

# South East Europe

*financial solutions to  
challenging energy  
projects*

*Luca Lazzaroli  
Director for South East Europe*



## The European Investment Bank (EIB)

Long-term finance promoting European objectives

- ▣ European Union's long-term lending bank set up in 1958 by the Treaty of Rome.
- ▣ Shareholders: 27 EU Member States

Outside EU, under EU Mandates:

Pre-Accession

- ▣ Candidate Countries: Croatia, Turkey and Former Yugoslav Republic of Macedonia
- ▣ Potential Candidate Countries – Western Balkans

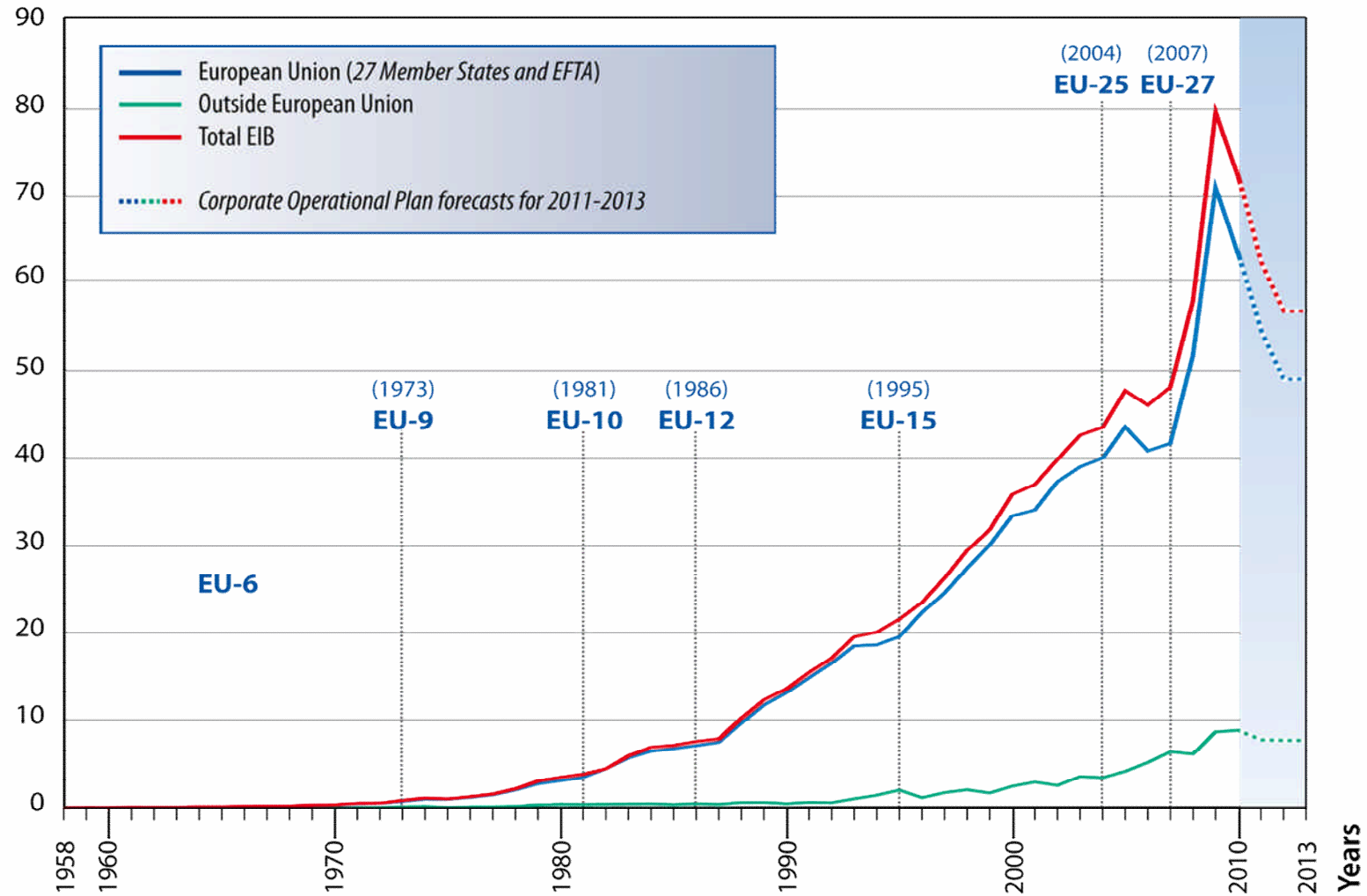
Eastern Neighbourhood



# EIB Signatures 1958-2010



EUR bn





# The European Investment Bank (EIB)

European priority objectives

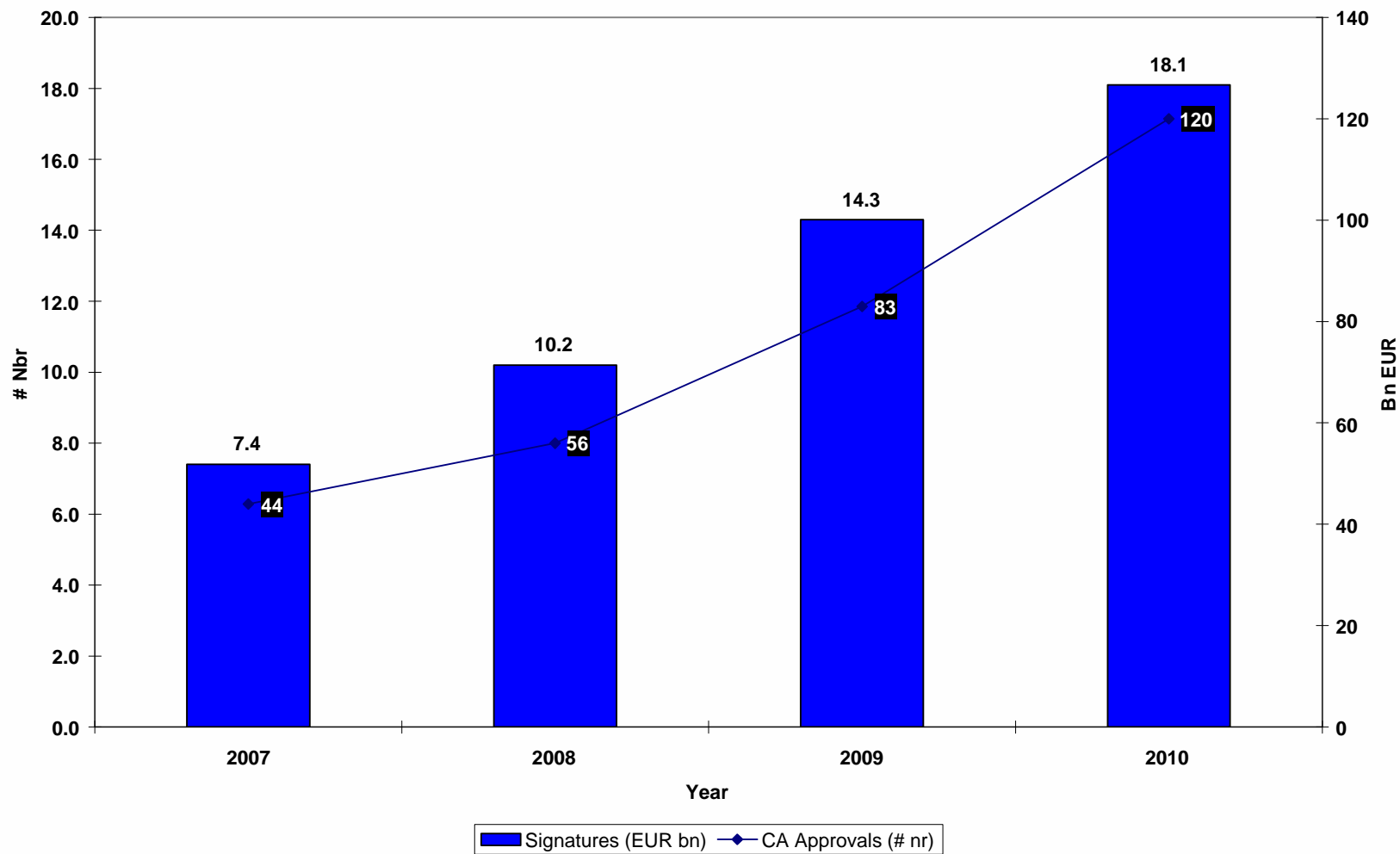


- Within the Union:
  - ▣ Cohesion and convergence
  - ▣ Small and medium-sized enterprises (SMEs)
  - ▣ Environmental sustainability
  - ▣ Knowledge Economy
  - ▣ Trans-European Networks (TENs)
  - ▣ Sustainable, competitive and secure energy



## Value added

- Value added of the Bank's lending activities:
  - Support for EU priority objectives
  - Project quality and soundness
  - Financial benefits of EIB funds
  - Technical assistance - VA through project assessment



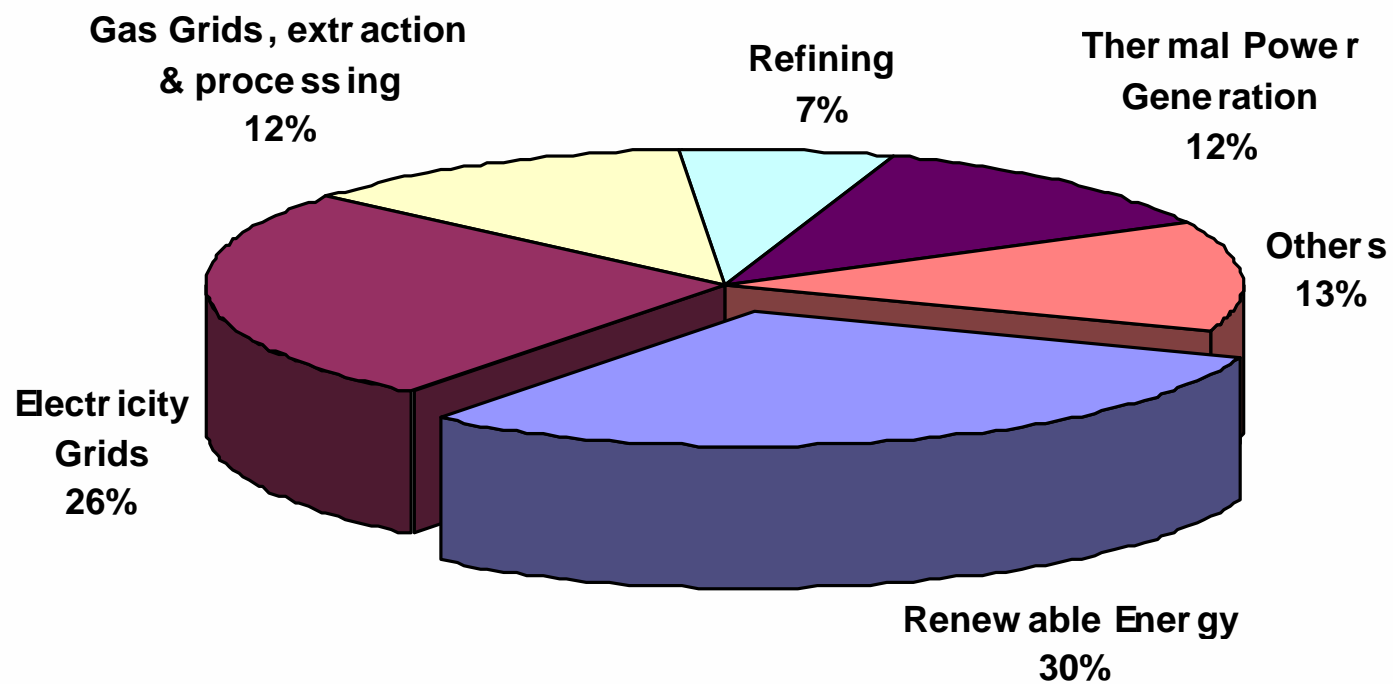


# Sustainable, Competitive and Secure Energy



- ❖ Four priority areas
  - ❖ Renewable energy
  - ❖ Energy efficiency
  - ❖ Diversification and security of internal supply (including TEN-e)
  - ❖ External energy security and economic development
- ❖ Individual loans in EU energy sector, 2010 : EUR 14.5 bn
  - ❖ 4.6bn - electricity grids
  - ❖ 2.1bn - gas grids, storages and LNG
    - ❖ of which 2.3bn - TEN-e projects
  - ❖ 5.3bn - renewable energy
- Individual loans in EU, 2006-2010 : EUR 46bn
  - ❖ 14.3bn - electricity grids
    - ❖ 8.3bn - gas grids, storages and LNG
      - ❖ of which 8.7bn - TEN-e projects
    - ❖ 14.8bn - renewable energy

## EIB Energy Lending 2010 by sector







## EIB's role in the SEE Region



## 13 Countries:

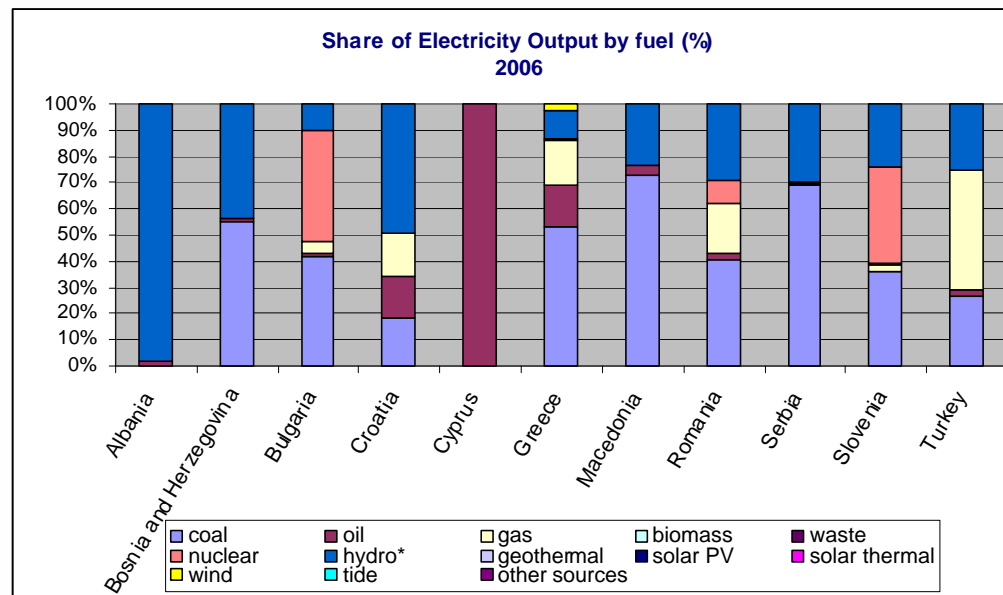
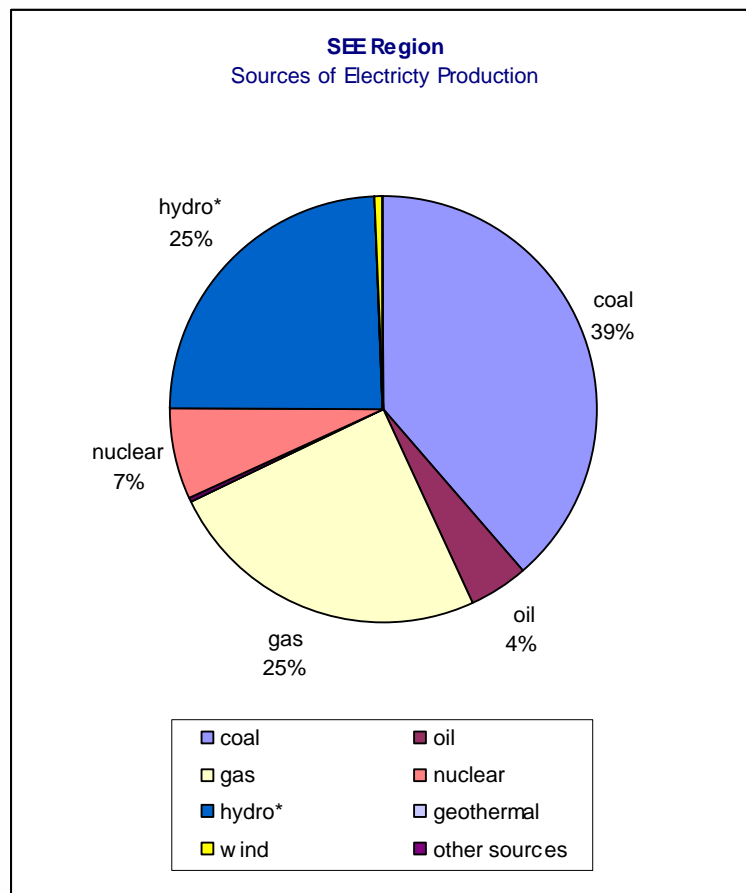
- 5 EU Member States: Greece, Bulgaria, Romania, Cyprus, Slovenia.
- 3 EU Candidate States: Croatia, FYROM, Turkey.
- 5 EU Potential Candidate Countries: Albania, Bosnia and Herzegovina, Montenegro, Serbia, Kosovo.



## SEE region economic slowdown and quick recovery



# SEE region energy landscape



- ✓ There is considerable diversity across countries.
- ✓ The region as a whole is dependant on imported energy (oil and natural gas).
- ✓ Regional generation (excl. Greece and Turkey) is in average 40% coal, 23% hydro, 23% gas, 7% oil and 7% nuclear.
- ✓ Very low share of renewable sources of energy.



## Main obstacles to regional integration



### Lack of regional identity

- ❖ Some countries are still in the process of recovery after the 1990s conflicts
- ❖ Still, the lack of transparency and absence of harmonised frameworks and institutions remain delicate

### Economic development

- ❖ Years of conflict have stagnated economic growth and most of these countries are in early stages of development
- ❖ Some of them are also economies in transition from socialist period facing major market reforms

A regional energy market can contribute to regional political stability and economic growth

# Main energy challenges in the SEE region



<b>Generation mix: supply and demand imbalances</b>	<ul style="list-style-type: none"> <li>• Most energy infrastructure was built in the 1960s and 1970s.</li> <li>• Energy systems are highly concentrated in age and technology</li> <li>• Inadequate maintenance during 1990s is creating serious policy challenges</li> <li>• Installed capacity is small to match demand growth.</li> <li>• Strong dependency of hydrocarbons, coal and lignite.</li> </ul>
<b>Trade</b>	<ul style="list-style-type: none"> <li>• The region is net importer of electricity.</li> <li>• Small trading scale (less than 10% of electricity consumption in the region)</li> <li>• Short term trade, low number of participants and high transaction cost</li> <li>• Lack of flexibility in contracting</li> <li>• Cross border issues and limited interconnection</li> <li>• Lack of independence of transmission system operators</li> <li>• Regional crucial role for gas trade and transit routes</li> </ul>
<b>Investment gap</b>	<ul style="list-style-type: none"> <li>• There is an urgent need for widespread investment and rehabilitation.</li> <li>• The investment gap to 2020 in rehabilitation has been estimated in EUR 6 bn; new generation requires EUR 10 bn; regional interconnection requires EUR 340m</li> <li>• Transmission and distribution also requires substantial investment.</li> <li>• Network losses are very high (on average they lie in the interval of 10-20% with Albania in the range of 30%).</li> </ul>
<b>Market and Institutional Reform</b>	<ul style="list-style-type: none"> <li>• Although most of the countries have concluded the Energy Community Treaty (EnCT), energy reforms have been slow, uneven and very weakly implemented.</li> <li>• Public energy administrations and coherent energy policies are still missing in some countries</li> <li>• Energy reforms are still at early stage of implementation</li> <li>• Generation is very much concentrated, with abuse of market power and vertical integration</li> <li>• Credible and predictable frameworks for private investment are needed along for dispute settlement mechanisms</li> </ul>
<b>Tariffs and energy affordability</b>	<ul style="list-style-type: none"> <li>• Regulated tariffs are not fully cost reflective in the region, meaning many people pay much less than the minimum level required to ensure supply in the long run.</li> <li>• There is a question on electricity affordability and the need to protect vulnerable consumers</li> <li>• Low collection rate (85% in SEE region), weak metering and low level of payment and billing</li> </ul>
<b>Sustainability</b>	<ul style="list-style-type: none"> <li>• SEE generation excluding Greece and Turkey is in average 40% coal, 23% hydro, 23% gas, 7% oil and 7% nuclear with very diverse energy mix across countries.</li> <li>• Very low share of RE. Uneven support to renewable sources.</li> <li>• High carbon intensity of energy mix.</li> <li>• Highly subsidized cost of energy and very poor energy efficiency.</li> <li>• Low level of gasification in the region</li> </ul>

# The investment challenge



## ❖ Security of supply

- ❖ Replace and update existing energy infrastructure
- ❖ Ensure sufficient upstream investment to add new fossil fuel resources
- ❖ Save energy
- ❖ Diversify the sources of energy
- ❖ Well-interconnected network and well managed intelligent-grid
- ❖ Improve nuclear safety

## ❖ Climate change

- ❖ Renewable technologies: Deploy existing ones and develop new sources
- ❖ Energy efficiency and energy intensity reduction measures





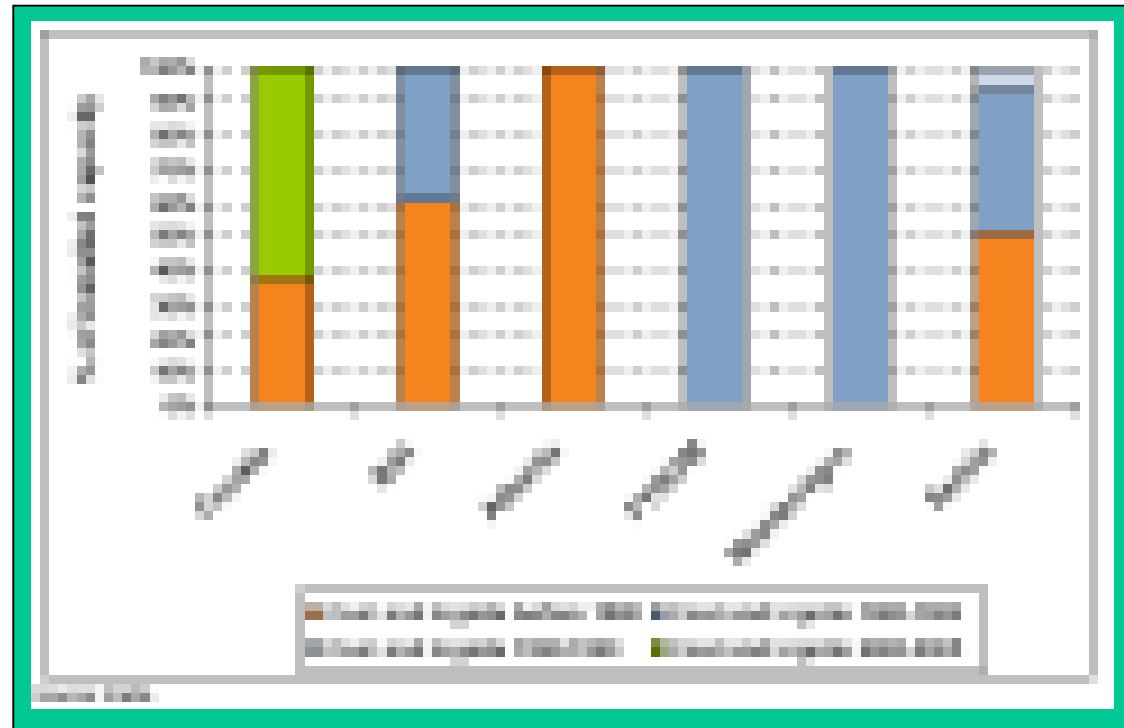
## Age distribution of coal and lignite fired plants

Most of the regional energy infrastructure is old and poorly maintained.

Overall required investment in power generation is estimated in EUR 35 bn (incl. rehabilitation & new capacity).

Transmission and distribution also requires substantial investment.

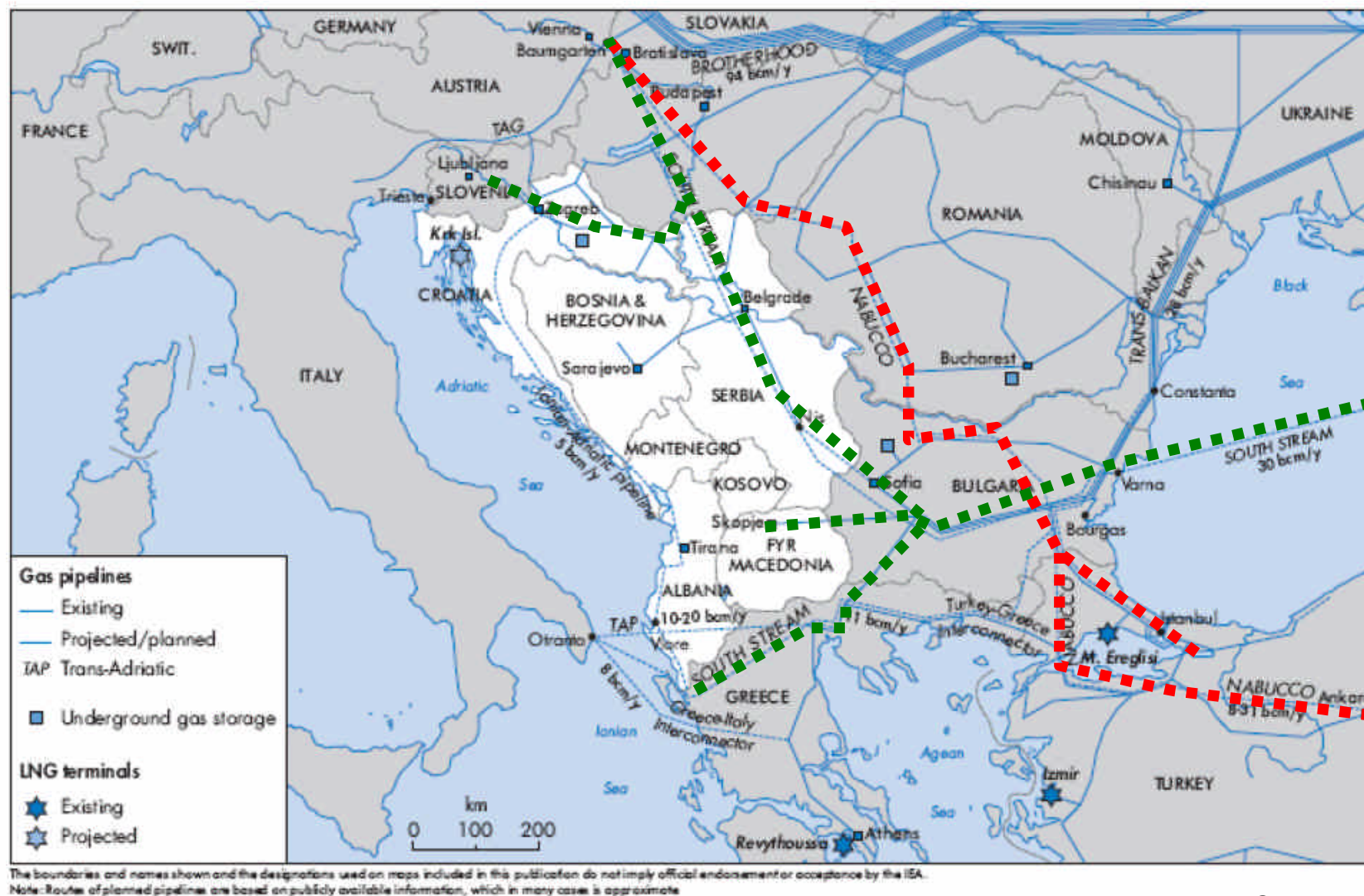
This figure does not fully integrate the CO<sub>2</sub> costs which would bring required investments higher.



What role for gas in the SEE region?



# Regional Gas Map



Source: IEA

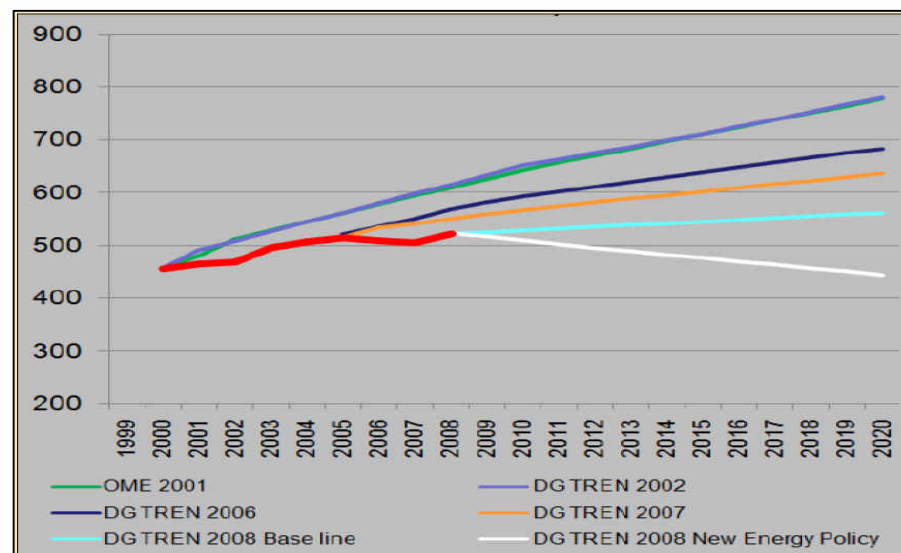
## || Main obstacles to a gas corridor



### Small size of regional market

- The level of gasification in the region is low.
- Except Turkey, Croatia, Romania and some gas in Bulgaria, the remaining countries make marginal use of gas or are not gasified at all.

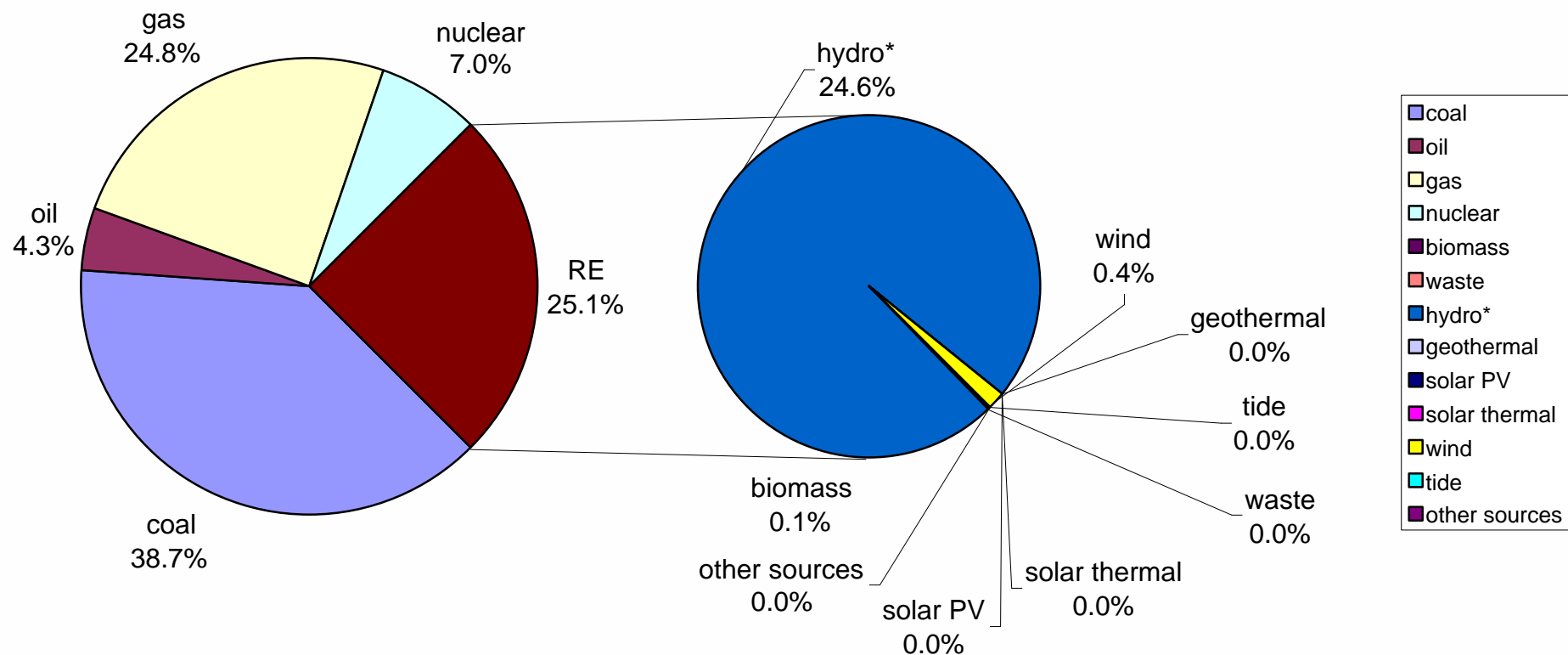
### EU Future consumption trends



### Huge investments required

- Nabucco > EUR 10 bn
- Southstream > EUR 10 bn

## Untapped potential for renewable energy



- Renewable energy sources can make an important contribution to sustainability, regional energy supply and security.



## How can EIB support SEE to EU energy objectives

- Competitive financing
- Ensure project quality (environment, procurement, economic, etc.)
- Expertise to support development of priority projects or initiatives
- Support to national RE and EE Action plans
- EIB 2008-2010 energy lending in SEE: cca. 3 billion EURO
  - RE cca. 350 million
  - EE cca. 200 million
  - Rest for conventional generation and T&D projects



## Instruments: Financial



- Broad range: from senior loans to equity
  - Loans to large individual projects: i.e. off-shore wind
  - Global & Framework loans to finance small-medium sized projects
  - Outside the EU: EU mandates and sustainable energy facility
  - Europe 2020 Project Bond Initiative – credit enhancement mechanism
- Specific instruments:
  - RSFF, Marguerite, NER300, carbon funds, GEEREF, Energy Efficiency Finance Facility (WB and Turkey), Green for Growth, etc.



## Instruments: Advisory services



- ▣ Fast expansion of advisory services
  - ▣ Jessica: urban funds using structural funds
  - ▣ Elena: EE&RE in the urban environment
  - ▣ Jaspers: project preparation for EU structural funds
  - ▣ Other TA (mainly outside the EU) e.g. Mediterranean Solar Plan, WBIF
  - ▣ EPEC



## EIB project example - Extension & modernization of gas pipelines in Croatia



- The project reinforces the interconnections of the Croatian gas network with neighbouring states (Slovenia, Hungary, Bosnia) and thus, strengthens the security of supply.
- The project will also introduce natural gas in new regions (e.g. Lika and Dalmatia) bringing the economic and environmental benefits of natural gas over alternative fuels.



- 930 km of high pressure gas pipelines
- Rehabilitation and modernization of existing gas transmission system





## EIB project example – Hydropower plants in Turkey

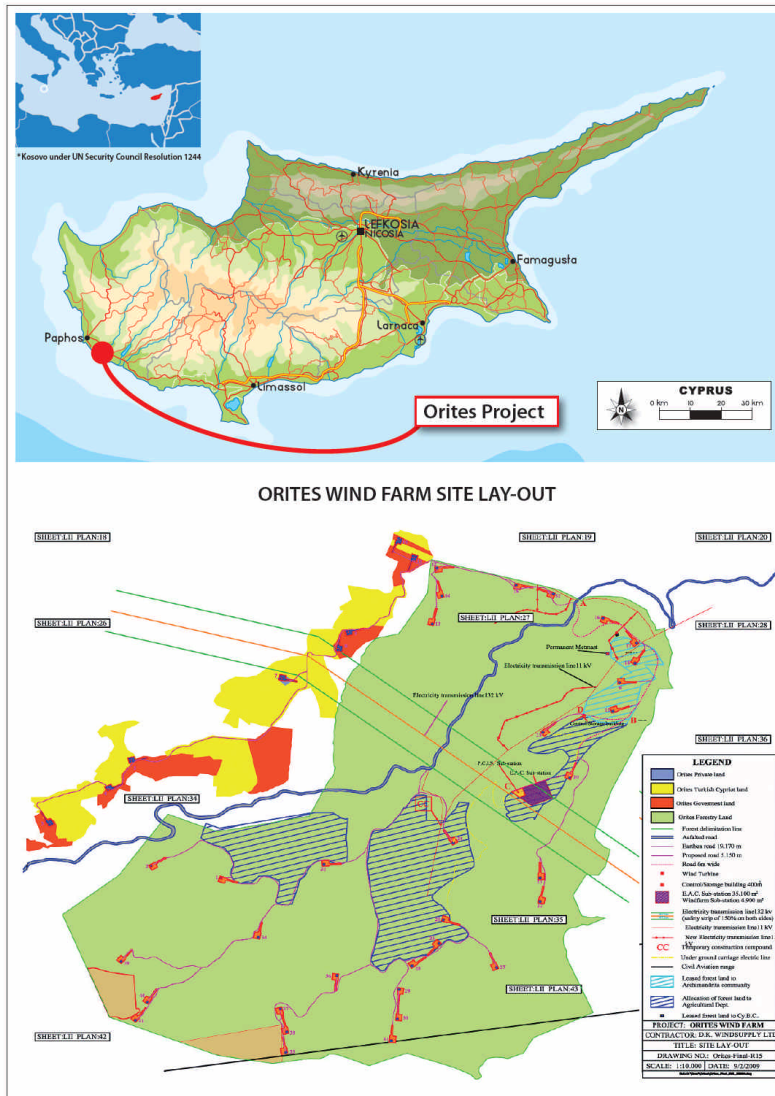


- Construction of 8 hydropower plants (955MW) in Southeastern Turkey with associated reservoirs and dams.
- Hydropower currently represents 20% of the electricity in the country and still has a high potential.
- The project aims to make a substantial contribution to sustainability and security of energy supply.





## EIB project example – Cyprus wind farm



The project concerns the construction and operation of an 82 MW wind farm in Cyprus.

The project supports national and European targets for renewable energy and consequently also contributes to environmental objectives.

Cyprus is relying mainly on wind to increase its current 2.9% share in RES to the 2010 target of 6% and the 2020 target of 13% proposed by the EU Commission.



## EIB project example – Thermal rehabilitation of residential apartments in Romania



Project: BUCHAREST S6 THERMAL REHABILITATION - Romania



N° 20090557

European Investment Bank - Graphic Workshop - 1348 RG8/761 11/2009

The objective of the project is to renovate 270 buildings (23000 apartments) from 2010 until 2012.

The project is expected to reduce the energy consumption of the buildings by around 50%.

The project supports national and European objectives related to improving energy efficiency and climate change and security of energy supply objectives.



## Concluding Remarks



- Achievements in the SEE energy development and energy regional integration must be praised
- Fresh new impetus and political regional determination needs to be given to the process
- A clear regional energy policy and solid continuity in legal and regulatory reforms are key elements for success
- EIB is willing to continue promoting energy development in SEE region in multiple fronts, accompanied by an expanded product portfolio for tailored finance and increased risk-taking and technical assistance where needed



**Thankyou**  
**EuropeanInvestment Bank**  
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