of this Report.

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<sup>5</sup> The gas market analysis sponsored by the World Bank and KfW and recently concluded covers a nine-country subset of those treated in the instant study and seeks to identify potential gas infrastructure projects to benefit these countries. See Economic Consultant Associates & Penspen, *South East Europe Regional Gasification Study, Draft Final Report* (October 2007)

The Energy Community Secretariat has developed various materials on the implementation of the Treaty and benchmarking. See e.g. *Report of the Secretariat on Implementation of the Treaty Status as of June 2007*; *Progress Notice regarding status as of June 2007*; *Implementation of the Treaty Status as of June 2007* (9 November 2006). While these and other sources are referenced as pertinent, one goal of this Survey is to provide a stand-alone perspective on the current situation and future directions, based on input provided by regulators.

## 2.2. Structure

As noted above, this 2007 ECRB South East Europe Gas Survey flows from the CEER 2005 Report on the South East Europe Gas Market. The CEER WG SEEER Report had two sections: (1) Gas Supply and Infrastructure and (2) Regulatory Framework; it also included tables that captured the data on which the Report was based. That Report identified several areas for follow up, particularly with respect to the legal and regulatory information gathered by the Report. In response, the instant 2007 ECRB South East Europe Gas Survey focuses on regulatory mechanisms in furtherance of gas market development, and on what needs to be done to legal and regulatory frameworks to allow new investment. The overarching goal is to portray accurately the state of play of the gas market in the South East Europe region in 2007 within the Energy Community framework and to highlight the corresponding issues that impact regional gas market development.

This Gas Survey has three substantive sections, and supporting graphs and tables that capture available data. The first offers supply, demand and infrastructure background, so as to inform the second two sections. Together, these latter two sections focus on regulatory competences and mechanisms, with respect to existing physical and contractual capacity, and future small and large investment needs and projects. The Annex to the Survey offers a comprehensive summary of the data gathered. The ECRB aspires to contribute to the overall Energy Community development process and to assist other natural gas projects in the region. It is for this reason that the ECRB GWG has made the underlying data collected from its member regulators public, open and transparent.

## 3. Executive Summary

This Gas Survey presents the status of natural gas infrastructure, the legal and regulatory structure, and infrastructure development needs and processes, with a view to examine existing capacity potential and limitations from an infrastructure and regulatory vantage point. Data was gathered in July and August of 2007; in most cases, 2006 annual data was provided; the Annex certifies the date.

The reported data reflects the following state of the gas market in the South East Europe region. A wide variety of development stages is evident, but CPs are on average much less developed: their markets range from non-existent (Montenegro, UNMIK), to just starting (Albania, Former Yugoslav Republic of Macedonia, Bosnia and Herzegovina), to intermediate (Croatia, Serbia). On the other hand SEE-EU is mostly well on its way and mature (Romania, Austria, Hungary, Italy), with Slovenia, Bulgaria and Greece lagging behind. There is also a variety in resources and other conditions affecting market development. Some participating parties (e.g. Croatia) have domestic gas supplies, while most others do not. Some coastal ones have or could have LNG terminals, while other landlocked parties present great transit potential. Further, it can be noticed that some parties are rapidly developing their gas industry (notably Croatia, Greece and Turkey), others are more static despite capacity availability. Overall, lack of natural and sometimes financial resources, overall infrastructure sluggishness, as well as availability of

cheap competing fuels and low population and industry density have led to a far less developed gas market in CPs with respect to the rest of SEE.

Generally speaking, even those parties with domestic supply are seeing that supply diminish, while demand remains steady or increases. Every country, particularly those with developing domestic markets, needs to diversify its sources of supply, with the concomitant requirement for infrastructure development. A few dominant companies control the market at a national level, while cross-border transactions are limited to transit flows, dominated by long term contracts; i.e short term cross border trade between the parties does not exist. The picture reflected in the 2005 Report has not changed appreciably in the two-year interim. Rather, gradual development consistent with longer term trends has continued. To maximize diversification and market development, significant investment must occur in infrastructure, with regulatory efforts devoted not only to encouragement of this investment through cost recovery mechanisms and incentives, but increased transparency and vigilance to curb market abuse and, optimally, unbundling of transmission network ownership from supply. In addition, the development of appropriate market rules which would promote market –based transactions at both at a national and regional level are still a requisite for most of the parties.

Certainly there is evidence that country energy strategies and policies, combined with regional commitments through the Treaty process and by extension the overall goals presented of the European Commission, drive the interest in gas reliance as part of the trend toward diversification and clean resources. The overarching need to diversify the types of consumed energy, the environmental advantages of natural gas over other fossil fuels in power and heat generation, the relatively lower cost with respect to electricity under current technologies, and its practicality of usage with respect to oil products make gas market development attractive. Due to geographic location, the SEE region has the potential to serve as a transit region in the future, thereby reducing its supply costs with respect to its Western neighbors, and to enjoy a diversity of sources and/or routes of supply through LNG and various pipeline projects. In addition to the economic and security of supply advantages that a regional gas market would bring to South East Europe, such development also presents significant potential for Western Europe's gas supply. At the same time, demand projections must be viewed with a certain amount of skepticism. As natural gas prices rise, demand shifts downward and toward other energy sources. Thus, this Gas Survey focuses also on existing capacity and the removal of existing regulatory constraints.

In sum, great potential for gas market development exists within the SEE region, but will take both regulatory and physical infrastructure development to reach fruition, with regulatory development of particular importance to maximize the use of existing capacity and create an environment conducive to infrastructure investment and regional cooperation. As a physical matter, additional infrastructure is needed on the distribution level to bring gas to the retail consumer. On the transmission level, no cross-border infrastructure for gas has been built in the last few years, with a few exceptions (e.g. the Turkey-Greece and Libya-Italy interconnectors) though efforts to liberalize the market mean that such infrastructure is essential to bring a diversity of sources to the region and allow it to serve its logical transit and security of supply role. Regulatory development is needed not only to attract the investment required to build this infrastructure, but to create a well functioning market environment.

It is clear that new infrastructure will be developed to tap new resources coming to the region, only if open, transparent and stable regulatory conditions are in place, securing a significant and economically sound independent development of the gas market. Transit and power cannot be the only drivers of further gasification in the Balkans. Sound national regulatory regimes are predicates to the creation of a regional market, and harmonization of such regimes can facilitate cross-border exchange prior to or in conjunction to the development of regional institutions. This is essential in the CPs considering the limited size of national markets.

While for the most part (but not entirely) regulatory authorities and primary legislation are in place, at least in already gasified parties, the detailed secondary legislation and regulatory competence and oversight needed to actually implement domestic markets (and thus provide the predicate for a regional market) are works in progress in many parties within the region.

Necessary transparency requirements are not, as a rule, in place in the Energy Community CPs and Turkey, and are not yet adequately applied even in the EU countries that make up the South East Europe region. Transparency requirements, such as obligations for the TSO to publish maximum technical capacity for all relevant points including entry and exit points and also to publish for all relevant points the total contracted and available firm and interruptible capacity, are important for the region as a whole. National harmonization of such requirements is essential to minimize barriers to entry and integrate markets (to the extent they exist) and to facilitate the creation of a regional gas market that also serves as a hub and for transit to the EU.

Long-term contracts are the norm in South East Europe, as they are indeed throughout Europe. Long-term contracts are not antithetic to competition and gas market development per se, and in many instances they prove to be necessary and valuable vehicles for investment and security of supply. Facilitation of investment means that they may be of particular importance in light of the dearth of infrastructure in several of the Energy Community signatories. However, given the need to diversify sources of supply, it is vital to introduce appropriate clauses that free up the remarkable unused capacity that already exists, such as use it or lose it clauses and the like, as well as to develop the appropriate framework based on the EU acquis, which on one hand would not allow hoarding of unused transmission capacity, and on the other hand, would impose expansion of existing capacity according to developing market needs.

The ECRB intends for this Report and accompanying data be used to instruct future activities of the GWG, and thus one outcome is a suggestion of follow up activities for the ECRB to assist national regulators in the furtherance of regional gas market development. Another intention is to contribute to the Energy Community process overall, including other studies currently underway. For these reasons, this Gas Survey sets forth a number of suggested priority actions in its conclusions section.

## 4. Natural Gas Supply, Demand and Infrastructure

This section offers a summary of the existing natural gas market in South East Europe, with a view to national and transit considerations. A threshold summary of market size, gas consumption and supply across each GWG member is required in order to understand the context.

### 4.1. Natural Gas Supply and Demand

The national gas markets among the GWG members vary considerably, with some having no gas markets yet while others have relatively healthy and mature markets. Because current gas consumption and estimates of the potential market form the baseline for any analysis of the current state of play in the gas sector in South East Europe, this section offers information on current gas consumption and growth forecasts.

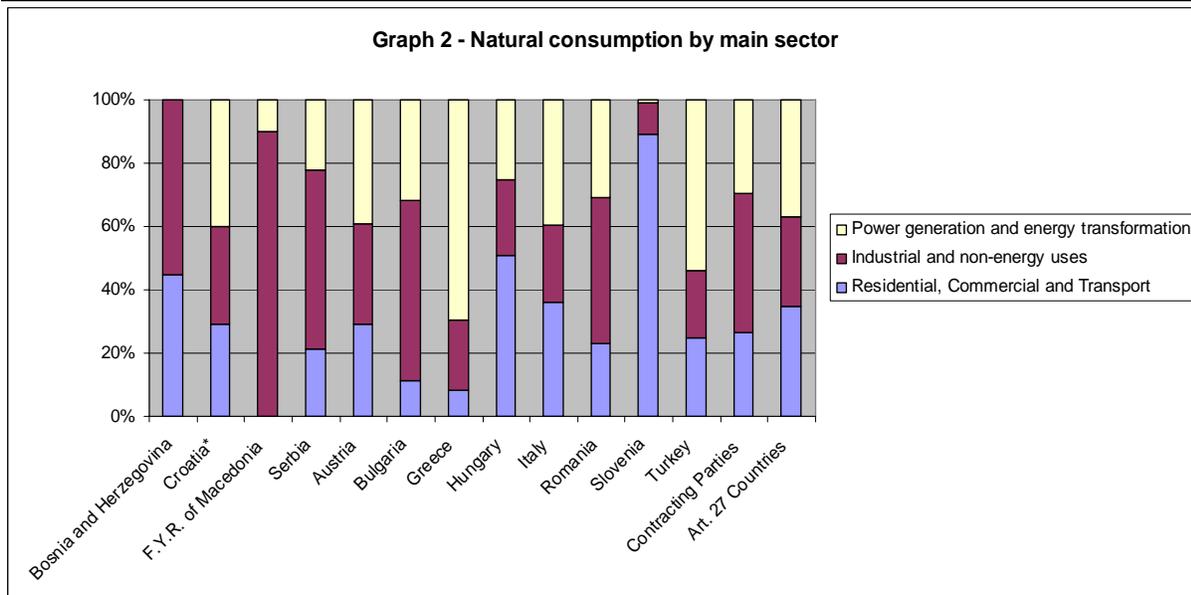
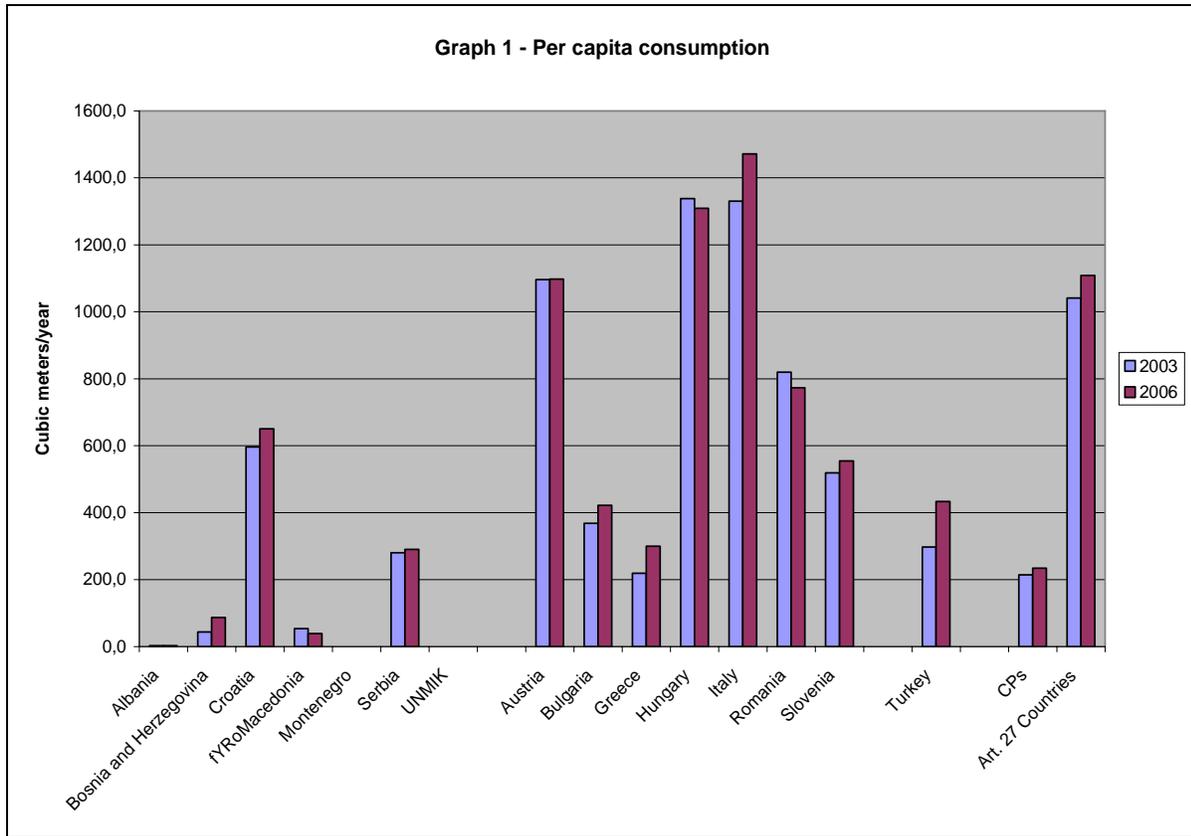
All CPs have expressed commitment through the Treaty process to expand their gas markets and indeed their involvement in the development of a regional market in gas. Thus, the focus here is not on levels of maturity per se, but rather on the current, existing elements that will enable or hinder the markets from growing in this desired and predicted manner.

The parties participating in this Study can generally be placed into four categories: (1) mature gas markets, with extensive distribution infrastructure and saturated household consumption (Austria, Italy, Hungary, Romania); (2) parties with historically large industrial sectors and high intensity energy use (Bulgaria, Croatia, Serbia, Slovenia); (3) parties of relatively recent gasification undergoing rapid development (Greece, Turkey) and (4) parties with little or no gas use at this time (Albania, Bosnia and Herzegovina, Former Yugoslav Republic of Macedonia, Montenegro, UNMIK). Expectation of gas use growth is highest in category 3 and 4 and lowest in category 1.

In descending order, per capita consumption rates are higher in SEE-EU (Italy, Hungary, Austria, and Romania, with markedly lower rates in Croatia, Slovenia, Serbia, Bulgaria, Turkey and Greece, and a negligible amount or none in Bosnia and Herzegovina, Former Yugoslav Republic of Macedonia Albania, Montenegro and UNMIK). On the other hand Turkey and Greece feature the highest growth rates. Overall growth in CPs only slightly exceeds that of SEE-EU (See Graph 1 and Table 1).

Table 1 - Gas market: size and role				
Country	Market size		Annual change 2003-2006 (%)	Share of gas in primary energy, 2006 (%)
	Bcm, 2003	Bcm, 2006		
Albania	0,01	0,01	-	0,6%
Bosnia and Herzegovina	0,18	0,36	26,0%	8,0%
Croatia	2,64	2,88	2,9%	24,5%
Former Yugoslav Republic of Macedonia	0,11	0,08	-10,1%	2,2%
Montenegro	0	0	-	-
Serbia	2,22	2,30	1,2%	15,0%
UNMIK	0	0	-	-
Austria	8,90	8,91	0,0%	24,3%*
Bulgaria	2,91	3,33	4,6%	NA
Greece	2,40	3,29	11,1%	7,3%**
Hungary	14,56	14,24	-0,7%	45,0%
Italy	76,40	84,50	3,4%	35,6%
Romania	18,30	17,26	-1,9%	36,4%
Slovenia	1,03	1,10	2,2%	13,0%
Turkey	21,20	30,89	13,4%	24,6%*
Contracting Parties	5,16	5,63	2,9%	15,3%
Art. 27 Countries	124,50	132,63	2,1%	32,6%

(\*) 2005; (\*\*) 2004



While national forecasts in the region reveal expectations of growth, certainly growth has not been swift and there is no indication of imminent rapid change. There is great potential for such

growth, should the necessary predicates emerge. Already some important planning is underway and recent regulatory developments do mark steps forward.

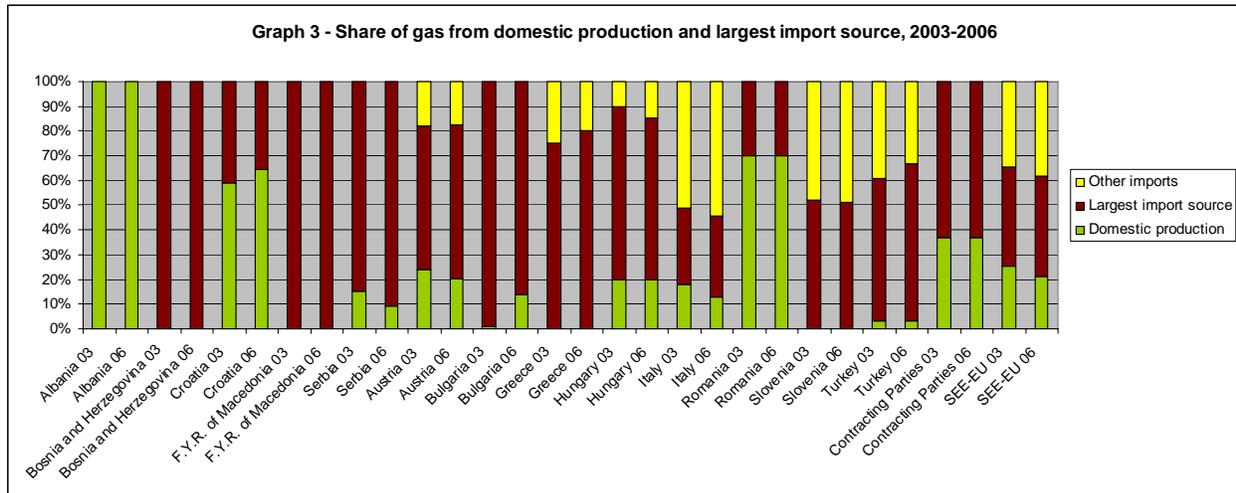
As it can be seen, there is a wide variety of gas use in different sectors and in different parties. There is certainly the expectation of expansion of gas use in the power generation sector in some parties (e.g. Austria, Bosnia and Herzegovina, Former Yugoslav Republic of Macedonia, Slovenia) and in distribution in others, estimating from it relatively low (or non existent) use for the time being, but this will heavily depend on the availability of gas on one hand and, most importantly, from the price of oil (and consequently of the resulting price of gas, if no mechanisms for the separation of the two are developed).

#### 4.1.1. Import dependence and diversification of supply

All reporting GWG members except Romania and Croatia depend primarily on imports for their supply, with some parties having a very slight domestic supply (e.g., Serbia, Slovenia, Turkey, Bulgaria) and others (e.g. Greece, Former Yugoslav Republic of Macedonia, Bosnia and Herzegovina) having no domestic supply. Despite the need to diversify sources of supply, the majority of supply for the South East Europe region comes from Russia. Diversification remains a primary objective for the region in order for an efficient, secure and competitive market to develop.

The International Energy Agency and the European Commission have emphasized the importance of diversification of supply. In South East Europe, however, Russia is dominant, supplying 100% of all imports in some parties (e.g. Croatia, Romania, Serbia, Bosnia and Herzegovina), while providing the majority of imported supply in most other parties (Italy being the exception). (See Graph 3)

Other suppliers exist, but all have a significantly smaller proportional role: they are, for instance, Algeria (20% of imported gas to Greece, 32% in the case of Slovenia and 35.6% for Italy); Germany and Norway in the case of Austria; for Italy, also Netherlands, Norway and Libya; Turkmenistan in the case of Hungary; and Iran, Nigeria and Azerbaijan in the case of Turkey. Fundamentally, diversification is limited and dependence on Russian imports high.



#### 4.1.2. Forecasted import dependence and demand

Demand forecasts are always works in progress and subject to a number of variables, not the least of which is a significant price shift (a notable risk given recent price increases and associated geopolitical influences).<sup>6</sup> Consistent with projections for Europe in general, dependency on gas imports is predicted to increase. In SEE-EU, Hungary sees domestic production decreasing while total demand increases. Italy forecasts a demand of 88.4 bcm to increase to 128 bcm in 2030, while its national production decreases from 11 bcm to 3.5 bcm. Romania predicts that domestic sources will decrease from 11.7 bcm in 2007 to 10.6 bcm in 2015, and imports will increase from 6.1 bcm to 8.5 bcm in the same period. Turkey predicts large demand increases by 2020.

On the other hand, CPs foresee higher growth rates. Even though their growth is small in terms of amounts, it entails in some case a major change of natural gas role. Former Yugoslav Republic of Macedonia predicts that its current 2.2% share of gas for primary energy will increase to 20% in 2020 with Serbia reporting similar increases to a 20% share in 2015. Croatia, for example, had no demand-supply imbalance in 2006, but predicts a gap of 1.322 Bcm in 2010 and 2.832 in 2015. Overall, official forecasts are in line with the WB-KfW study s in the medium term but more upbeat in the long term. (See Table 2).

The largest uncertainty in the medium term is related with the development of gas fired power generation, which can deliver sharply different outcomes depending on gas prices, energy and environmental policy decisions. In the longer term regulatory decisions will also play a

<sup>6</sup> See the ECA Study for a discussion of the many variables that affect attempts to project demand for natural gas in the region, including the price of alternate resources. Generally speaking, the ECA Study concludes (p. 4) that, in its interim phase, the potential for growth exists going forward, although the margin between gas and oil prices will not be large.

remarkable role notably for the development of distribution grids and the gas role in the residential and commercial sector.

Country	Actual market	Official forecasts			WB-KfW (ECA) Study	
		2006	2010	2015	2020	2010
Albania	0,0	NA	NA	NA	0,6	1,0
Bosnia and Herzegovina	0,4	0,5	0,8	1,0	0,6	1,4
Croatia	2,9	4,2	5,7	NA	3,6	4,2
Former Yugoslav Republic of Macedonia	0,1	0,4	0,6	0,8	0,7	1,2
Montenegro	0,0	NA	NA	NA	0,6	0,7
Serbia	2,3	3,1	3,5	NA	2,7	3,6
UNMIK	0,0	0,2	0,4		0,1	0,9
Austria	8,9	11,1	12,2	12,6		
Bulgaria	3,3	NA	NA	NA	3,9	6,3
Greece	3,3	6,3	7,6	8,8		
Hungary	14,2	15,6	17,2	NA		
Italy	84,5	99,5	108,0	128,0		
Romania	17,3	18,1	19,1	NA	19,9	25,6
Slovenia	1,1	1,3	1,5			
Turkey	30,9	38,5	41,1	43,2		
Contracting Parties	5,6	8,2	10,6		7,7	11,3
Art. 27 Countries	132,6	151,9	165,6			

Again, infrastructure and appropriate legal and regulatory frameworks are essential to any such expansion, and though some strides have been made in both categories, much more is needed among, in particular, the CPs, before the expected increase can be realized.

The future of gas in South East Europe mirrors that of the rest of Europe: with respect to the more mature gas markets within the GWG, domestic supplies are predicted to decrease, and dependence on imports to increase; hence the backdrop for various EU strategies on the security of gas supply (e.g., 2004/67/EC). The speed of such increase is an open question; previous predictions of rapid growth may be slightly mitigated by rising gas prices, infrastructure limitations matched with geopolitical exigencies, and the clear reality that infrastructure and investment projects are lengthy and time consuming undertakings.

## 4.2. Transmission, distribution, storage and LNG infrastructure: current situation

### 4.2.1. Transmission and Transit

In order to develop the gas market, a basic requirement is transmission infrastructure. Two indicators may be used to assess the availability of such essential infrastructure in each constituency (country, region, etc.): the length of the transmission network, and its input capacity. As for the former, this is normally divided by some indicator of the constituency size (e.g. population, or surface area), and provides a rough indication of the network outreach: the longer is the per capita network, the more likely it is that gasification is widespread. This indicator is far from perfect: first of all, it suffers from the fact that the border between transmission and distribution is not consistently defined among constituencies; therefore a larger value of the indicator may be related to some pipelines being included in transmission rather than in distribution rather than a better outreach. Further, the indicator may be lower in countries with a more dense or concentrated population<sup>7</sup>. On the other hand, a better indicator like the percentage of population living in gasified areas is unfortunately not available for the region.

With such caveats in mind the reader may check the first and second column of Table 3. The EU countries of South East Europe (with the exception of Greece and Bulgaria) have a well developed transmission network, while the CPs suffer from much lesser development. This is clear from Table 3, where the length of per capita transmission pipelines is far lower in CPs and Turkey than in the SEE-EU. On the other hand a remarkable expansion is taking place notably in Turkey and Croatia, followed by Serbia.

As for network capacity, this is normally measured at import entry for countries that rely on import. For any country that is less than self sufficient, as is the case everywhere in the region, entry from domestic production is normally saturated and wholly used, but imports provide the marginal supply, used to cover the gap between demand and production. Normally exit capacity is not a problem in gas transmission.

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<sup>7</sup> Similar difficulties apply to the length/surface area indicator. It can be misleading if population is heavily concentrated in parts of the constituency.

The capacity of the existing transmission at entry from imports is largely reported as satisfactory in CPs where such network exists, with respect to current needs, as shown in the last two columns of Table 3,. However, this may be easily overcome by expected consumption increases, e.g. as triggered by a new or refurbished TPP.

Country	Transmission lines (Km/mn.inh.)		Distribution lines (Km/mn.inh.)		Storage Working gas as % of annual consumption	Total import capacity (MNm <sup>3</sup> /h)
	2003	2006	2003	2006		
<b>Albania</b>	-	0			0%	-
<b>Bosnia and Herzegovina</b>	48.1	48.1	245.1	245.1	0%	0.1
<b>Croatia</b>	238.7	455.5	3 561.0	3 869.5	19%	0.2
<b>Former Yugoslav Republic of Macedonia</b>	47.7	47.7	-	-	0%	0.1
<b>Montenegro</b>	-	-	1.0	-	0%	-
<b>Serbia</b>	256.3	278.4	1 190.4	1 190.4	0%	0.5
<b>Austria</b>	334.9	334.9	3 602.8	3 602.8	33%	6.0
<b>Bulgaria</b>	334.9	334.9	100.9	NA	15%	3.0
<b>Greece</b>	87.6	87.6	232.1	349.8	3%	1.2
<b>Hungary</b>	507.5	485.2	7 142.3	7 213.1	25%	2.2
<b>Italy</b>	546.5	566.0	3 619.8	3 946.2	16%	11.4
<b>Romania</b>	514.5	581.6	1 374.6	1 408.8	17%	4.4
<b>Slovenia</b>	483.9	483.9	1 127.5	1 573.1	0%	0.6
<b>Turkey</b>	67.3	126.2	210.3	322.5	5%	NA
<b>Contracting Parties</b>	<b>160.0</b>	<b>213.6</b>	<b>1 238.6</b>	<b>1 303.1</b>	<b>11%</b>	<b>0.9</b>
<b>Art. 27 Countries</b>	<b>465.5</b>	<b>485.4</b>	<b>3 224.4*</b>	<b>3 116.2*</b>	<b>19%</b>	<b>28.1</b>

(\*) Bulgaria not included

Even though capacity is available, questions of access persist. There is some evidence that access to pipelines, particularly those used for international transit flows, is reserved for current rights holders via existing contracts that lack appropriate clauses to release unused capacity in a transparent manner, and that the gas transported cannot be used to serve the country transited due to contractual limitations (destination clauses) and/or connection to the domestic network.

Turning to SEE-EU, in several countries, there is no real difference between the national transmission/transportation systems and the transit lines (e.g., Italy, Slovenia, Greece); in others, such as Romania and Bulgaria, the transmission and transit lines are two separate systems, with transit lines fully booked. In these countries, transit is not regulated or accessible.

Contractual and physical congestion plagues some other GWG members, including Turkey, Hungary and Austria, where limited capacity is available on some transit pipelines, as it is mostly tied up in legacy long-term contracts that lack use it or lose it clauses, or other mechanisms by which used contracted capacity may be freed up.

Capacity is currently unavailable in Hungary due to physical or contractual obligations and fully booked through Romania; and available capacity is limited in comparison with total input capacity on some systems in Austria, Serbia and Slovenia.

At present, there is no transit of gas through Bosnia and Herzegovina, Croatia, Greece, Former Yugoslav Republic of Macedonia (and clearly UNMIK, Montenegro and Albania, where gas infrastructure is virtually absent). In Croatia, transit must be viewed as potential only, as there is no gas in transit through the Plinacro transportation system, but there are two interconnections: to the Slovenian transmission system at Rogatec and to the North Adriatic gas fields operated by INAGIP (joint venture between Croatian INA and Italian ENI), where gas production has been shared based on Production Sharing Agreement. Also, there is possibility of using this interconnection as gas import route from Italy. In Greece, a new initiative, the IGI/Poseidon project, is expected to facilitate gas transit from Turkey to Italy through Greece. For this, an expansion of the National Transmission System in Greece has been planned, which will be accessible under a regulated third party access regime. A theoretical possibility exists for (commercial, through swap) transit through the existing National Transmission System in Greece, from either the LNG terminal in Revythoussa or the anticipated new entry point from Turkey to Bulgaria, Romania and Former Yugoslav Republic of Macedonia through the existing transit lines of Bulgaria and Romania, but at present, legal obstacles outside Greece do not permit such transit to take place. It is also reported by the Greek Regulator that their proposal for the regulation of transit through Greece will soon be put in public consultation.

The current types of ownership arrangements vary, from ownership by multiple, partly privately-owned companies (e.g. Austria), to a single, partly state-owned entity (Hungary), to a single, wholly owned state-owned entity (e.g., Croatia, Romania, Turkey).

In sum, infrastructure presents real limitations, but these are, in many cases, exacerbated by legal and regulatory constraints. Certainly the South East Europe region is well situated to become a transit area. Projects need to be connected to existing infrastructure and regulated access to part of the capacity is key. The absence of a harmonized third party access regime (rules that are applied consistently across borders) presents an obstacle to market development that could be addressed through regulatory mechanisms. Moreover, regulatory attention to the appropriate treatment of destination clauses would benefit the region overall.

The current situation reflects a two-fold need: (1) an enhanced regulatory environment that facilitates the use of existing unused but contracted capacity, and also demands contractual terms that enable the freeing up of unused capacity (use it or lose it provisions in particular); and (2) greater capacity and infrastructure to facilitate transit, with attention paid to smaller expansions as well as bigger projects, recognizing that the larger projects will take time and political capital. Rules that clearly define the conditions under which an investor can build infrastructure would help promoting competition. Network owners and developers should be in a position to choose without distortions between maximizing the use of existing infrastructure and new investment.

#### 4.2.2. Distribution

Infrastructure and capacity at the distribution level spans a spectrum of maturity similar to that found in transmission (e.g., much higher levels of development among the EU countries, particularly Italy and Austria, and lower in CPs. However different models of distribution companies prevail in terms of size and ownership, and scope. For example, Austria has 19 distribution companies, all only partly privately owned or state-owned; Greece has three distribution companies controlled by a company majority-owned by the state; Italy has over 400 distribution companies of different ownership; Romania has 33, dominated by two large companies; Slovenia has 17 distribution companies, primarily owned by municipalities, except for two which are privately owned; Turkey has 50 new private distribution companies and seven existing distribution companies, four of which are also privatized. Among the CPs, Croatia has 38 distribution companies, including one state-owned, four privately owned, eight joint ventures and 25 municipal; Bosnia and Herzegovina has four, with the largest two (by far) fully state-owned; and Serbia like Romania has 33 distribution companies, with various and mixed ownership (private, public, joint-venture).

With regard to the actual length of distribution lines, the “threshold” difficulty of identifying the separation between transmission and distribution adds to that of defining the downstream borders of distribution: for instance, in some constituencies the distribution grid is limited to the streets, while in others it includes connections up to the apartment doors. Furthermore the number of lines per se is less important than the number of working lines – with insufficient information available to bear out the latter. Due to this inconsistencies any comparison among GWG members should be considered with great caution. Nonetheless the length per capita indicator is provided in Table 3 for distribution as well.

The data reveals mature development in the distribution network of Italy, Hungary, Austria and Croatia, a reasonable level in Romania, Slovenia and Serbia, lower level in Greece and Turkey, a minimal amount in and Bosnia and Herzegovina, and none in Former Yugoslav Republic of Macedonia, Albania and UNMIK. However, the indicator is dubious as just noticed: for example it is well known that Croatia’ gasification is far from complete, notably in the Southern part of the country.

On the other hand Greece and Turkey are witnessing the fastest development in the last three years.

It is clear that distribution network is not adequately developed in the Energy Community, with exceptions in Northern Croatia and Serbia. This will indeed represent the greatest effort for CPs, as distribution represents the single largest component of the gas industry costs.

Increasing privatisation of distribution companies is taking place across the region (most recently in Bulgaria and Romania). A closer examination of the impacts of such privatisation on the respective energy sectors, in particular with respect to pricing and supply, could be useful to instruct evolving national energy policy strategies and regional policy considerations.

Useful lessons could also be derived from comparison of the various approaches used across GWG members and elsewhere, also in licensing and awarding service concessions.

#### 4.2.3. Storage

Consistent with the variety and general situation noted with respect to the other aspects of the system noted above, some parties (e.g. Former Yugoslav Republic of Macedonia, Slovenia) have no storage capacity, while others do have or are in the process of developing storage capacity (e.g. Serbia).

Italy has the largest capacity of the reporting parties, followed by Hungary, Austria and Romania. However Austria's endowment is the best if compared with domestic demand, followed by Hungary and Croatia.

In CPs, Croatia has an underground storage facility, which is an exhausted field (PSP Okoli, in the northwest part of Croatia), with a withdrawal capacity of 240,000 m<sup>3</sup>/h. and an operational volume of 558 million m<sup>3</sup>. Serbia is also about to open a new facility with a working gas of nearly 800 Mm<sup>3</sup>, that will make it the best equipped country of the region compared to consumption.

Bosnia and Herzegovina reports no storage capacity of its own and no access to or use of other storage facilities (though the ECA study reports that a potential for storage exists through use of a salt cavern). However given the limited size of the market it is necessary to ensure cross border availability of facilities, which is currently far from granted.

More storage should and could be built in the CPs. In part, the low load factors of their pipelines depend on lack of storage, which forces to use pipeline usage to follow demand swings, thereby increasing transmission costs. Exhausted gas fields in Vojvodina and Albania are possible candidates. However, storage facilities are already available in neighboring countries, which may be also economically used if access to them was fully available for CP users.

Compounding the difficulty presented by the overall picture of inadequate storage capacity in the region, from a regulatory perspective, insufficient rules regarding transparency govern storage (and LNG) exist at present. Attention to this issue by national regulatory authorities and the possible development of voluntary guidelines for storage and LNG operators could promote confidence in an emerging regional gas market.

Such voluntary guidelines could be developed down the road, consistent with market needs, through the ECRB, taking into consideration guidelines prepared on the EU level through ERGEG in particular.

#### 4.2.4. LNG infrastructure

Logically, LNG infrastructure is a product of geography and maturity of market. CPs do not currently have any LNG terminals, though one is under preparation in Croatia. Greece has recently expanded its one LNG terminal and has spare capacity that could be used by CPs if existing pipelines are open and new ones are built. In the rest of the region Italy has one terminal and another under construction; and Turkey has two terminals. The latter represents progress from the last reporting period in 2003, when the second was not yet operational).

While prospects for LNG are promising in the long-term, the legislative framework governing LNG (in the EU and among the members of South East Europe) requires supplement, in particular to avoid lack of competition endemic to the concentration found in LNG trade.<sup>8</sup>

#### 4.3 New infrastructure projects<sup>9</sup>

At the national level, infrastructure development is underway, with much more in the planning stages. In the CPs, Croatia is planning three domestic transmission lines, possibly extended into connections with Bosnia and Herzegovina, Montenegro and Albania (*Ionian-Adriatic Pipeline, IAP*); Former Yugoslav Republic of Macedonia has identified construction of a Skopje

<sup>8</sup> For a useful discussion on the EU point, see CEER Response to the Preliminary Report of the Gas and Electricity Sector Inquiry (hereafter, CEER Response), 20 April 2006, C06-GA-2-06 (p. 6); see also Third Party Access to LNG terminals, NERA Economic Consulting, 10 November 2006.

<sup>9</sup> Information on new infrastructure projects has been collected by National Regulatory Authorities at the time of the inquiry, for information purposes. It does not by any means reflect the views of any authority on proposed project and should not be interpreted as endorsement.

ring and other lines; Serbia issued permits to build lines from Nis to Dimitrovgrad and from Nis to Leskovac (Route to Former Yugoslav Republic of Macedonia).

Among other projects Greece and Romania report the need for various upgrades, compressor stations and new lines, including Greek expansion of its East-West main line and connection to the Poseidon (Greece-Italy) Project. Turkey reports a need for additional underground storage and widespread transmission enhancements. Hungary has identified a third cross-border transmission entry point in its investment planning, with gas coming from Russia and Turkmenistan. MOL won a tender in Hungary in 2006 to develop underground gas storage with a 1.2 bcm working gas capacity and has been given until 2010 to build the project. Slovenia plans major infrastructure pipelines from 2008-12 and a new compressor station in 2008. As a result of distribution tenders, grids are being developed in more than 50 cities in Turkey, with the Salt Lake Underground Storage project. The Turkey-Greece interconnector has recently been inaugurated.

The great transit potential in South East Europe means that existing infrastructure as well as opportunities for development of the larger pipelines and LNG facilities must be exploited in full. Bulgaria is already a key transit country, with 16 bcm travelling now from Russia to Turkey, Greece and Former Yugoslav Republic of Macedonia. In some instances, physical capacity is not the limitation; rather contractual bottlenecks (in the absence of regulatory controls) are responsible for the lack of available capacity (see, e.g., the transit of gas to Serbia, which is restricted not by physical capacity but contractual constraints at the Ukrainian border).

Other new projects affect SEE. As discussed above, Russia supplies the majority of natural gas into the region through Ukraine and imminently via the Blue Stream pipeline from Russia to Turkey, officially inaugurated in November 2005 and expected to be operating at full capacity (delivering 16 bcm per year) by 2010. This is expected to remain the case, at least in some significant part, in the future. The new South Stream initiative, for instance, envisions the transport of natural gas from Russia, through Bulgaria via the Black Sea, and then branching off from Bulgaria, with one arm going to Austria via northern Hungary and the other to Greece and onward to Italy. While the project is still in the early stages of development and its future is not certain, in 2007 Gazprom has signed a memorandum of understanding with Italy's ENI to build the 900-km gas pipeline from Russia to Bulgaria. Other projects underway also tend to reinforce the future of Russian supply to the region.<sup>10</sup> Attention to smaller infrastructure projects would be beneficial, as these can be accomplished with less human, physical and political resources, are easier to regulate, and thus can be finalized and operational in less time.

Italy reports the greatest breadth of activities in terms of new major infrastructure projects, including, with respect to pipelines, the Poseidon project (Italy-Greece interconnection of offshore pipeline, expected to start operating in 20011/12 with a TPA exemption); a GALSI (Algeria-Sardinia-Italy) offshore pipeline, with a feasibility study completed in 2005 and an inter-

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<sup>10</sup> The ECA Study (p. 85) references a new pipeline being developed to get bring more gas from Russia (starting in 2009, up to 1.5 bcm). Croatia's demand through 2025 is also expected to be met by the import route from Italy, the proposed LNG terminal, IAP and other projects in the region.

governmental agreement signed; the TAP (Trans Adriatic Pipeline) from Albania to Italy (with a feasibility study completed in 2006 and listed among EU common interest projects); and an Interconnection Pipeline from Italy to Austria (with a 2007 feasibility study); and several storage, and re-gasification projects in various stages of development.

Looking at the region as a whole, projects and plans include, to name a few: Turkey will provide new connections to South East Europe via Bulgaria (most notably via the Nabucco pipeline (in the planning stage, with construction to begin in 2009 and first-stage operation in 2012) via Turkey-Bulgaria-Romania-Hungary-Austria), facilitating transportation of gas from the Caspian Region, Middle East and Egypt; Greece-Turkey and Italy-Greece interconnectors (the Poseidon project noted above); the Trans-Caspian pipeline—South Caucasus Pipeline from Baku to Erzurum (opened in 2006 and part of a larger but stalled effort on the Trans-Caspian pipeline); and the proposed Adria LNG regasification terminal potentially contributing a major depot for LNG through Croatia and another avenue for diversification of supply from North Africa and the Middle East. Albania reports various potential projects, e.g. an LNG terminals near Fier, the Trans Adriatic Pipeline noted above; and the Prometheus project to connect Albania with Greece. Thus, the region could contribute significantly to the security of supply for its partner countries and for Europe as a whole, and raise its transit profile<sup>11</sup>.

New connections through the region could provide diversification. Several projects underway or under consideration seek to enhance security of supply by creating paths for gas transport from regions other than Russia. In many instances, small infrastructure expansion could address existing transit limitations, while security of supply requires larger infrastructure projects. Certainly one factor affecting where and the degree to which projects will materialize is the regulatory environment, both regionally and nationally. Rules to address congestion, and regulatory monitoring of the application of such rule and congestion, could go far to make national markets interconnected.

As markets mature in the region, domestic infrastructures will need to be built out and interconnections developed. Greater capacity at any level, with congestion reduction, also facilitates increased competition and diversification. Additional information as to actual congestion that would drive new investments is needed. To attract the private funding that will be necessary for investment, risk needs to be mitigated. When a project crosses borders, risks

<sup>11</sup> The ECA Study discusses these various projects, and others, in detail, along with predictions as to where the spurs onto these projects would be located. The Secretariat's 2006 Roadmap Report (pp. 116-22) includes a discussion of various proposed cross-border projects (pp. 116-22). See also generally [www.inogate.org](http://www.inogate.org).

increase. Hence, a clear legal and regulatory framework, including an efficient dispute resolution mechanism meeting international standards, is essential to reduce such risks.<sup>12</sup>

## 5. The regulatory and legal framework for natural gas in South East Europe

The development of effective and efficient markets requires that investment in infrastructure go hand in hand with producing a regulatory environment conducive to the elimination of barriers to entry and the integration of markets.

The Gas Directive 2003/55/EC makes clear that common approaches, harmonisation of applicable rules and regulations, and region-wide cooperation are essential from a regulatory standpoint. Development of a gas market and an increase in security of supply involves a marriage of technical and regulatory responses.

From a regulatory standpoint, national frameworks must be developed and work together to avoid distortions and obstacles at the border and prevent contractual bottlenecks, as well as to prevent investors from facing similar hurdles in the developments and usage of new infrastructure.

### 5.1. Status of the legal and regulatory framework: competences and gaps

While all covered parties have regulatory authorities, not all are empowered in the gas sector, though advancement in this area is rapid.<sup>13</sup> At present, all but Albania and Bosnia and Herzegovina have competence in the natural gas sector. In UNMIK and Montenegro, the existing legislation does provide that its regulatory authority has jurisdiction in the gas sector, but this is theoretical; in practice, in light of a lack of gas infrastructure or supply, such competence is not elaborated upon, either in primary or secondary legislation. Change is well underway:

<sup>12</sup> See *Handbook for Evaluating Infrastructure Regulatory Systems*, World Bank (2006). *The ECA Study* (p. 100-01) notes that, except for the EU Member States, risk is characterized as medium high to high, a factor that will retard investment, and that gas investment in the SEE region as limited to date (see Table 31, p. 96, showing that of \$16.5 billion of energy investment in the region, less than \$800 was in gas and none were cross-border), though (p. 17 n.1) private investors have successfully engaged in distribution in Bulgaria, Croatia, Romania and Turkey.

<sup>13</sup> The 2005 Report referred to another CEER Report, the 2005 CEER South East Europe regulatory benchmarking report, for further details of the various regulatory competences; we note that the latter made passing reference to the gas sector while its focus was on electricity and thus does not provide details as to specific gas related competences of each regulatory authority. For this reason and in order to provide timely data, the instant ECRB Gas Survey elaborates on the gas competences of the GWG members without attribution to the prior CEER regulatory benchmarking report.

legislation is pending in Bosnia and Herzegovina, Albania. The Treaty process is responsible for this push forward

Significant developments among the EU countries of South East Europe also have taken place in the last few years. For instance, in 2005, new primary gas legislation was adopted in Greece, bringing the energy sector framework into compliance with the EU Gas Directive. While the Greek regulatory authority, RAE, does not have decisive, final authority, it does have a significant role to play in the decision-making process. RAE's consenting opinion is required before the Ministry of Development issues secondary legislation, tariffs, network expansion decisions and the like. In Croatia, too, the new Law on Gas Market brings the Croatian energy sector into compliance with the Gas Directive. In May 2007, Romania merged its gas regulator with the electricity regulatory authority, ANRE. In general the regulatory powers generally appear unchanged (remaining extensive), though it is too early to tell how the regulatory authority will operate under the new structure.

Several gaps on regulatory powers still exist in most SEE-EU countries. For example in Austria, DSOs, TSOs and transit are regulated, but storage infrastructure is only monitored by the regulatory body. In Italy, exemptions from third party access under Article 22 of Directive 2003/55/CE are granted by the Ministry. In Romania, all gas infrastructure is regulated except, importantly, for transit infrastructures exclusively reserved for their entire capacities prior to enactment of the Gas Directive.

Similar gaps exist in the CPs. In Serbia, all gas infrastructure is regulated except for transit to Bosnia and Herzegovina. The Croatian regulator monitors but does not issue market rules.

The covered parties range from having a comprehensive regulatory framework (e.g., Austria, Italy) to being in the early stages of development (e.g., Albania, Bosnia and Herzegovina, Montenegro and UNMIK), though even in the latter progress is clearly evident, with efforts to address Treaty requirements well underway. Among the non-EU countries, infrastructure lags behind as does the implementation of advances in the legal framework and a cohesive body of secondary legislation.

<b>Table 4 - Core competences of national regulatory authorities, 2006</b>						
<b>Country</b>	<b>Year of establishment</b>	<b>Licensing</b>	<b>Transmission tariffs</b>	<b>Transit tariffs</b>	<b>Market rules</b>	<b>Dispute resolution</b>
<b>Albania</b>	Bill pending	-	-	-	-	-
<b>Bosnia and Herzegovina</b>	Bill pending	-	-	-	-	-
<b>Croatia</b>	2002 (reformed 2005)	Yes	Methodologies	Methodologies	Ministry	Yes
<b>Former Yugoslav Republic. of Macedonia</b>	2003	Yes	Yes	No transit	Yes	Yes
<b>Montenegro</b>	2005	Yes	No transmission	No transit	Yes	N/A
<b>Serbia</b>	2004	Yes	S.t. govt. approval	No	Partly	Yes
<b>UNMIK</b>	2004	Yes	Yes	Yes	Yes	Yes
<b>Austria</b>	2001	Yes	Yes	Methodologies	Yes	Yes
<b>Bulgaria</b>	N/A	N/A	Yes	N/A	N/A	N/A
<b>Greece</b>	2000	S.t. govt. approval	Consenting opinion	No transit	Consenting opinion	Voluntary basis
<b>Hungary</b>	1994	Yes	S.t. govt. approval	No	Yes	Yes
<b>Italy</b>	1997	S.t. govt. approval	Yes	Yes	Yes	Yes (no take or pay)
<b>Romania</b>	2000 (reformed 2007)	Yes	Yes	Yes (not on dedicated lines)	Yes	Yes
<b>Slovenia</b>	2004	Yes	S.t. govt. approval	S.t. govt. approval	Ministry	N/A
<b>Turkey</b>	2001	Yes	Yes	Yes	Yes	Yes

### 5.1.1. Licensing

Overall, differences between CPs and SEE-EU countries are less evident on licensing than on other issues. Most of the regulatory authorities among the GWG members license gas sector participants as a general rule. The exceptions are Italy, Greece and in part Austria, though a regulatory role remains in each case. In Greece, for instance, licenses are issued by the Minister of Development following RAE's opinion. In Austria, according to the Natural Gas Act E-Control is responsible for granting licenses to DSOs, TSOs and balance group representatives.

The number of licenses issued varies widely and is not necessarily dependent upon the size of the market; for example, 997 licenses have been issued in Slovenia. One difference that is clearly relevant here is that in some GWG members, licensing is largely an administrative order, rather than a contractual role that gives the regulatory authority the power to require and monitor terms and conditions of the licenses. Slovenia's Energy Act and, more directly, a government ordinance set forth the terms under which a license is granted and applied; the regulatory authority's licensing decision is therefore a simple process of approval or disapproval, pursuant to rules set forth in the identified legislation. In the case of Serbia, the regulatory authority's licensing is an administrative decision, but is not limited to a simple affirmative or negative, and involves determination as to whether particular facilities should be granted (in addition to the activity itself). Romania has a systematic approach for granting licenses: the regulatory authority issues natural gas authorizations and licenses according to the provisions of Government Decision no. 784/2000, republished approving the Regulation on the granting of natural gas – related authorizations and licenses, and Decision No. 1342/2004 of the president of the National Natural Gas Regulatory Authority approving two separate gas regulations. Montenegro and UNMIK, with no or little practical gas use, have more flexible licensing authority that allows each, within certain legislated limitations, to set the terms and conditions of a license.

Certainly the development of a regional gas market would benefit from some uniformity and a framework for the mutual recognition of licenses. That some GWG members are bound by separate (and in some cases, multiple) national rules in order to issue (and revoke or suspend) a license makes a path toward mutual recognition more complex than if the decision-making process rested fully in the hands of the regulatory authorities. Regulatory cooperation in this regard is essential.

### 5.1.2. Tariff methodology and tariff setting

In many parties, tariffs are set by the regulatory body, but in some case the Ministry intervenes. In Croatia, energy undertakings calculate and propose the amount of tariff elements in tariff systems to the Ministry and the Ministry obtains the opinion of Agency. The Government of the Republic of Croatia, upon the proposal of the Ministry, defines the amount of tariff elements in

tariff systems. In Serbia, energy undertakings calculate and propose prices; the regulatory authority gives its opinion and also defines tariff systems and issues methodologies as secondary legislation, while the Government gives final approval for the prices. In Slovenia, tariff responsibilities are shared between the regulatory body and the Government. In Greece, the 2005 Gas Law provides that the tariff setting methodology for third party access to the transmission system and LNG terminal is defined in a tariff regulation (to be prepared by RAE following a recommendation by the TSO and a public consultation), with actual tariffs set per the tariff regulation by the TSO and approved by RAE; the Minister of Development has decisive approval, following RAE's consenting opinion.

Tariff approaches vary across GWG members (see Table 5). In Austria, the regulatory body approves the tariff methodology for transit, applying primarily a distance-related approach and determines tariff using a postage stamp approach for domestic transport (national transmission and distribution). Croatia, Serbia and Slovenia report postage stamp tariffs for TPA. Former Yugoslav Republic of Macedonia has no transit tariffs and has not defined TPA tariffs yet; it otherwise applies a price cap methodology. Greece has no transit flow yet and so no transit tariffs; the tariff system for TPA and LNG do not comply with the Gas Directive but pursuant to the 2005 Gas Law, this is projected to change. Hungary does not regulate transit tariffs; for transmission, it imposes a capacity charge and a gas charge, with an entry/exit system;. Italy also has entry-exit tariffs, which are the same for domestic transmission and for transit. Romania uses a revenue cap to define postage stamp tariffs for regulated transmission, but does not regulate dedicated transit pipelines. Turkey applies an entry-exit system for capacity allocation and price cap for other tariffs.

Progress is still needed to harmonize tariff approaches to facilitate cross-border exchange and a regional market. In some case the current regime does not yet fully comply with Directive 2003/55/EC, even in EU Member States, which would require in particular a fully harmonized treatment of transit and domestic transmission. An in-depth examination of prices for gas at different points in the system would be valuable.

### 5.1.3. Dispute resolution

Most regulatory bodies have the power to resolve disputes, sometimes on a voluntary basis for the market participants' (e.g. Greece, Austria), with insertion of the regulatory role into the dispute resolution system still underway in some parties through the development of network codes which have not yet been finalized. In Italy, AEEG has dispute resolution authority except with respect to take or pay disputes, which go to the Ministry. In Hungary, Romania, Croatia and Former Yugoslav Republic of Macedonia (and theoretically, in UNMIK), the regulatory authorities all have initial jurisdiction over disputes relating to network access, with court review as an appellate option. Romania has set up a useful framework for review of disputes: Per the Romanian Gas Law, a commission for settling refusal of access to transmission, distribution, underground storage systems and upstream pipelines was set up within the regulatory authority.

The first line of recourse to the regulatory authority (which must make a decision within 60 days) is compulsory for disputing parties and may be appealed to the Bucharest Court of Appeals within a discrete timeframe set forth in law. Also, the regulatory authority acts as mediator in pre-contractual disputes involving the regulated market and competitive market respectively.

**Table 5 - Tariff regulatory framework**

	Domestic transmission tariff structure		Transit transmission tariff	
	2003	2006	2003	2006
<b>Albania</b>	N/A	N/A	N/A	N/A
<b>Bosnia and Herzegovina</b>	No TPA	No TPA	N/A	N/A
<b>Croatia</b>	post-stamp	post-stamp	post-stamp	post-stamp
<b>Former Yugoslav Republic of Macedonia</b>	Not regulated	Not regulated	No transit	No transit
<b>Montenegro</b>	N/A	N/A	N/A	N/A
<b>Serbia</b>	Not regulated	post-stamp	Not regulated	Not regulated
<b>UNMIK</b>	N/A	N/A	N/A	N/A
<b>Austria</b>	post-stamp	post-stamp	distance-based	distance-based
<b>Bulgaria</b>	post-stamp	post-stamp	Not regulated	N/A
<b>Greece</b>	N/A	post-stamp	No transit	No transit
<b>Hungary</b>	post-stamp	post-stamp	Not regulated	Not regulated
<b>Italy</b>	entry-exit	entry-exit	entry-exit	entry-exit
<b>Romania</b>	post-stamp	post-stamp (TBC)	Not regulated	Not regulated on dedicated lines
<b>Slovenia</b>	post-stamp	post-stamp	Partly different	Partly different
<b>Turkey</b>	post-stamp	entry-exit (exp.)	Partly different	Partly different

Access disputes of a trans-national character would benefit from a harmonized dispute resolution structure at the regional level.<sup>14</sup>

## 5.2. The regulatory role vis-à-vis market national market structure

### 5.2.1. Unbundling

The overall picture and its recent evolution are presented in Table 6. SEE-EU countries are fully unbundled either by ownership or at least legally, within the meaning of the Gas Directive (i.e. with exceptions for small distribution). Only Hungary and (to a large extent) Romania have seen wholesale supply companies lose control of transmission, with other countries like Austria and Italy opting for partial ownership split that keeping substantial ties between the two businesses, and others like Slovenia and Greece maintaining full ownership integration. In fact Greece is just emerging from its derogation regime and has established its separate TSO only in April 2007, with functional unbundling secured under the Gas Law and a formal Code of Conduct and Compliance Code.

As for CPs, disregarding parties with no or little market (Albania, Montenegro, UNMIK), the current situation of transmission unbundling is quickly changing under the thrust of Directive 2003/55/EC and its implementation through the EnCT.

Serbia has not legally unbundled its TSO yet, while Croatia has and has actually moved its equity from the dominant supplier to direct state control. Legal and organizational unbundling has occurred in Former Yugoslav Republic of Macedonia.

In Turkey, accounting unbundling is required; distribution companies can only engage in the activity of distribution and supply to regulated customers, and entities engaged in wholesale cannot engage in transmission or distribution. Under existing law, the vertically integrated entity, BOTAS, is scheduled to continue as such until 2009, at which time it is to be restructured and parts privatized. Unbundling of the transmission network from supply, or at minimum, setting clear regulatory restrictions that limit any exercise of discrimination or bias, would assist market development.

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<sup>14</sup> Article 58(b) of the Treaty gives an important dispute resolution role to the ECRB; this role is recommendation based, voluntary, new, and as yet untapped: “the Regulatory Board shall issue Recommendations on cross-border disputes involving two or more Regulators, upon request of any of them.” The successful evolution of the ECRB role is underpinned by a strong dispute resolution framework at the national level; and national regulatory authorities will continue to play a leading dispute resolution role.

**Table 6 - Unbundling, Market opening, and Access rules**

Country	Unbundling of TSO		Eligibility Threshold (Mcm)		Capacity booking procedure	
	2003	2006	2003	2006	2003	2006
Albania	No TSO	No TSO	N/A	N/A	N/A	N/A
Bosnia and Herzegovina	Legal	Legal (exp.)	N/A	N/A	N/A	N/A
Croatia	Legal	Legal	100	100	1 <sup>st</sup> come 1 <sup>st</sup> served	1 <sup>st</sup> come 1 <sup>st</sup> served
Former Yugoslav Republic of Macedonia	Legal (exp.)	Legal	N/A	10	N/A	N/A
Montenegro	No TSO	No TSO	N/A	N/A	N/A	N/A
Serbia	Manag. (exp.)	Management	50	50	N/A	N/A
UNMIK	Legal	Legal	N/A	N/A	N/A	N/A
Austria	Legal	Legal	0	0	see sec. 5.3.1	see sec. 5.3.1
Bulgaria	Management	Legal	2		1 <sup>st</sup> come 1 <sup>st</sup> served	N/A
Greece	No	Legal (exp.)	N/A	N/A	N/A	N/A
Hungary	Accounting	Legal	non household	non household	merit/auction	merit/auction
Italy	Legal	Legal	0	-	merit/pro rata	merit/pro rata
Romania	Legal	Legal (exp.)	3	0.01	1 <sup>st</sup> come 1 <sup>st</sup> served	merit/1c1s
Slovenia	Legal	Legal	non household	non household	1 <sup>st</sup> come 1 <sup>st</sup> served	1 <sup>st</sup> come 1 <sup>st</sup> served
Turkey	Legal	Legal	1	1	pro rata	pro rata

## 5.2.2. Market opening

The degree of opening varies with the maturity of the market and is related to Directive requirements, which entailed full market opening in the EU by mid 2007 (with derogation for Greece<sup>15</sup>). Thus, Austria, Hungary, Italy, Romania and Slovenia are fully open at the time of the survey. Croatia, Former Yugoslav Republic of Macedonia, Greece and Serbia are partially open; overall the share of the eligible customers market has rapidly increased between 2003 and 2006 (see Table 6 and Graph 4)., Annex 1 of the Treaty has a modified schedule for the signatories of the Treaty: full market opening required by January 1, 2015 and partial opening (to all non-household customers) by January 1, 2008.

It is worth recalling that customers' eligibility represents only a requirement, but by no means a sufficient condition for the establishment of retail and wholesale competition. In principle Austria, Hungary, Italy and Romania have both but in fact most of the market is still controlled by large dominant incumbents or their successor companies, with the exception of Romania.

<sup>15</sup> However, under the existing Greek Gas Law of 2005, all electricity gas-fired producers, currently representing almost 80% of the gas consumption, have become eligible since July 2005, while industrial customers will become eligible from November 2008 and households (not belonging to the territory of the existing LDC's) from November 2009.

In fact incumbents' market share in the last three years has hardly declined despite gas release programs and market share caps in Italy. For example, Econgaz controls about 75% of the wholesale market in Austria; Geoplin has a 99.9% market share on the wholesale market in Slovenia. Italy has imposed a 50% market cap for retail, and 75% at wholesale in 2003, gradually declining to 61% in 2010 (see Graph 4).

Croatia, Bosnia and Herzegovina, Former Yugoslav Republic of Macedonia and Greece have neither wholesale nor retail competition.

For example, in Croatia, a vertically integrated gas undertaking dominates the gas production, storage and wholesale supply. Within a year of the adoption of the 2007 Act on the Gas Market, storage activity will become a legally independent entity (so by 2008).

Regarding distribution and retail supply activity, companies in Croatia are obliged to carry out the unbundling of accounts between distribution and retail supply activity. Furthermore, one distribution company will become a legally independent entity (by 2008) in accordance to the 2007 Act on the Gas Market and paragraph 13 of Directive 2003/55/EC, because its distribution system has over 100,000 connected customers. I

In Serbia, there is also only one wholesale supplier for captive customers and another supplier with a very limited market share.

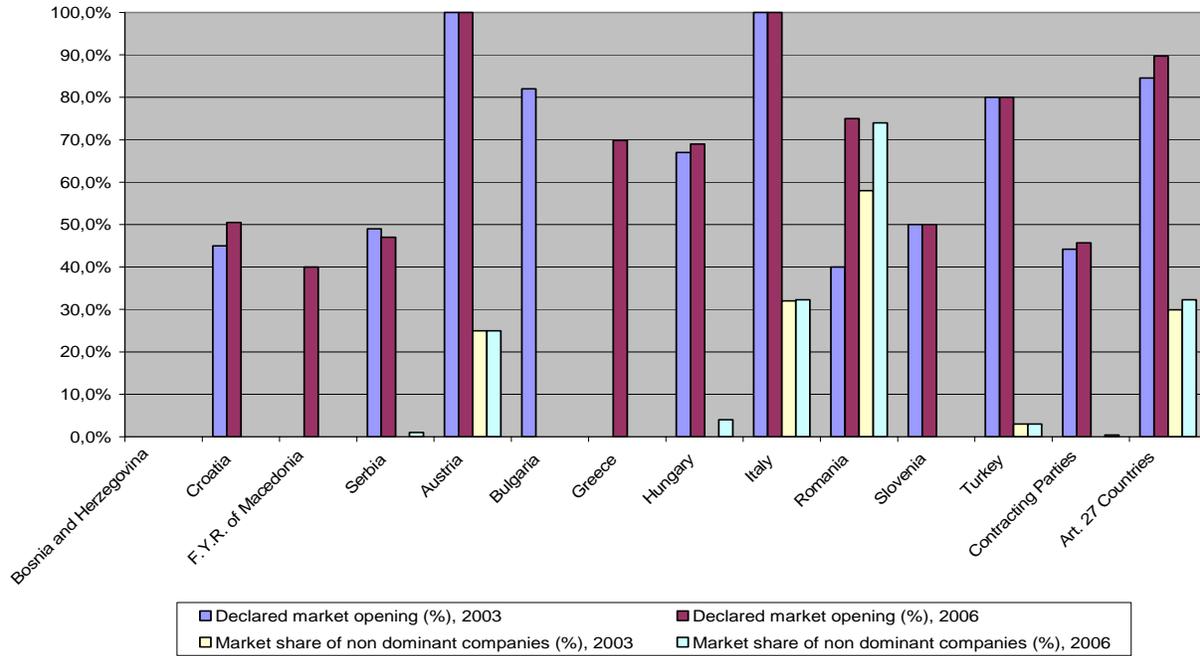
Turkey reports competition at the wholesale level. BOTAS has 97% of the market but the first impacts of the 2006 gas release programs should appear soon.

A central concern is not simply whether the legislative and regulatory mandate to open the market exists, but whether market opening results in switching suppliers. As is the case in the EU itself, customer switching can be elusive in light of the various advantages that incumbents bring at the point of market opening.<sup>16</sup>

Some parties have taken steps to improve rates of customer switching and certainly lessons learned should be applied among the non-EU GWG members and Turkey as their markets reach full opening. At this stage, however, the key is to have the regulatory framework in place to facilitate competition, e.g., unbundled tariffs, transparency, a network code and the like. Looking at these measures of progress, concrete steps have been taken or are being taken to facilitate entry of new suppliers through existing and new development of new infrastructure. Going forward, regulatory tasks should include the tackling of the standardization of contracts, rules on non-discriminatory and transparent capacity allocation mechanisms, the free trade of capacity rights and harmonization and improvement of data exchange.

<sup>16</sup> See ERGEG, Obstacles to switching in the gas retail market: Guidelines of Good Practice and Status Review for an instructive discussion, Ref. E06-CSW-05-03, 18 April 2007.

**Graph 4 - Wholesale market opening and dominance**



While it is not the purpose of this Gas Survey, nor the subject of its questionnaire, to address regional market design, it is useful to draw attention to some efforts by the Energy Community Secretariat to identify a gas regional market design for the Energy Community (elaborated in a document of the same name, April 2006). The Energy Community Secretariat comments on p. 9 that an SEE gas market should be designed to satisfy, inter alia, “the following requirements: attract new investment and assure security of supply while optimizing economic competitiveness of gas supply; and ensure compatibility and consistency between technical operation of the gas system and function of new financial/commercial mechanisms at the regional level.” With respect to the latter, clear guidelines are required.

### 5.3. Availability of capacity

As noted above, many parties in South East Europe report sufficient capacity to meet existing needs. The concern turns on how to address expanded needs that may stem from increased demand and more advanced infrastructure and how to release existing capacity that currently goes unused because tied up by inflexible contracts. A harmonized regulatory approach to capacity allocation is essential for market development.

### 5.3.1. Capacity allocation mechanisms

Capacity allocation is addressed in various ways throughout the region (Table 6):

- Austria allocates capacity for domestic transport based on the “Rucksack principle,” with capacity following the customer and allocations made by a Control Area Manager. When there is insufficient capacity, a supplier or customer can apply for capacity expansion, and the Control Area Manager includes the requested expansion in its long-term planning, which is approved by the regulatory body. The principles of capacity allocation for transit depend on the availability of free capacity: If there is no congestion, a first come, first serve approach is used. In case of congestion the capacity is allocated by means of auctions or on a pro rata basis;
- Croatia and Romania use a first come, first served approach (with Romania infusing this principle with a priority order to ensure technical balance and public service obligations);
- Neither Former Yugoslav Republic of Macedonia nor Slovenia has had congestion or capacity issues (the Slovenian regulator as of 2007 now approves rules for capacity and congestion management, with approval scheduled by the end of the year);
- Greece is still developing its network code to address these issues;
- Hungary prioritizes, pursuant to a ministerial decree, household and certain other customers, with auctions used for the rest;
- Italy has a regulated priority order, respecting pre-August 1998 long-term import contracts as to transmission and LNG, but only for their average (rather than peak) daily contractual quantity, in order to open some room for new suppliers. With respect to storage, Italy prioritizes strategic reserves, domestic production, then suppliers in accordance to their share of the domestic market as regulated by the regulatory body and reduced pro rate in cases of congestion.

Some parties have network codes in place (e.g. Austria, Croatia, Italy, Turkey), while others are in preparation (e.g., Former Yugoslav Republic of Macedonia, Greece, Romania, Serbia); Slovenia completed its TSO network code in 2004 and most, but not all, DSO codes are in place. Hungary requires the TSO to submit a new modified code every year and after every change of related legislation. The varying stages of development may be impeding competition and trade.

In principle all GWG participants with a market apply the regulated third party approach for transmission, while some (e.g., Slovenia) use negotiated access for transit (and Romania’s dedicated transit lines are fully booked). The few participants with LNG terminals regulate access, except Turkey, which uses a temporary contract-based approach until the regulatory body approves the regulatory alternative. Access to storage is similarly limited; where it is available, it is regulated, except for Turkey, where access is based on an existing contract, and Austria, where access is negotiated.

This situation should quickly evolve now that the implementation of Regulation (EC) 1775/2005 has been decided by the Ministerial Council of the Energy Community in December 2007. The deadline for implementation is 31/12/2008).

Although a harmonized approach to capacity allocation and third party access is optimal in the longer term, in the immediate term, enhancing basic transparency regimes would help to address the various hurdles presented by current allocation of capacity. These include, for instance, requirements stemming from Regulation 1775, such as: publication by the TSO of total contracted firm and interruptible capacity for all relevant points; publication by the TSO of total available firm capacity, as well as a forecast for at least 18 months ahead on available and contracted capacity, with updates as additional information comes in. Moreover, application of these rules should be monitored by the national regulatory authority, consistent with a harmonized approach of information sharing between regulators as necessary.

### 5.3.2. Contractual obligations

The difficulty arises when capacity is tied up pursuant to inflexible long-term contracts, so that while third party access regimes are in place, in practice, capacity is unavailable and thus access issues are moot. Long-term, take or pay contracts remain the rule among the GWG members, as elsewhere.

The issue of long-term contracts is a complicated one. On the one hand, long-term contracts can tie up existing capacity and decrease or eliminate true market opening and competition. The 2006 Green Paper on a European Strategy for Sustainable, Competitive and Secure Energy (SEC (2006) 317) (2006 Green Paper) stresses (p. 6) the need in Member States to free up capacity reserved by former incumbents under existing long-term capacity. On the other hand, long-term contracts at fixed prices can provide the certainty needed to develop the infrastructure and the market.<sup>17</sup>

Fundamentally, as CEER notes in response to the Preliminary Report of the DG Comp Sector Inquiry in 2006 (which identified major problems standing in the way of further liberalization or preventing effective competition), contracts involving companies with significant market power for long durations may foreclose new entrants in downstream and upstream markets.<sup>18</sup> Yet in South East Europe in particular, where investment is sorely needed and basic infrastructure lacking among several GWG members, many long-term contracts govern and will continue to govern natural gas supply. Such contracts currently cover 100% of the market in Serbia and in Bosnia and Herzegovina, and 95% in Croatia.

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<sup>17</sup> Directive 2004/67/EC notes (Preamble, ¶ 11) that long-term contracts: have played a very important role in securing gas supplies for Europe and will continue to do so. The current level of long-term contracts is adequate on the Community level, and it is believed that such contracts will continue to make a significant contribution to overall gas supplies as companies continue to include such contracts in their overall supply portfolio.

<sup>18</sup> See discussion in *CEER Response*, pp. 10-11.

Regulatory certainty is essential, and thus any action to renegotiate or remove long-term legacy contracts, or to redefine the length or conditions pursuant to which long-term contracts are entered, must be reasoned, cautious, and also avoid stranded costs. Careful consideration is required so as not to jeopardize legitimate investment or increase regulatory risk. Guidelines that would assist national regulatory authorities navigate these issues would be welcomed.

Most importantly, going forward, the terms and conditions of the contracts can contribute to a sound regulatory environment that invites competition. In principle, the addition of required terms in contracts should be approved by regulatory authorities and optimally agreed upon by regulators in the region so as to harmonize application across the South East Europe region. However not all regulators may be currently endowed with the necessary powers.

## **6. Role of the regulatory authority in identifying and implementing infrastructure development**

As a threshold matter, a key regulatory role in infrastructure development is creating a climate that induces investment, through predictability, transparency and adherence to understandable, best regulatory practices.<sup>19</sup> Looking at direct involvement with infrastructure development issues, participants report a mix of input in this area.

In Austria, the Control Area Manager annually reports on long-term planning for infrastructure for domestic transport, as approved by the regulator.

Under Croatian Act on the Gas Market, all system operators should elaborate a five-year system development plan to the Minister for approval. Also system operators should deliver to the regulatory body annual report on reliability, security and efficiency of the system, the execution of the system development plan, the quality of meeting the customers' needs and the maintenance of the system equipment

Greece also reports a mix of involvement in investment planning – the TSO must draft a five-year development plan, for which the regulator provides a consenting opinion to the Ministry. The Greek regulatory body similarly opines to the Ministry on grants for authorization of the construction of independent projects. In Hungary, the regulatory body prepares a supply-demand balance sheet for the country on a yearly basis, then prepares a directive on system development consistent with the Government's energy strategy. If the system operators contemplate less development than the regulatory body has identified as needed in its directive,

<sup>19</sup> Insufficient information regarding concession contracts exists to determine the degree to which this issue limits competition and investment. At minimum, regulators should have access to such agreements so as to assess any barriers they may create.

the regulatory body can issue tenders for the difference. The Hungarian regulator has no input, however, on transit issues, and does not approve investment plans (although approval is indirect through inclusion in the cost base of the tariffs). In Romania, identification of investment needs is largely the responsibility of the Ministry, with the regulatory body playing a consultative role. The regulatory body also approves investment programs to the extent they affect regulated prices. In Slovenia, the Government approves new investment plans after consultation with the regulatory body, which also has indirect regulatory influence through review of the network charge. In Turkey, the regulatory body approves BOTAS's annual investment plan. In UNMIK, the regulatory body shall issue the construction permits for new energy facilities. The regulatory body has no input into the need for new investment in Former Yugoslav Republic of Macedonia. In Serbia the only role of the regulatory body is indirect: through provision of an opinion on the use of the system charge that includes planned new investments. The Ministry issues the energy permit needed to build new infrastructure, and the Government adopts yearly business plans for public enterprises, launching tenders when needed.

TSOs play a significant role in identifying investment needs, which, in turn, governmental and regulatory bodies review or otherwise incorporate in the planning process. The more mature the market and comprehensive and stable the legal and regulatory environment, the more often investment planning is left to the system operators as opposed to Governmental authorities. However, the current level of market development not only in the Energy Community but also in the EU, requires the intervention of national authorities (usually the regulatory authorities) in investment planning. Best practice in the EU<sup>20</sup>, indicates that regulatory authorities should play a crucial role in providing the “guidelines” for investment planning at the national and/or regional level. It should be kept in mind that according to the discussion on the proposals of the European Commission for the 3<sup>rd</sup> package, it is widely accepted that the Agency for the Cooperation of Energy Regulators should have an important role in investment planning throughout the EU.

Rules that require a regulatory input to investment decision-making would enhance the possibilities that projects undertaken come to fruition, costs are not unnecessarily wasted and harmonization of systems' operation are realized across borders, and competition is not foreclosed but increased. Efficient market development is advanced by allowing national regulatory authorities to provide direct information regarding regulatory constraints that require attention, or indeed input to potential projects so as to mitigate regulatory risk. In addition, the needs of the developing gas market have to be taken into account when system planning and expansion are being considered.

Generally speaking, the less developed the market, the more Governmental oversight and central planning is found. Most parties have mechanisms in place for default processes

<sup>20</sup> e.g. 3<sup>rd</sup> package

(tenders) when insufficient development is proposed through ordinary channels. Attention by national authorities to the issuance of default transparency requirements would assist the development of competition and market confidence.

Typically, as reflected in the tariff section above, remuneration occurs within the tariff context, with full cost recovery of approved infrastructure projects.

In terms of other incentives, some, but not all, parties have third party access tariff exemption procedures in place consistent with Directive 2003/55/EC, with differing levels of regulatory responsibility for the determination of the exemption. Turkey, Former Yugoslav Republic of Macedonia and Serbia contemplate no exemptions. Most reporting parties describe national legislation that allows for exemptions as determined by the Ministry or Government, with input from the regulatory body (Croatia, Greece, Hungary, Italy, Slovenia), while others leave the determination entirely to the regulatory body (Austria, Romania).

The Greek and Italian regulators report formal cooperation regarding the implementation of Art.22 exemption from TPA rules for the Poseidon project; the Italian and Austrian regulatory bodies cooperate informally on monitoring and providing criteria on access procedures for their interconnector (TAG); good informal cooperation is reported among the five national regulatory bodies within the countries through which the Nabucco project is scheduled to pass. Such cooperation is carried out only through discussions and exchange of information, however, since each country has different regulations and different approaches. Slovenia, for example, notes that it has informal regular meetings with regulatory bodies from other countries to discuss new infrastructure plans, but, while helpful, these have no binding effect.

Cooperation among regulatory bodies to develop infrastructure has begun, though informally, due, among other reasons, to the different roles the regulatory bodies play in their respective parties and the lack of a regional regulatory structure before the establishment of the ECRB. Formalization of such cooperation through the establishment of the ECRB will benefit gas market development in the region. Guidelines for coordination among TSOs on system planning and investment requirements and among regulators on contractual, tariff, storage and transmission access issues could assist regulators and TSOs navigate the various interests at play as regional and national gas markets develop.

## 7. Conclusions

National energy policies and regional initiatives indicate a commitment to the development of a regional gas market in South East Europe and the development of the gas sector among the parties covered by this study. This is not surprising in the EU members given their obligations under Directive 2003/55/EC and Regulation (EC) 1775/2005. On the other hand, even in the CPs many steps have taken place in the last year or two in terms of the legal and regulatory framework. Primary gas legislation was passed or is about to be passed, consistent with EU requirements and the Energy Community Treaty. Independent regulators for the gas sector have been set up in all GWG parties except Bosnia and Herzegovina and Albania. In Albania draft legislation is pending to give the existing electricity regulators competence in the gas sector as well. In the most advanced CP markets more has been done: the Croatian TSO has been legally unbundled and the Serbian one is about to be established.

While the stages of development of the regulatory authorities and the gas sectors in South East Europe may vary greatly, a collective interest in developing an efficient, secure and competitive market exists. Again this is hardly surprising: as the experience of EU member states has consistently shown, gasification is usually a process with many winners and very few losers.

Indeed, the gasification process benefits:

- the gas supply, transmission and distribution industry, which can experience fast development;
- end customers, notably households and small enterprises, who can enjoy an easy to use, clean and generally cheaper fuel, facilitating a sharp increase of energy efficiency with respect to thermal usage of electricity;
- the power industry, as it can rely on an alternative source with far shorter lead times than hydro or solid fuels based generation, helping to remove current shortages, and might face less pressure to keep end customer prices low if an alternative and cheap energy source was available;
- the environment, as atmospheric emissions are reduced and pollution is cut at local, regional and global level, providing also the scope for participation in carbon emission cutting projects of international relevance;
- outside of the CPs where gasification would be carried out, the European Union would welcome the development of a market which could facilitate the economics of the large transit projects that are supposed to run through or near the territories of the Energy Community.

Losers are mostly competing fuels industry, whose more advanced representatives are quite happy to restructure and enter the natural gas business.

On the other hand, the development of gasification may be hampered by a vicious circle. While gas is normally less costly than competing fuels once its consumption is widespread and its remarkable economies of scale are achieved, in the early stages of development its transmission and distribution costs are still high, so that competitiveness may not be achieved and gasification does not take off. This problem may be more serious if electricity is heavily subsidized as is the case in several CPs. In such cases gasification hardly takes off, the gas industry remains weak and fails to promote its case, notably towards a fair and development oriented regulation; as a consequence of which investors are not attracted to the industry and do not help bridging the gap towards a competitive supply.

In currently mature markets such difficulties were overcome by government regulatory and fiscal policies as well as by suitable industry management strategies. In the CPs, an important role may also be played by donors and international financial institutions. Awareness of gas development benefits as well as of start-up difficulties leads to the identification of priority areas for future work.

Priority targets for development are:

- An enhanced regulatory environment that facilitates and maximizes the exploitation of unused but contracted existing capacity, including transparency requirements such as: publication by the TSO of contracted firm and interruptible capacity; rules to address congestion and regulatory monitoring of the application of such rules as well as congestion levels; standardized contractual terms that enable the freeing up of unused capacity (such as use it or lose it provisions);
- The development of additional infrastructure, consistent with regulatory and system operator input, including regional streamlined rules or guidelines that define the conditions under which a supplier can build infrastructure and set forth the framework by which TSOs cooperate on investment and system planning, and by which regulators coordinate on contractual, tariff, storage and transmission access issues, reporting and transparency requirements;
- While the scope of the ECRB work is naturally focused more on infrastructure of regional interest like transmission pipelines, storage sites and LNG terminals, it should not be forgotten that most of the investments must occur in distribution. Therefore an adequate diffusion and promotion of modern regulatory culture in distribution and supply to final customers is also ECRB priority.

Gas market development in South East Europe requires a cautious, slow and steady approach, keeping in mind at all times the sovereignty of national governments (and their legal and regulatory structures) and the need to protect security of supply on national levels. Reliable demand assessment is required, perhaps through utilization of respected resources. Moreover, a regional strategy to tackle import dependence should be developed pursuant to input from

governments (and through them, the regulators and system operators) in South East Europe, as well as a regional target as to the optimal gas supply level in the region. Many of these are political issues that require attention at the highest levels, and fall beyond regulatory competence. Tangible steps can be taken at the ECRB level, however, to support the larger policy, strategy and geopolitical considerations. Recognizing the careful, considered manner required and the importance of the regulatory voice in moving the regional efforts forward, this Survey seeks to identify some regulatory issues that would benefit from follow up and expansion.

In light of the current available data, several areas for further exploration and analysis are identified, including:

- The national rules that govern license issues and the possibility of development a framework for the mutual recognition of licenses.
- A closer examination of the conditions and impacts of distribution expansion, restructuring and privatization in the region and in particular with respect to regulation of pricing and supply.
- Harmonization of transmission and storage tariff approaches to facilitate trade, along with an in-depth examination of prices for gas at different points in the system.
- Recommendations as to a harmonized dispute resolution structure.

The electricity sector in South East Europe has received extensive attention from national governments, the European Commission, international financial institutions and donor agencies; the gas sector has received far less attention. Given the increasing need to diversify supply and clean energy considerations, the time is ripe for increased attention to gas issues. The first Gas Forum, institutionalized pursuant to the Treaty and held in November 2007, marks this recognition and an opportunity to stimulate gas market development in the region. The ECRB is committed to contributing to this process.