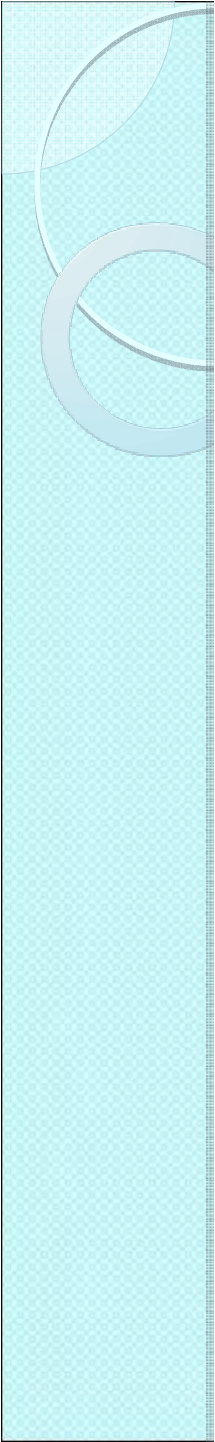


Seeking an Energy Boost

The Challenge of Financing Energy
Investments in the Emerging Economies of
Eastern Europe and the FSU

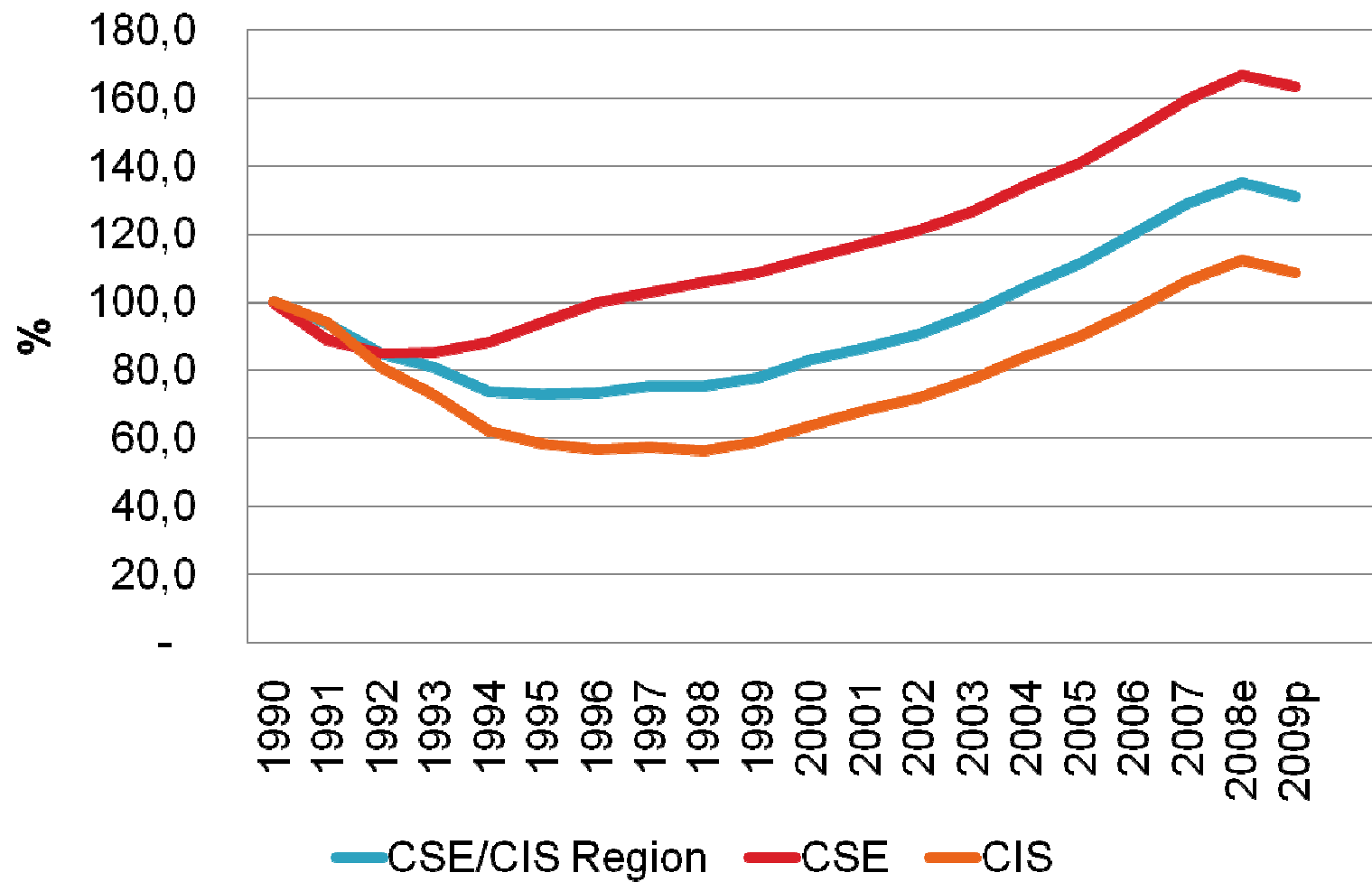
May 28, 2009



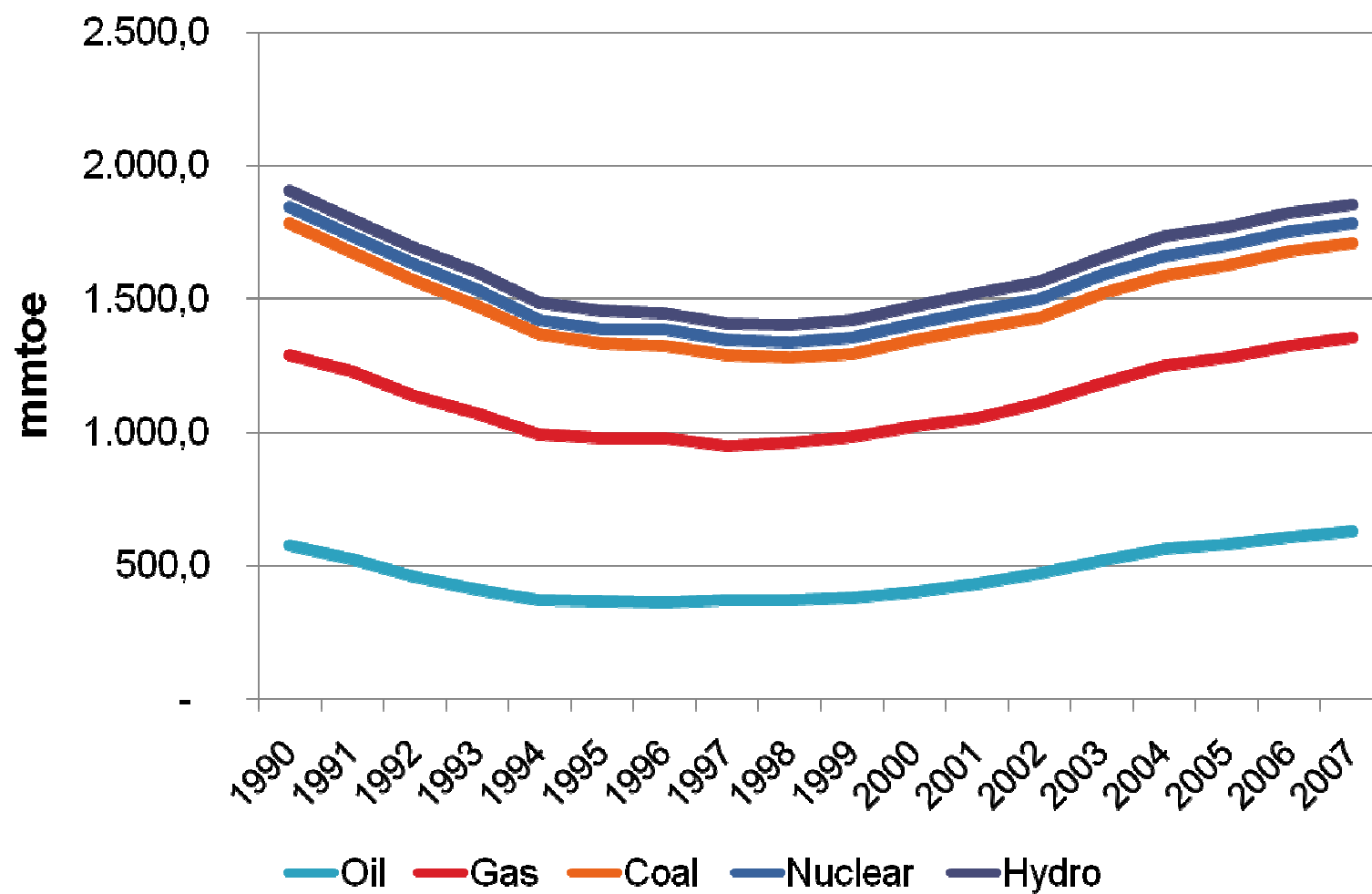
Topics

- The impact of the transition process
- The energy outlook in the region
- Energy investment needs
- Financing options
- The role of the World Bank Group

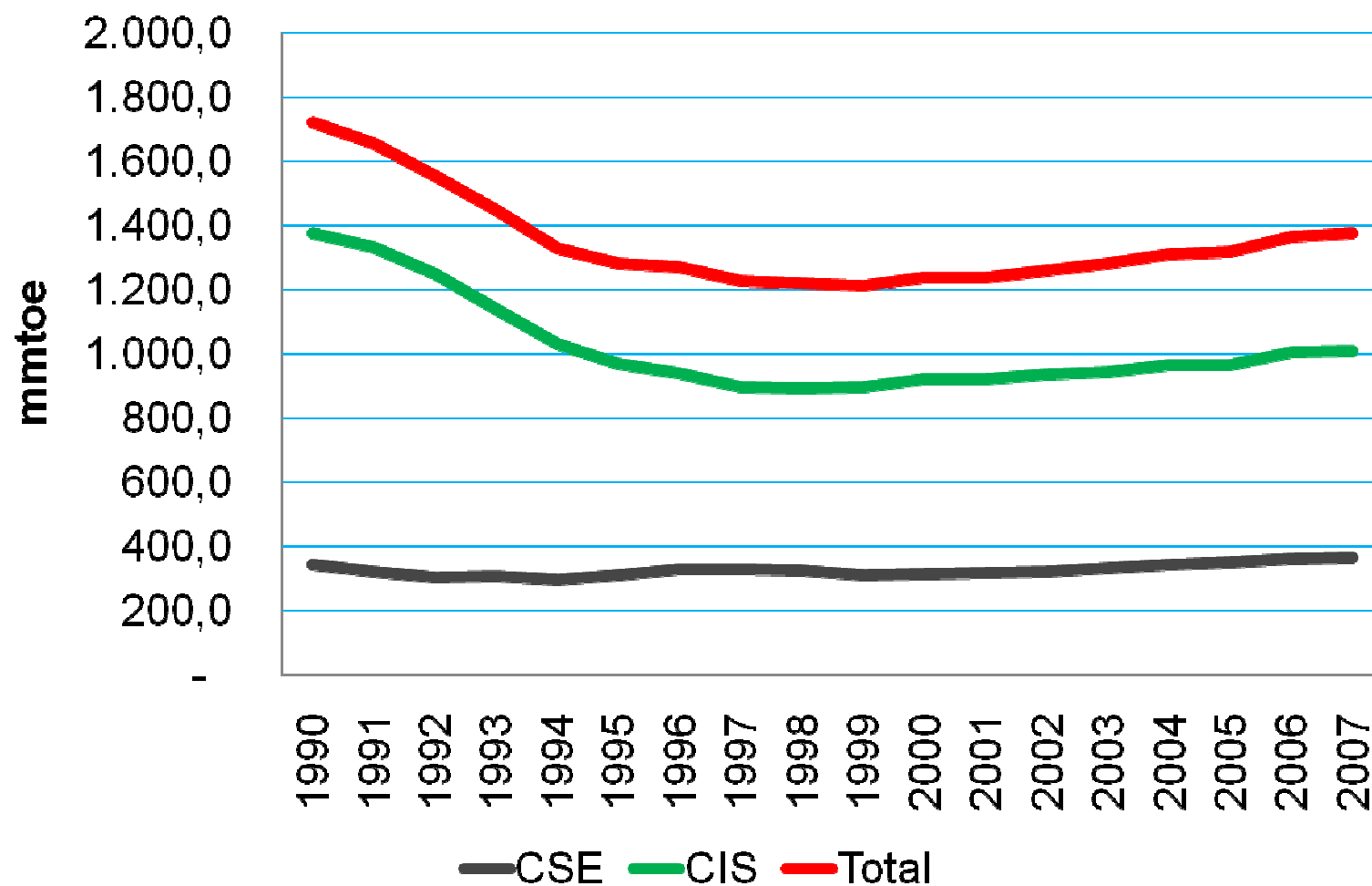
Changes in Real Output in CSE and CIS



Primary Energy Production

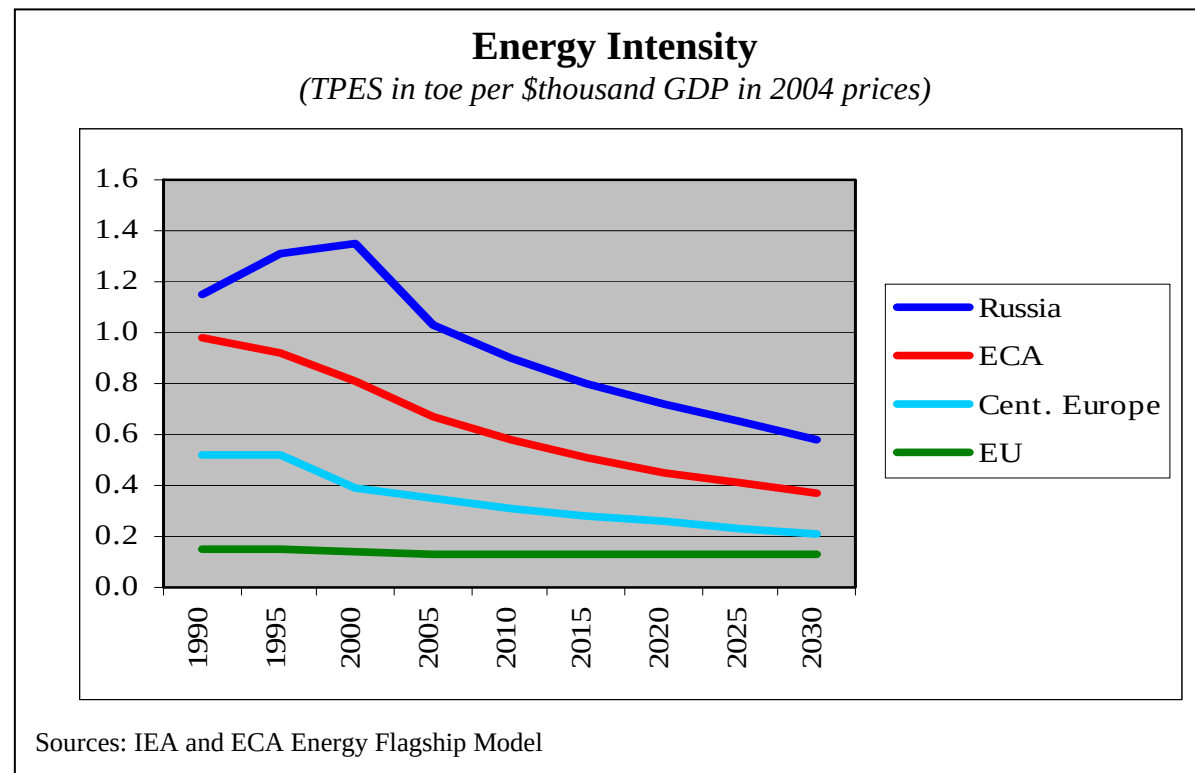


Primary Energy Consumption

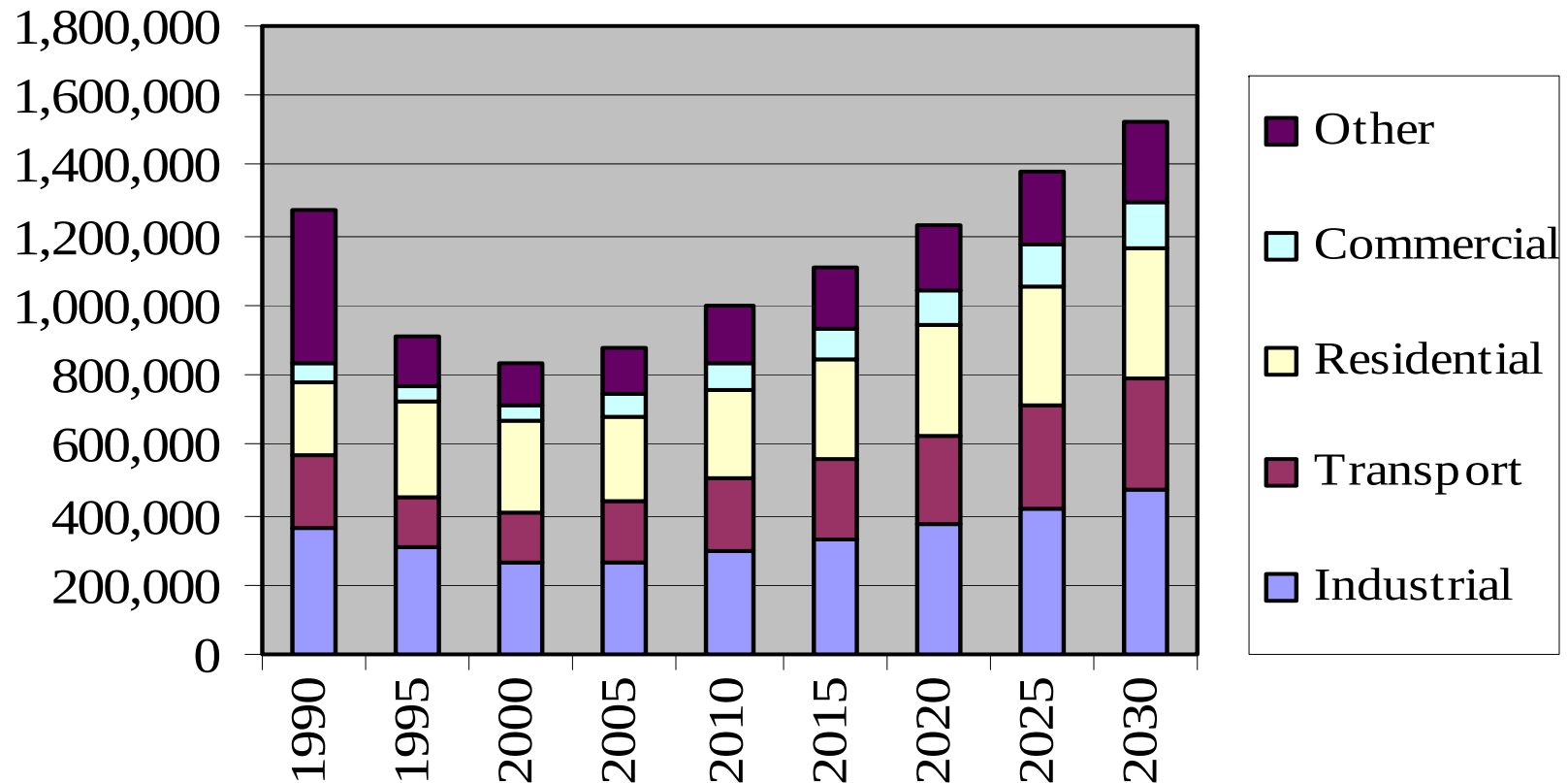


Energy Intensity

- Energy Intensity in the Region is very high, but decreasing
- Large potential for Energy Efficiency improvements

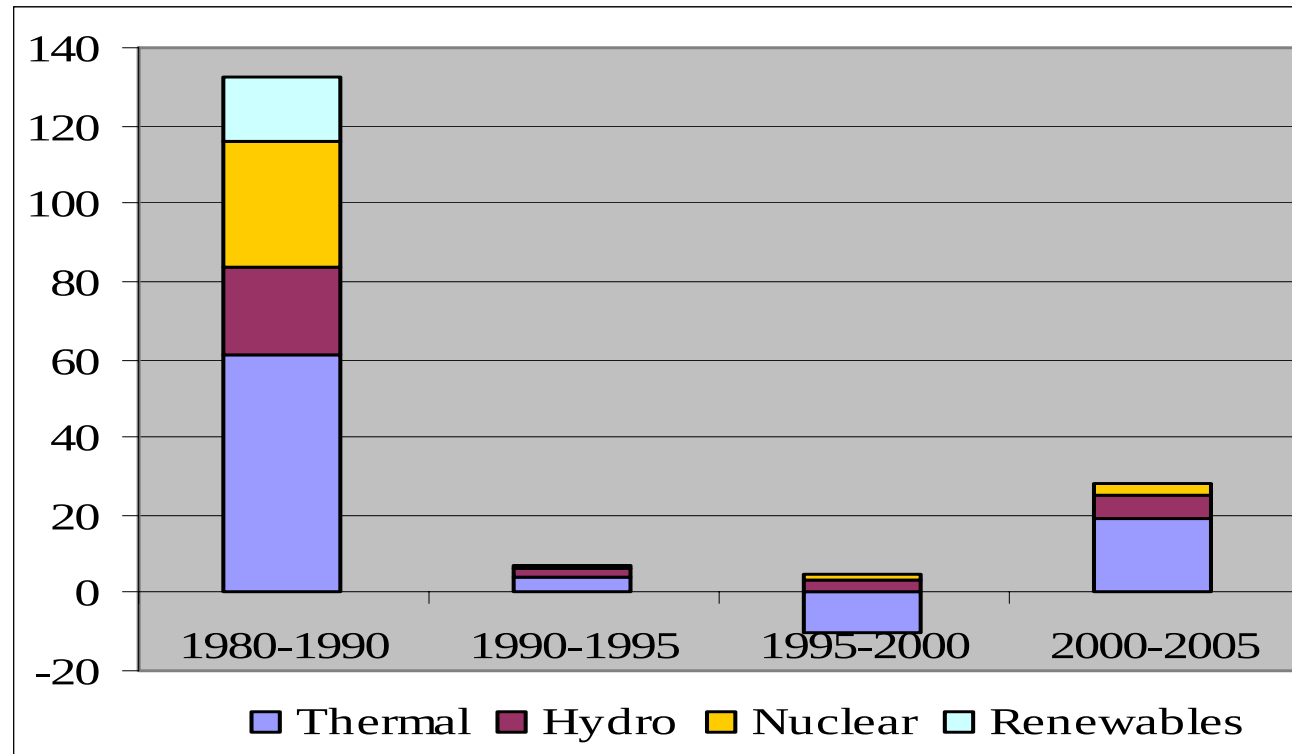


Energy Demand Growth in a 5% GDP Growth Environment



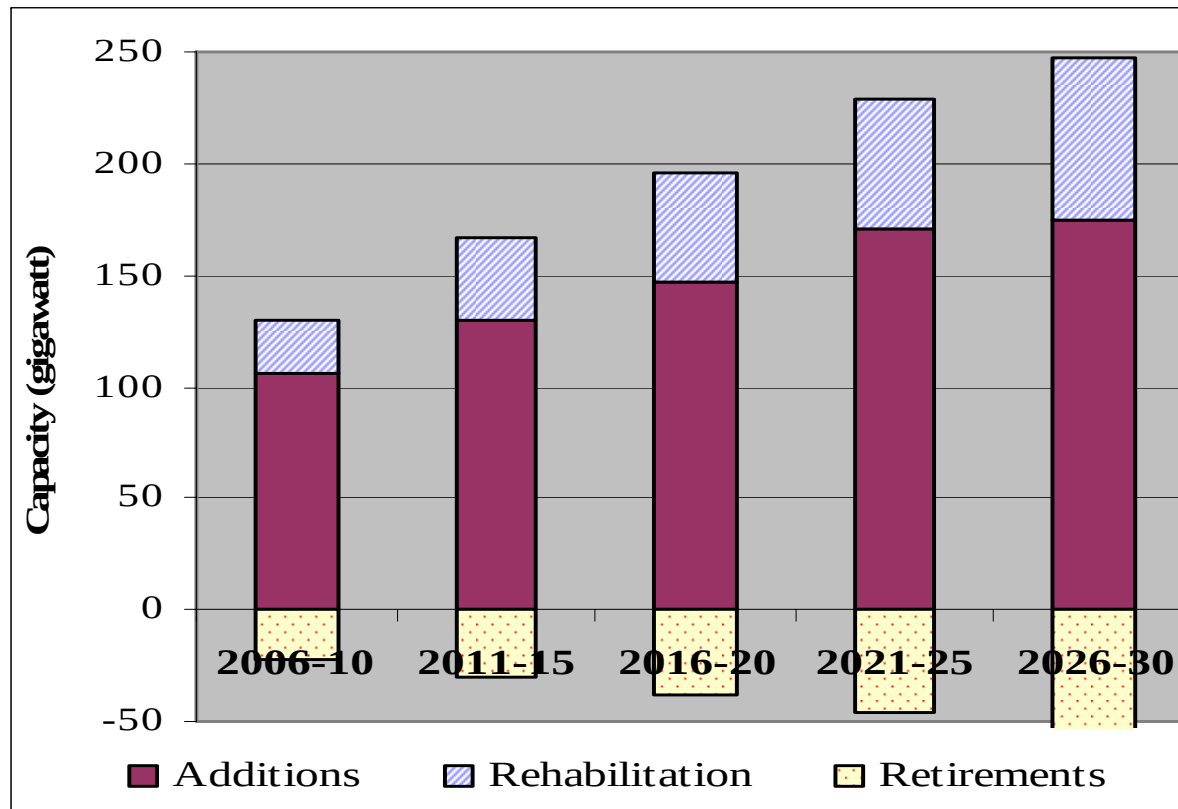
Generation Capacity Additions – 1980 - 2005

Change in Capacity in Gigawatts



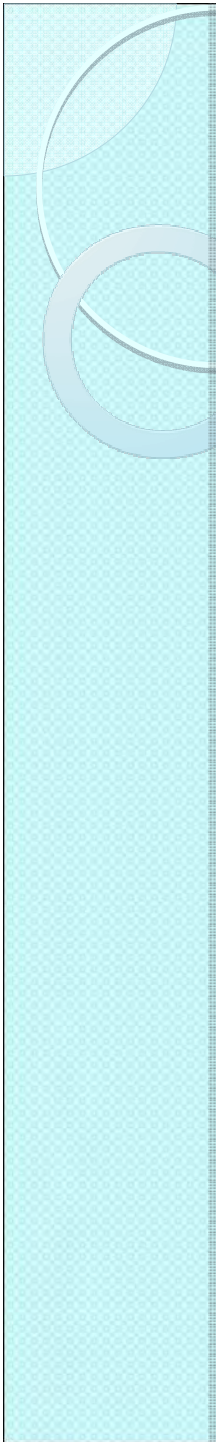
Projections of New and Rehabilitated Generation Capacity

Additions, rehabilitations and retirements by period



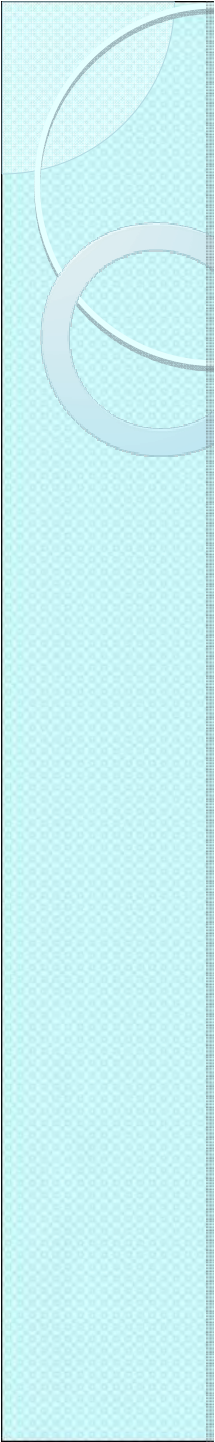
Projected Investment Requirements for the Electricity Sector

Region	2006-10	2011-15	2016-20	2021-25	2026-30	Total
Russian Federation	77	98	114	137	141	566
Black Sea	34	35	47	54	57	227
Caspian, and Central Asia	16	24	18	22	23	103
Central Europe	23	28	33	31	33	149
Southeast Europe	14	15	18	22	23	92
Total Generation	164	200	230	268	277	1,139
Transmission and Distribution	88	108	124	144	149	613
Total Sector	253	307	354	412	427	1,752



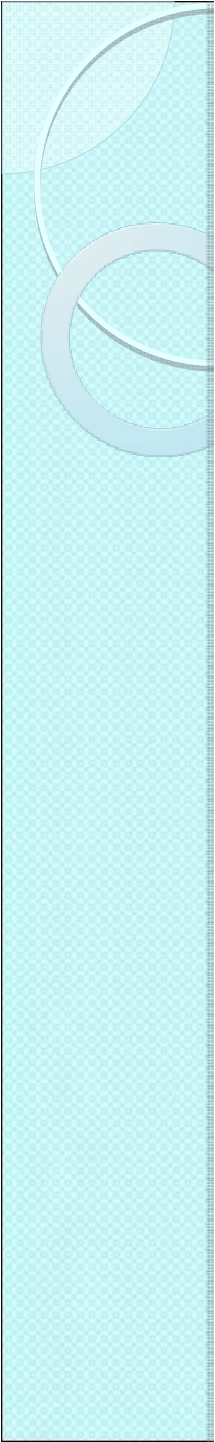
Projected Investment Requirements for the Overall Energy Sector

Sector	Amount Required (US\$ Billion)
Oil upstream	900
Oil refineries	20
Gas	230
Coal	150
Electricity	1,750
Heating	500
Total	3,550



Sources of Potential Funding

- Self financing (e.g. in the case of certain oil and gas investments)
- Public sector funding (including borrowings from IFIs and others)
- Private sector investment



Actions Required to Create a Supportive Environment for Investment in the Energy Sector

- Provision of an equitable fiscal regime
- Provision of an acceptable legal framework
- Equitable application of regulations
- Non discriminatory access to markets
- Avoiding interference with the functioning of the marketplace
- Avoiding discrimination among investors
- Honoring internationally accepted standards
- Abiding by contractual undertakings
- Preventing monopoly abuses
- Ensuring the sector is kept free of corruption

Evolution of Regulatory Governance in the Power Sector

Region	Country	1999	2003	2008
South East Europe	Albania	↗	↗	↑
	Bosnia & Herzegovina	↓	↑	↑
	Croatia	↓	↗	↗
	FYRMacedonia	↓	↓	↑
	Montenegro	↓	↓	↑
	Serbia	↓	↓	↗
EU Countries	Bulgaria	↗	↗	↗
	Czech Republic	↓	↗	↗
	Estonia	↗	↑	↑
	Hungary	↗	↗	↗
	Latvia	↓	↑	↑
	Lithuania	↗	↑	↑
	Poland	↗	↗	↑
	Romania	↗	↗	↑
	Slovak Republic	↓	↑	↑
	Slovenia	↓	↑	↑
Black Sea & Belarus	Armenia	↗	↑	↑
	Belarus	↓	↓	↓
	Georgia	↗	↑	↑
	Moldova	↗	↑	↑
	Ukraine	↓	↑	↑
Turkey	Turkey	↓	↗	↑
Caspian & Central Asia	Azerbaijan	↓	↗	↗
	Kazakhstan	↗	↑	↑
	Kyrgyz Republic	↗	↑	↑
	Tajikistan	↓	↓	↓
	Uzbekistan	↓	↗	↗
	Turkmenistan	↓	↓	↓

Source: ERRA, EBRD survey of regulators (2003), USAID



Separate Regulator, not part of a Ministry



No Separate Regulator

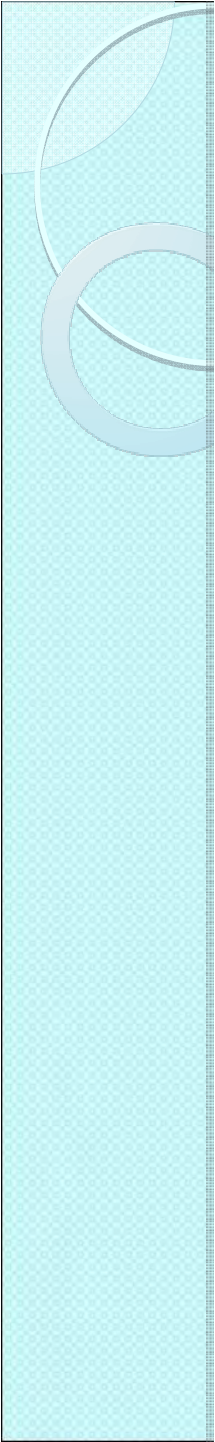


Sectoral Regulatory agency with full tariff setting power

Benchmark indicators in the power sector : towards efficient supply and use of energy

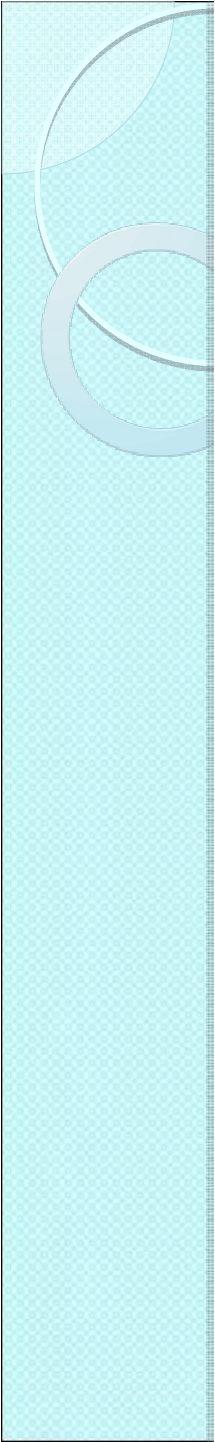
Country	Choice of power suppliers	Dominant private involvement	Regulator	Neutral or Positive budget effect
Albania	✓	✗	✓	✗
Armenia	✗	✓	✓	✓
Azerbaijan	✗	✗	✗	✗
Belarus	✗	✗	✗	✓
Bosnia	✗	✗	✓	✗
Bulgaria	✓	✓	✓	✗
Croatia	✓	✗	✓	✗
Czech Rep.				
Estonia				
Georgia	✗	✓	✓	✓
Hungary				
Kazakhstan	✓	✓	✗	✗
Kosovo	✗	✗	✓	✗
Kyrgyz Rep.	✗	✗	✓	✗
Latvia				
Lithuania				
Macedonia	✓	✗	✓	✗
Moldova	✗	✓	✓	✓
Poland	✓	✓	✓	✗
Romania	✓	✗	✓	✓
Russia	✓	✓	✓	✓
Slovakia				
Slovenia				
Tajikistan	✗	✗	✗	✗
Turkey	✓	✓	✓	✓
Turkmenistan				
Ukraine	✗	✗	✓	✗
Uzbekistan				

Source: Based on a Bank staff survey. Questions refer to :1. Do industrial enterprises currently have a choice of suppliers providing energy services? 2. Does private ownership and financing now play a dominant role in the power sector? (Approximately 50% ownership by the private sector is considered to constitute "dominant" involvement) 3. Is there currently a regulator operating in an objective, transparent and non-discriminatory manner whose tasks are to oversee natural monopolies and to promote competition? 4. Does the power sector make a positive or neutral (yes) or negative net contribution to the country's budget?



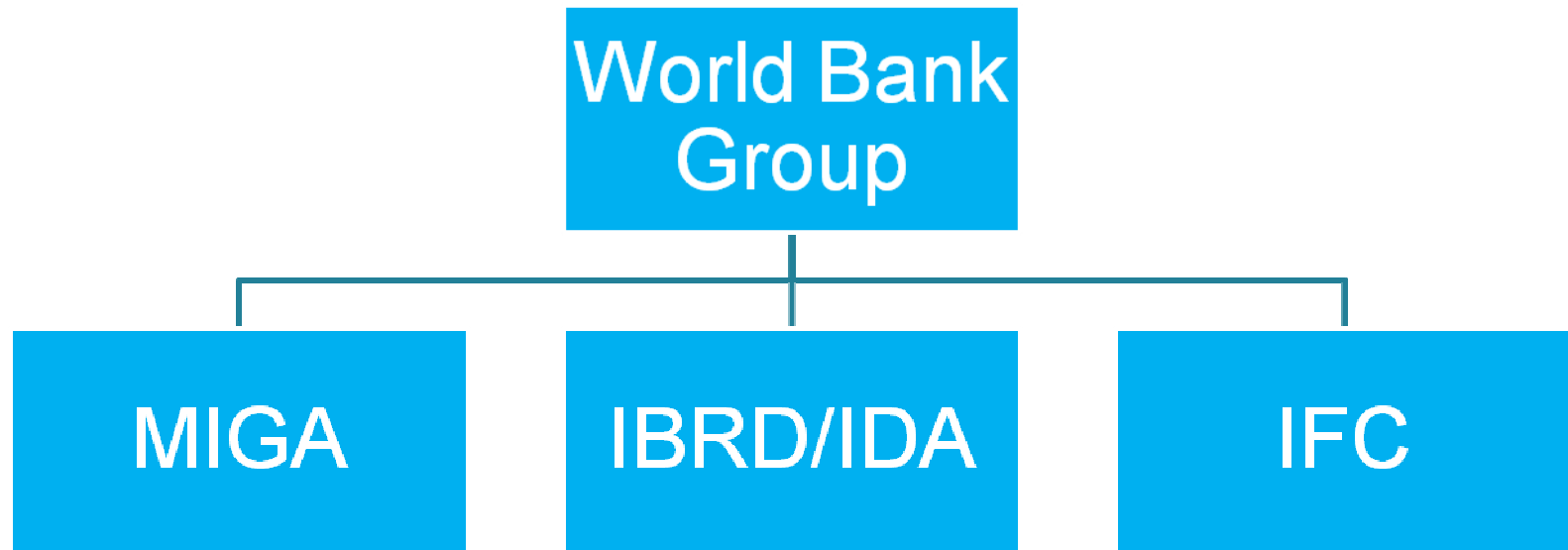
The Investment Equation

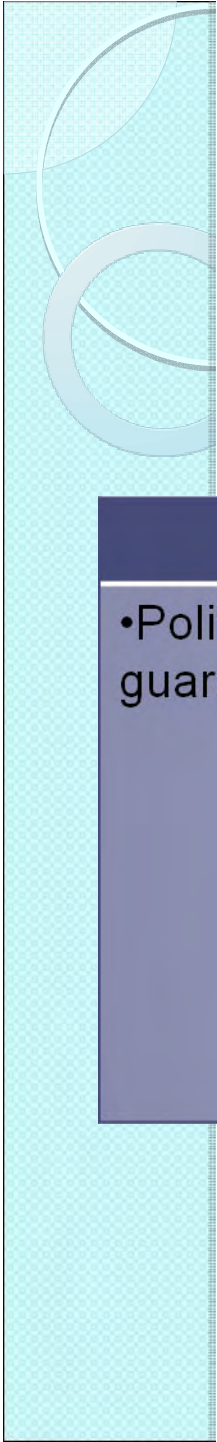
Consistency + Clarity = Credibility



The Role of the World Bank Group

The World Bank Group





World Bank Group Instruments

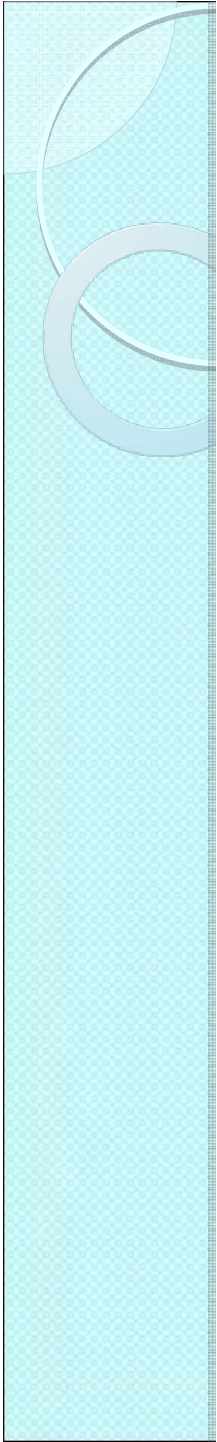
MIGA	IBRD/IDA	IFC
•Political risk guarantees	•Budget support loans/credits •Investment loans/credits •IDA grants •Partial credit guarantees (PCGs) •Partial risk guarantees (PCGs) •Technical assistance •Advisory services	•Loans to the private sector •Loans to sub-nationals (w/o sovereign guarantee) •Guarantees •Technical assistance •Advisory services

IBRD/IDA Loans and Credits Pricing

	IBRD Loans (Fixed spread)	IBRD Loans (Variable spread)	IDA Credit (regular credit)
Front-end fee	0.25%	0.25%	N/A
IBRD Interest rate/ IDA Service charge	LIBOR + 1.1 -1.45% p.a. (US\$ and Euro) 1.0-1.35% p.a. (JPY)	LIBOR – 0.05% p.a. (US\$,Euro, JPY)	0.75 % p.a. (SDR)
IBRD Average maturity Repayment / IDA Maturity and grace period	- Max final maturity of 30 yrs. - 10-18 yrs. of average repayment maturity	- Max final maturity of 30 yrs. - 10-18 yrs. of average repayment maturity	40 years maturity with grace period of 10 years
Commitment charge	N/A	N/A	N/A (waived forFY09)

IBRD/IDA Guarantee Pricing

	IBRD PCG	IBRD PRG	IDA PRG	IBRD Enclave PRG
Front-end fee	0.25%	0.25%	N/A	0.25%
Guarantee fee	0.3 % p.a.	0.3 % p.a.	0.75 % p.a.	2.0 % p.a.
Initiation fee	N/A	0.15% on the guaranteed amount or \$100,000 whichever higher	0.15% on the guaranteed amount or \$100,000 whichever higher	0.15% on the guaranteed amount or \$100,000 whichever higher
Processing fee	N/A	Up to 0.5% of the guaranteed amount	Up to 0.5% of the guaranteed amount	Up to 0.5% of the guaranteed amount



World Bank Lending Projections for Infrastructure

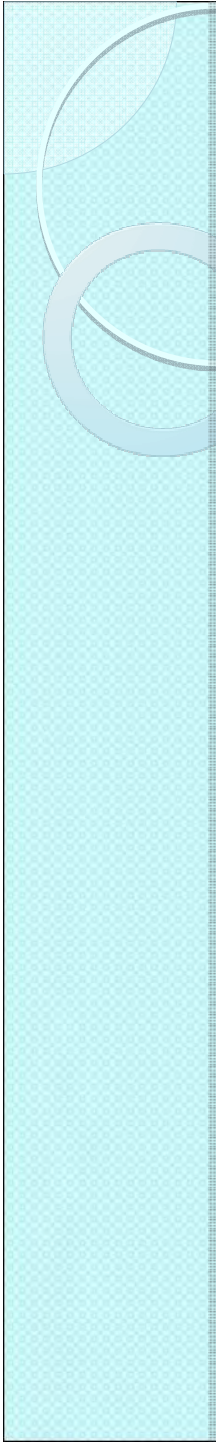
2009 - 2011

Globally

US \$ 45 Billion

In the CSE and CIS Countries

US \$ 10 – 12 Billion



The Focus of World Bank Lending in the Energy Sector

- Clean energy investments:
 - Energy efficiency
 - Renewable energy
 - Reduced gas flaring
- Investments to support energy security:
 - Gas storage
 - Energy diversification
- Environmental clean-up

Thank-you

