



Regulatory Framework for the Development of the Energy Community Gas Ring

Discussion Paper on the Regulatory Instruments and Steps
Necessary for the Development of the Natural Gas Market
and Cross-Border Investments in the Energy Community

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EXECUTIVE SUMMARY – RECOMMENDATIONS

The present report discusses the **possible regulatory instruments for facilitating the realization of a broader gas infrastructure concept in the Energy Community**. This concept is widely known as so-called “Gas Ring” and aims at connecting all Energy Community Contracting Parties via a ring, considering also the needs of the Region with regard to the electricity sector as well as the (existing or planned) regional pipelines, LNG terminals and storage facilities that could be connected to the Gas Ring. This would not only significantly contribute to further gasification of South East Europe but also provide benefits for upstream and downstream countries. The Energy Community Gas Ring Concept is identified as a cornerstone for developing the South East European natural gas market.

The **report focuses its considerations on the tools regulatory systems can provide for supporting investments** and recommends on related best practice solutions. The suggestions aim at providing a common regulatory framework that best supports and attracts the investment realization. Application of a harmonised regulatory framework throughout the Energy Community reduces the risks for investment in natural gas infrastructure.

The present discussion document thereby starts its considerations from an assessment of the demand and supply situation in the Region and compares the predicted demand scenarios with the existing infrastructure and known infrastructure projects in the Region. This leads to a conclusion on the additional capacity need required for meeting predicted supply demand, adding up to an assessment of **the economic feasibility of a regional gas link, such as the Gas Ring**.

The report further discussed the role of a **stable and predictable environment** in the sense of economics and legislation as basic precondition for investments in general. It is commonly recognized that the compliance with Directive 2003/55/EC and Regulation (EC) 1775/2003 provides the necessary prerequisites for the investments in gas sector. Against this background the present report analyzes the **key role of regulators** in promoting new infrastructure investments and discusses the possible regulatory tools for promoting new investments and provides related best practice recommendations.

The report finally develops thinking on the possible approaches on **how to finance the Gas Ring concept and the role International Financing Institutions can take** in this respect.

CHAPTER 1 – INTRODUCTION

1 Background

On 25 October 2005 the Treaty Establishing the Energy Community (hereinafter: “the Treaty”) has been signed by the European Community and the authorities of Albania, Bulgaria, Bosnia and Herzegovina, Croatia, the Former Yugoslav Republic of Macedonia, Romania, Serbia, Montenegro and the United Nations Interim Mission in Kosovo (UNMIK)¹.

By signing the Treaty the signatory parties agreed to implement the *acquis communautaire* on electricity, gas, environment, competition and renewables² with a view to realizing the objectives of the Treaty and to create a regional gas and electricity market within South East Europe (SEE³) capable of attracting investment. Given the small size of the national markets it is widely accepted that following a **harmonised regional approach for development of the energy market of the Energy Community remains the key requirement for the promotion of investments in the Region.**

Attracting investments is of core relevance for the Energy Community gas market. Realization of the necessary gas infrastructure calls for a stable regulatory and market framework, a common regulatory approach at a regional level, the creation of a single energy market⁴ without internal frontiers⁵, developing competition on a broader geographic scale and exploiting economies of scale.

The developments of the Energy Community must not only be seen in the light of the benefits that can be gained for the markets directly involved but also has to consider its impact on the broader aspects of EU external policy on energy. Having in mind the strategic geographic position of SEE for the new gas transportation projects planned to supply the EU with gas from the Caspian Region, Russia and Middle East, benefits gained from a harmonised regional approach related to regulatory framework and infrastructure investments will not contribute to more efficient and secure supply for the Energy Community but also of the EU gas markets.

The ability of the Energy Community markets to benefitting from their strategic geographic location will strongly depend on the developments and progress of a concept that prudently recognizes the opportunities that can be gained from combining the various discussed bulk transports⁶, LNG and storage projects with the national investment plans of the Contracting Parties. Support can be gained from the recent EU Recovery Plan of the EU, which will finance cross-border gas infrastructure in the wider region and create opportunities for the development of the cross-border gas trade.

¹ Following ratification, the Treaty entered into force on 1 July 2006. For details on the Treaty and the Energy Community see www.energy-community.org.

²For details of the relevant *acquis* see: http://www.energy-community.org/portal/page/portal/ENC_HOME/ENERGY_COMMUNITY/Legal/Treaty

³ Title III of the Treaty. Covering territories of Contracting Parties and neighboring EU countries.

³ Title III of the Treaty.

³ Title IV of the Treaty.

⁴ Title IV of the Treaty.

⁵ A Pan- European energy market, covering the territories of EU and Contracting Parties.

⁶ Such as e.g. Nabucco, South Stream, Interconnector Greece Italy, White Stream, Tauern Gas Leitung, Trans Adriatic Pipeline, Ionian Adriatic Pipeline et al.

The need for a coordinated and streamlined approach in developing gas markets in the Energy Community has been broadly recognized and is reflected in the so-called “Energy Community Gas Ring”⁷ concept. The “Gas Ring” concept aims at connecting all Contracting Parties via a ring considering also the needs of the region with regard to the electricity sector as well as the (existing or planned) regional pipelines, LNG terminals and storage facilities that could be connected to the Gas Ring.

Regulators of the Energy Community strongly supporting the Gas Ring concept, the ECRB has developed thinking on a possible common regulatory approach for the development of the Gas Ring in a related discussion paper, issued in 2008⁸. The recommendations have received a political backing by the PHLG that encouraged regulators to continue considerations on possible regulatory regimes supporting the realization the Gas Ring⁹.

2 Scope

The objective of this document is to discuss the **possible regulatory instruments for facilitating the realization of a broader gas infrastructure concept in the Energy Community**. This concept is widely known as so-called “Gas Ring”¹⁰ and aims at connecting all Contracting Parties via a ring, considering also the needs of the Region with regard to the electricity sector as well as the (existing or planned) regional pipelines, LNG terminals and storage facilities that could be connected to the Gas Ring. This would not only significantly contribute to further gasification of SEE, but also provide benefits for upstream and downstream countries.

The report focuses its considerations on the tools regulatory systems can provide for supporting investments and recommends on related best practice solutions. The suggestions aim at providing a common regulatory framework that best supports and attracts the investment realization. Application of a harmonised regulatory framework throughout the Energy Community reduces the risks for investment in natural gas infrastructure.

3 Methodology

The present paper brings together consultants recommendations, analyses earlier performed by the Energy Community Regulatory Board (ECRB) and experiences of mature markets (i.e. EU) on identifying areas where regional cooperation would help facilitating investment in infrastructure and overcoming barriers to cross- border trade. More precisely, **the report bases its considerations on a number of documents and studies:**

- „ECRB SEE Gas Survey“¹¹;

⁷ The Gas Ring concept was first presented in SEE Regional Gasification Study - SEE Regional Gasification Study, Economic Consulting Associates/Penspen/ Energy Institute Hrvoje Požar, financed by World Bank and KfW; March 2008, <http://www.energy-community.org/pls/portal/docs/36273.PDF>.

⁸ ECRB, A Common Regulatory Approach for the Development of the Energy Community Gas Ring (2008); [http://www.ecrb.eu/portal/page/portal/ECRB_HOME/ECRB_DOCUMENTS/ECRB%20REPORTS%20%20DOCUMENTS%20-%20STUDIES/Common%20Approach%20Gas%20Ring_approved%20th%20ECRB%20\(R08-GA-08-06.pdf](http://www.ecrb.eu/portal/page/portal/ECRB_HOME/ECRB_DOCUMENTS/ECRB%20REPORTS%20%20DOCUMENTS%20-%20STUDIES/Common%20Approach%20Gas%20Ring_approved%20th%20ECRB%20(R08-GA-08-06.pdf)

⁹ Conclusions of the 12th PHLG meeting, 17 March 2009 (Vienna), http://www.energy-community.org/portal/page/portal/ENC_HOME/INST_AND_MEETINGS/PHLG/2009/17_MAR.

¹⁰ The Gas Ring concept was first presented in SEE Regional Gasification Study (SEE Regional Gasification Study (2008), Economic Consulting Associates/Penspen/ Energy Institute Hrvoje Požar, financed by World Bank and KfW; March 2008, <http://www.energy-community.org/pls/portal/docs/36273.PDF>).

¹¹ A document developed by the ECRB, offering a state of play analysis serving as a foundation for further gas sector developments in the South East Europe region; http://www.ecrb.eu/portal/page/portal/ECRB_HOME/ECRB_DOCUMENTS/ECRB%20REPORTS%20%20DOCUMENTS%20-%20STUDIES/R08-GA-05-10_Gas%20survey%202007_final.pdf

- “SEE Regional Gasification Study”¹²;
- ECRB, “A Common Regulatory Approach for the Development of the Energy Community Gas Ring”¹³;
- “Study on the Improvement of Interconnection, Interoperability, Transparency and Harmonization of Operational Rules for Natural Gas Transportation in the Energy Community”¹⁴.

The report further builds on the Energy Community Secretariat (ECS) monitoring of the Contracting Parties’ compliance with the gas *acquis*, namely Directive 2003/55/EC (“Gas Directive”)¹⁵, Directive 2004/67/EC (“Gas Security of Supply Directive”)¹⁶ and Regulation (EC) 1775/2005 (“Gas Regulation”)¹⁷.

¹² See fn 10.

¹³ A follow-up of the SEE Regional Gasification study developed by the ECRB with the purpose to define common regulatory principles to be applied, ensure the support of Contracting Parties, the European Commission, international financial institutions, the gas transmission and supply industry and other stakeholders, foster a swift start of the Gas Ring project, elaborate on the potential next steps for the achievement of this project and propose to the PHLG to initiate a discussion at a regional level, on the implementation strategy ; [http://www.ecrb.eu/portal/page/portal/ECRB_HOME/ECRB_DOCUMENTS/ECRB%20REPORTS%20%20DOCUMENTS%20-%20STUDIES/Common%20Approach%20Gas%20Ring_approved%20th%20ECRB%20\(R08-GA-08-06.pdf](http://www.ecrb.eu/portal/page/portal/ECRB_HOME/ECRB_DOCUMENTS/ECRB%20REPORTS%20%20DOCUMENTS%20-%20STUDIES/Common%20Approach%20Gas%20Ring_approved%20th%20ECRB%20(R08-GA-08-06.pdf)

¹⁴ A study developed by Energy Market Partners LLP (financed by the Energy Community Secretariat) dealing with operational issues of the inter- TSO cross border cooperation- interoperability, capacity allocation mechanisms, balancing etc; <http://www.energy-community.org/pls/portal/docs/284180.PDF>.

¹⁵ Directive 2003/55/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in natural gas and repealing Directive 98/30/EC; OJ L 176 of 15.7.2003, p 57 et seqq.

¹⁶ Council Directive 2004/67/EC of 26 April 2004 concerning measures to safeguard security of natural gas supply; OJ L 127 of 29.4.2004, p 92 et seqq.

¹⁷ Regulation (EC) No 1775/2005 of the European Parliament and of the Council of 28 September 2005 on conditions for access to the natural gas transmission networks; OJ L 289 of 3.11.2005, p 1 et seqq.

CHAPTER 2 – ENERGY COMMUNITY GAS DIMENSION

1 Role of Gas in the Energy Community

It is widely agreed that natural gas market development in the Energy Community could significantly contribute to improve the economic, social and environmental welfare of the Contracting Parties: wider penetration of natural gas in the Energy Community would decrease the share of oil fired electricity production and liquid and solid fuel consumption for the household, industry and commercial sector. Moreover, natural gas would improve overall energy efficiency and cut emissions of sulphur and carbon dioxides, nitrogen oxides and particulates, entailing local, regional and global environmental benefits. Natural gas may also help increasing power generation in the Region - currently in short supply - in the shortest feasible time and at reasonable cost¹⁸.

2 Existing Gas Market Structure in the Energy Community

Gas market development stages in SEE vary significantly. Contracting Parties are on average much less developed – their markets range from non-existent (Montenegro, UNMIK) via only starting (Albania, FYR of Macedonia, Bosnia and Herzegovina) to intermediate (Croatia, Serbia). On the other hand EU countries in SEE are mostly well on their 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 markets 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 and Greece), while 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 Contracting Parties with respect to the rest of SEE and the EU.

Even those markets that have domestic production are facing diminishing domestic production, while demand remains steady or increases. All jurisdictions and particularly those with developing domestic markets need 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 with a very small number of traditional suppliers. Short term cross border trade between the parties does not exist.

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). Market liberalisation, however, essentially requires infrastructure 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 also to create a well functioning market environment.

¹⁸ If also taking into account environmental costs.

Table 1: Existing gas market structure in SEE

Market	Importer (I) Producer (P)	Transmission companies	Distribution companies
Greece	DEPA SA (I)	DESFA SA	EPA of Attica, EPA of Thessaly and EPA of Thessaloniki
Romania	Romgaz (I)	Transgaz	- Distrigaz Nord - Distrigaz Sud - Other small DSOs
Austria	-OMV AG (I, P) -RAG AG (P)	6 companies	More than 30 companies
Hungary	E.ON Foldgaz Trade (I)?	MOL Foldgaszalliti Zrt.	10 regional companies
Italy	ENI, ENEL, Edison (p, I) together 86% of the market	Snam Rete Gas S.p.A., Gasdotti Italia S.p.A. and 5 small regional operators	Around 300 distribution companies
Bulgaria	Bulgargaz EAD (I)	Bulgartransgaz EAD	Many ¹⁹
Slovenia	Geoplin d.o.o. (I, 99,7%) and two small companies	Geoplin plinovodi d.o.o.	17 distribution companies
Serbia	- Srbijagas (I) - NIS (P)	- Srbijagas (state- owned) - Yugorosgaz ²⁰	- Srbijagas (72% of the market) - > 30 DSOs (different ownership structures)
Croatia	Prirodni plin (I), INA (P)	Plinacro (state-owned)	38 distribution companies (different ownership structures)
Bosnia and Herzegovina	- Energoinvest (I) - BH Gas – Sarajevo (I)	- Gaspromet Pale - Sarajevo- gas Lukavica - BH- Gas Sarajevo	- Zvornik Stan - Sarajevo- gas Sarajevo - Sarajevo- gas Lukavica - Visokogas
FYR of Macedonia	Makpetrol (I)	GA- MA ²¹	DTIRZ ²²
Albania	No gas market	No gas market	No gas market
UNMIK	No gas market	No gas market	No gas market
Montenegro	No gas market	No gas market	No gas market

Source: SEE Regional Gasification Study (2008), page 43 and ERGEG National Reports 2007.

Summarized, the SEE Region certainly has great potential for gas market development but progress will require both regulatory and physical infrastructure development to act into praxis. Regulatory work thereby in particular has to focus on maximizing the use of existing capacity and creating an environment conducive to infrastructure investment and regional cooperation.

The picture of the SEE gas market needs to be accompanied by more detailed information on gas demand and supply in the Energy Community, thus providing the background for the identification of investment needs not only in the Contracting Parties but also considering possible links to neighboring EU countries.

¹⁹ http://www.dker.bg/resolutions/gas_companies.pdf (36 issued licences for both distribution and retail)

²⁰ 50% Gazprom, 25% Srbijagas and 25% Central ME Energy and Gas AG.

²¹ 50% state owned, 50% owned by Makpetrol.

²² 100% state owned.

3 Demand – Supply Situation in the Region

From the Energy Community Contracting Parties only four are gasified: Bosnia and Herzegovina, Croatia, FYR of Macedonia and Serbia. This sub-chapter describes the existing and forecasted demand- supply situation for all Contracting Parties.

3.1 Albania

Natural gas market does not exist in Albania for the time being, since the previously existing domestic production has been decreased to practically zero and the pipeline infrastructure consequently debilitated. However, an important role of natural gas imports has been assumed in the Albanian Energy Strategy²³, especially for the purpose of increasing electricity generation. According to the SEE Regional Gasification Study potential natural gas demand could reach 1 bcm per year by 2025, preconditioned by rebuilding of pipeline infrastructure. For the year 2025 a supply gap of 1 bcm is predicted, envisaging no natural gas production by that time.

3.2 Bosnia and Herzegovina

Bosnia and Herzegovina currently imports natural gas from Russia (transport via Serbia), indigenous production does not exist. Gas is used in industrial, commercial and household sectors (mainly in Sarajevo), but not for power generation. Total gas consumption in 2008 added up to 0,31 bcm and is predicted to increase to 0,5 bcm in 2010²⁴ and 1,4 bcm in 2025²⁵ resulting in a supply gap of around 1,1 bcm in 2025.

3.3 Croatia

Covering around 62% of its current needs from domestic production in 2008, Croatia is the Contracting Party with the most developed natural gas market. Natural gas is produced offshore (0,91 bcm in 2008) and onshore (1,13 bcm in 2008). 0,37 bcm have been injected and 0,31 bcm withdrawn from underground gas storage (working volume - 0,55 bcm) while 0,03 bcm was exported in 2008. The remaining consumption is covered via imports (1,23 bcm in 2008), mainly from Russia. In 2008 the structure of natural gas consumption in Croatia was as follows²⁶:

- 40,1% residential and commercial;
- 21,5% energy transformation;
- 19,3% petrochemistry Kutina;
- 14% other industry;
- 5,2% energy sector own use and losses.

²³ SEE Regional Gasification Study (2008), page 186

²⁴ Study on the Improvement of Interconnection, Interoperability, Transparency and Harmonization of Operational Rules for Natural Gas Transportation in the Energy Community (2009), page 39.

²⁵ SEE Regional Gasification Study (2008), page 48.

²⁶ Croatian Energy Regulatory Agency Annual Report 2008

The demand forecasts differ by source. While the SEE Regional Gasification Study (2008) refers to a demand of 4,2 bcm in 2025, the 2007 ECRB SEE Gas Survey assumes that the same level of demand will be reached much earlier, namely already in 2010. The latter survey also projects that the demand in 2015 will add up to 5,7 bcm. Therefore, the supply gap could amount 2 bcm in 2025²⁷ or even more, if the 2007 ECRB SEE Gas Survey forecasts prove realistic. According to the recently adopted Energy Strategy of the Republic of Croatia (Official Gazette 130/09)²⁸ natural gas demand in 2015 will reach 5,72 bcm and in 2020 it will amount 5,41 – 6,21 bcm. Import dependency will reach 60% in 2020.

3.4 FYR of Macedonia

Natural gas consumption in FYR of Macedonia reached approximately 0,1 bcm in 2007, completely covered by Russian imports through Bulgaria²⁹. Natural gas is mainly used for industrial needs and district heating, only a very small percentage for other industry sectors. Assuming large investments in anchor loads – mostly power plants – the SEE Regional Gasification Study (2008) forecasts a demand of around 1,2 bcm per year in 2025, leading to a supply gap of 1,1 bcm.

3.5 Montenegro

Natural gas is currently not used in Montenegro. According to the Montenegrin Energy Action Plan³⁰, the emphasis of the future energy development will be on increasing power generation based on a huge hydro potential but it is also envisaged that some gas-fired power plants shall be built and that industrial gas consumption would develop. Based on this, a the natural gas demand of 0,7 bcm is projected for 2025. The same quantity represents the envisaged potential supply gap³¹.

3.6 Serbia

Similar to Croatia, the natural gas market in Serbia exists since almost 50 years. Indigenous production, however, heavily decreased and over the past few years lowered down to only 8% of gas consumption³². The remaining consumption is covered via imports from Russia. The northern part of the country is well gasified, while the central and southern regions are lagging behind. The gas consumption is characterized by a high seasonal swing. Natural gas consumption in 2007 reached about 2,3 bcm, structured as follows:

- 24% district heating and power generation,
- 57% industrial and non-energy use and
- 19% residential, commercial and transport.

According to the SEE Regional Gasification Study³³, gas demand in 2025 will reach 3,6 bcm, resulting in a supply gap of 1,2 bcm per year.

²⁷ The SEE Regional Gasification Study also foresees the decline in indigenous natural gas production.

²⁸ Croatian Energy Regulatory Agency.

²⁹ Study on the Improvement of Interconnection, Interoperability, Transparency and Harmonization of Operational Rules for Natural Gas Transportation in the Energy Community (2009), page 50

³⁰ SEE Regional Gasification Study (2008), page 193

³¹ SEE Regional Gasification Study (2008), page 48.

³² Study on the Improvement of Interconnection, Interoperability, Transparency and Harmonization of Operational Rules for Natural Gas Transportation in the Energy Community (2009), page 55.

³³ SEE Regional Gasification Study (2008), page 48. Forecasts are based on the Serbian National Action Plan for Gasification.

3.7 UNMIK

There is no natural gas market so far but it is planned to partially replace heavy fuel oil by gas in district heating plants. Beside this, it is expected that natural gas will be co-fired in lignite power plants in order to cut-off the emissions of green-house gases. The predicted growth of natural gas demand adds up to 0,9 bcm of gas consumed per year in 2025³⁴.

Table 2: Summary: Demand - supply situation Energy Community

	Gas consumption (p.a.)	Gas consumption 2008 (p.a.)	Supply sources 2008 (p.a.)	Demand forecast 2010 (p.a.)	Demand forecast 2025 (p.a.)	Supply gap 2025 (p.a.)
Albania	<i>No gas consumption</i>	<i>No gas consumption</i>	<i>No gas consumption</i>		1 bcm*	1 bcm*
BiH	0,3 bcm (2006)	0,31 bcm	100% import from Russia	0,5 bcm**	1,4 bcm*	1,1 bcm
Croatia		3,06 bcm****	62% domestic production****		4,2 bcm*	2bcm
			38% import (mainly Russia)****	4,2 bcm***	5,7 bcm***	> 2bcm***
FYR of Macedonia	0,1 bcm (2007)	0,12 bcm	100% Russia	0,302 bcm	1,2 bcm*	1,1 bcm*
Montenegro	<i>No gas consumption</i>	<i>No gas consumption</i>	<i>No gas consumption</i>		0,7 bcm	0,7 bcm
Serbia	2,3 bcm (2007)	2.4 bcm	8% domestic production 92% import (Russia)	≤ 2 bcm ³⁵	3,6 bcm*	1,2 bcm*
UNMIK	<i>No gas consumption</i>	<i>No gas consumption</i>	<i>No gas consumption</i>		0,9 bcm*	0,9 bcm*

Source: * SEE Gasification Study (2008); ** Study on the Improvement of Interconnection, Interoperability, Transparency and Harmonization of Operational Rules for Natural Gas Transportation in the Energy Community (2009); ***2007 ECRB SEE Gas Survey, **** HERA Annual Report for 2008

³⁴ SEE Regional Gasification Study (2008), page 48.

³⁵ Estimation AERS. The energy balance is not published yet; due to the economic crises expected consumption is expected to decline compared with the published forecasts (Serbian Energy Sector Development Strategy; Strategy Implementation Program).

4 Capacity Situation

Based on the demand-supply situation in the region (see chapter 3.2.1.) and with a view to present the transmission infrastructure investments needed to respond to the forecasted demand, this chapter provides a short specification of existing transmission infrastructure and its utilization. Moreover, interconnection points will be separately considered, as they represent the crucial part of the projected future regional gas market.

4.1 Existing Gas Infrastructure

Table 3 gives an overview about the status of existing gas infrastructure in the Energy Community.

Table 3: Existing transmission infrastructure and its utilization in Energy Community

	Unit	Market						
		ALB	BiH	CRO	FYR of Macedonia	MNG	SRB	UNMIK
Size of transmission network*	Km	n.a.	191	2113***	98	n.a.	2140	n.a.
Transmission network per capita**	km/mio inh.	n.a.	48	474	48	n.a.	275	n.a.
Import capacity	bcm/y	n.a.	0.74	1.84****	0.8	n.a.	4.75	n.a.
Import volume	bcm/y	n.a.	0.38	1,23***	0.1	n.a.	2.53	n.a.
Export volume	bcm/y	n.a.	0	0,028***	0	n.a.	0.38	n.a.
Stored volume	bcm/y	n.a.	0	0,37 injected, 0,31 withdrawn (0,55 working volume)***	0	n.a.	0	n.a.
Indigenous production	bcm/y	n.a.	0	2,04***	0	n.a.	0.35	n.a.
Available import capacity	bcm/y	n.a.	0,675	0.84****	0.7	n.a.	4.015	n.a.
Total consumption (of which Russian gas)	bcm/y	n.a.	0.38 (0.38)	3,06 (1,08)***	0.1	n.a.	2.5 (2.15)	n.a.

Source: *, **Study on the Improvement of Interconnection, Interoperability, Transparency and Harmonization of Operational Rules for Natural Gas Transportation in the Energy Community (2009). Others: Data gathered from NRAs, except for Croatia: Croatian Gas Association leaflet 2008, ***HERA Annual Report for 2008, ****HERA- data on capacity published by TSO, according to the Ordinance on the Natural Gas Market Organisation ("Official Gazette No. 50/09)

The length of transmission pipeline per capita or in total can serve as indicators for assessing whether sufficient gas infrastructure exists in one market. In the case of Energy Community Contracting Parties – with the exception of Croatia – the indicators show clear underdevelopment of infrastructure.

With the exception of Croatia, all Contracting Parties heavily depend on the gas imports and every increase of demand will be reflected through declining of available capacity;

A clear obstacle to market development is given by the fact that access to pipelines, especially to those for cross border transport of natural gas, is predominantly booked. The long-term contracts with the relevant capacity holders do not include clauses to release unused capacity. At the same time destination clauses are in place.

4.2 Existing Interconnections

Interconnections between the parties of the Energy Community exist to the following extent:

- Serbia – Bosnia and Herzegovina: one interconnection point at Sepak with the capacity of 2 mcm/day³⁶;
- Slovenia – Croatia: one interconnection point at Rogatec, with the technical capacity of 0,21 mcm/h³⁷;
- Croatia – Italy: interconnection of Croatian network with upstream pipelines in the Adriatic. There is a joint venture between INA and ENI related to the exploration of natural gas in the Adriatic, where the INA's part is delivered to Pula. Capacity of Pula input point is 0.17 mcm/h. Flow rates at that point are around 36% of the technical capacity³⁸;
- Bulgaria – FYR of Macedonia: single interconnection point at Zidilovo with the maximum capacity of 0.11 mcm/h³⁹;
- Hungary – Serbia: single interconnection point at Kiskundorozsma. Out of the maximum capacity of 13 mcm/day, 11mcm/day are contracted for transport to Serbia and 1.85 mcm/day for transport to Bosnia and Herzegovina⁴⁰. The average annual utilization rate is 52- 54%, characterized by high seasonal swing. The envisaged start of operation of the UGS Banatski Dvor will lead towards more favorable utilization rate at this interconnection point.

³⁶ Study on the Improvement of Interconnection, Interoperability, Transparency and Harmonization of Operational Rules for Natural Gas Transportation in the Energy Community (2009), page 60

³⁷ Study on the Improvement of Interconnection, Interoperability, Transparency and Harmonization of Operational Rules for Natural Gas Transportation in the Energy Community (2009), page 47

³⁸ Study on the Improvement of Interconnection, Interoperability, Transparency and Harmonization of Operational Rules for Natural Gas Transportation in the Energy Community (2009), page 48

³⁹ Study on the Improvement of Interconnection, Interoperability, Transparency and Harmonization of Operational Rules for Natural Gas Transportation in the Energy Community (2009), page 52

⁴⁰ Study on the Improvement of Interconnection, Interoperability, Transparency and Harmonization of Operational Rules for Natural Gas Transportation in the Energy Community (2009), page 59

Figure 1: Capacity situation at interconnection points



Source: SEE Regional Gasification Study (2008), page 98⁴¹

4.3 Investments Plans

It is difficult to present additional capacity demand for the region in mid- or long term due to different approaches to capacity increase planning in different jurisdictions. This diversity is reflected in various institutions in charge for investment planning (Ministries, TSOs) and different time frames used for planning.

Taking into consideration the aforementioned limitations, on the ground of available import capacity on the one side and the projection of gas supply and demand for 2025 on the other side, additional future import capacity demand can be roughly calculated. The following table provides an overview.

Table 4: Calculation of additional capacity demand

	Unit	Market						
		ALB	BiH	CRO	FYR of Macedonia	MNG	SRB	UNMIK
Projected demand 2025*	Bcm/y	1	1.4	4.2	1.2	0.7	3.6	0.9
Supply gap 2025**	Bcm/y	1	1.1	2	1.1	0.7	1.2	0.9
Available import capacity***	bcm/y	0	0.36	0.84	0.7	0	3.57	0
Additional import capacity demand	bcm/y	1	0.74	1.16	0.4	0.7	-	0.9

Source: *, ** SEE Regional Gasification Study (2008), page 9,*** SEE Regional Gasification Study (2008), page 109

⁴¹ Correction for FYR of Macedonia 2010: 0,1 bcm import from Russia.

Taking into consideration the forecasted demand growth as well as the need to diversify supply sources and routes due to security of supply reasons⁴², it is obvious that the Contracting Parties need supplementary investments. Of course, additional import capacity demand in the above table can be treated only as an indicator of to what extent incremental natural gas demand may be fulfilled by expanding import capacity. The possibilities of rising/declining of domestic gas production as well as LNG and storage utilization have been considered in SEE Regional Gasification Study (the assumption of decreasing gas production has been made when calculating projected supply gap).

With a view to ensuring security and diversification of supply as well as a stable natural gas market, all Contracting Parties have been preparing investment plans, many of them related to the expansion of transmission infrastructure. This chapter provides a concise overview of existing investment/expansion plans of Contracting Parties with a special focus on the interconnection projects. Also, it should be noted that the Ministerial Council at the 5th meeting held on 11 December 2008 approved the updated list of Priority Infrastructure Projects including normally gas pipeline investments. In addition, a list of major potential regional pipeline projects is presented hereinafter.

In addition to the abovementioned projects that are at least partially based in Contracting Parties, well-known bulk transportation projects such as Nabucco, South Stream, Interconnector Greece-Italy, White Stream, Tauern Gas Leitung (Austria) and Trans Adriatic Pipeline (Turkey-Greece-Albania-Italy) or existing ones, as the LNG Terminal in Revythoussa (Greece) could provide additional options to gas supply in the CPs and overall SEE Region.

4.3.1 Albania

Albania is considered a potential key player for natural gas cross border transports. This is proven by a couple of projects that are the part of the list of Priority Projects in the Contracting Parties – Part A⁴³:

- Trans- Adriatic Pipeline connecting transmission networks in Albania, Greece and Italy. Private funding is provided for the project (EGL and StatoilHydro). The feasibility study and basic engineering have been concluded;
- Gas pipeline Greece- Albania and the construction of new CHP power plant in Korca (350MW). Pre-feasibility study is under preparation;
- Integrated gas and power production and transmission project: LNG terminal in Fier (10 Bcm), Trans-Adriatic gas pipeline, TPP in Fier and Trans- Adriatic high voltage line. Private funding is provided for the project (ASG Power SA).

4.3.2 Bosnia and Herzegovina

The following expansion projects are planned:

⁴² Mirrored in the existing national investment plans.

⁴³ Part A includes more advanced projects.

- Interconnection with Croatian transmission network by building a new pipeline from the existing system in Zenica to Bosanski Brod (114 km without branch lines and 1-1.5 bcm/year). The feasibility study will be funded by EBRD, which also expressed its interest to finance the project. An interest to finance the project expressed also EIB. This project is on the list of Priority Projects in the Contracting Parties – Part A;
- Gas transmission pipeline Bijeljina- Banja Luka- Novigrad (456 km with spur lines and 1.2 bcm/year). This line will be connected with the pipeline Zenica- Bosanski Brod and consequently with Croatian network. Technical documentation for the project is under preparation and it is envisaged that it will be privately funded. This project is on the list of Priority Projects in the Contracting Parties – Part A;
- Installation of compressor station in order to expand capacity;
- Potential projects: new entry points at the southern and western borders.

4.3.3 Croatia

Network investments in Croatia are planned in accordance with the “Plan of development, construction and modernization of gas transmission system in the Republic of Croatia from 2002 to 2011”⁴⁴. The second investment cycle of the plan covers the period 2007- 2011 and includes some of the projects listed hereinafter. All listed projects, except the gas storage at Benicanci, are part of the Priority Projects List in the Contracting Parties – Part A

- Gas pipeline system Dravaszerdahely (Hungary) - Donji Miholjac (Croatia) - Slobodnica (Croatia) - Bosanski Brod (BiH) consist of three sections, each of them being in a different phase. For the section Dravaszerdahely - Donji Miholjac- Slobodnica (Croatian part) building permit is obtained, acquisition of pipelines and block valves is completed, works are contracted and the pipeline is under construction. It is envisaged that the project will be financed by Croatian TSO and EIB loan.
- Gas transmission pipeline Bosiljevo- Split- Ploce will allow the link with Ionian Adriatic Pipeline (when constructed). The construction of the first segment Bosiljevo- Split is in the final phase. It is envisaged that the project will be financed by Croatian TSO and EIB loan;
- Ionian- Adriatic Pipeline (IAP): Memorandum of Understanding between companies and Ministerial Declaration was signed by representatives of Albania, Montenegro, Bosnia & Herzegovina and Croatia. Preparatory works are in progress. The financing of the project will be both public and private (Plinacro, EGL Switzerland and possibly KfW). The pipeline could be connected with Trans- Adriatic Pipeline (TAP) when both constructed.
- LNG regasification terminal in Omišalj, Krk; with final regasification capacity of 15 bcm and planned start-up in 2014;
- Underground gas storage facilities at Benicanci and Grubišno Polje are on the Priority Projects List in the Contracting Parties – Part B⁴⁵.

⁴⁴ <http://www.plinacro.hr>.

⁴⁵ Part B includes projects in preparation and looking for investors or financiers.

4.3.4 FYR of Macedonia

Gas network expansions planned by the government of FYR of Macedonia are for the time being not part of the Priority Projects List in the Contracting Parties – Part A. The scope of these expansions is interconnections with the main gas pipelines in the region and the increase of natural gas usage for electricity generation. Some of the planned projects are:

- Gas pipeline (DN 300) and gas distribution in Tetovo. This pipeline represents the extension of existing main pipeline from Skopje to the Albania border with several branches (total length is 48km and capacity 0.35 bcm/year);
- New pipelines to Albania, UNMIK and Serbia are under consideration.

Although pre-feasibility or feasibility studies for the main projects have been performed, there are no actual plans for their implementation. The new pre-feasibility study for the gasification of FYR of Macedonia, financed by the government of FYR of Macedonia, is in its final phase. This study should provide answers on the priority of next steps for gasification of FYR of Macedonia.

4.3.5 Serbia

The only expansion project in Serbia that is part of the Priority Projects in the Contracting Parties is the interconnection between the transmission systems of Serbia and Romania (Part B of the list). Most of the ongoing or envisaged investments are part of “National Investment Plan of Serbia”⁴⁶, i.e an underground gas storage Banatski Dvor and substantial investments in distribution system. Beside this, there are plans to interconnect Serbian and Croatian transmission networks and to provide additional connections with natural gas system in BiH. As a part of regional project “South Stream”- Norther branch, Serbian natural gas utility Srbijagas made an agreement with Russian Gazprom to establish joint venture company that will engage in building transmission pipeline through Serbia. The exact route of the pipeline is still to be determined and feasibility study should be prepared soon.

⁴⁶ <http://www.mnip.gov.rs/nip/Repository/Files/Download/ODLUKA%20REBALANS%20NOVEMBAR%202008.pdf>.

CHAPTER 3 – MOVING TOWARDS A REGIONAL APPROACH

1 Benefits of a Regional Gas Market

National energy policies and regional initiatives (Athens Memorandum 2003⁴⁷, The Treaty Establishing the Energy Community) clearly indicate a commitment to the development of a regional gas market in South East Europe and harmonized development of the gas sector within its geographic scope, based on common interest and solidarity, along the lines of the EU *acquis*. **Regional market approach** will enable SEE parties to develop natural gas market competition and exploit economies of scale, which would not be possible to achieve on stand-alone bases. Given the small size of the national markets it is commonly understood that following a harmonised regional approach for the energy market of the Energy Community remains the key requirement for the promotion of investments in the Region.

Gas market development in SEE requires a cautious approach, keeping in mind at all times the sovereignty of national governments and the need to protect security of supply on national, as well as on regional levels. Therefore the **principle of subsidiarity and proportionality** needs to be considered: only where measures on national level would not give efficient outcomes, a regional approach should be pursued. The reference to the recent gas crisis can create strong arguments that there is no “national security” without regional cooperation and security and vice versa.

Following a regional approach for the gas market in SEE will also foster the development of a gas **hub** in the region and finally potentially allow the Energy Community to also act as a gas hub for the European Union. Certainly, such process requires a number of – regulatory and market related – elements to be realized pre-conditionally: as regards the market structure, the SEE energy market provides the parameters necessary for operating a hub function, such as storage, diversified gas source including LNG, emerging markets, developing electricity markets. What needs to be established still though, is the necessary gas infrastructure within the single jurisdictions and – even more relevant when considering the development of a hub function – well meshed interconnections. Experience from existing EU gas hubs - such as e.g. neighbouring CEGH (Austria) and PSV (Italy) – thirdly shows the core role of a well structured regulatory regime to allow a gas hub developing: besides the general availability and non-discriminatory access to the infrastructure, this includes the availability of electronic platforms, market based balancing rules, short-term services, full transparency, reverse flows, standardised services and – last but not least – independence of the involved TSOs and hub operator.

2 The Energy Community Ring Concept

The concept of the so-called “Energy Community Gas Ring”⁴⁸ lies at the core of efforts for the development of the regional gas market in the Energy Community, and especially the Contracting Parties.

The “Gas Ring” concept aims at connecting all Contracting Parties via a ring considering also the needs of the region with regard to the electricity sector as well as the (existing or planned) regional pipelines, LNG

⁴⁷ “Memorandum of Understanding on the Regional Energy Market in South East Europe and its Integration into the European Community Internal Energy Market (The Athens Memorandum 2003)”, <http://www.energy-community.org/pls/portal/docs/36297.PDF>.

⁴⁸ The Gas Ring concept was first presented in SEE Regional Gasification Study - SEE Regional Gasification Study, Economic Consulting Associates/Penspen/ Energy Institute Hrvoje Požar, financed by World Bank and KfW; March 2008, <http://www.energy-community.org/pls/portal/docs/36273.PDF>.

terminals and storage facilities that could be connected to the Gas Ring. This could not only significantly contribute to further gasification of SEE, but also provide benefits for upstream and downstream countries. In particular the Gas Ring would:

- connect the markets of the CPs, including supply to those that are not currently gasified, and link them with EU neighbours (Greece, Bulgaria, Romania, Hungary, Slovenia, Italy);
- bring gas deep into currently ungasified areas;
- enhance both diversity and technical security of supply (by allowing supply of each market from multiple sources and transportation routes, enhancing technical possibilities for mutual assistance among SEE countries and by linking up regional storage potential);
- improve the commercial position of importers by allowing seasonal swing to be managed with regional storage contracts, rather than via import contracts
- allow for the development of balancing sources and arrangements on a regional basis;
- facilitate meaningful regional SEE gas trading in future and establish the conditions for the development of a market based gas bridge between Eastern production and Western consumers;
- foster regional economic co-operation in energy;
- enable the development of gas-fired power plants in the whole region.

Figure 2: The Gas Ring Concept



Given the complexities and the international experience related to developing and implementing multinational projects, especially in SEE⁴⁹, it would be difficult – if not impossible – to build the Gas Ring in one step, i.e. as one piece of infrastructure (more details on this can be found in the ECRB consultation paper “A Common Regulatory Approach for the Development of the Energy Community Gas Ring”).

Therefore, a **bottom- up approach** is preferable: **the Gas Ring concept should be implemented gradually**, starting from existing networks and projects which are already included in the national infrastructure development plans (national projects and bilateral projects- interconnections) and trans-national projects in advanced stage of development with secured financing. In line with this, the Gas Ring would be developed in several stages and by different market players, under various regulatory regimes, and following different decision processes, though under the common framework of the Energy Community Treaty. Such approach, provided that at least a minimum degree of regional coordination of investment planning is achieved⁵⁰, would allow more flexibility, and may be more compatible with the expectations of the Contracting Parties.

Since the existing investment plans of the Contracting Parties are identified as highly compatible with the indicative Gas Ring route (aside some missing links), the Gas Ring concept should be implemented gradually, using the bottom-up approach, starting from existing networks and projects which are already included in the national infrastructure development plans (national projects and bilateral projects- interconnections) and trans-national projects.

Looking on the existing infrastructure plans of the Contracting Parties it can be identified that the global picture of these projects develops to **already add up to a ring of interconnections, similar to the Gas Ring concept**. However, it needs to be emphasized that **a sum of national and multi- national projects, forming the route of the Gas Ring, per se does not produce aforementioned benefits to the Region**. The efficient functioning of the Gas Ring requires significant regional cooperation on resolving several issues related to operation of interconnected networks, among others:

- Creation of an investment friendly regulatory environment (e.g. Nabucco treatment of cross- border investments with several parties involved)
- Defining the elements (route) of the gas ring
- Defining capacities of new pipelines (open season etc.);
- Taking into consideration economies of scale: linking the national markets of SEE needs to go beyond the realization of infrastructure covering national demands but has to take into account capacity needs for cross border transports to neighbouring markets. Following this approach addresses the benefits of economies of scale;
- Efficient use of networks (releasing contractual congestions);
- Capacity mechanisms allocation and congestion management procedures;
- Treatment of storage and harmonizing access to foreign storage capacities;
- Interoperability (gas quality, interconnection agreements, operational balancing agreements, etc.);

⁴⁹ Possible difficulties involve obtaining political support, agreement on the scope and time- schedule of the project, securing finances, allocation of responsibilities and revenues etc.

⁵⁰ Should be in full compliance with the changes envisaged by the “Third Package - 10 years development plans and the role of ENTSO-G.

CHAPTER 4 – THE ROLE OF REGULATORS

3 Necessary Harmonisation

Providing stable regulatory framework for investments belongs normally to the main tasks of the regulatory authority. Especially when discussing a regional approach for investments (Gas Ring concept) this calls for a **harmonised regulatory approach across borders**.

Development of natural gas market in Energy Community in general and of natural gas infrastructure as a precondition for it has been facilitated by legislative and regulatory framework provided by the Energy Community Treaty itself, in particular where it foresees the implementation of Directive 2003/55/EC. This framework has been extended by the decision of Energy Community Ministerial Council⁵¹ so to include also the Directive 2004/67/EC and Regulation 1775/2005 in the Gas Acquis. In order to focus on infrastructure investments, a special attention of the following chapter will be to analyze the provisions of Directive 2003/55/EC that create adequate background for them. The detailed analysis of the implementation status of the Regulation 1775/2005 will be provided in a separate document that is part of the ECRB Gas Working Group Work Programme 2010. From the regulatory point of view it is of most importance to prepare transmission tariff methodologies and to establish other incentives that support not only the infrastructure investments in a country, but especially the investments of cross-border nature.

4 Level of Implementation of Gas Market Legislation

The implementation of the Directive 2003/55/EC is stipulated by the Energy Community Treaty as compulsory for the Contracting Parties from 1st July 2007. Deviating from the deadlines defined by the Directive itself and thereby applicable in the European Union, market opening in the Energy Community is obligatory for all non-household customers by 1st January 2008 and for all customers as of 1st January 2015.

The implementation status strongly varies between Contracting Parties. Generally, it has to be differentiated whether a Contracting Party has only transposed or implemented the provisions of the Directive. Concerning the transposition in the national legislation, only two Contracting Parties – Croatia and Albania – have fully transposed the required provisions into national legislation. Serbia and FYR of Macedonia still have to implement some of the provisions and Bosnia and Herzegovina lacks transposition at the state level (some provisions at the entities' levels are available). Although without gas markets, Montenegro and UNMIK prepared the draft primary legislation that is mainly in line with the Directive.

Following the requirements of Directive 2003/55/EC, competences for the natural gas sector have been legally allocated to the national regulatory authorities within six Contracting Parties, despite of the fact that some of them still do not have gas market nor gas primary legislation in force. Only in Bosnia and Herzegovina the regulatory authority has no responsibilities in gas sector on federal level.

⁵¹ Decision No. 2007/06/MC-EnC of 18 December 2007 on the implementation of Directive 2005/89/EC, Directive 2004/67/EC and Regulation (EC) 1775/2005 (<http://www.energy-community.org/pls/portal/docs/296187.PDF>)

Annex 1 provides an overview about the status of implementation of Directive 2003/55/EC in the Contracting Parties. Besides the compliance progress already made, it certainly shows that there is still room for improvement, especially as regards practical independence of regulatory authorities.

Detailed analysis of the coherence and convergence of the regulatory regimes per se – namely whether regulatory elements such as balancing regimes, congestion management tools etc are not only foreseen by law and implemented in praxi but also whether the related regulatory models are harmonised and do not establish barriers to cross border trade via practical differences on details – goes beyond the scope of the present report. However, such monitoring exercise is separately executed as part of the activities of the ECRB and – more in general – of the Energy Community Secretariat based on Article 64 of the Energy Community Treaty.

5 Regulatory Investment Incentives

The **role of regulators in promoting new infrastructure investments** is key. Article 3 Regulation (EC) 1775/2005 calls national regulators to reflect in the national network tariffs “*actual costs incurred, insofar as such costs correspond to those of an efficient and structurally comparable network operator [...] whilst including appropriate return on investments. [...] Tariffs, or the methodologies used to calculate them, shall [...] providing incentives for investment [...].*”

In addition to this general principles of tariff calculation regulators can provide a number of other **regulatory instruments facilitating investments**.

- For the case of an investment not realized otherwise, Article 22 Directive 2003/55/EC provides a mechanism to exempt projects from the regulated scheme. It has to be noted, however, that such exemptions need to remain the *ultima ratio* and take into account the necessity to balance between the disadvantages of the infrastructure in question not being built at all and the disadvantages for competition and market development that result from exempting pieces of infrastructure from third party access⁵².
- Before considering an exemption, it is the responsibility of national regulators to assess other options of facilitating investments, namely to develop regulatory investment incentives⁵³.
- This might include in particular and for example: a higher rate of return for new investments; to mitigate the volume and the revenue risk the regulator may grant a higher rate of return (i.e. WACC) for new investment for a specified period of time. For the purpose of incentivizing investment, national regulators should commit themselves to a certain tariff methodology for a long-term.
- Starting from the responsibility of TSOs to meet reasonable demands and sort out capacity congestions by adding new investments as stipulated in Article 2 lit 4 Directive 2005/55/EC⁵⁴ also “negative”

⁵² See as well: Commission staff working document on Article 22 of Directive 2003/55/EC concerning common rules for the internal market in natural gas and Article 7 of Regulation (EC) No 1228/2003 on conditions for access to the network for cross-border exchanges in Electricity, para 11 and 12, SEC(2009)642 final (6.5.2009), http://ec.europa.eu/energy/gas_electricity/interpretative_notes/doc/sec_2009-642.pdf.

⁵³ See fn 52, para 15.

⁵⁴ See as well: Commission staff working document on capacity allocation and congestion management for access to the natural gas transmission networks regulated under Article 5 of Regulation (EC) No 1775/2005 on conditions for access to the natural gas transmission networks, chapter 2.2 item 4, SEC(2007) 822 (12.06.2007); http://ec.europa.eu/energy/gas_electricity/interpretative_notes/doc/sec_2007_822.pdf

investment incentives can be considered. Where Article 3 Regulation (EC) 1775/2005 allows national regulators to decide on the use of congestion revenues, this allows national regulators to introduce a negative incentive of tariff reduction by congestion (e.g. auction) costs not used for sorting out long term congestion. For the electricity sector Article 6 (6b) Regulation 1(CE) 1228/2004⁵⁵ requires congestion revenues to be used for “*network investments maintaining or increasing interconnection capacities*”.

Table 5: Existing regulatory investment incentives

	Investment incentives existing (Y/N)	If so, specified as follows
Albania	The Nat Gas Law defines the Ministry of Energy to be the responsible authority for the development of the natural gas Infrastructure while no incentives have been developed yet.	
BiH	Not on the state level	
Croatia	Yes	Amounts of tariff items determined according to the tariff systems include allowed costs of investments. Also, major new gas infrastructures, i.e. interconnectors, storage and LNG facilities, may upon request, be exempted from the application of third party access right, according to provisions of the Act on the Gas Market ("Official Gazette", No. 40/07, 152/08, 83/09) which is in line with Directive 2003/55/EC.
FYR of Macedonia	Yes	Methodology on calculating tariff cap – as part of the rulebook on the method and conditions for tariff regulation of gas transmission and distribution – describes that the regulatory authority approves allowed costs of investments.
Montenegro	n.a.	n.a.
Serbia	There are no specific regulatory incentives for investment in energy infrastructure. However, there are incentives for investing in Serbia generally, such as financial and tax incentives. Possibility to introduce exemptions currently does not exist in Serbian legal framework. Appropriate provisions will be included in the amendments to the Energy Law.	

⁵⁵ Regulation (EC) 1228/2003 of the European Parliament and of the Council of 26 June 2003 on conditions for access to the network for cross-border exchanges in electricity, OJ L 176 of 15.7.2003, p 1 et seqq.

	Investment incentives existing (Y/N)	If so, specified as follows
UNMIK	Yes	<p>Law on Energy Regulator, Chapter 9: Price Regulation, Article 46, clearly specifies that price regulation shall be governed by Tariff Methodology issued by Regulatory Authority; basic principle the Methodology is that tariffs should cover justified costs and a reasonable return on investment. Consequently to the requirements of the Law, ERO has issued and applies the Tariff Methodologies for electricity and district heating and shall issue Tariff methodology for natural gas based on the same principles.</p> <p>Also Draft Law on natural gas in the section 19: New Infrastructure determines the right of exemption from TPA regime under the certain conditions, such as new investment will enhance competition and SoS, level of the risk of such investment etc.</p>

CHAPTER 5 – COSTS AND AFFORDABILITY: HOW TO FINANCE THE GAS RING

1 Background

The SEE Regional Gasification Study (2008) did not only propose the concept of creating a Gas Ring in the SEE Region as such, but provided also a thorough analysis of costs that will most likely arise when realizing the project. Comparing it with alternative supply options, the **Gas Ring concept was proven as the economically most preferable option.**

The estimated **costs** of building Gas Ring⁵⁶ add up to US\$952 million⁵⁷. As regards the costs for providing necessary anchor load for the Ring, the SEE Regional Gasification Study (2008) estimated that capital cost of 2100 MW of CCGT capacity would be in the order of US\$1 to 1.25 billion. The investments in anchor loads, like power stations, are necessary in order to support the financial viability of the Gas Ring. The remainder of demand is expected to be driven by growth in industrial, district heating and domestic gas utilization.

2 Possible Financing Models

For financing of the Gas Ring related costs basically two approaches are possible:

2.1 Country by Country Financing

This approach would mean that **each Contracting Party would finance the costs related to the part of the Gas Ring located on its territory.** This approach **neglects the challenge** that the national sections of the Gas Ring to a certain extent exceed the infrastructure necessary for covering national demand. This is reasoned by the fact that building a regional project such as the Gas Ring first adds up to more than only linking a number of national projects: both the concept of a Ring as such as well as reasonable and economically efficient pipeline planning, taking into account economies of scale, require to consider the capacity need necessary for transports trough a Contracting Party for covering demands of neighboring and further linked markets. Second, national investments plans do not necessarily include interconnections to other markets from/to which they do not expect imports/exports.

2.2 Regional Financing

As explained above, a stand alone approach on national basis for the parts of Gas Ring that are of regional nature is not feasible not only because gas sector investments are capital intensive and therefore difficult to finance, but also because in some cases benefits of the ring may seem limited for a national government, while being very important for neighboring and further linked markets and/or the Energy Community as a whole. Taking into account the benefits of economies of scale, this however leads to the question of **who should finance the extra costs** resulting from a regional Ring concept rather than national dimensions.

⁵⁶ 1264 km of pipelines, compressors, offtake stations and border metering stations.

⁵⁷ Excluding costs for (1) potential links to bulk transport projects, such as Nabucco, South Stream, TAP, IAP etc and (2) pipelines leading from the Ring down to load centers in each market as well as the costs for developing new distribution lines.

From the investors' point of view there are basically two approaches to grid investments – the 'fully regulated' approach and the 'contract' approach⁵⁸. The **fully regulated approach** addresses a core principle of gas market liberalization, namely that it is the responsibility of transmission system operators (TSOs) to meet reasonable market demand and sort out congestion by adding new capacities⁵⁹. Article 3 Regulation (EC) 1775/2005 requires national regulators to include efficiently incurred investment costs in their regulated asset base (RAB). This approach implies that the investment risk needs to be covered by the market benefitting from the investment. The direct risk of the TSO remains marginal.

The **contract approach** on the other hand recognizes the fact that in some cases investment is required which is of benefit for the network users and consumers outside the network where the investment is made. This question is widely known as discussion of "non-domestic investments⁶⁰" and links to the so-called "regulatory gap".

- The issue of "**non-domestic investments**" addresses the problem that national regulators will typically not accept to include (interconnection) costs which are of benefit only for customers of neighboring markets only in the national RAB. Reasons for that are first consumer protection responsibilities of national regulators but second also difficulties to justify tariff increases for the benefit of neighboring markets. Also, it is not fair for the rate payers of a national grid to bare the risk of a neighbouring market or subsidise the rate payers of a neighbouring market, unless, of course, there are other reasons (e.g. related to security of supply, etc.) that could justify this.
- The so-called "**regulatory gap**⁶¹" in a next step addresses the fact that powers of national regulatory authorities are typically limited to the national boundaries of their market. Consequently, costs created outside this territory can not be included in the national RAB. Within the Energy Community for the time being only Greek legislation allows extra-territorial costs to be covered in the Greek RAB⁶². This "regulatory gap" has similarly already identified for the EU Member States⁶³.

⁵⁸ See as well CEER, Response to the Energy Green Paper (Ref: C06-SEM-18-03, 11 July 2006), chapter 2.1.1, http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/CEER_ERGEG_PAPERS/Cross-Sectoral/2006/CEER-ResponseToGP_2006-07-11.pdf.

⁵⁹ Article 2 lit 4 Directive 2003/55/EC. Commission staff working document on capacity allocation and congestion management for access to the natural gas transmission networks regulated under Article 5 of Regulation (EC) No 1775/2005 on conditions for access to the natural gas transmission networks, chapter 2.2 item 4, SEC(2007) 822 (12.06.2007); http://ec.europa.eu/energy/gas_electricity/interpretative_notes/doc/sec_2007_822.pdf.

⁶⁰ See fn 58.

⁶¹ CEER, Response to the Preliminary Report of the Gas and Electricity Sector Inquiry (Ref. C06-GA-21-06; 20 April 2006), page 2 (lack of market integration) and 14; et al.

⁶² More in detail DESFA has to buy capacity in upstream networks if requested by the national regulators. The related costs have to be recognized by RAE in the RAB.

⁶³ See fn 61.

3 Possible Solutions – The Regulatory Dimension

The considerations raised under 2 lead to two possible solutions:

3.1 Option 1 – Empowering Regulators to Recognize Extra-Territorial Costs

The first possible approach suggests empowering regulators to recognize extra-territorial costs in their RAB as far as beneficial for the national customers.

This solution however, does not provide answer to the question that has to bear the market risk in case of non domestic investments. Regional natural gas projects are characterized by high levels of risks associated with them. These risks can be grouped into two categories: political risks (such as expropriation, security, and breach of contract, dispute resolution, legal and regulatory risks) and commercial risks (such as planning, design, construction, volume, supply, payment, exchange and interest rate risks). Even in case of sufficient regulatory powers for acknowledgment of extra-territorial costs it might be reasonable to question whether e.g. Croatian customers have to bear the risk for larger investments in the Croatian network for the benefit of e.g. Serbian users, having in mind that the risk of non-utilization can not be influenced by those bearing the risk.

This leads to the second possible solution:

3.2 Option 2 – Allocating the Market Risk

This solution starts from the assumption that capacity demand driven by overall national market demand (supply increase) will be covered by all market participants via network tariffs as part of the RAB. As mentioned earlier, TSOs will remain responsible for sorting out congestion related to reasonable demand increase (Article 2 lit 4 Directive 2003/55/EC) and efficiently incurred costs will need to be covered in the RAB (Article 3 Regulation (EC) 1775/2005).

1. This links to a **first recommendation**: national TSOs need at first to be made responsible for developing investment plans. In a second step national regulators need to be empowered to approve the reasonability of these investment plans. This approval of the national regulator has to link to a guarantee of recognition of related investment costs in the RAB. Such approach minimizes the TSOs' investment risk down to zero⁶⁴ and ensures that reasonable capacity demand is met on national level.
2. For the costs related to benefits of neighboring or further linked markets the **second recommendation** suggests that a model of appropriate cost allocation has to be developed.
- For the investment costs created in market A caused for the benefit of satisfying the capacity demand in market B via realization of interconnection capacity that exceeds the national demand of market A (economies of scale) national regulator of country A has to be empowered to recognize the exterritorial investment costs realized in neighboring or further linked markets in their national RAB.

⁶⁴ Not yet taking into account a reasonable rate of return on investment as requested by Article 3 Regulation (EC) 1775/2005.

- Appropriate cost allocation across border requires coordination of investment planning – first to ensure appropriate dimension of interconnection and national capacity taking into account the requirements of neighboring and further linked markets (Gas Ring concept) and second to allow national regulators to properly assess the cost of foreign investments realized for the benefit of their national consumers. Consequently this leads to the proposal of introducing a system regional investment planning. As an example the mechanisms of the 3rd EU energy package⁶⁵ can be used, requiring TSOs to develop a 10 year EU wide investment plan for review by the newly introduced Energy Regulatory Agency (ACER^{66,67}).
 - Following this recommendation the ECRB could need to be empowered to approve an Energy Community investment plan, developed by the national TSOs and approved by the national regulators of the Region.
3. Without additional legislative adjustments needed the **third recommendation** suggests a number of investment schemes to be introduced on regulatory level:
- Introduction of regulatory investment incentives promoting investment in national basis (see chapter 5.2). In line with the earlier discussions, the related investment costs will have to be covered in the national RAB.
 - Introduction of capacity commitment agreements: such instruments aim at allocating the risk to those that are able to influence it, namely to those requesting extra capacity exceeding national market demand. An example might refer to capacity demand of a planned gas-fired power plant that leads to over-proportional additional capacity demand. While in case of realized capacity use (operation of the power plant), over-proportional capacity costs are usually reflected in the tariff model via a higher capacity element, the case of non-utilization of investments needs to be covered by other means. *In praxi* this suggests the introduction of capacity commitment agreements where applicants for over-proportional additional capacity demand pay enter into agreement with the national TSO⁶⁸ to either directly finance the investment driven by their extra demand or pay an ex-ante deposit related to the expected capacity use that is to be used for tariff payment in case of realized capacity use⁶⁹.
 - Introduction of efficient congestion management mechanisms.

For the moment given the powers of national regulators in the Energy Community related to the first and second recommendation are described as listed in the table provided by **Annex 2**. The table indicated necessary legislative adjustments related to recommendation one and two.

⁶⁵ http://ec.europa.eu/energy/gas_electricity/third_legislative_package_en.htm.

⁶⁶ Proposal for a Regulation of the European Parliament and of the Council establishing an Agency for the Cooperation of Energy Regulators, http://ec.europa.eu/energy/gas_electricity/third_legislative_package_en.htm.

⁶⁷ Regulation of the European Parliament and of the Council amending Regulation (EC) No 1775/2005 on conditions for access to the natural gas transmission networks, Articles 2c and 2d, http://ec.europa.eu/energy/gas_electricity/third_legislative_package_en.htm.

⁶⁸ Practiced e.g. by UK TSO Transco.

⁶⁹ See e.g. Austrian capacity expansion agreement or Spanish deposit model.

4 The Possible Role of International Financing Institutions

Having in mind the specificities of the Energy Community and the challenges of financing huge investment costs occurring in relation to the realization of a Gas Ring concept, a reflection of the earlier financing discussions seem necessary: it has to be assumed that the risk for financing extra-territorial costs – and especially those driven by planned projects requiring over-proportional capacity demand such as gas-fired power plants in neighboring or further linked markets – is unlikely to be done by the directly cost influencing party (power plant).

In this respect, a major potential role for public financing of transmission infrastructure exists. Institutions that would be expected to take an interest in financing gas transmission in SEE include the World Bank, KfW, EBRD, EIB and EU. These international institutions and donors are in the best position to manage the country risk with the involvement of such organizations as MIGA (Multilateral Investment Guarantee Agency).

CHAPTER 6 – CONCLUSIONS AND RECOMMENDATION

Based on the findings of the previous chapters, several measures have to be undertaken both on national and regional level in order to facilitate the current sub- optimal level of security of supply and competition inherent to the region:

1. Regulatory steps to be taken without legal changes

- Harmonised transposition and implementation of the missing provisions of the Acquis on gas-Directives 2003/55/EC and 2004/67/EC, as well as the Regulation (EC) 1775/2005.
- Introduction of introduce regulatory investment incentives – including the consideration of long term tariffication periods – with the aim of limiting exemptions to the minimum level necessary.
- Introduction of capacity commitments/deposits⁷⁰: where capacity is requested up to an extent exceeding the existing capacities and where meeting this demand would require significant capacity expansion/investments in new infrastructure, the TSO – based on Directive 2003/55/EC is responsible for related expansion. However, a "deposit" is suggested to be paid by the party requesting capacity expansion for covering the risk of not using the requested capacity in the future and the risk of sunk costs to be transferred to customers.
- Elaborating and publishing network development plans related to forecasted market needs and security of supply.
- Developing operational procedures for mutual assistance in case of disruption.
- Developing standard interconnection agreements, covering technical and commercial interoperability issues (ex. matching, rules for flow control, measurement principles, gas quality specifications, allocation rules, procedures for balancing shipper flows and dealing with imbalances, coordination of operation, information exchange, exceptional events etc.), which should be put in place at all interconnection points, both between Contracting Parties and Contracting Parties and EU MS..

2. Requiring legislative changes (in the EnC)

- **Non-domestic investments and regulatory gap:** regulators should be empowered to recognize non-domestic investments in their national regulated asset base⁷¹.
- **Regional investment plan:** an obligation for TSOs to develop a regional investment plan is recommended to be introduced. Regulators - to the extent not already given – would need to be empowered to approve the related investment plans and by this confirm that investment costs will be recognized in the regulated asset base.

- ### 3. The role of International Financing Institutions:
- Having in mind the specificities of the Energy Community and the challenges of financing huge investment costs occurring in relation to the realization of a Gas Ring concept, it has to be assumed that the risk for financing extra-territorial costs – and especially those driven by planned projects requiring over-proportional capacity demand such as

⁷⁰ Example: ES gas, UK gas, AT gas, GR gas.

⁷¹ Practiced already for N-IRL/UK (gas), D/NL (electricity) and GR.

gas-fired power plants in neighboring or further linked markets – is unlikely to be done by the directly cost influencing party (power plant). In this respect, a major potential role for public financing of transmission infrastructure exists: International Financing Institutions could enter into obligations to covering guarantees for related non-domestic investments.

Annex 1: Status of implementation of the Directive 2003/55/EC – Contracting Parties

Following the requirements of Directive 2003/55/EC, competences for the natural gas sector have been legally allocated to the national regulatory authorities within six Contracting Parties, despite of the fact that some of them still do not have gas market nor gas primary legislation in force. Only in Bosnia and Herzegovina the regulatory authority has no responsibilities in gas sector on federal level. The following table describes the core competences of national regulatory authorities of the Contracting Parties.

	Third Party Access	Security of Supply	Unbundling	Technical Rules	Public service Obligation	Market Opening	New Infrastructure and Exemptions
ALB	Provisions available, further rules have to be developed	Monitoring instruments foreseen in the law, implementation mechanism still to be specified	Provisions available, minor changes to be included	Provisions available	Provisions available, customer protection issues will be specified	Provisions available	Rules for new infrastructure developed
BiH*							
CRO	Provisions available in primary and secondary legislation	Monitoring provisions included in primary legislation; practical details in Ordinance on Natural Gas Supply Security	Provisions available;	Transmission, distribution and storage codes available	Provisions available; country specifics comprised in secondary legislation	Provisions available	Provisions available;

	Third Party Access	Security of Supply	Unbundling	Technical Rules	Public service Obligation	Market Opening	New Infrastructure and Exemptions
FYR Macedonia of	Some provisions available in secondary legislation, but not in the primary	Monitoring provisions included in primary legislation; implementation mechanism still to be specified	Some provisions included in primary legislation, but not fully in the line with the Directive; operational details needed	Some provisions available in primary legislation; Transmission Grid Code available	Provisions partially met in primary legislation; country specifics still to be considered	Not in the line with the Directive	Some provisions available, but not in accordance with Art. 22 of the Directive
Montenegro**							
SERBIA	Provisions available in primary legislation; TPA rules for storage have to be brought into line with the Directive	Monitoring provisions included in primary legislation; implementation mechanism still to be specified	Available provisions not fully in the line with the Directive; operational details needed	Provisions available; tasks of SO not fully in line with the Directive	Provisions available; detailed specifications needed	Provisions available	Some provisions available; rules for practical operation needed
UNMIK***							

Source: ECS (* draft primary legislation in preparatory phase; **, *** draft primary legislation in the advanced phase of approval)

Annex 2 – Powers of Regulators in Contracting Parties

	Approve national investment plans (prepared by national TSOs)	Recognizing investment costs related to national investment plans in RAB	Power to acknowledge extraterritorial investment costs in RAB	capacity commitment agreements existing	Regulatory investment incentives existing
Albania	ERE has the duty to approve the Licensee's plans for each regulatory period. No TSO's have been established. yet.	No methodologies developed yet.	Not covered from the current legislation	n.a.	n.a.
BiH	n.a. on the state level	n.a. on the state level	n.a. on the state level	n.a. on the state level	n.a. on the state level
Croatia	TSO's duty is to elaborate a five-year system development plan, publish it and update it annually, and deliver it to the Minister for approval, after obtaining the opinion from NRA. Also, TSO is obliged to, among the others, deliver to NRA the report on the execution of the system development plan for each year. System development plan is integral part of documentation that is submitted for the approval of the new amounts of tariff items.	Amounts of tariff items determined according to the tariff systems include allowed costs of investments.	not covered from the current legislation	n.a.	yes
FYR of Macedonia	No	No	No	No	No
Montenegro	n.a.	n.a.	n.a.	n.a.	n.a.

Source: Regulators

	Approve national investment plans (prepared by national TSOs)	Recognizing investment costs related to national investment plans in RAB	Power to acknowledge exterritorial investment costs in RAB	capacity commitment agreements existing	Regulatory investment incentives existing
Serbia	No	Yes	Yes, if : <ul style="list-style-type: none"> - the investment can be treated as intangible asset in compliance with IAS - the investment is in function of the regulated activity and on benefit of network users in Serbia. 	No	No
UNMIK	According to the secondary legislation issued by ERO, namely Rule on Licensing (article 24.2 point d), TSO is obliged to prepare Development / Investment plans and submit to ERO for approval	Law on Energy Regulator, Chapter 9: Price Regulation, Article 46, clearly specifies that price regulation shall be governed by Tariff Methodology issued by Regulatory Authority; basic principle the Methodology is that tariffs should cover justified costs and a reasonable return on investment.	-	-	Draft Law on natural gas in the section 19: New Infrastructure determines the right of exemption from TPA regime under the certain conditions, such as new investment will enhance competition and SoS, level of the risk of such investment etc. ERO is entitled to decide on case by case basis on the exemption

Source: Regulators

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