

DEVELOPMENT OF THE CROATIAN GAS TRANSMISSION SYSTEM AN EXAMPLE OF REGIONAL APPROACH TO ENERGY

2th South East Europe Energy Dialogue

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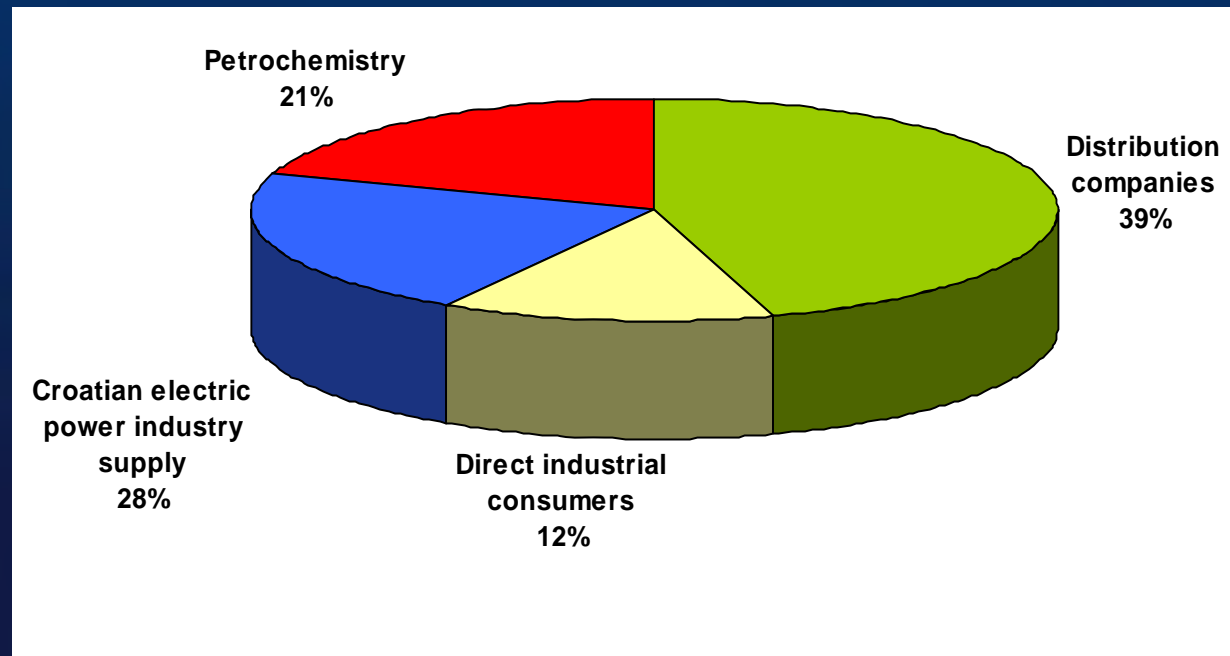
CROATIAN GAS TRANSMISSION COMPANY

- ◆ established in January 2001, by unbundling gas transmission activity from INA Plc
- ◆ 100% state-owned company
- ◆ in charge of transmission, development, construction, maintenance, managing and supervision of the entire gas transmission system

- ◆ **transmission of natural gas is defined as energy activity**
- ◆ **gas transmission company has a public service obligation**
- ◆ **the licence (issued by HERA) is required for the gas transmission activity**
- ◆ **the price of gas transmission service is regulated and set in accordance with the tariff system**

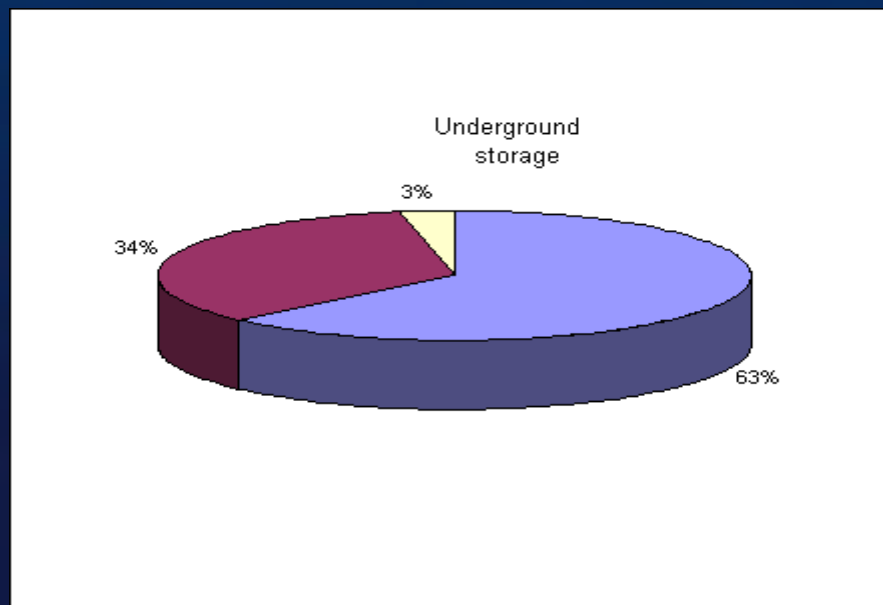
NATURAL GAS SALE 2007

Distribution companies	Bcm	1,20
Direct industrial consumers		0,38
Croatian electric power industry supply		0,86
Petrochemistry		0,65
TOTAL		3,09



NATURAL GAS SUPPLY 2007




	Bcm
Domestic production	1,94
Production Panon	1,06
Production North Adriatic	0,88
Import	1,05
TOTAL	2,99
Underground storage	0,10
MARKET TOTAL	3,09



GAS TRANSMISSION SYSTEM OF THE REPUBLIC OF CROATIA 2002



LEGEND

-  GAS NETWORK 50 BAR
-  GAS NETWORK 75 BAR
-  UGS

**PLAN OF DEVELOPMENT, CONSTRUCTION AND
MODERNIZATION OF GAS TRANSMISSION SYSTEM OF THE REPUBLIC OF
CROATIA 2002-2011
(2001/2002 PLINACRO)**



**Accepting the Plan and approval for the performance of the first
development – investment phase from 2002 – 2006
(Ministry of Economy, Labour and Entrepreneurship, August 30, 2002)**



**Great step forward for the entire natural gas business activities and for the
Croatian Energy Sources**

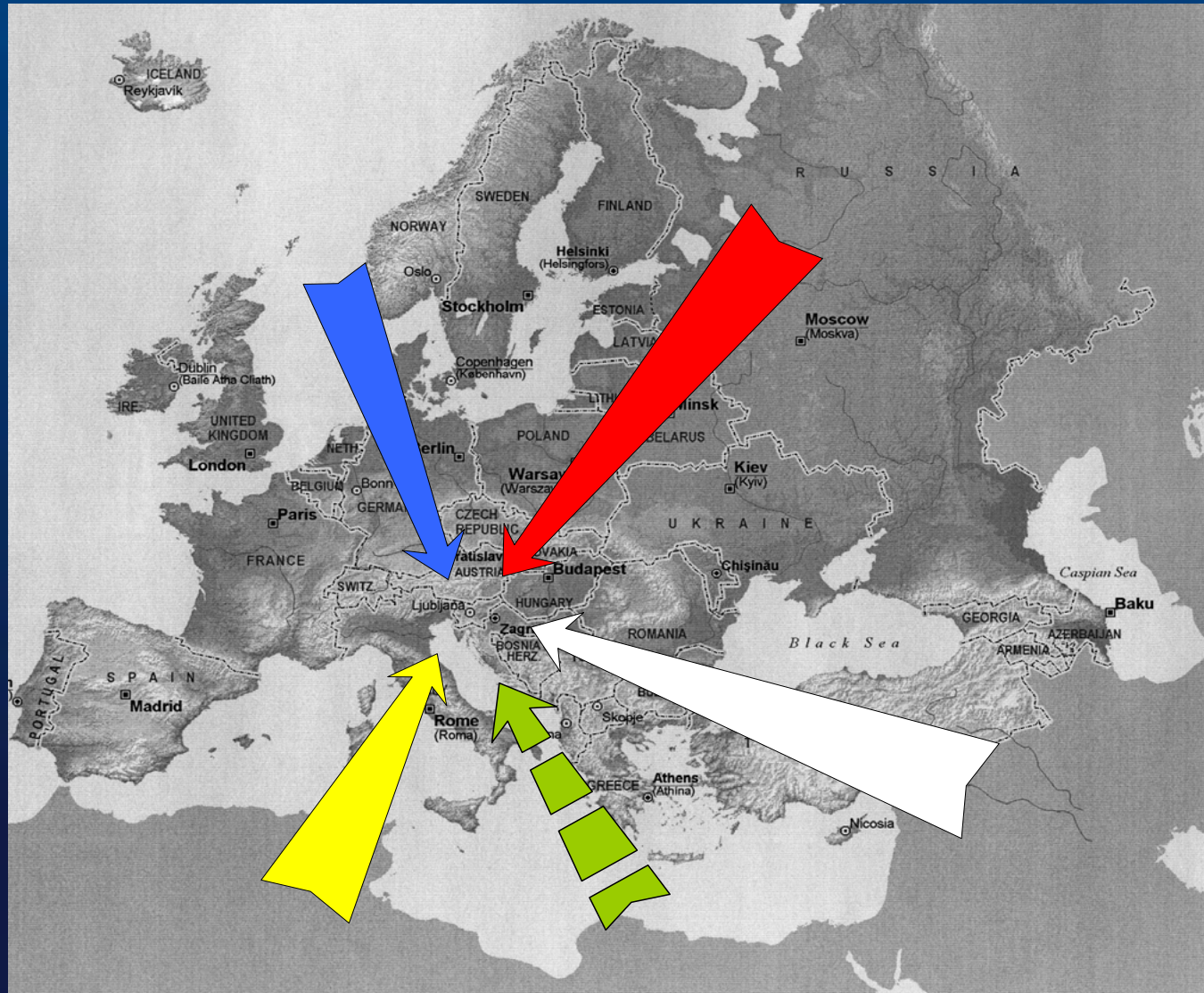
- ◆ **Safe and reliable natural gas supply**
- ◆ **Natural gas supply to the major part of Croatia**
- ◆ **Long-term increase of the natural gas consumption**
- ◆ **Diversification of natural gas supply**
- ◆ **Connecting the Croatian gas transmission system with the systems of the neighbouring countries**

GEOGRAPHICAL OUTSTANDING CHARACTERISTICS OF THE REPUBLIC OF CROATIA

SUŽIVOT S PRIRODOM



POSITION OF CROATIA IN RELATION TO EXISTING AND NEW GAS SUPPLY ROUTES



SPECIFIC GEOSTRATEGIC POSITION OF CROATIA



**OPENS SIGNIFICANT DEVELOPING AND BUSINESS OPPORTUNITIES IN
VARIOUS SEGMENTS, PARTICULARLY IN NATURAL GAS ENERGY
SECTOR**



**BUT, IN REGULATED SOCIETIES AND COMMUNITIES, WHERE CROATIA
BELONGS, IT ALSO REQUIRES RESPONSIBILITY AND IMPOSES
COMMITMENTS**



**REGIONAL APPROACH IN THE GAS TRANSMISSION SYSTEM
DEVELOPMENT**

**PROCESS OF PLANNING AND CREATING
THE NEW CROATIAN NATURAL GAS TRANSMISSION SYSTEM**



**HAS TAKEN INTO ACCOUNT PLANS FOR NATURAL GAS TRANSMISSION
SYSTEM DEVELOPMENT IN THE NEIGHBOURING COUNTRIES**



**EXCLUDING RISKS AND JEOPARDIZING ECONOMIC,
FINANCIAL AND TIME CONDITIONS FOR ACHIEVEMENT OF
OUR OWN INVESTMENTS AND DEVELOPMENTS**

THE FIRST DEVELOPMENT - INVESTMENT PHASE 2002 – 2006

SUŽIVOT S PRIRODOM



LEGEND

- GAS NETWORK 50 BAR
- GAS NETWORK 75 BAR
- UGS

- ◆ The preconditions of the safe and reliable natural gas supply have been realized, only for the transfer, short-term period
- ◆ The gas supply areas of the Republic of Croatia have been significantly extended
- ◆ The possibilities for the long-term gas consumption increase have considerably accrued
- ◆ Restricted diversification of natural gas supply provided
- ◆ Connecting the Croatian gas transmission system with the systems of neighbouring countries realized, currently in the restricted extent

FIRST DEVELOPMENT – INVESTMENT CYCLE 2002 - 2006



ACCOMPLISHED



ALREADY PARTIALLY PROVIDED POTENTIALS FOR THE REGION

IN THE PERIOD OF THE PERFORMANCE OF THE FIRST DEVELOPMENT - INVESTMENT PHASE SIGNIFICANT CHANGES HAVE OCCURRED IN THE ENVIRONMENT WHERE THE ENTIRE NATURAL GAS BUSINESS ACTIVITIES ARE TAKING PLACE



MODIFICATIONS AND SUPPLEMENTS of the Plan of development, construction and modernization of gas transmission system of the Republic of Croatia 2002-2011

**SECOND DEVELOPMENT – INVESTMENT PHASE, 2007 – 2011
(PLINACRO, 2006)**



**APPROVAL FOR THE PERFORMANCE
(Ministry of Economy, Labour and Entrepreneurship, November 14, 2006)**

MODIFICATIONS AND SUPPLEMENT OF THE PLAN OF DEVELOPMENT, CONSTRUCTION AND MODERNISATION OF THE GAS TRANSMISSION SYSTEM OF THE REPUBLIC OF CROATIA 2002-2011

SECOND DEVELOPMENT-INVESTMENT PHASE, 2007-2011



INITIATED PREPARATION OF A COMPREHENSIVE STUDY OF
DEVELOPMENT OF NATURAL GAS SECTOR UNTIL 2030 (ENERGY
INSTITUTE "HRVOJE POŽAR")



ENTIRELY REGIONAL APPROACH IN THE ANALYSIS AND
CONSIDERATION OF NATURAL GAS CONSUMPTION AND SUPPLY, AS
WELL AS THE DEVELOPMENT AND CONSTRUCTION OF THE GAS
TRANSMISSION SYSTEM

THE SECOND DEVELOPMENT-INVESTMENT PHASE 2007 – 2011



LEGEND

- GAS NETWORK UNTIL 2002.
- GAS NETWORK 2002. - 2006.
- GAS NETWORK 2007. - 2011.
- GAS NETWORK AFTER 2011.
- UGS

NEW GAS TRANSMISSION SYSTEM WILL REACH ALL PLANNED GOALS AND ENABLE

- ◆ **High level of reliability and safety of natural gas supply**
- ◆ **Natural gas supply to the major parts of Croatia**
- ◆ **Long-term increase of natural gas consumption**
- ◆ **Diversification of natural gas supply**
- ◆ **Considerable connections of Croatian gas transmission system with gas transmission systems of neighbouring countries**

**AND ALSO CREATE SIGNIFICANT POTENTIALS FOR
THE BUSINESS STEP FORWARD IN THE REGION**

DESIGN OF THE NEW GAS TRANSMISSION SYSTEM



Plan of development, construction and modernization of gas transmission system of the Republic of Croatia 2002-2011



RESPECTING THE NEEDS AND THE DEVELOPMENT PLANS OF THE STATES IN THE REGION



SUPPLY DIRECTIONS – SUPPLY PROJECTS – INTERCONNECTIONS

- ◆ GROWTH OF NATURAL GAS DEMAND
- ◆ GROWTH OF IMPORT DEMAND – **RUSSIAN GAS DOMINATES**
- ◆ THE BIGGEST WORLD RESERVES OF NATURAL GAS ARE IN THE MIDDLE EAST AND IN CASPIAN REGION
- ◆ NECESSITY FOR SUPPLY DIVERSIFICATION FOR EUROPEAN MARKET

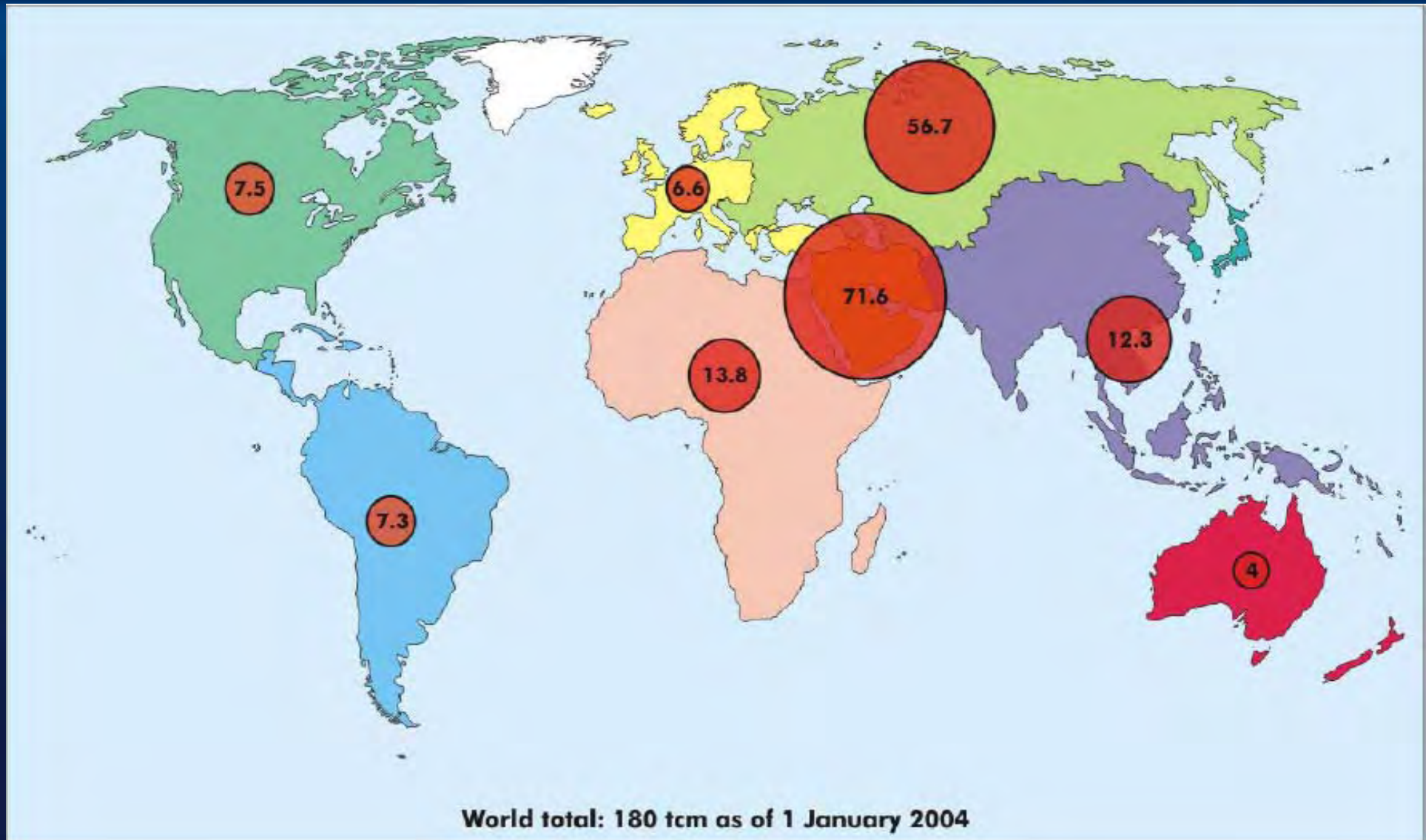


OPENING OF THE NEW SUPPLY DIRECTIONS

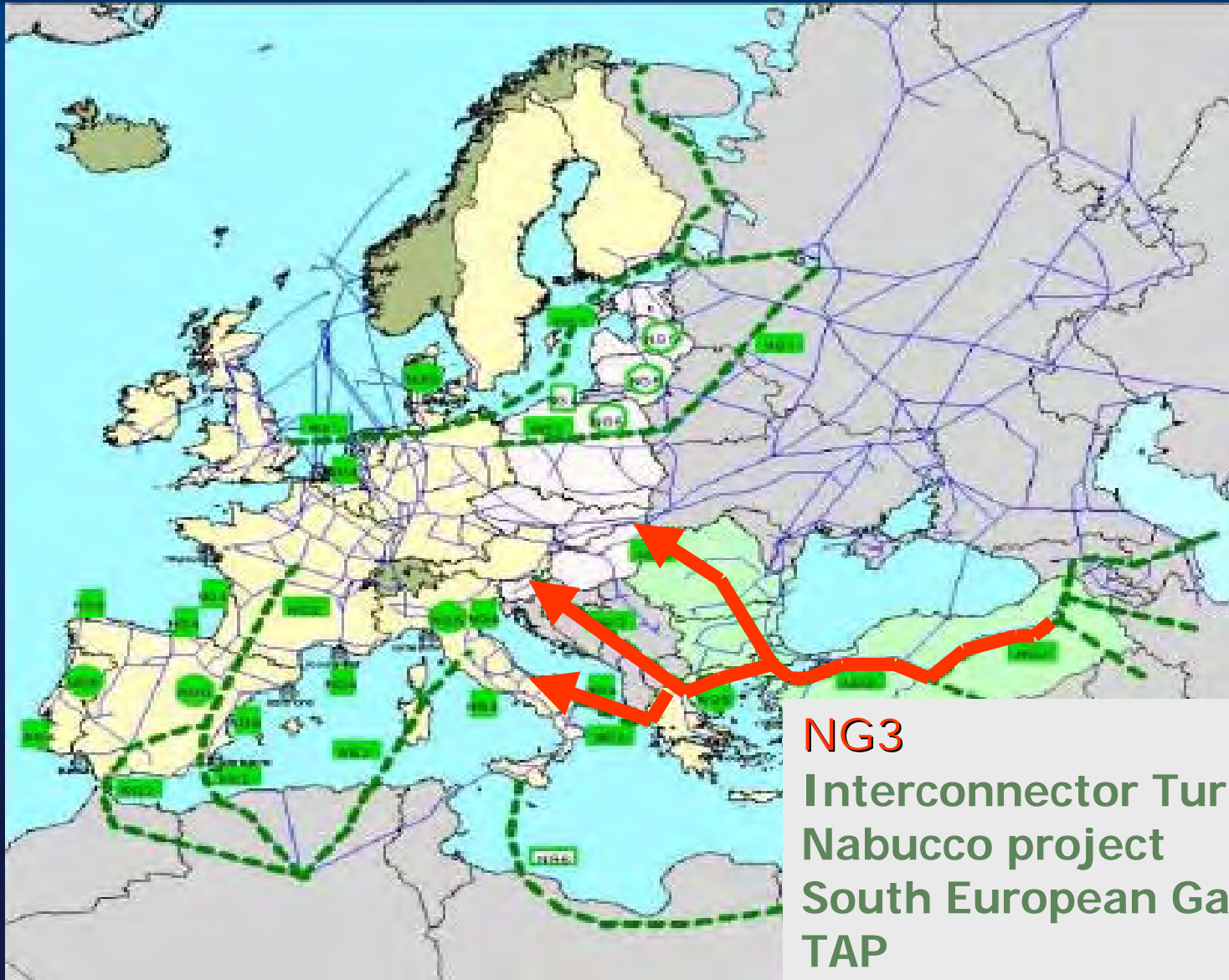


NEW PROJECTS OF THE GAS TRANSMISSION

REGIONAL LAYOUT OF NATURAL GAS WORLD RESERVES



TEN-E = TRANS EUROPEAN ENERGY NETWORKS/ PRIORITY DIRECTIONS OF NATURAL GAS SUPPLY

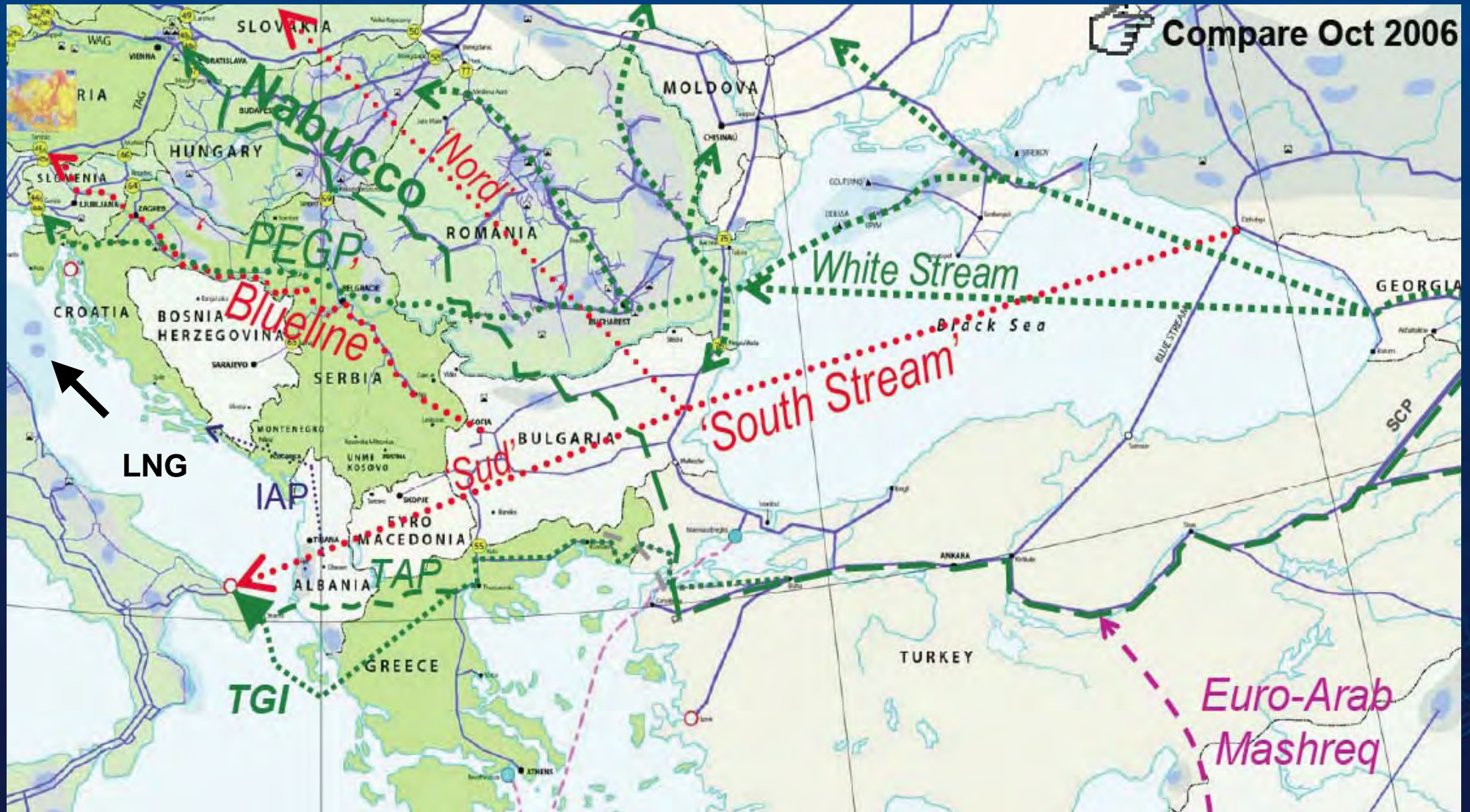


NG3

Interconnector Turkey – Greece - Italy
Nabucco project
South European Gas Ring
TAP

POTENTIAL SUPPLY PROJECTS

SUŽIVOT S PRIRODOM



SOUTH STREAM

NABUCCO



LNG

BLUE LINE

TAP

NEW POTENTIAL SUPPLY DIRECTION



OPERATOR PLINSKOGA TRANSPORTNOG SUSTAVA



RIRODOM

RUSSIAN
MIDDLE
EAST
CASPIAN
REGION

LNG

MIDDLE
EAST
CASPIAN
REGION

- ◆ Along with the existing supply direction from Russia through Slovenia, a new supply direction will be opened through Hungary by connecting the Croatian and Hungarian gas transmission systems
- ◆ In this moment, among the new potential supply directions, the Croatian interest is focused to

ADRIA LNG

IAP (Ionic Adriatic Pipeline)

- ◆ The other directions are also interesting and welcomed, due to the Croatian gas system flexibly planed and formed - ready for all options

- ◆ **New consortium has been established, but without Croatian participation and shares (E.ON Ruhrgas 31,15%, OMV Gas International 25,58%, Total 25,58%, RWE 16,69%, GEOPLIN 1%)**

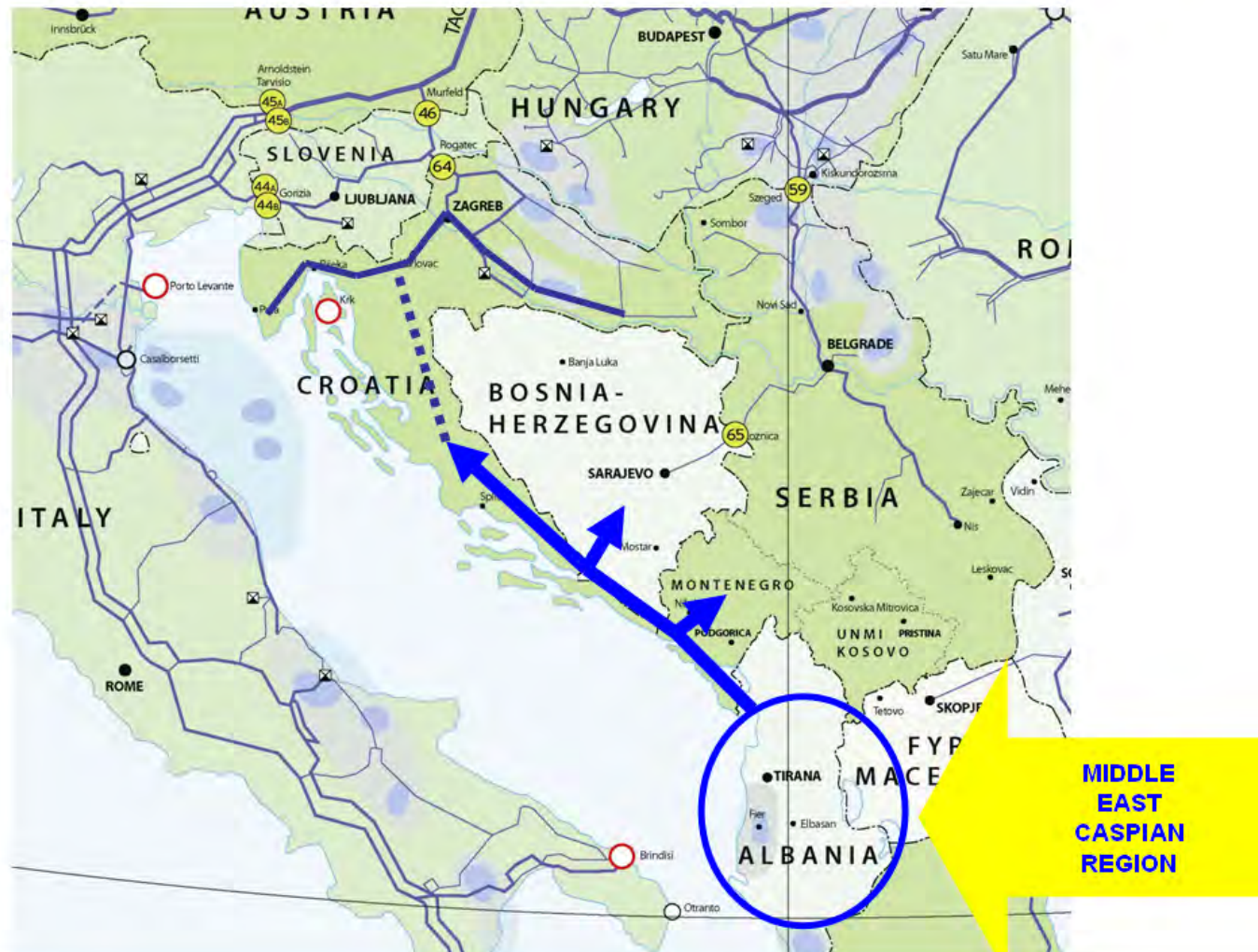


- ◆ **The decision of the Croatian Government about the location of the LNG Terminal is expected**

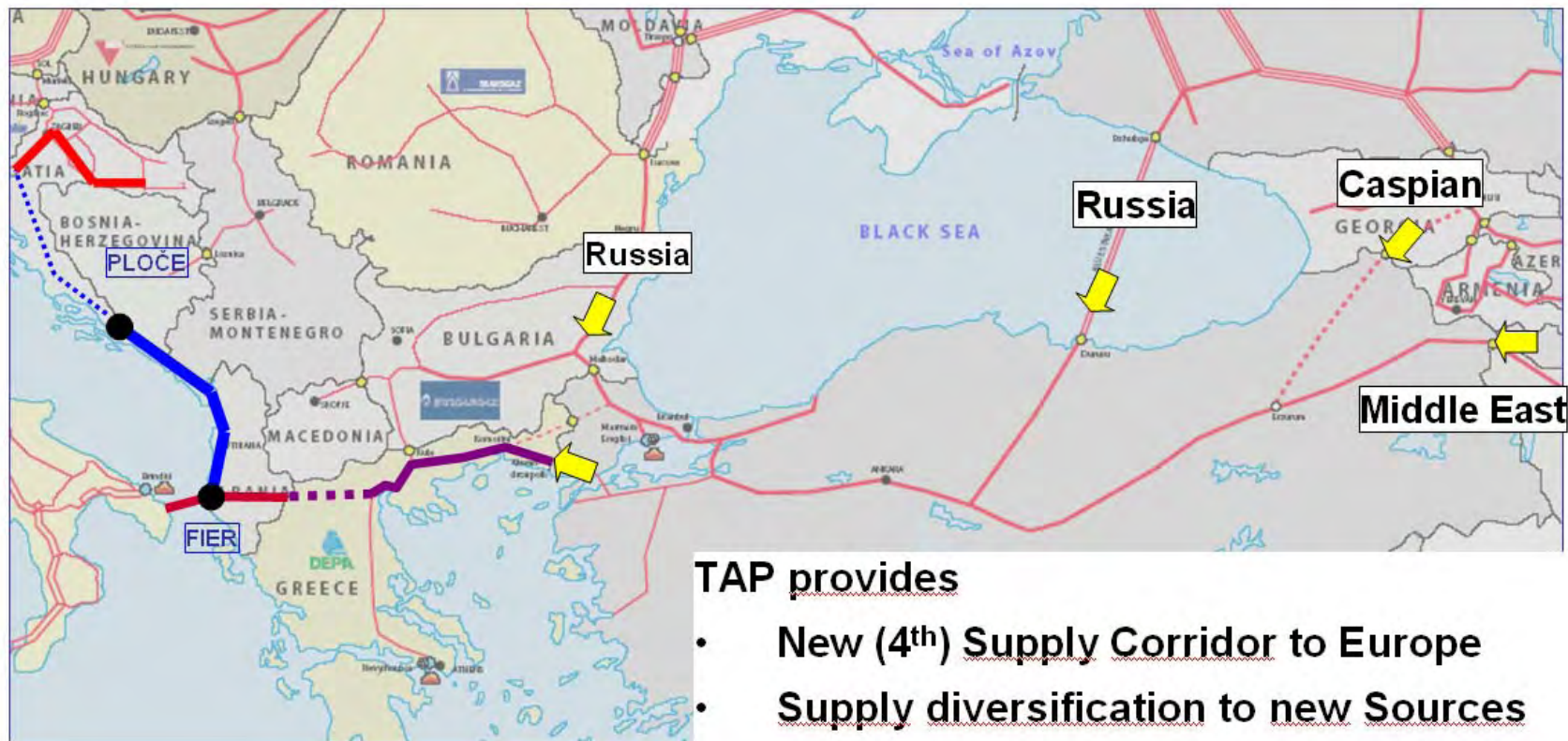


- ◆ **The agreement between the Consortium and Croatia on the participation of Croatian Companies in Consortium is expected (INA 14% + HEP 10% + PLINACRO 1% = 25%?)**

IONIAN – ADRIATIC NATURAL GAS DIRECTION



TAP - Potential Supply Sources + IONIAN – ADRIATIC GAS PIPELINE



TAP provides

- New (4th) Supply Corridor to Europe
- Supply diversification to new Sources
- Security of supplies

BENEFITS OF IONIAN-ADRIATIC GAS PIPELINE

- ◆ INTRODUCES THE ECOLOGICALLY SOUND ENERGY SOURCE IN THE REGION (REPLACEMENT FOR FIREWOOD, COAL, FUEL OIL...)
- ◆ FACILITATES THE GASIFICATION OF ALBANIA
- ◆ CREATES THE PRECONDITIONS FOR GASIFICATION OF MONTENEGRO
- ◆ FACILITATES THE GASIFICATION OF CONSIDERABLE PART OF SOUTHERN CROATIA
- ◆ FACILITATES THE GASIFICATION OF CONSIDERABLE PART OF BOSNIA AND HERZEGOVINA
- ◆ PROVIDES THE DIVERSIFIED SUPPLY
- ◆ PROVIDES THE ACCESS TO CROATIAN AND ALBANIAN STORAGE CAPACITIES
- ◆ PROVIDES THE SIGNIFICANT TRANSIT AND PROFIT THEREOF TO ALBANIA, MONTENEGRO AND CROATIA
- ◆ ECONOMICALLY ACTIVATES THE ENTIRE REGION

- ◆ CREATES PRECONDITIONS FOR CLOSING THE ADRIATIC GAS RING AND THE CONNECTION WITH THE ITALIAN GAS SYSTEM AND ALSO WITH SLOVENIAN AND HUNGARIAN SYSTEMS – EXTENDS THE REGIONAL DIMENSION

- ◆ IS COMPLIANT WITH THE CONCEPT OF SOUTH EUROPEAN GAS RING FORMING ONE OF ITS KEY BASIS



OUTSTANDING SYNERGIC EFFECT



PRIORITY REGIONAL ENERGY PROJECT

Zagreb, September 25, 2007

INTERGOVERNMENTAL DECLARATION

Albania / Montenegro / Croatia

MEMORANDUM of UNDERSTANDING

PLINACRO / EGL



**GOOD STARTING POINTS FOR THE ACTIVITIES TO IMPLEMENT
IONIAN – ADRIATIC GAS PIPELINE PROJECT**

MEMORANDUM OF UNDERSTANDING

PLINACRO / EGL

With the aim of implementation of the IONIAN – ADRIATIC GAS PIPELINE
PROJECT (IAP)



JOINT IAP WORKING GROUP



JOINT ACTIVITIES ON THE PREPARATION OF IAP PROJECT

SEE Regional Gasification Study



ENERGY COMMUNITY GAS TRANSMISSION RING

- ◆ Interesting and theoretically based concept of the gasification of the SEE countries
- ◆ Hardly realised in the real circumstances

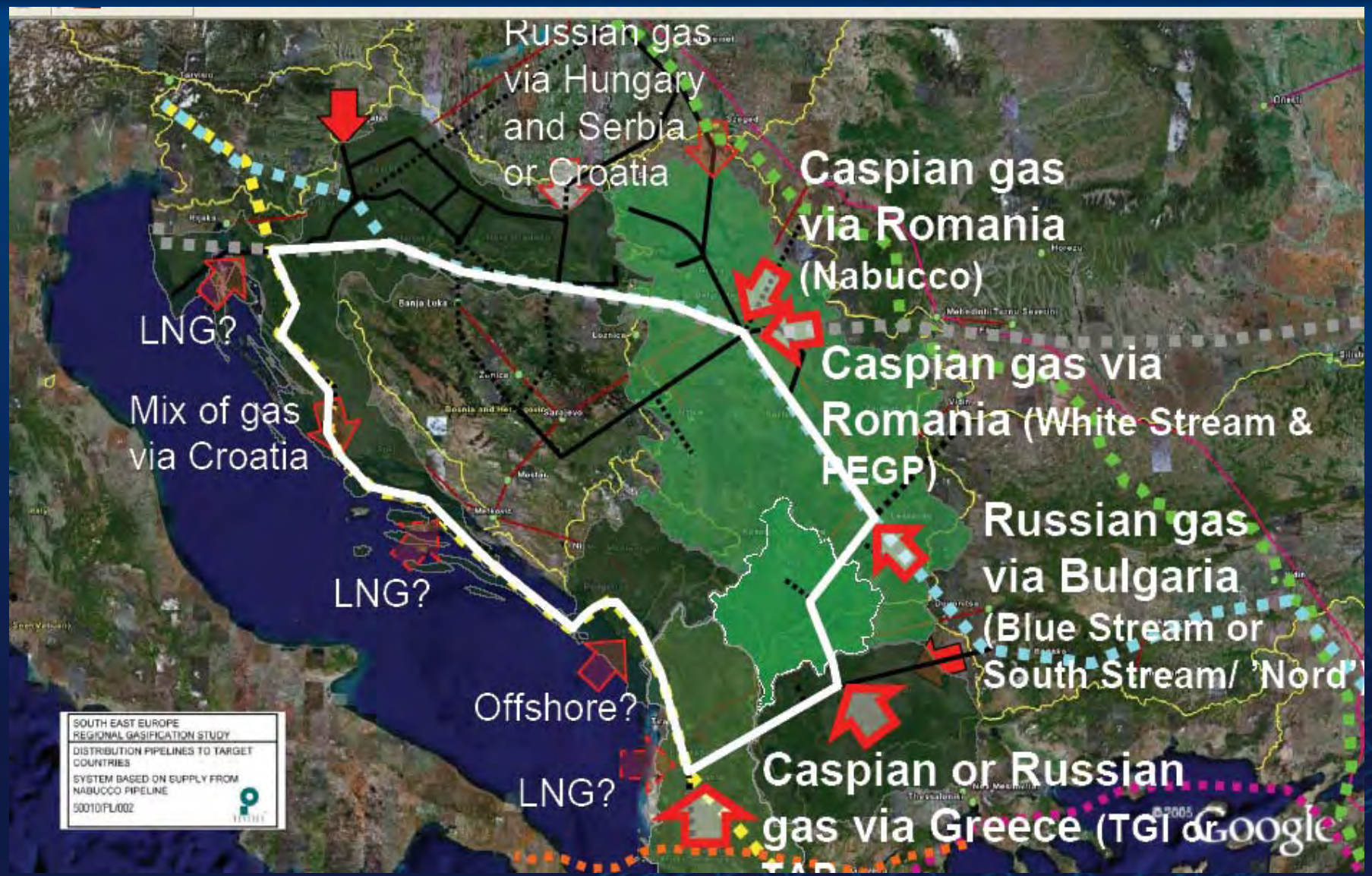


- ◆ Extend the ring to a maximum degree using the existing and the newly planned Croatian gas transmission system, as well as the Serbian system
- ◆ It is possible to close the largest part of the ring by the Ionian - Adriatic and the TAP gas pipelines
- ◆ Such ring incorporates the potential Adriatic LNG Terminals, the existing and potential underground natural gas storages and naturally almost all existing and potential supply directions



Western Balkan Ring transmission concept 2

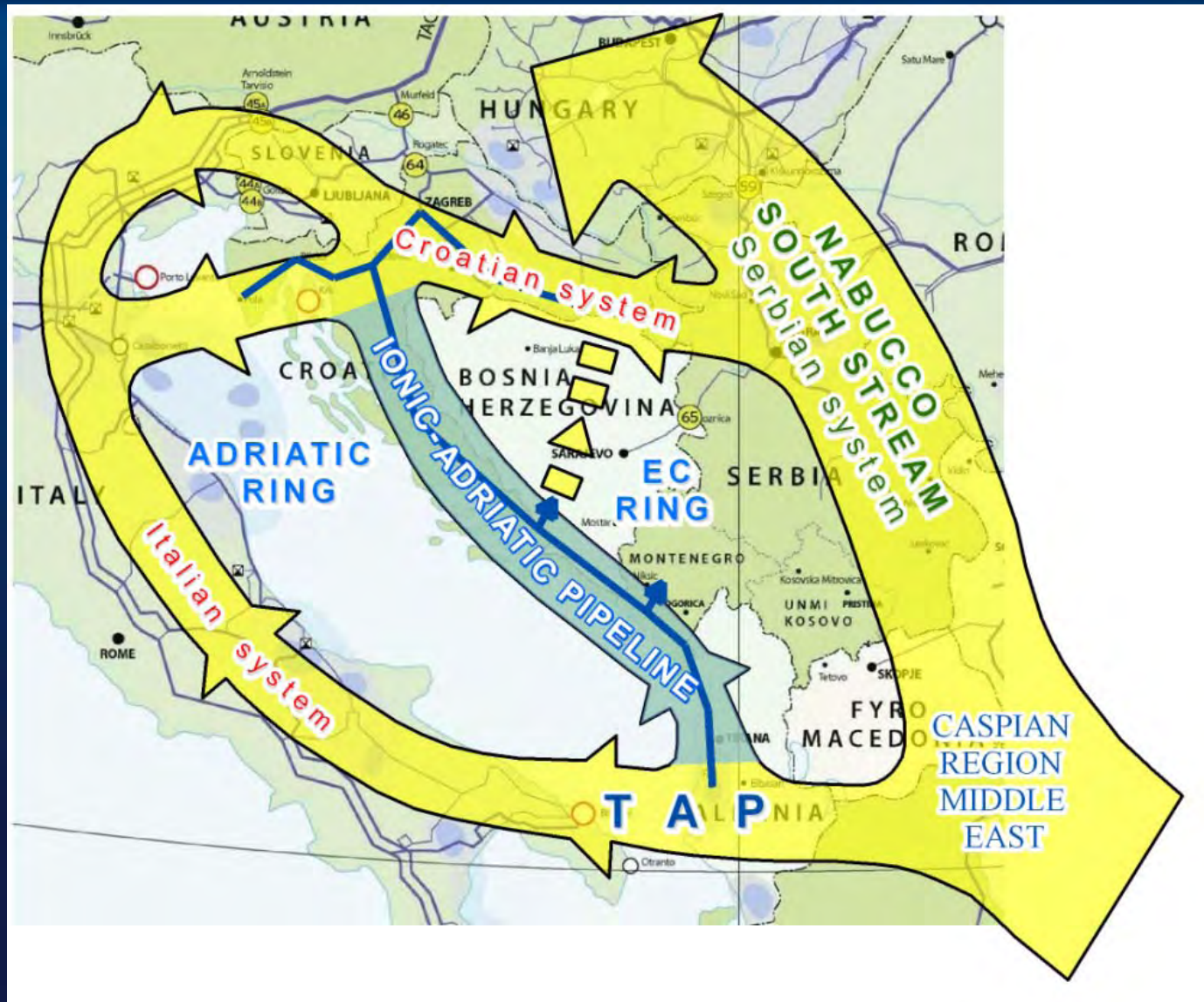
SUŽIVOT S PRIRODOM



IONIC – ADRIATIC PIPELINE

REGIONAL BACKBONE OF GAS TRANSMISSION SYSTEMS AND
CONNECTION BETWEEN ADRIATIC AND EC RING

SUŽIVOT S PRIRODOM



INVESTMENTS

PLAN OF DEVELOPMENT, CONSTRUCTION AND MODERNIZATION OF GAS TRANSMISSION SYSTEM OF THE REPUBLIC OF CROATIA 2002 – 2011

2002 – 2006

220 mil EUR

2007 – 2011

450 mil EUR

LNG

+ IAP

STORAGES

?

**BY THIS REGIONAL APPROACH TO THE GAS TRANSMISSION
SYSTEM DEVELOPMENT AND THE CONSTRUCTION**



**THE REPUBLIC OF CROATIA (PLINACRO LTD) TAKES ITS
DEVELOPING OPPORTUNITIES AND FULFILS ITS OBLIGATIONS**