



METE

IENE CONFERENCE
GREEK-ALBANIAN COOPERATION IN THE ENERGY SECTOR

**PROSPECTS FOR THE INTRODUCTION
OF NATURAL GAS IN ALBANIA**
(THE PROJECT-PROPOSALS FOR THE
GASIFICATION OF ALBANIA)

Prof. Asc. Dr. Stavri Dhima
Head of Primary Policies Unit
Industrial Policies Directorate
Ministry of Economy, Trade and Energy,
Albania

TIRANA, January 15th, 2009

CONTENTS

- ◆ **Historic and Present gas Sector Situation.**
- ◆ **Current Developments.**
- ◆ **Legal and institutional gas framework.**
- ◆ **Prospects for the introduction of Natural Gas in Albania and the connection of the country with regional and international gas network. The most important choice for Albania.**
- ◆ **The support of Albania for the IAP and TAP projects.**
- ◆ **Developing of the underground gas storage capacity and LNG Terminals**
- ◆ **Conclusions**

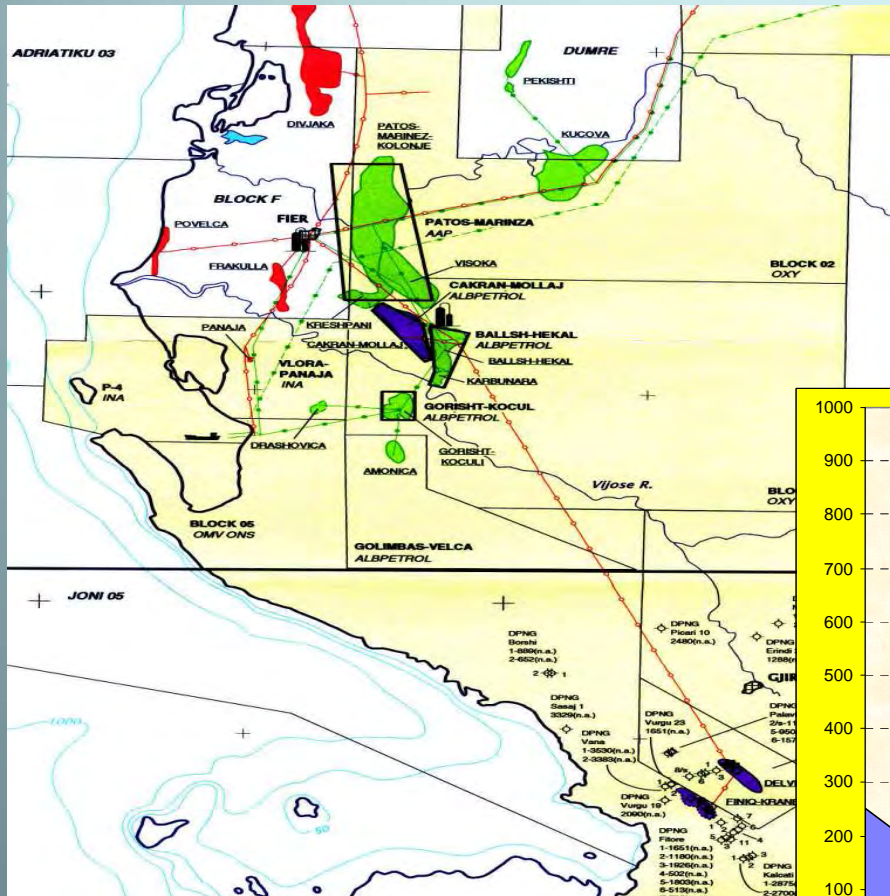
Main goals for Gasification of Albania

- Linking Albania with the international gas network according to the best option (Eurasia Gas Corridor and Energy Community Gas Ring)
- Development of LNG Terminals and regional underground gas storage reservoirs
- Preparation of the necessary Albanian legislation for the gas sector in compliance with European legal framework (Regulatory and Investment framework reliability)
- Development of national gas resources
- Restructuring the existing system for gas transmission in Albania
- Management of the Albanian gas market
- Use of natural gas as an alternative energy source and for the production of electrical energy with gas fired thermal power stations

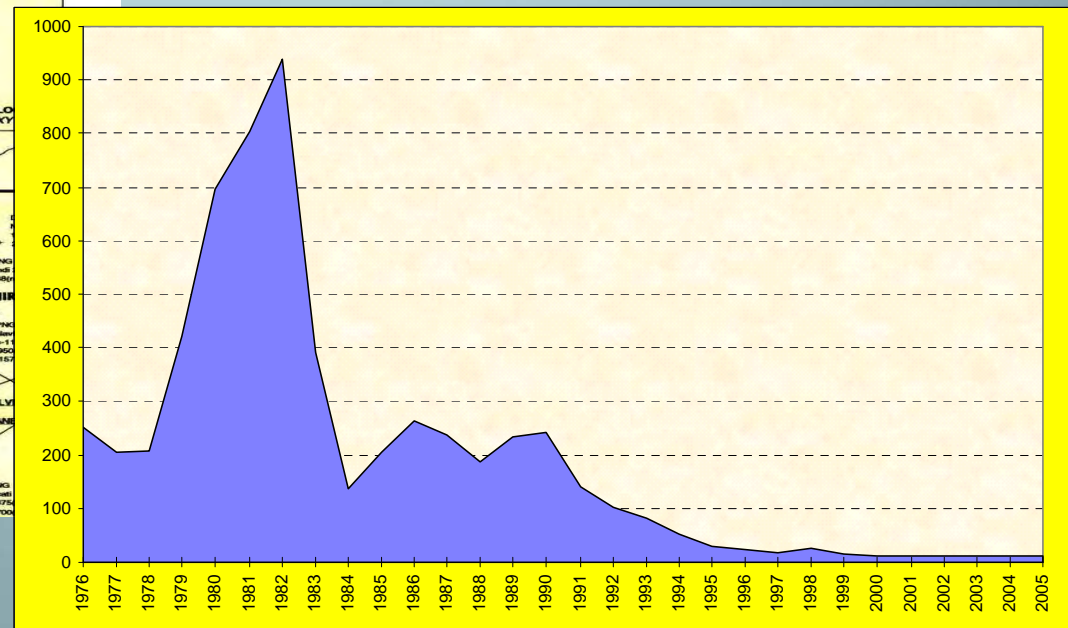
I. Historic and present Gas Sector situation

- The commercial production and consumption of natural gas in Albania started in 1960. Until the end of 2008 about 3.5 bcm of natural gas were extracted from our gas fields, and about 9.8 bcm of associated gas were extracted from our oilfields, both of them located in the south of Albania.
- The Albanian gas industry was severely restricted, with a total of 400 km of pipelines linking the gas fields with main consumers like TPP-s, fertilizer and steel plants, etc.
- The gas production in 1990 was about 0.25 bcm and 0.012 bcm in 2008. As a consequence of that, important consumers of natural gas such as power plants have used oil by products.
- The gas system is practically out of use, due to the very low level of gas availability .

The existing gas field, oil fields and respective pipelines



**Gas production in Albania
1980-2008 period. (million
cubic meters)**



II. Current Developments

- Albanian gas market, supply and demand are deeply out of balance. The demand is unusually high, whereas the supply is incapable of satisfying it. .
- Local indigenous gas resources can not contribute significantly to the national primary energy balance. The gas system is practically out of use.
- Daily gas production is used mainly by ARMO company and state owned company Albpetrol, to fulfill part of their own technological demands.
- The GoA is preparing a specific plan for the development of gas sector and gas market in the country.
- In this plan are addressed a lot of issues from legal, regulatory and institutional to the gas infrastructure and gas supply of the country
- The "National Strategy of Energy, revised", forecast for the gas consumption on 2020 will be about 1.5 to 1.8 bcm.
- The priority consumers will be:
 - **First priority**, power generation sector and industrial consumers,
 - **Second priority**, householding and service sectors, which will use the natural gas for heating,
 - **Third priority**, householding sector for using of natural gas for cooking and hot water,.

III. Legal and institutional gas framework

- Referring to its objectives for the developments of gas sector and the fulfillment of the Energy Community Treaty obligations, Albania has started the preparation of the necessary legal and institutional gas framework.

- Based on the Energy Community Treaty Gas Roadmap provisions, a Working Group composed by representatives of different institutions was established for this purpose, by January 2007.

- The WG has finished the preparation of draft gas law, and after a lot of discussions with interested parties and international institutions, including Energy Community Treaty Secretariat, the gas Act has been approved by the Albanian Parliament, on 30 July 2008 (Law no. 9946, date 30.06.2008).

- The Law "On natural gas sector", is fully in compliance with the EU Directive 2003/55/EC and Regulation 1775/2005/EC.

The new law takes into consideration only one Regulatory Authority for both sectors, electricity and gas (Regulatory Authority of Energy).

- It takes into consideration the existing legal framework for construction and operation of the gas infrastructure (Law no.8450, date 24.02.1999 "On refining, transportation and trading of oil, gas and their by-products", which has taken into the consideration the Greek legal framework on this field).

- The new legal and institutional framework will create all the necessary conditions and possibilities for investments in the the Albanian gas sector.

IV. Prospects for the introduction of Natural Gas in Albania and the connection of the country with regional and international gas network

- In the frame for diversification of energy sources and energy sector development, the GoA is very interested on regional gas infrastructure development, first of all for the introduction of Natural Gas in Albania and the connection of the country with regional and international gas network.**
- We are working together with foreign partners in both directions, gas pipeline and LNG Terminals options.**
- From a strategic point of view Albania seems to be an important transit country, because of gas pipelines, UGS and LNG Terminals, proposed projects.**
- Albania is interested on its linking with regional gas network, according to the best options.**
- Albania is part of Regional Gasification Study, financed by the WB and KfW.**

IV. Projected gas infrastructure

Albania is supporting the concept of gas ring in Western Balkan (Energy Community Gas Ring), proposed by the conclusions of that study.

In that perspective of country gasification, our main objectives are:

- Linking Albania with international gas network, according to the best option. (Albania as a transit country).
- The development of natural underground gas storage (UGS) reservoirs located in the Central and West part of the country.
- The development of on LNG terminal in Adriatic Seaside area.
- Restructuring of the existing gas network and the development of gas system in the country.
- The development of gas market and its integration to the Energy Community.
- Increasing the power generation through the construction of new thermo power plants, fueled by natural gas.

Energy Community Gas Ring (Western Balkan Ring project)



E.C.G.R.

V. Gas supply options

Option A: Supply Albania with gas from Northern Balkan Grid, via Croatia, Bosnia Herzegovina, Montenegro, up to the link with projected gas transmission infrastructure near Fieri (IAP Project, Part of Energy Community Gas Ring).

Option B: Supply Albania with gas from Southern East part of Balkan Grid, Via Turkey, Greece to Southern Italy, transit through Albania (TAP Project), which requires an extension from Greek Network to Albania, Adriatic Sea and then in Italy. (East-West Corridor, Part of Energy Community Ring)

Option C: Supply with gas from Eastern part of Balkan grid via Bulgaria, FYROM which requires an extension of existing gas network Bulgaria – Macedonia to Albania. (East-West Corridor, Part of Energy Community Ring)

Option D: Supply with gas from an LNG terminal on the Adriatic Seaside in Fieri Region, which has to do with the construction and operation of the LNG Terminal and the development of gas network in Albania.

- Albania is supporting a combination of Options A and B, which means TAP in close cooperation with IAP project and possible LNG Terminals. ¹¹

Supply Options for the Gasification of ALBANIA

Option A: Supply of Albania with gas from Northern Balkan grid via Croatia towards Monte Negro (IAP project).

Option C: Supply of Albania with Russian gas via FYRO Macedonia, (part of Western Balkan Ring project)

Option B: Supply of Balkan and Western European countries with gas from the Caspian Sea Region via Turkey and Greece to Southern Italy transit through Albania. (TAP project, IGI Project)

Option D: Supply of Albania with LNG through the LNG Terminals on the Adriatic seaside in Fieri Region

IAP

WBR

LNG

TAP

IGI

A substantial „Regional Integrated Gasification - Initiative“ is the possible interconnection of Albania with regional gas market.



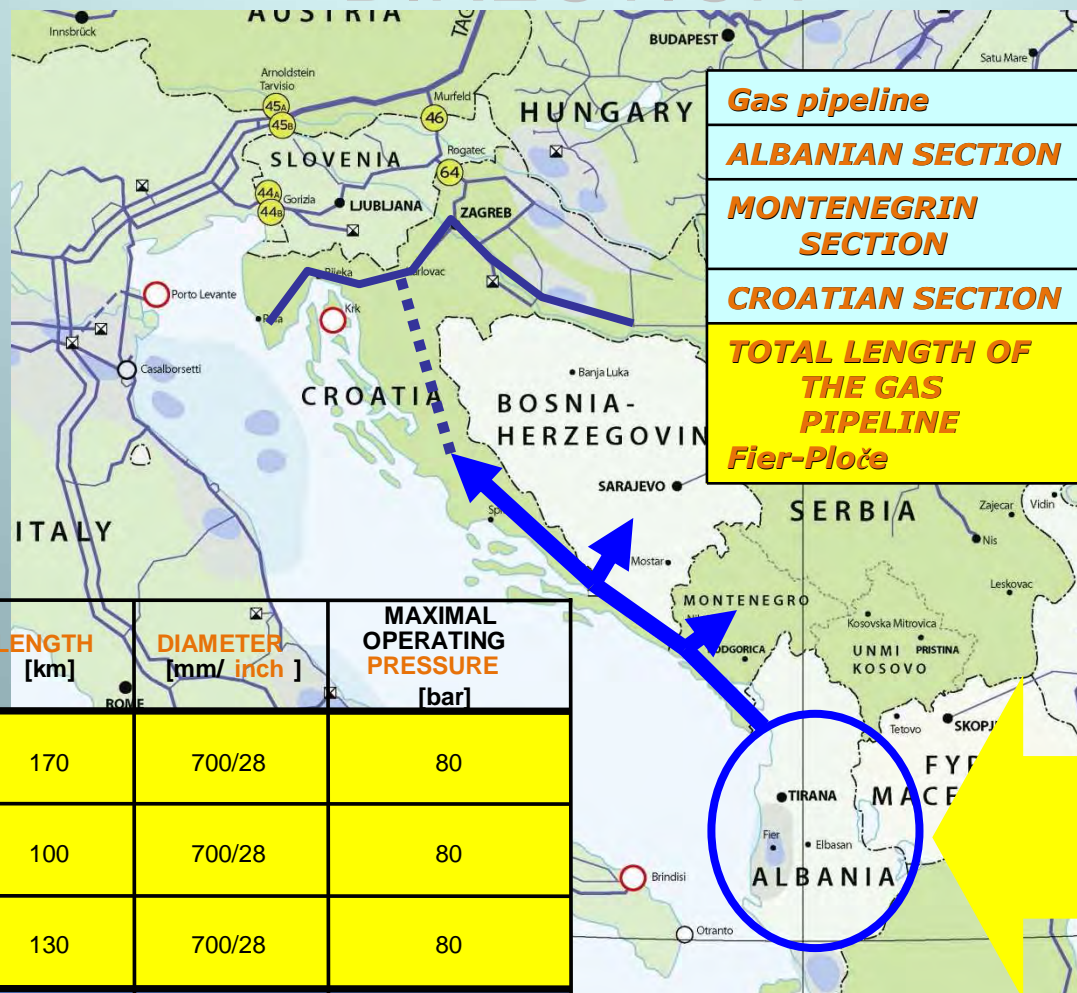
V. The Ionian – Adriatic gas Pipeline (IAP - Project)

Signing of Ministerial Declaration for the IAP Project, Zagreb 25 September 2007. Joint Declaration of B&H, Tirana on 11.12.2008.

Benefits of IAP:

- ◆ Creates the preconditions of gasification of Albania and Montenegro
- ◆ Facilitates the gasification of South Croatia and a significant part of Bosnia and Herzegovina.
- ◆ Enables diversified supply
- ◆ Enables the access to Croatian and Albanian underground gas storage facilities.
- ◆ Enables the future interconnection with Greek and FYROM gas network.
- ◆ Enables significant transit and thereby profit to Albania, Montenegro and Croatia.
- ◆ Activates the economy of the whole region.

IONIAN - ADRIATIC NATURAL GAS FLOW DIRECTION



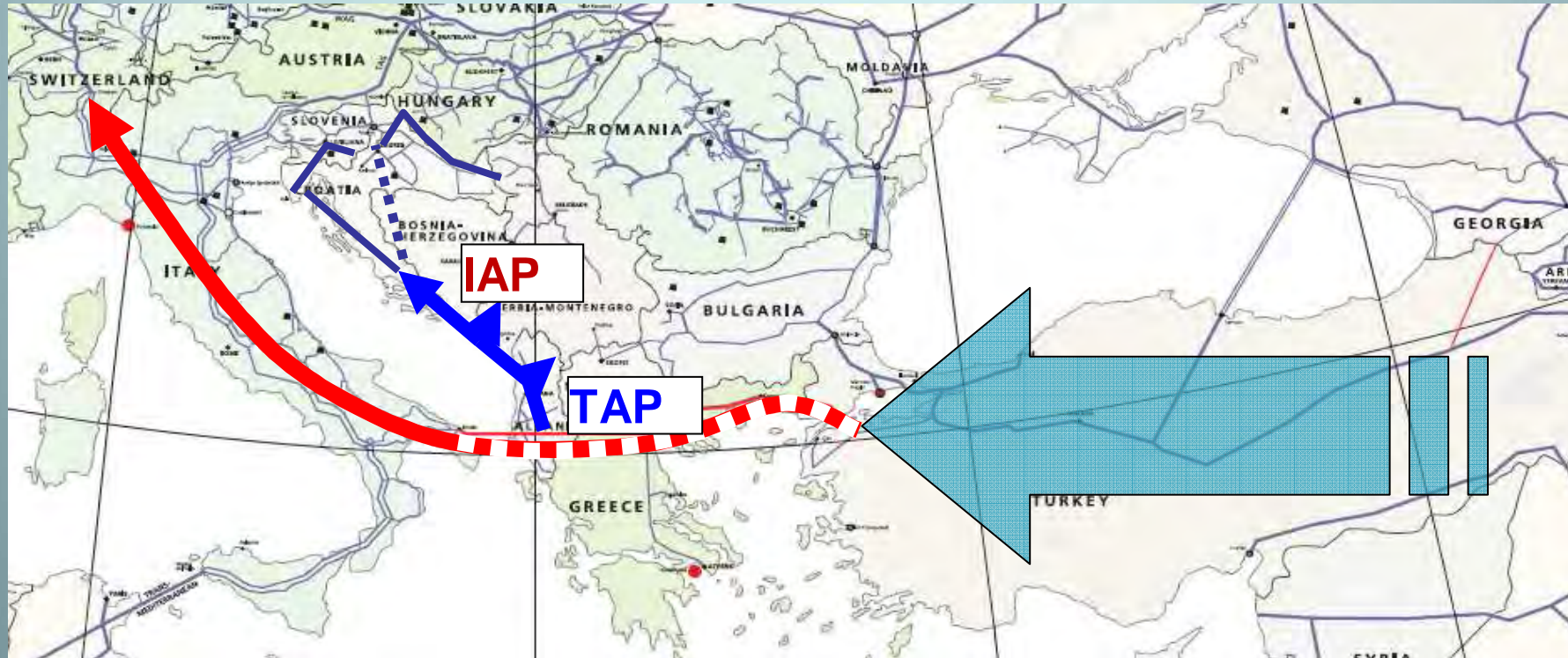
Gas pipeline	Value (mil EUR)
ALBANIAN SECTION	90
MONTENEGRIN SECTION	60
CROATIAN SECTION	80
TOTAL LENGTH OF THE GAS PIPELINE Fier-Ploče	230*

GAS PIPELINE	LENGTH [km]	DIAMETER [mm/ inch]	MAXIMAL OPERATING PRESSURE [bar]
ALBANIAN SECTION	170	700/28	80
MONTENEGRIN SECTION	100	700/28	80
CROATIAN SECTION	130	700/28	80
TOTAL ENLTH OF THE GAS PIPELINE FIER -PLOČE	400	700/28	80

V. New developments with TAP Project

- The Trans Adriatic Pipeline (TAP) is a project being promoted by the Swiss Elektrizitats-Gesellschaft Laufenburg (EGL). EGL signed an agreement in February 2008 with Norway's StatoilHydro to establish a 50/50 joint venture to build and operate the TAP.
- This pipeline will open a new corridor and market outlet for natural gas (Forth Gas Corridor for EU), from Caspian Sea and Middle East regions into Europe, through Turkey-Greece-Albania corridor. TAP will be interconnected with gas system in Greece
- The TAP project would provide low transportation fees into the EU gas market and facilitate rapid connection to existing gas networks.
- The project would support gasification and development of Albania, and potentially – through a separate spur line along the Balkan coast towards Croatia (the Ionian-Adriatic-Pipeline) – promote the development of a broader regional gas market in SEE

New Supply Corridor & Diversification for Europe



Generating Sustainable Solutions for Economic Growth & Political Stability

VI.- Proposed LNG Terminal projects, Fieri Region



- **Decision of the Council of Ministers no. 731, 01.11.2006** "On the approval of the study "For the possibilities of construction of the liquefied natural gas (LNG) terminals and respective infrastructure, on the Fieri District seaiside".
- **Decision of the Albanian National Council of Territory Regulation, No. 1, date 01. 03.2007** "For the approval of the study for the placement of the liquefied natural gas terminals and their respective infrastructure on the Fieri District seaiside".

LNG Terminal project of the “Trans European Energy BV” sh.a.

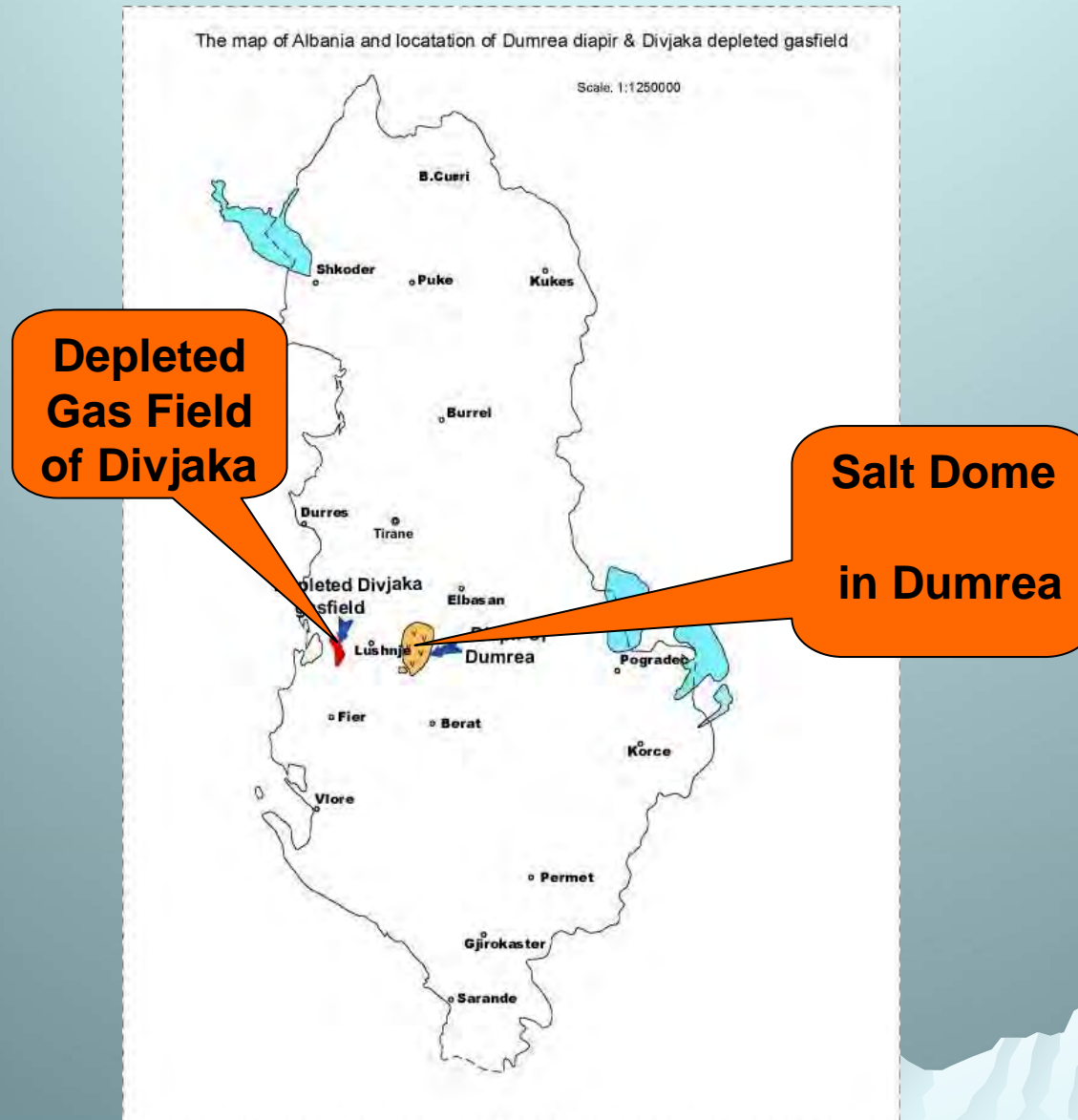
- The Contract of the Permit to the company “Trans European Energy BV” sh.a. for construction of the LNG Terminal on the Fieri District seaside, is signed on 02 December 2008, in Tirana.
- The LNG Terminal will have the capacity about 8 BCM/year, equal to more than 6 million ton natural gas per year.
- The pressure of the pipe will be 120 bar (g) and the temperature about 1°C.
- The LNG Terminal will be capable to unloads ships with capacity up to 140.000 m³. On the plant will be installed two cryogenic storage tanks with net capacity 140.000 m³, each of them.

VII. Underground Gas Storage in Albania

- ◆ **Natural reservoirs constitute a very important element in gas transmission systems to cover peak demands and to balance the seasonal variations.**
- ◆ **Albania has several suitable sites for gas storage, including, a **salt dome in Dumrea** (up to 2 bcm) and **the depleted Divjaka gas field** (up to 1 bcm).**
- ◆ **Based on a preliminary feasibility study, presented on the 3rd Gas Forum in Ljubljana, **the possible UGS at Dumre Salt Dome could have the cheapest cost for gas storage (76\$/Mcm)****
- ◆ **Is possible the cooperation between Albania and Greece for using of UGS In Dumrea Salt Dome.**
- ◆ **By connecting these gas storage into regional gas network (including Energy Community Ring), Albania could provide regional storage facilities for other Balkan countries.**
- ◆ **Therefore the design of underground gas deposits is a project of regional interest and with a particular importance for Albania.**

Location of possible underground gas storage.

Dumrea Salt Dome and Divjaka Depleted Gas Field



CONCLUSIONS

- **The integration of Albania in the European gas market is one of the most important objective of the GoA.**
- **Preparation of the necessary legal and institutional framework of gas sector referred to the provisions of the Energy Community Treaty (EU Directive) is a key issue of our first phase.**
- **There are in place a lot of prospects for the introduction of natural gas in Albania and linking of the country with existing regional gas network and the future gas infrastructure of the Energy Community.**

CONCLUSIONS

- **Supply of Albania with gas from Caspian Sea Region, Middle East and Russia through regional gas projects that will be part of Energy Community Ring. TAP and IAP projects, is our main target in medium and long term.**
- **Developing of the underground gas storage capacities and LNG terminals, in parallel with gas pipeline projects development, is another objective of Albania towards its gasification.**
- **Neighboring and regional cooperation is the most successful way to develop local and regional gas network and to establish an integrated gas market over South East Europe.**



METE

**THANK YOU FOR YOUR
ATTENTION**

**I E N E CONFERENCE
GREEK-ALBANIAN COOPERATION IN THE ENERGY SECTOR**

Tirana, 15 January 2009