

**United Nations Forum on Energy Efficiency and Energy Security for Sustainable Development:
Taking Collaborative Action on Mitigating Climate Change**

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Cooperation on Energy Efficiency and Energy Security: Perspectives from the Russian Federation

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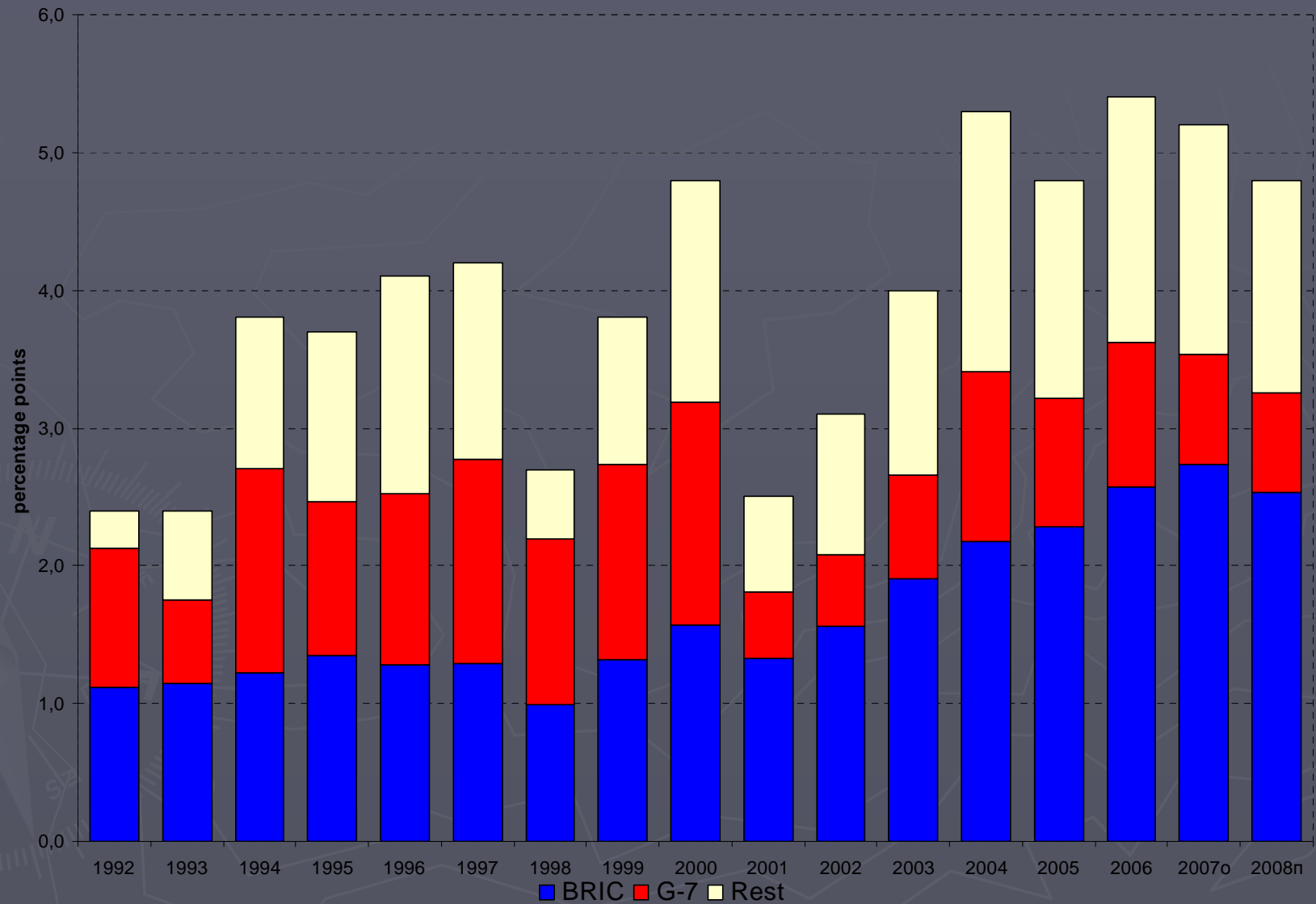
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1. Economic dynamics in the world

- ▶ World growth with high oil prices (unlike previous cases of price shocks).
- ▶ Increasing role of countries with EME (esp. BRIC).
- ▶ Increasing role of energy efficiency and security

Contribution to world GDP growth, 1992-2008f (%)



Source: IMF, IEF

2. Forecasts on GDP, energy intensity, primary energy consumption and oil prices

- ▶ International Energy Agency (World Energy Outlook 2007)
- ▶ Department of Energy US (International Energy Outlook 2007)
- ▶ Institute of Energy and Finance (2007)

Base scenarios of world energy – annual average growth rates (%)

	IEA (2007)			US DE (2007) (base)			IEF (2007)		
	2004-15	2015-30	2004-30	2004-15	2015-30	2004-30	2006-15	2015-30	2006-30
World	4,2	3,3	3,6	4,4	3,8	4,1	4,3	3,9	4,0
OECD	2,5	1,9	2,2	2,6	2,4	2,5	2,5	2,0	2,2
USA	2,6	2,2	2,3	2,9	2,9	2,9	2,9	2,3	2,6
Japan	1,6	1,3	1,4	1,7	0,7	1,1	1,7	1,3	1,5
EU	2,3	1,8	2,0				2,2	1,8	2,0
Developing countries	6,1	4,4	5,1	6,1	4,7	5,3	6,2	5,3	5,7
Asia	6,9	4,8	5,6	6,9	5,1	5,8	6,4	4,1	5,1
China	7,7	4,9	6	7,9	5,4	6,5	7,5	6,3	6,8
India	7,2	5,8	6,3	6,5	5,0	5,7	6,4	5,2	5,7
Africa	4,5	3,6	3,9	5,1	4,6	4,9	4,4	3,6	3,9
Brasil	3,5	2,8	3,1	3,5	3,3	3,4	3,5	3,3	3,4
Russia	4,3	2,8	3,4	4,7	3,1	3,7	5,2	4,5	4,8

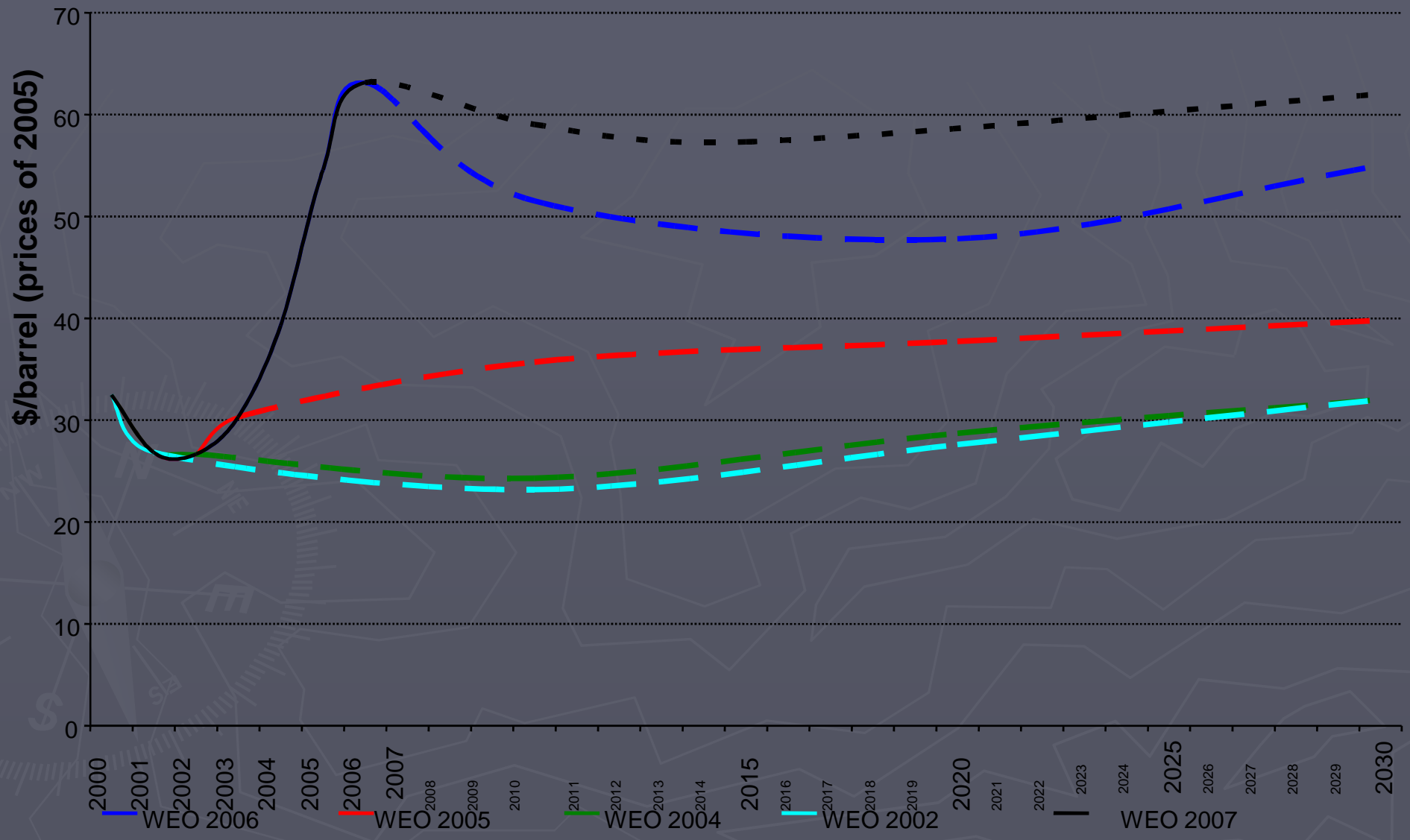
Base scenarios of world energy – annual energy intensity changes (%)

	IEA			DE US			IEF		
	2004-15	2015-30	2004-30	2004-15	2015-30	2004-30	2006-15	2015-30	2006-30
World	-1,8	-1,8	-1,8	-1,2	-1,4	-1,3	-1,7	-1,5	-1,6
OECD	-1,4	-1,2	-1,3	-1,3	-1,1	-1,2	-1,5	-1,4	-1,4
USA	-1,4	-1,5	-1,4	-1,5	-1,8	-1,7	-1,6	-1,2	-1,3
Japan	-0,5	-1,2	-0,9	0,0	0,8	0,4	-1,2	-1,1	-1,1
EU	-1,7	-1,4	-1,6				-1,2	-1,2	-1,2
Developing countries	-2,2	-2,1	-2,2	-3,9	-3,1	-3,4	-2,6	-1,9	-2,2
Asia	-2,4	-2,4	-2,4	-1,9	-2,1	-2,0	-2,8	-2,1	-2,4
China	-2,5	-2,8	-2,7	-4,4	-2,7	-3,4	-3,1	-2,2	-2,5
India	-3,3	-2,1	-2,5	-2,9	-2,6	-2,8	-3,0	-1,7	-2,2
Africa	-2,6	-1,8	-2,0	-1,9	-2,7	-2,4	-2,0	-1,8	-1,8
Brasil	n.a	n.a	n.a	-0,4	-1,6	-1,1	-0,9	-1,2	-1,0
Russia	-2,5	-1,9	-2,1	-2,6	-1,6	-2,0	-2,8	-2,1	-2,4

Base scenarios of world energy – annual primary energy consumption changes (%)

	IEA			DE US			IEF		
	2004-15	2015-30	2004- 30	2004-15	2015-30	2004- 30	2006-15	2015-30	2006- 30
World	2,3	1,4	1,8	2,1	1,5	1,8	2,5	2,3	2,4
OECD	1,1	0,6	0,8	0,9	0,8	0,8	1,0	0,6	0,8
USA	1,2	0,7	0,9	1,0	1,0	1,0	1,3	1,1	1,2
Japan	1,1	0,1	0,5	0,6	0,4	0,5	0,5	0,2	0,4
EU	0,5	0,3	0,4				1,0	0,6	0,7
Developing countries	3,8	2,2	2,8	3,3	2,1	2,6	3,4	3,3	3,4
Asia	4,3	2,2	3,1	4,1	2,6	3,2	3,4	1,9	2,5
China	5,0	2,0	3,2	4,5	2,7	3,5	4,2	4,0	4,1
India	3,7	3,5	3,6	3,2	2,6	2,8	3,2	3,4	3,3
Africa	1,8	1,8	1,8	3,1	1,7	2,3	2,3	1,8	2,0
Brazil	n.a	n.a.	n.a	3,1	2,0	2,5	2,6	2,1	2,3
Russia	1,7	0,9	1,2	1,5	1,1	1,3	2,2	2,3	2,3

Evolution of oil prices forecasts by IEA (in 2005 USD, calculated by IEF)



3. Russia in the world: energy perspective

- ▶ **GDP – 2,3% of the World**
- ▶ **Population – 2,3% of the World**
- ▶ **Primary Energy – 10,3% of the World**
- ▶ **Export of energy – 4,7%**
- ▶ **Internal consumption – 5,6% (including exported energy intensive goods, ex. aluminium)**

Russia in the world: energy perspective (continuation)

**Russia is country with mostly diversified
export by energy sources**

- **Gas – more than 30% of production**
 - **Oil – about 65% of production**
 - **Coal – about 30% of production**
- + energy intensive goods (see. page 10)**

4. Priorities of Russia on energy security provision

- ▶ **Reliable contractor – sustainability of budget revenues flows and credibility of private companies commitments**
- ▶ **Cooperation on B2B level – NC +TNC (using of competitive advantages)**
- ▶ **Exchange of assets – commitments credibility**
- ▶ **Combined co-operation (oil-water, China)**
- ▶ **Internal problems: renovation of generation capacities 4,5 MWt for decade vs. 8 MWt each year in soviet period, combined generation and heating etc.**

5. Russia and energy efficiency

- ▶ **Energy sector is one of major contributors to antropologically conditioned GHE**
- ▶ **Contribution to sustaining of climate as a global public good:**
 - **Average GDP growth (for last five years) – around 6,7%**
 - **Average rate of consumption growth – 2,5%**
- ▶ **Increase of energy efficiency corresponds to long-term conditions for economic development in Russia (lower demand in the long-run – compliance with WTO requirement on energy sources prices - decrease of risks of resource curse)**
- ▶ **Strategic priorities for Russia: modernization of economy “from energy dependence” but based on resources from energy sector**

6. Conclusions

- ▶ Two senses of energy security: climate (energy intensity/efficiency) & sustainability of supply/demand dynamic balance
- ▶ Important role of Russia in energy security provision in both senses from the long-run perspective