



Lights Out? **The Outlook for Energy in Eastern Europe and Central Asia**

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Living in The Cold: The 2006 District Heating Disaster in Alchevsk



Former Ukrainian President Victor Yushchenko inspects the remains of a shattered heating system in a school in Alchevsk.

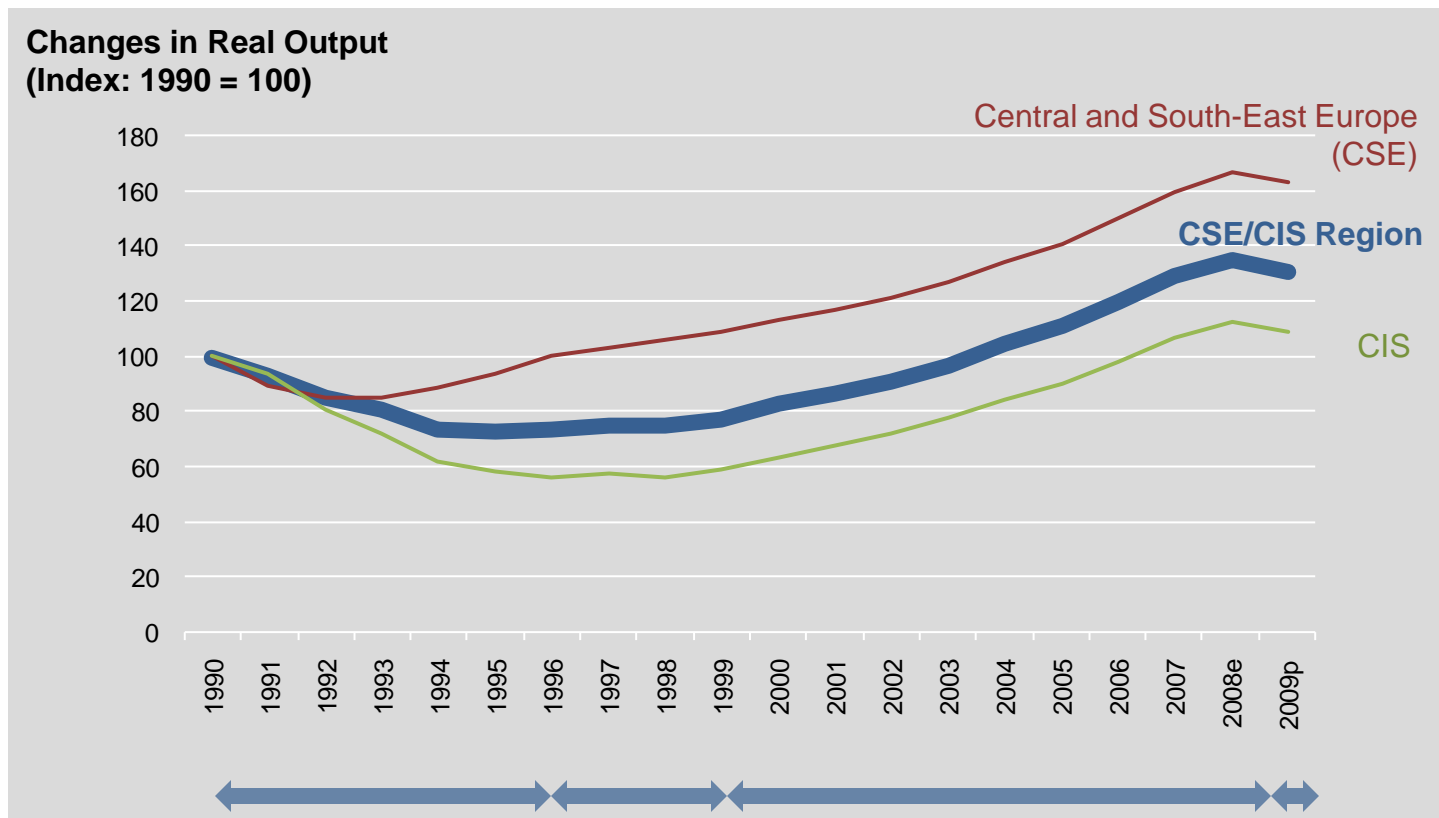


MAJOR FINDINGS

- The countries of Eastern Europe and Central Asia region could face an **energy crunch** within the next five to six years
- The financial crisis has created some **breathing room** and a **window of opportunity** to mitigate the impact of the anticipated crisis
- **Mitigating actions** are required both in the **demand** and **supply** side. Significant investments will be required (3% of cumulative GDP over 2010-2030) and the public sector alone won't be able to provide this level of investments
- Countries need to **take actions now** to create a **climate** that is **attractive** for investments in the sector



The Region's Transition and The Current Economic Crisis



Annual average
GDP Growth
(%)

-5.5

+1.1

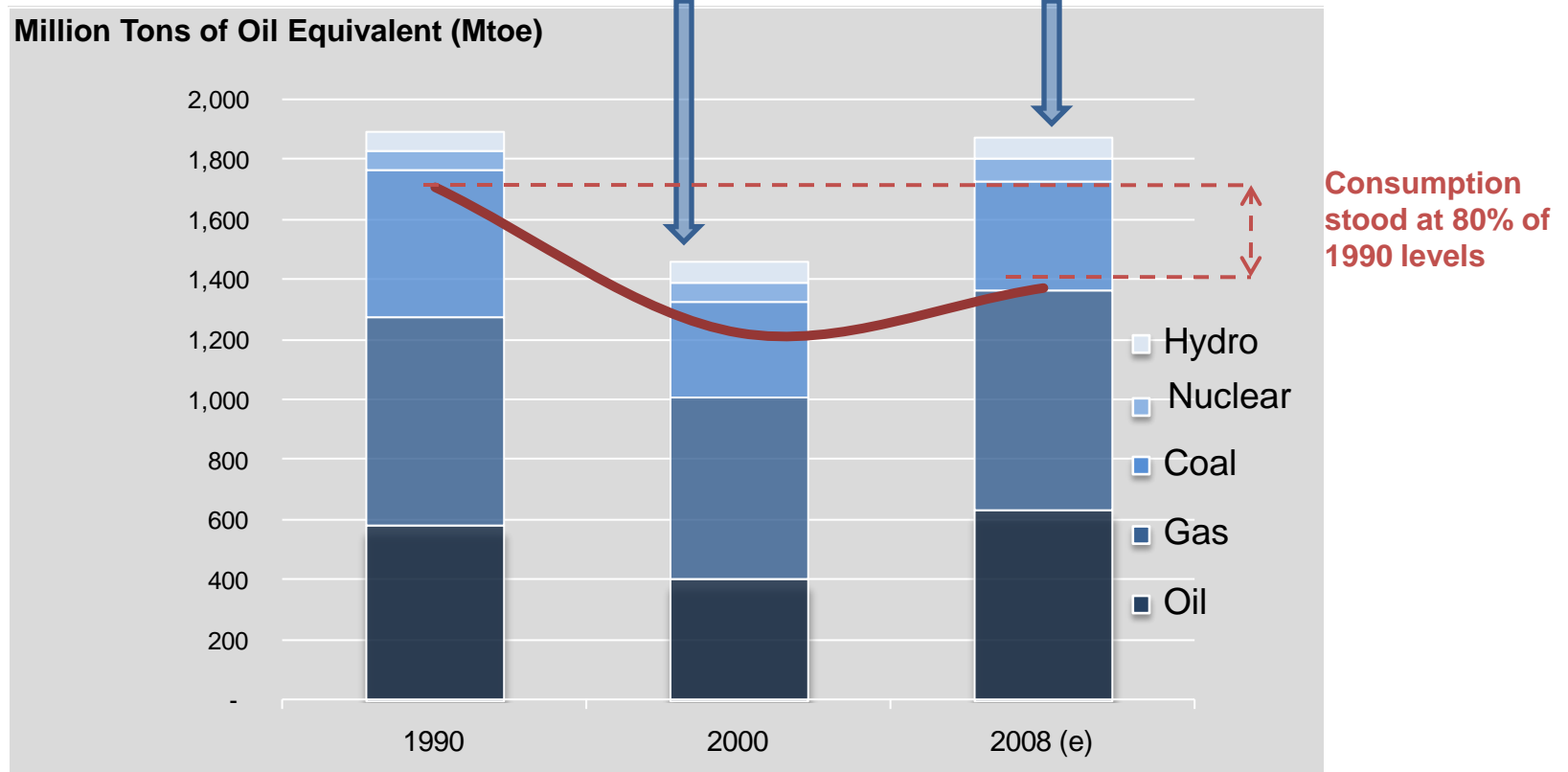
+6.0

-5.6

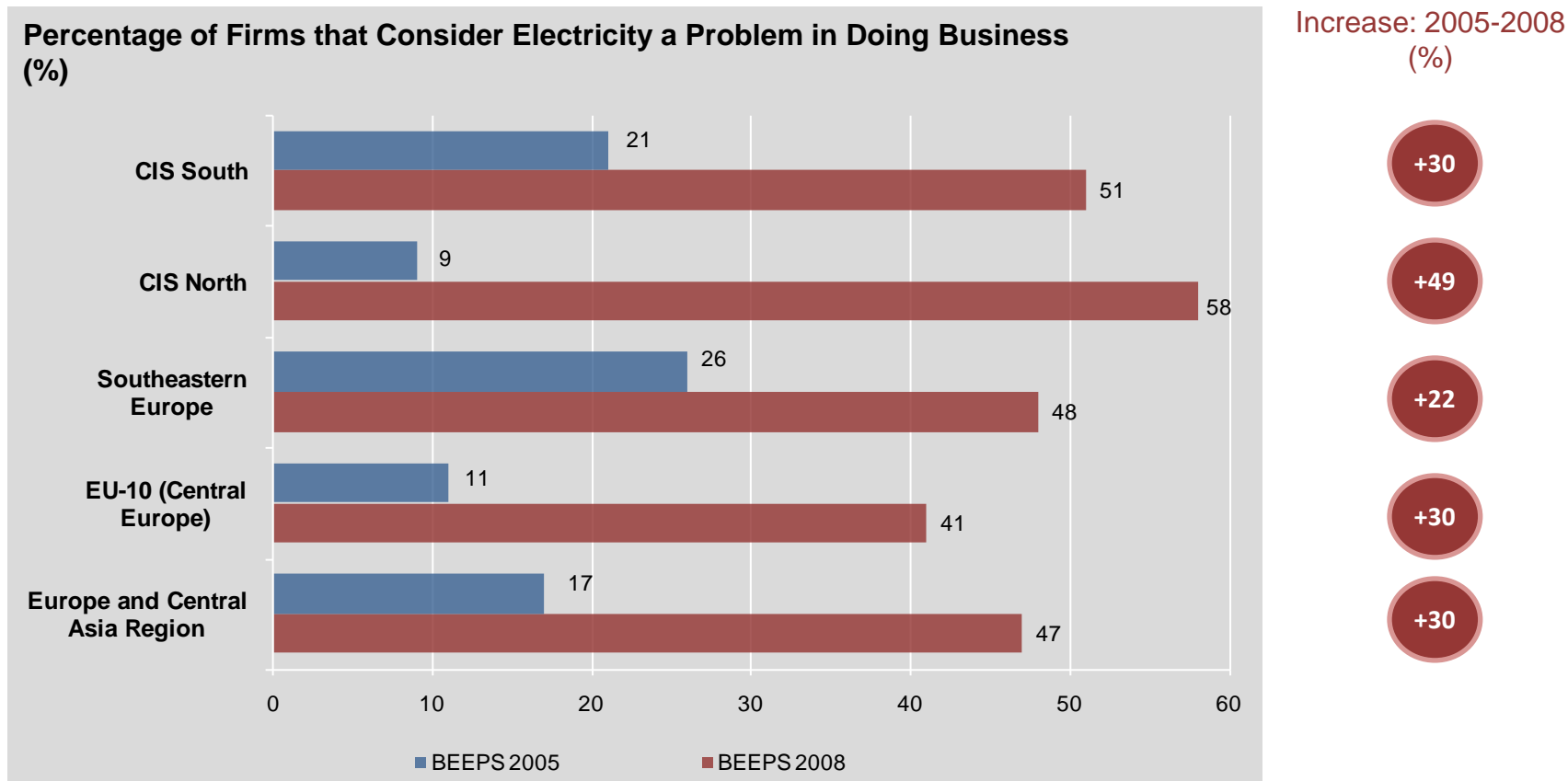


Amply Endowed with Energy Resources and Oversized Infrastructure, the CIS/ CSE Region is a Key Primary Energy Exporter

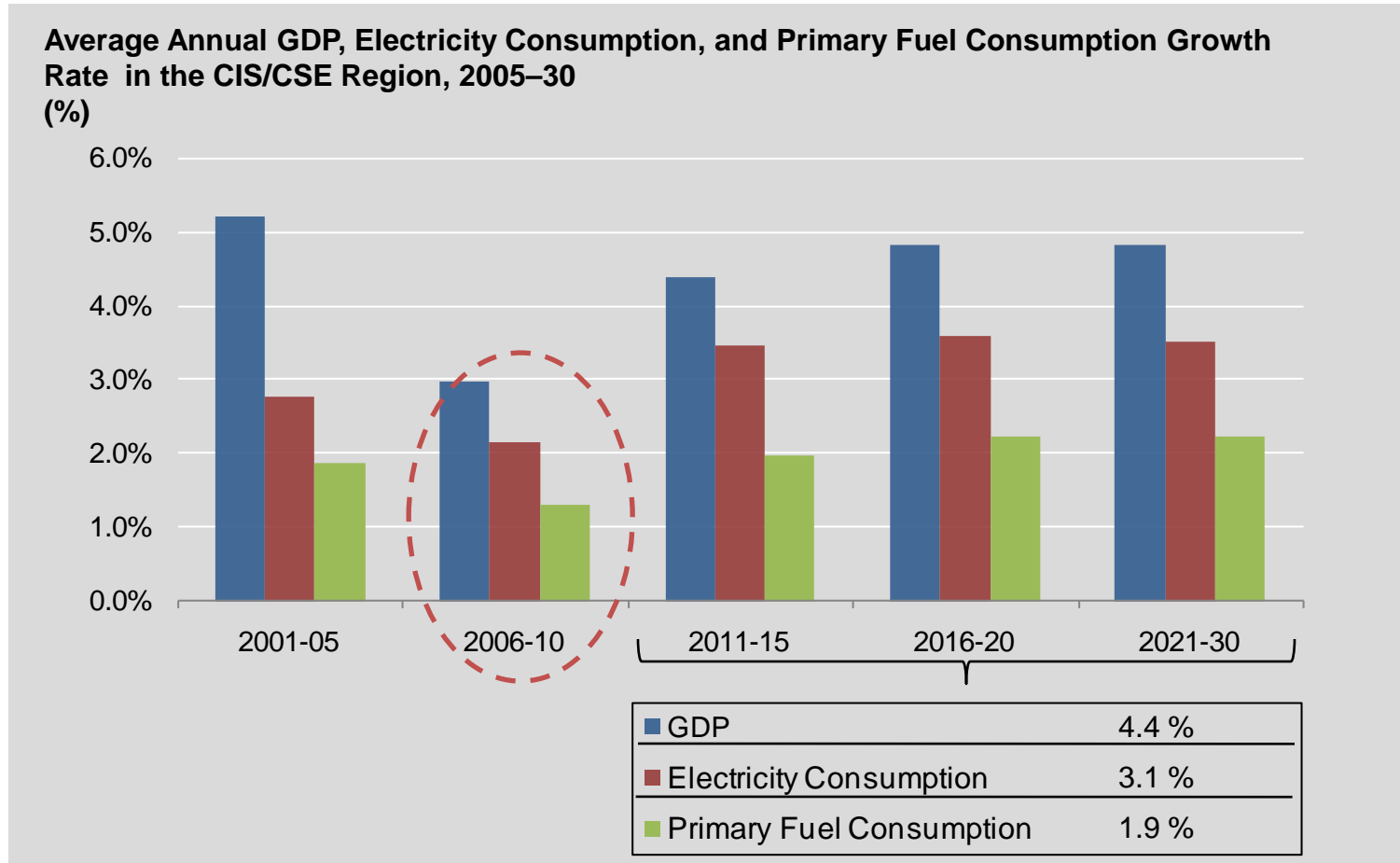
Production reduced by 30% in 2000, but recovered by 2008



By 2008 Energy Supply Became a Constraint to Growth



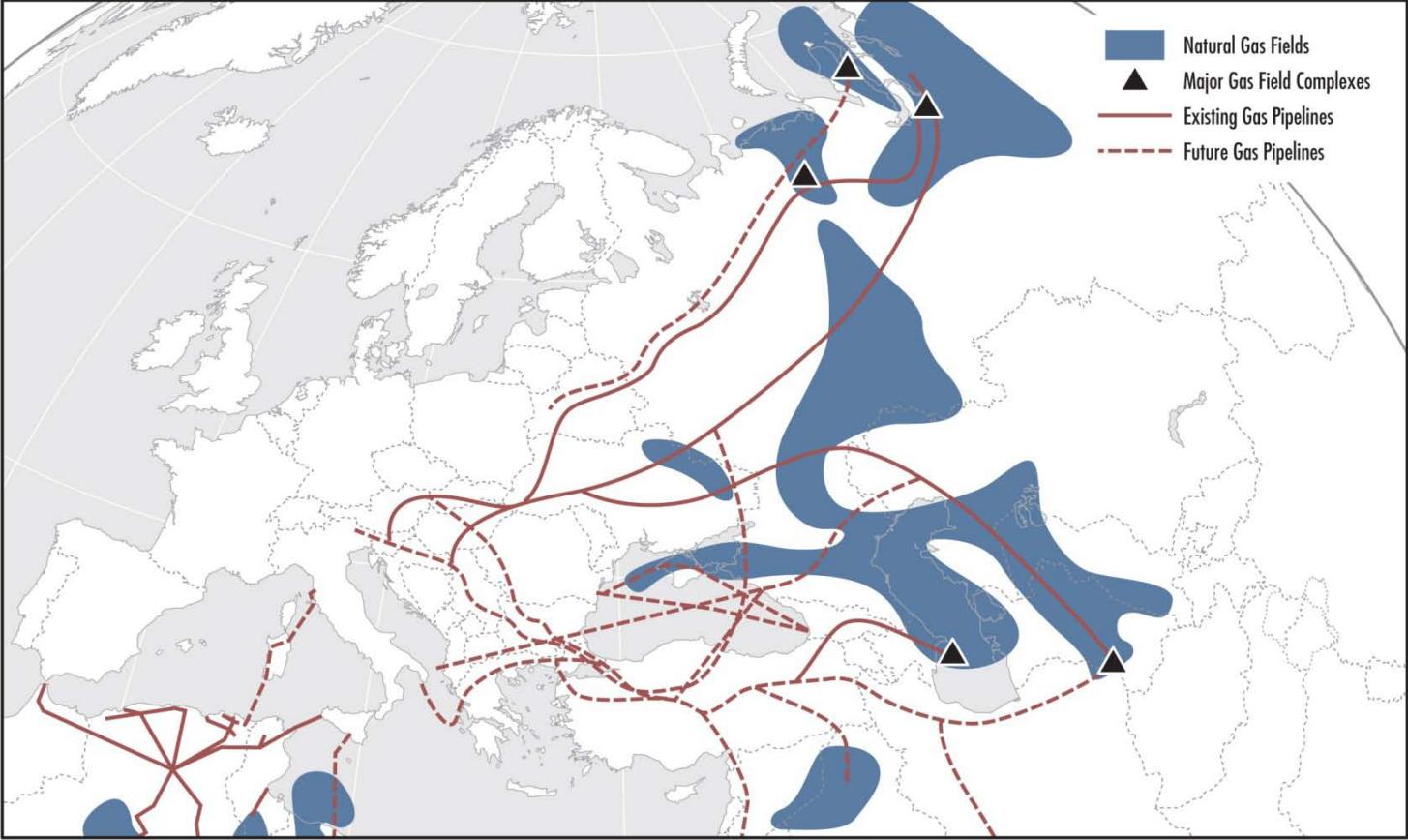
The Economic Crisis Eased Some of These Concerns, But Respite is Only Temporary



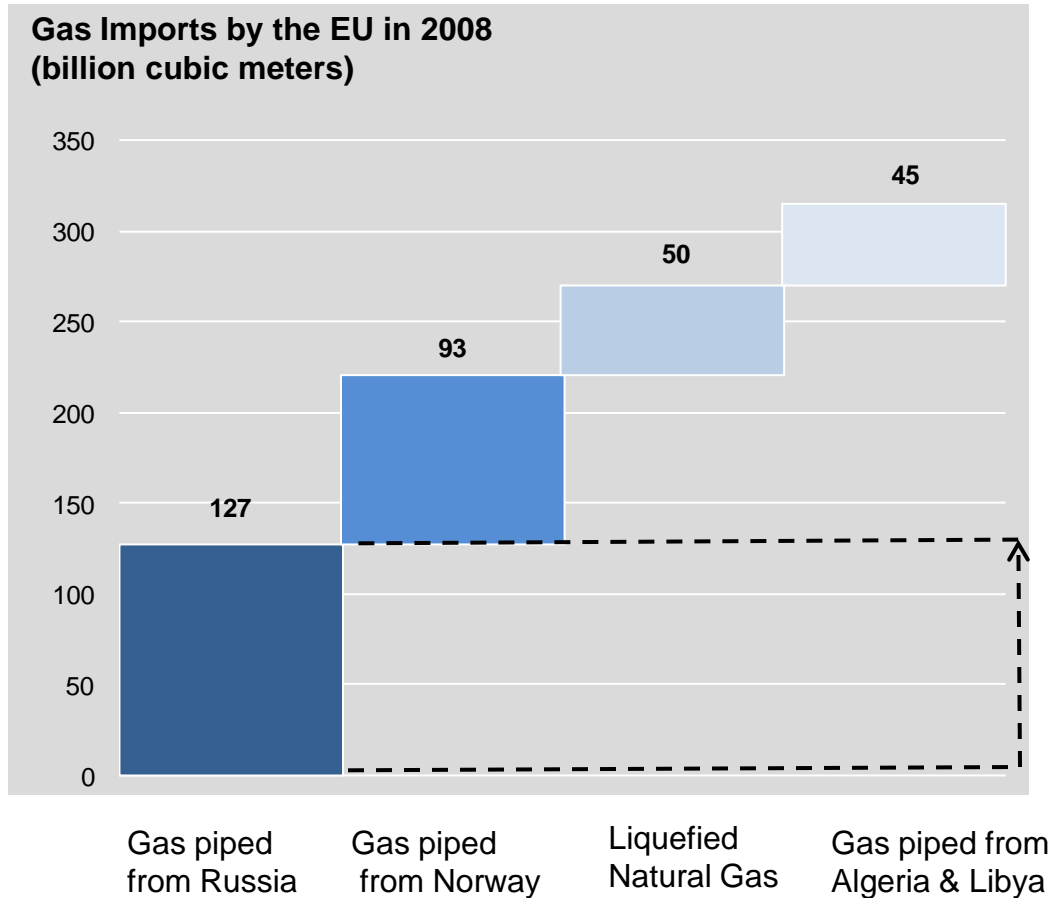
Source: World Bank staff calculations.



Where will These Additional Supplies Come From?



The Russian Federation Plays a Key Role Meeting Natural Gas Needs of the EU and Will Continue To Do So



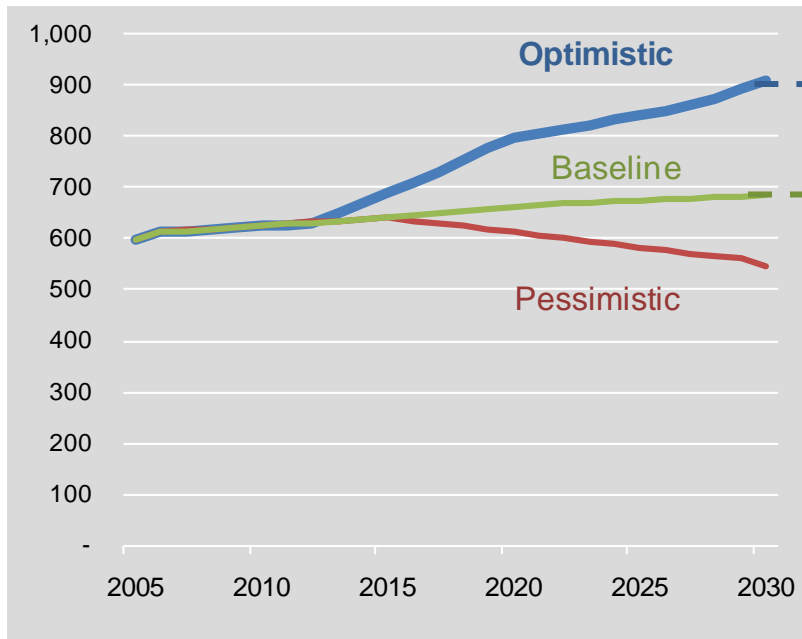
Russia's role in the EU gas sector:

- 40% of import requirements
- 25% of overall demand



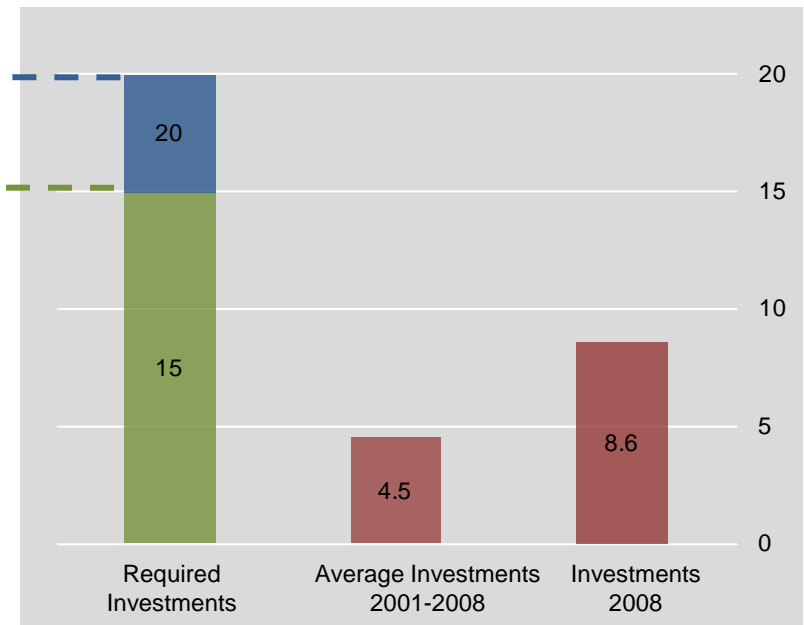
Russia has Significant Potential to Increase its Production But Investments are Still Below the Required Levels

Actual and Projected Scenarios for Natural Gas Production
(billion cubic meters)



Source: World Bank staff calculations.

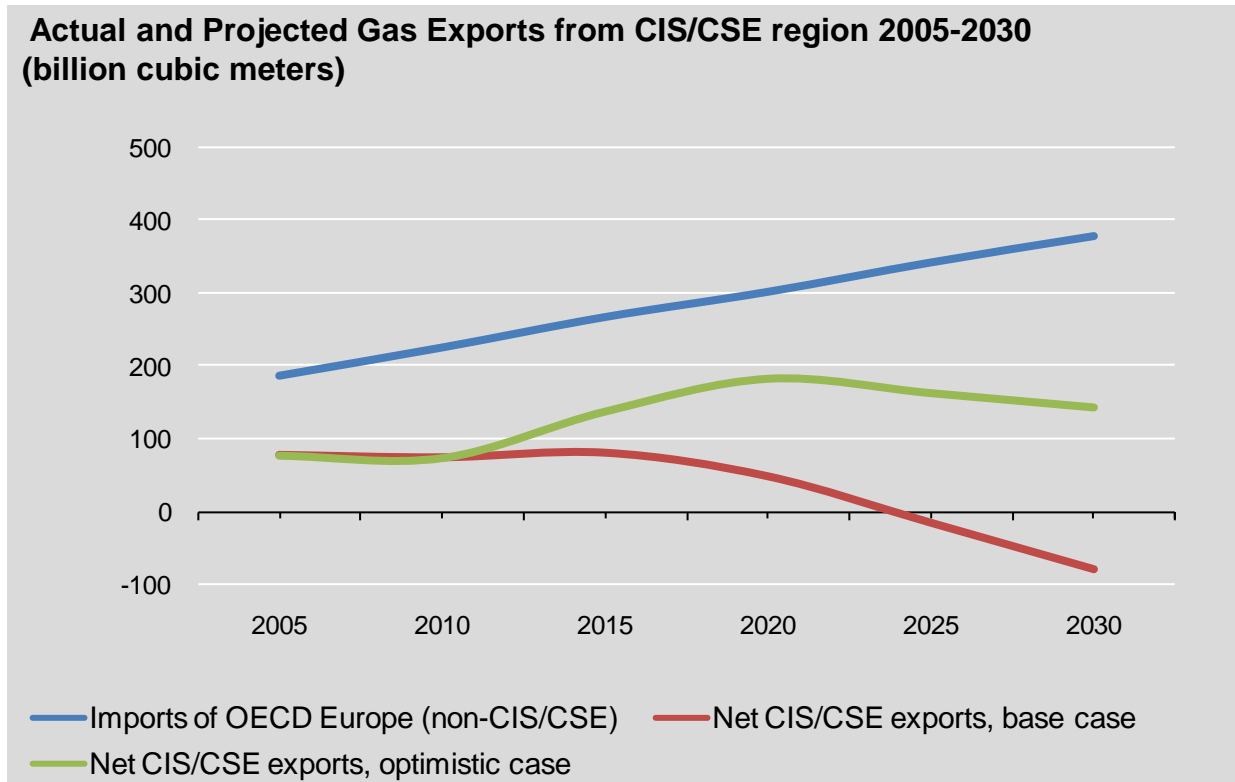
Required Investments Vs. Historical Investments for Upstream Gas Exploration and Development
(billion USD a year)



Source: World Bank staff calculations and Gazprom's financial statements



Absent Significant Investments or Actions to Limit Demand Growth...

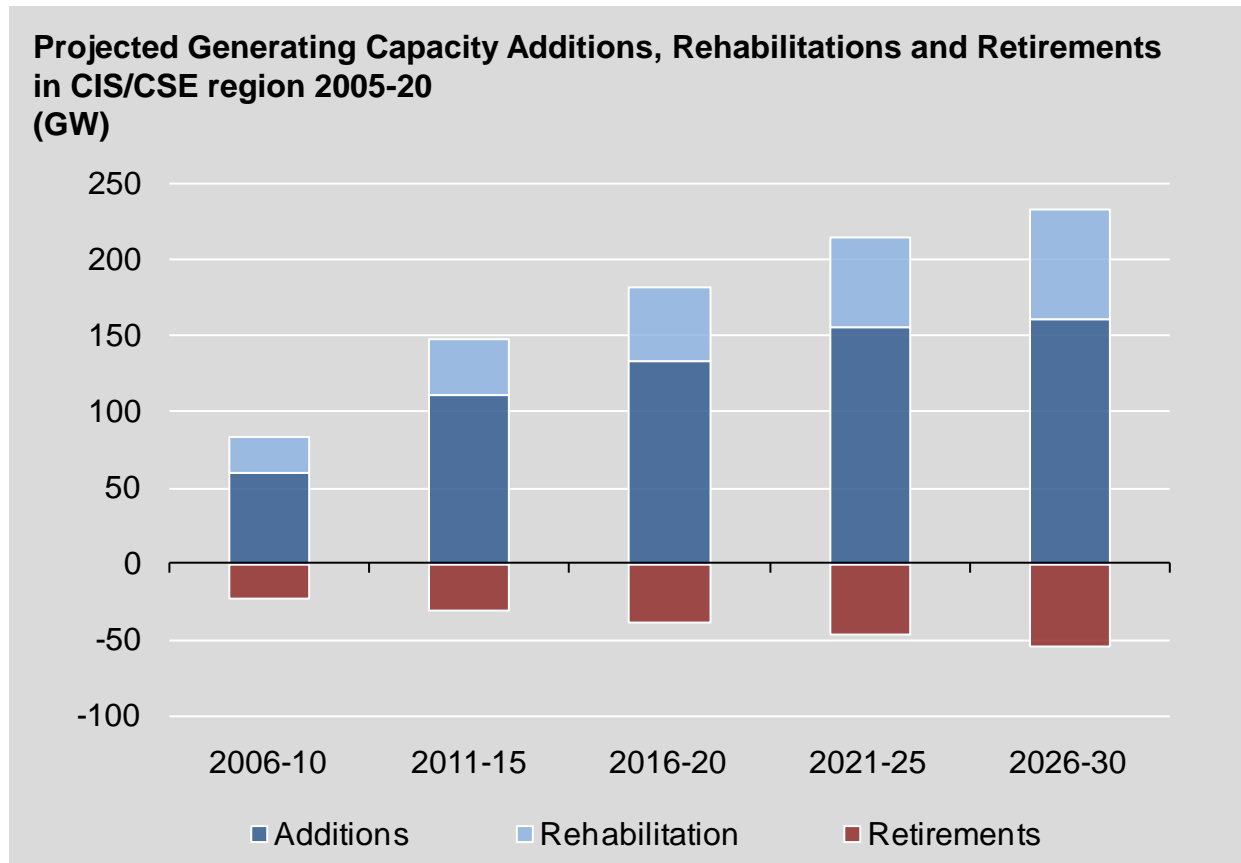


Source: World Bank staff calculations.

The region could become a net importer of oil and gas



And the Outlook for Electricity Supply is of Even Greater Concern



Source: World Bank staff calculations



The Region will Face Significant Investment Needs Over the Next Two Decades

Projected Energy Sector Investment Needed in the CIS/CSE region by 2030
(USD billion)

Sector	Amount Required
Electricity	1,500
Crude Oil	900
Heating	500
Gas	230
Coal	150
Refining	20
Total	3,300

Source: World Bank staff calculations.

Estimated investments in the Energy Sector amount  3% of cumulative GDP

Although the **public sector** will need to finance a portion of these investments, it **will not be able to do it alone**, the financial depth and technical know-how of the **private sector** and energy companies **will be required**



Countries Will Need to Create a Competitive Investment Climate by Adhering to 10 Key Principles

DO's

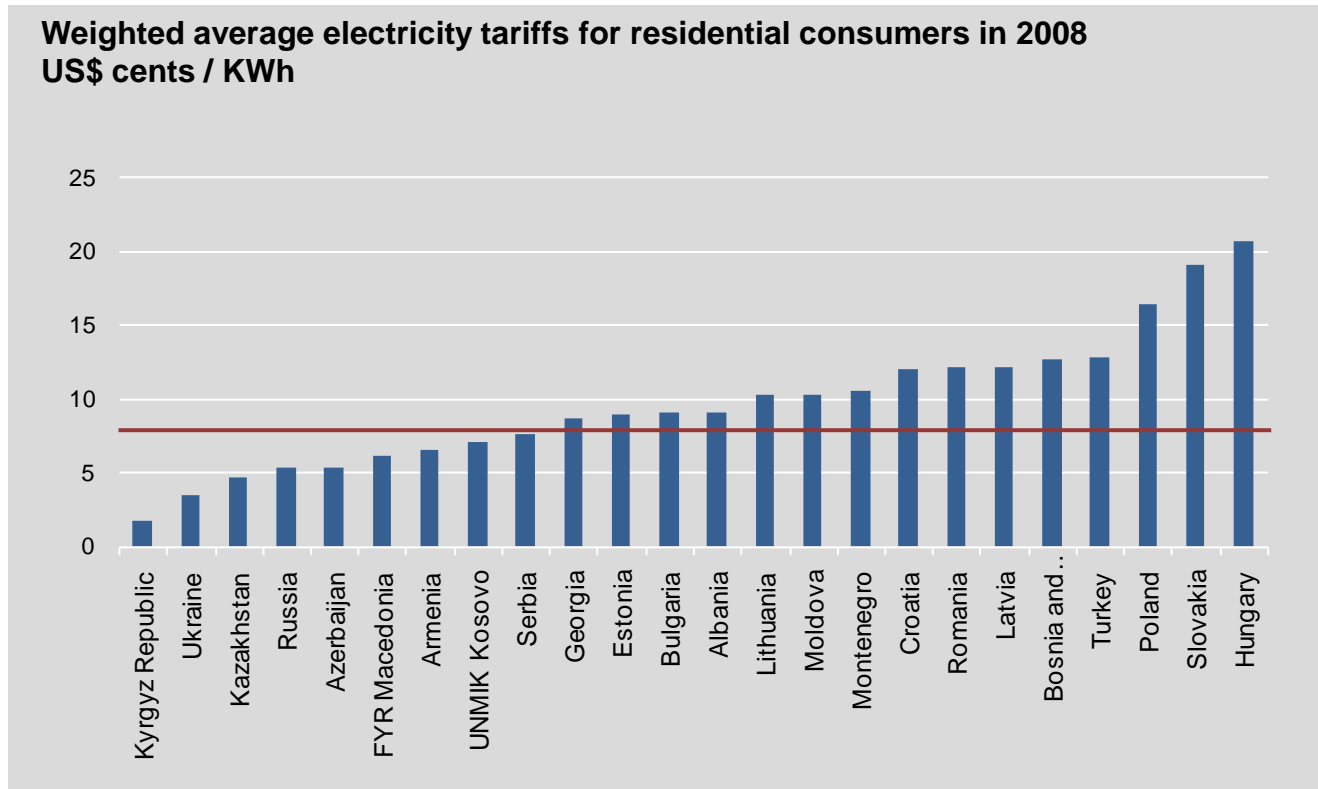
1. Do introduce an acceptable legal framework.
Electricity
2. Do provide supporting regulations administered by an independent and impartial regulator.
3. Do create an environment that facilitates assured nondiscriminatory access to markets.
4. Do honor internationally accepted standards.
5. Do abide by contractual undertakings and preclude the use of an administrative bureaucracy to constrain investor activities
6. Do prevent monopoly abuses.
7. Do ensure that the sector is kept free of corruption

Don'ts

1. Don't impose a punitive or regressive tax regime.
2. Don't interfere with the functioning of the market place.
3. Don't discriminate among investors.



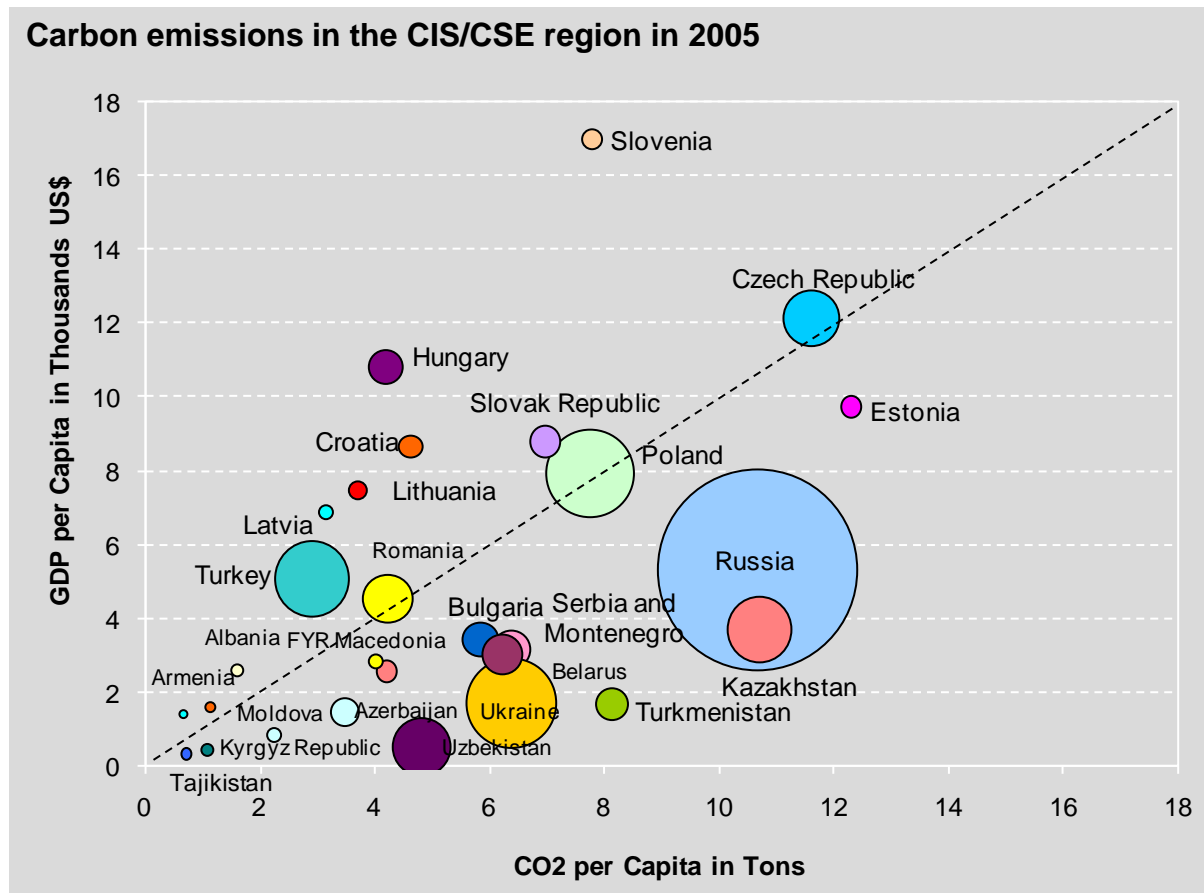
One of the Most Critical Elements is Ensuring the Financial and Commercial Viability of the Sector



Source: ERRA Tariff Database



...And Countries will Need to Ensure that They Will Act in an Environmentally Responsible Fashion



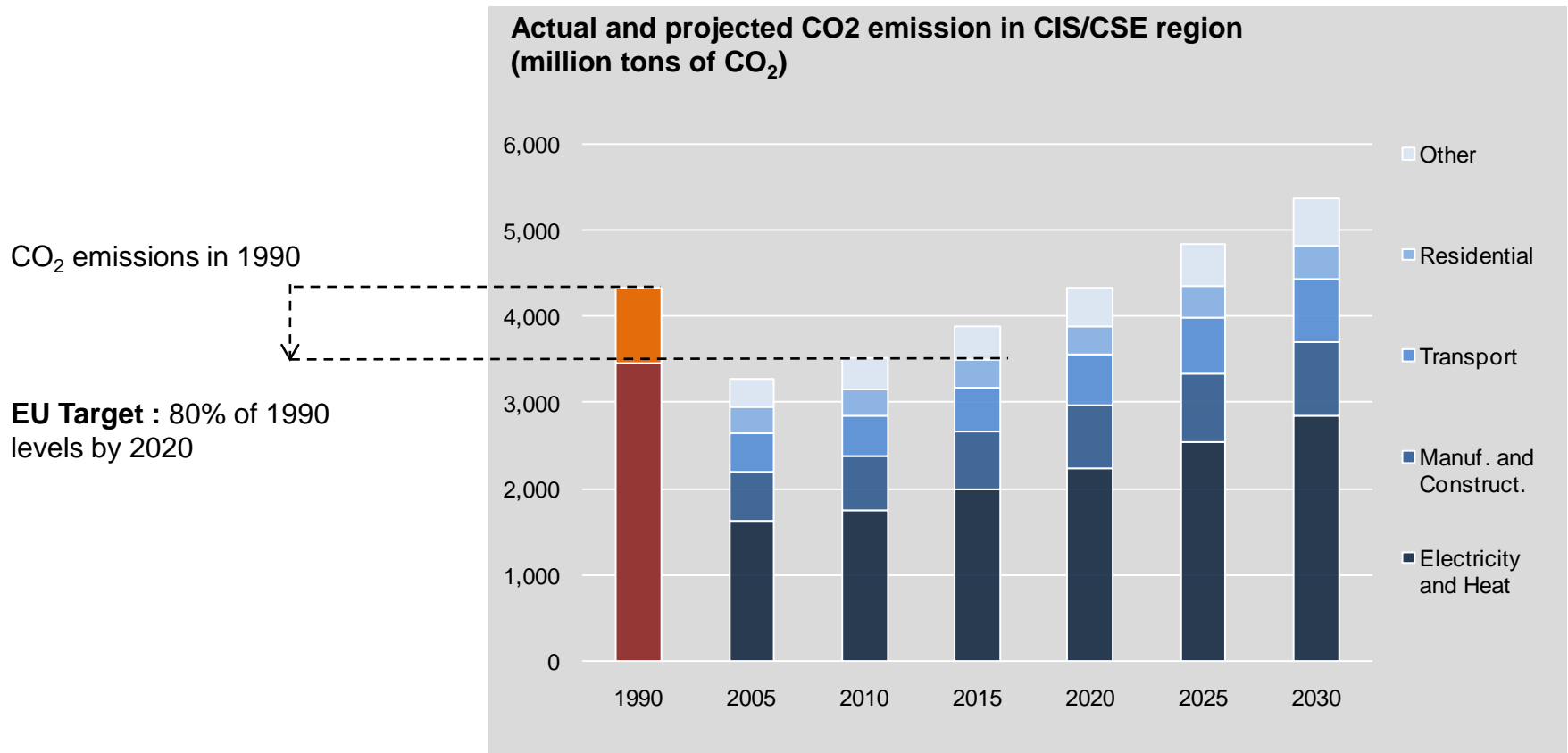
High carbon emissions reflect the region's:

- Reliance on abundant domestic coal
- Low energy efficiency
- Outdated infrastructure

Source: World Bank World Development Indicators



Focused Efforts are Required if the Region is to Meet its Emissions Targets



Source: World Bank staff calculations.



IN CONCLUSION

- The region faces a potential **energy crunch**. The 2006 Winter Disaster of Alchevsk in Ukraine illustrates the **dramatic impact that losing access to energy can have** in people's lives.
- The current **economic and financial crisis** has provided some **relief** to address these potential energy constraints
- However, countries need to **act quickly** to create an **enabling environment** for investment
- At the same time, countries need to ensure that their **energy strategies** are **responsive to environmental concerns**



Thank-you

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