



Industrial Energy Efficiency - Moldova Context

Aurel Guțu

UNIDO National Expert

28 June 2011

Chisinau, Republic of Moldova

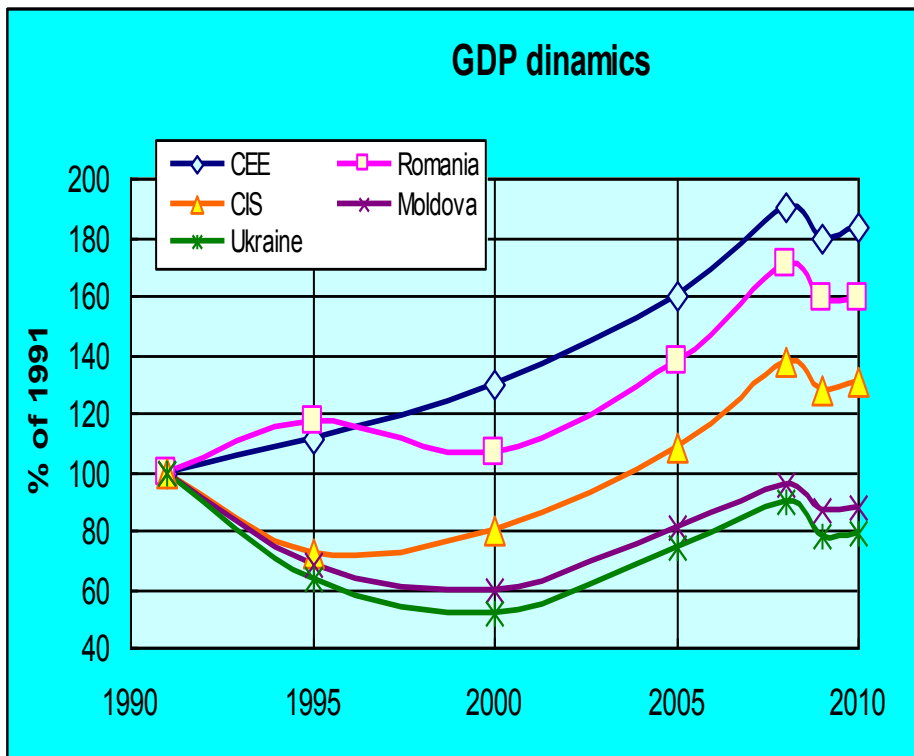


Presentation outline

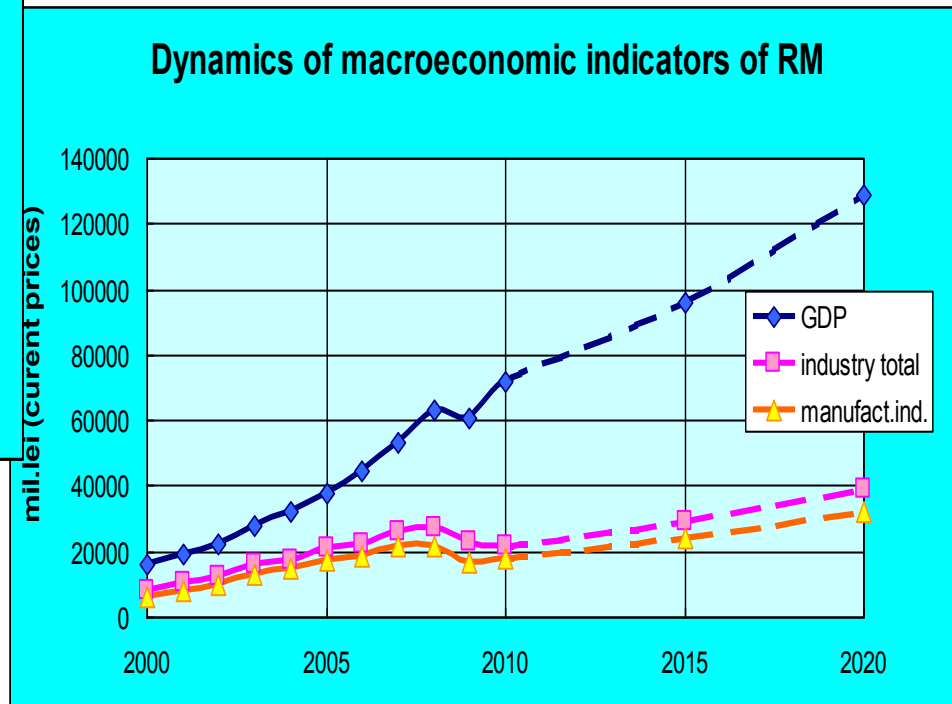
1. Macroeconomic context
2. Dynamic of energy consumption in Industry
3. Dynamic of energy prices for Industry
4. Energy performance of Moldovan industry
5. Barriers to improved Energy Efficiency (EE) in industry
6. Goals of the National Policies on EE in Industry
7. Legal and Regulatory Requirements for energy and EE in industry
8. Way forward



1. Macroeconomic context



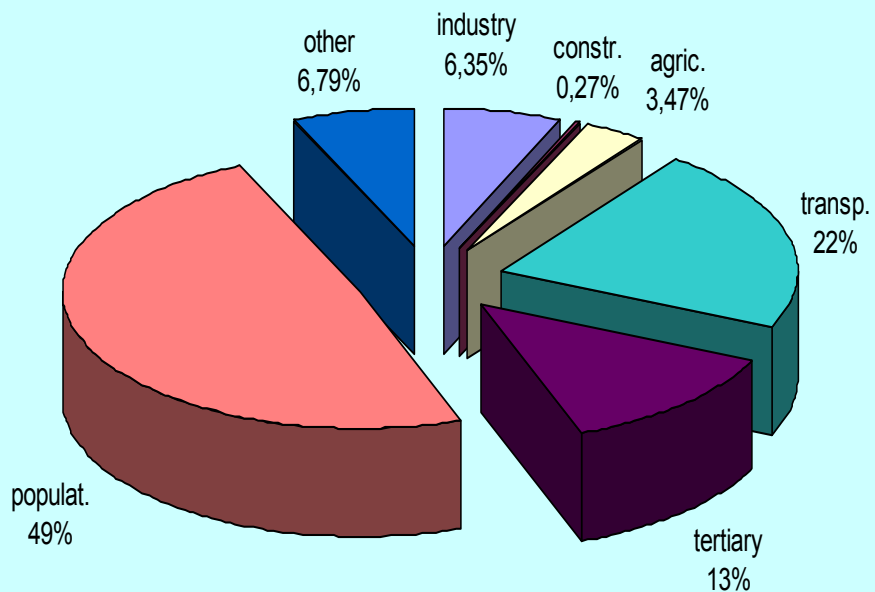
Source: IMF, database





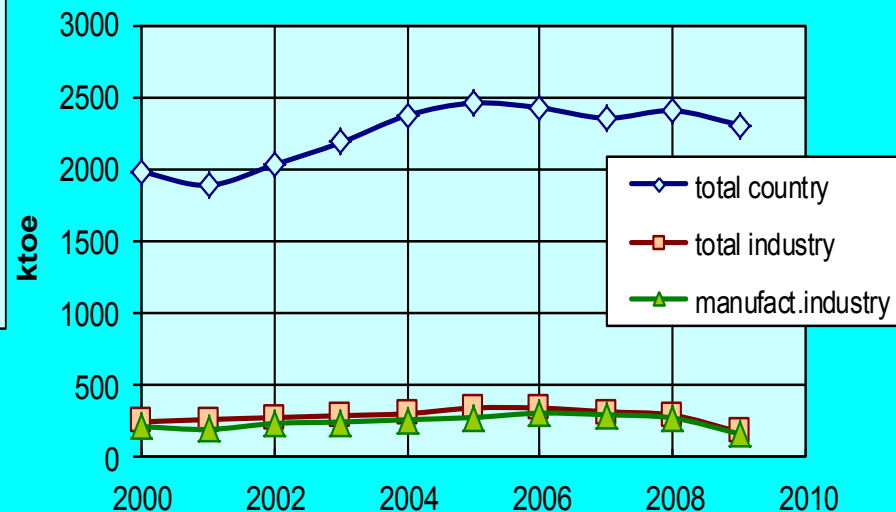
2. Dynamic of energy consumption in Industry

Structure of energy consumption
2009



Source: National Bureau of Statistics of the Republic of Moldova

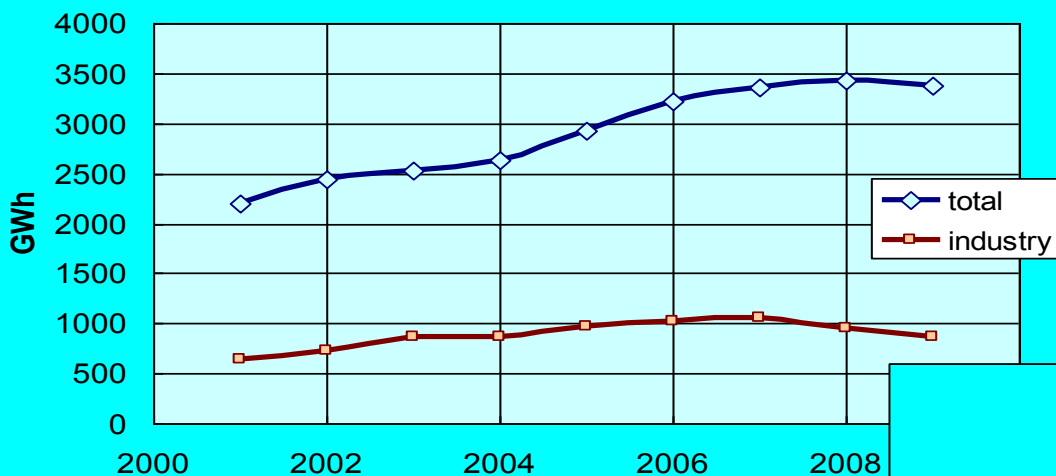
Dinamics of energy consumption



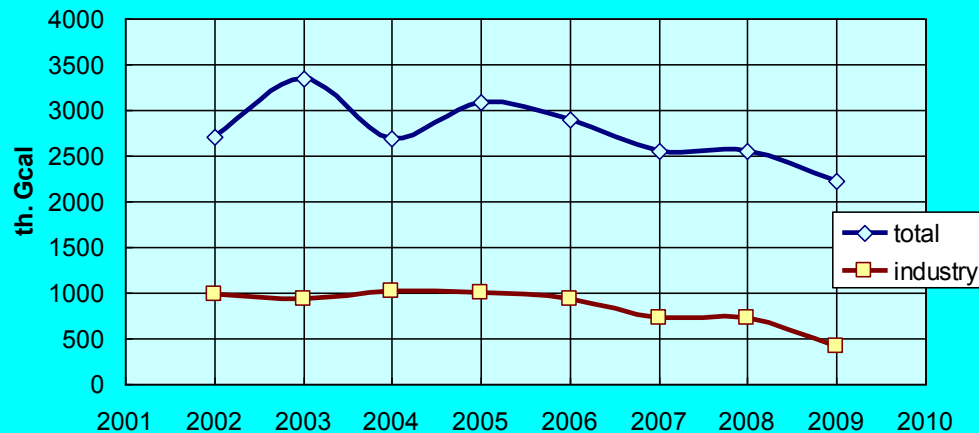


2. Dynamic of energy consumption in Industry (cont.)

Dynamic of electricity consumption



Dynamic of heat consumption

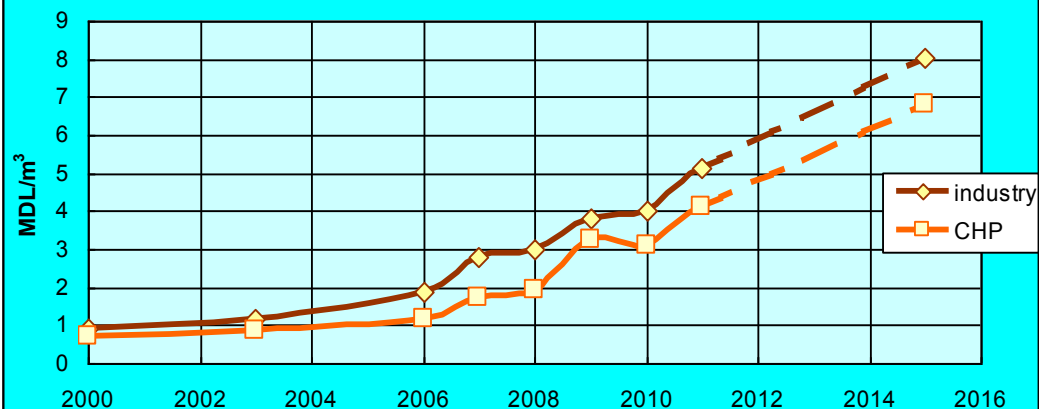


Source: National Bureau of Statistics



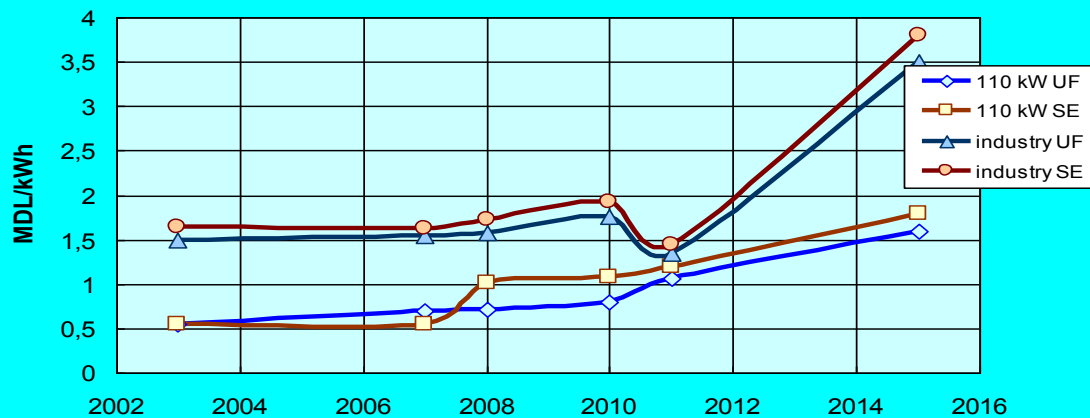
3. Dinamic of Energy Prices for Moldova Industry

Dinamic of tariffs for natural gas



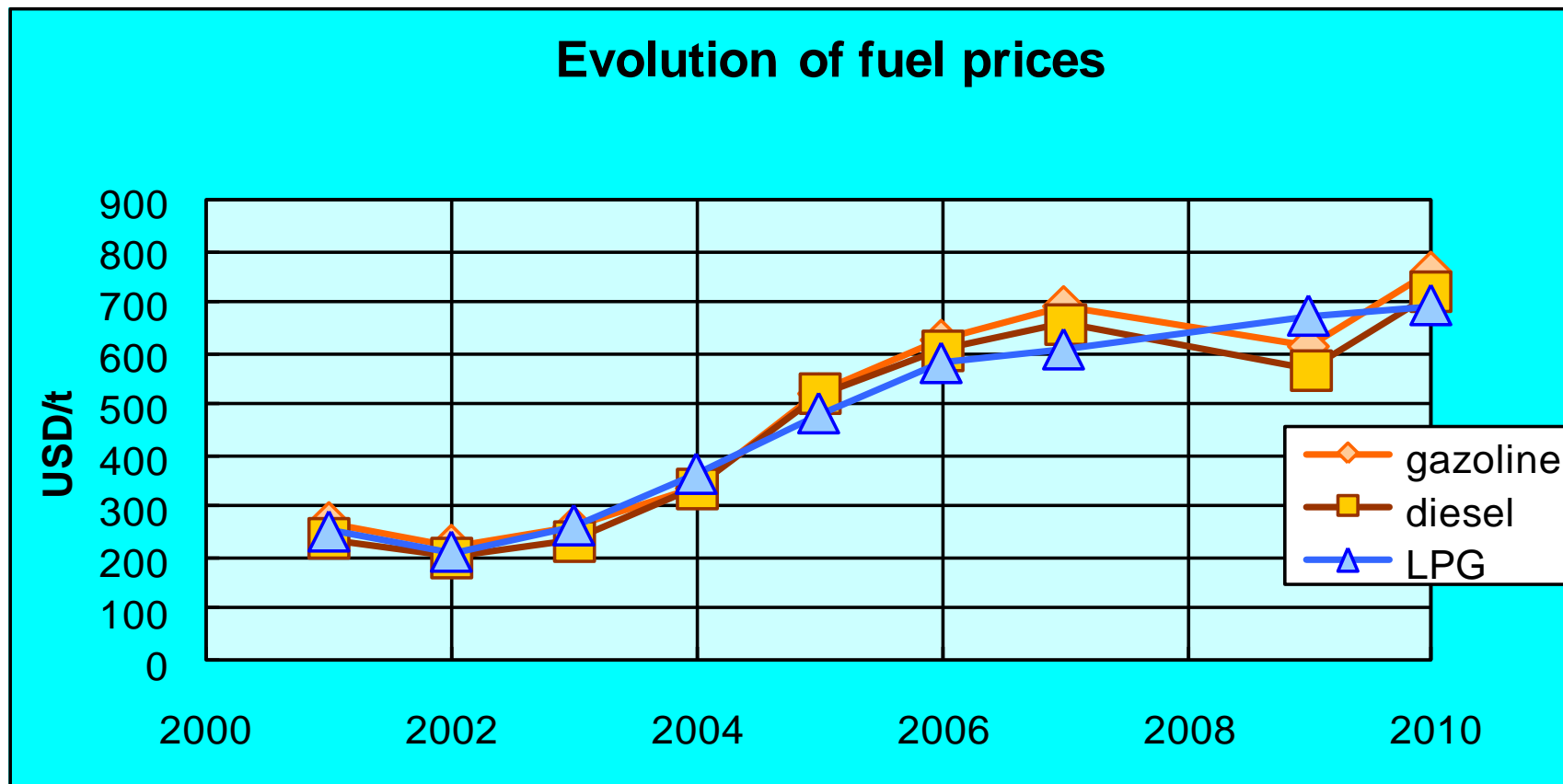
Source: ANRE RM

Dinamic of tariffs for electricity





3. Dynamic of fuel prices for Moldova Industry (cont.)

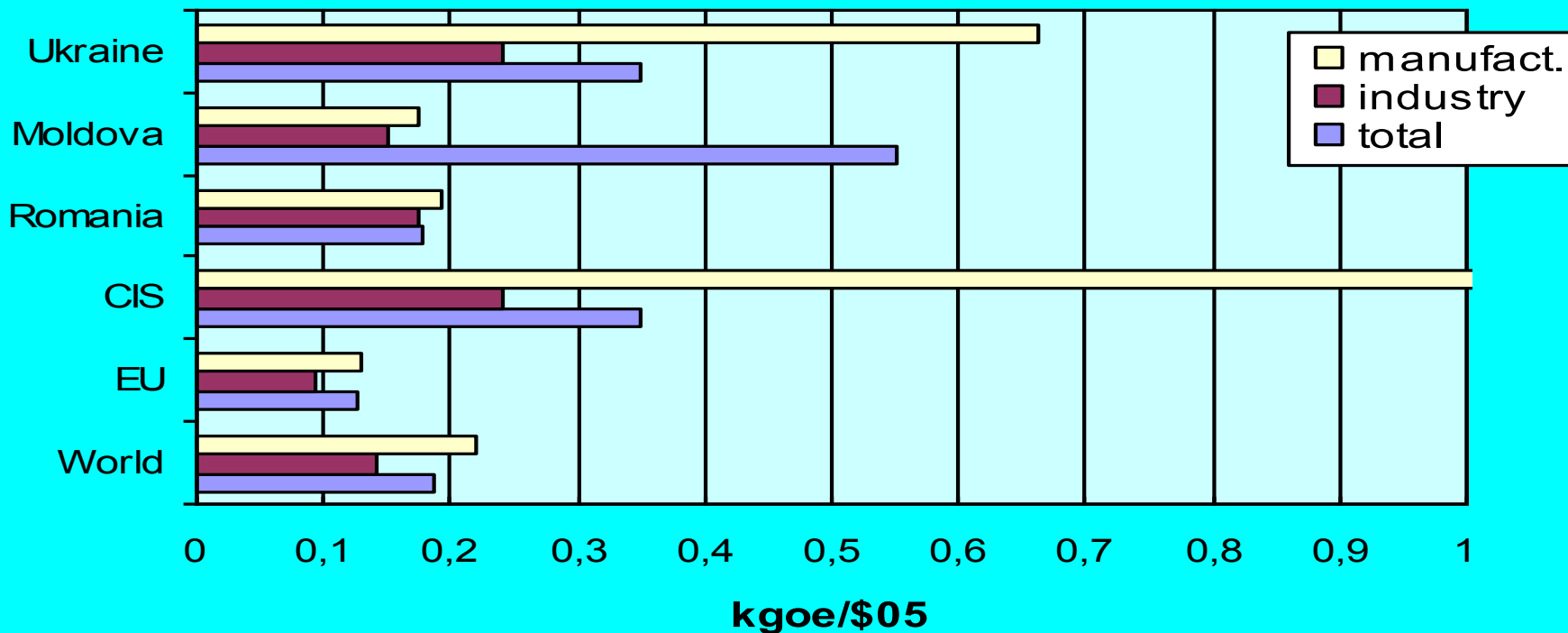


Source: ANRE RM



4. Energy performance of Moldovan industry

Energy intensity, 2008

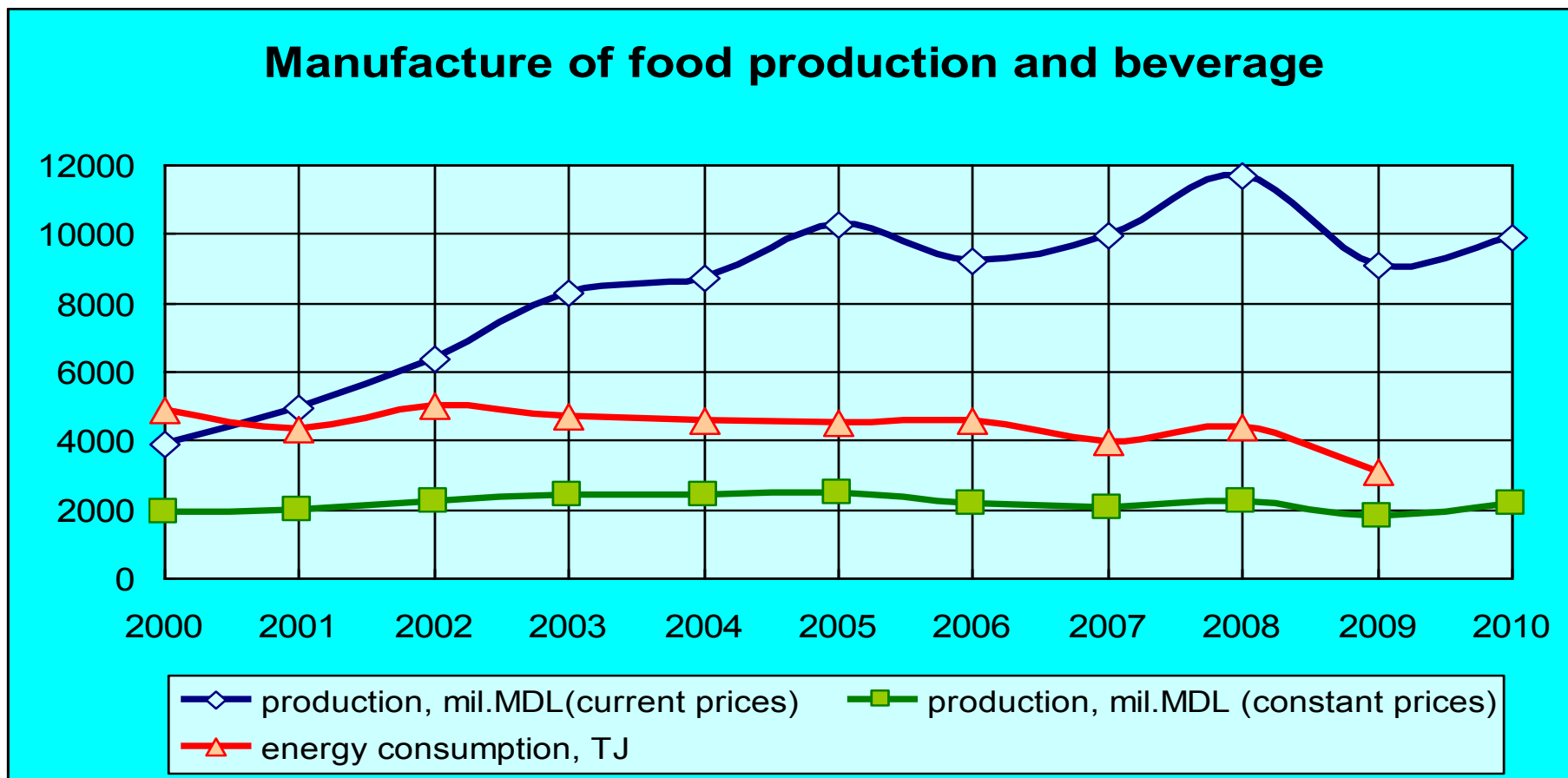


Source: http://www.worldenergy.org/publications/energy_efficiency_policies_around_the_world_review_and_evaluation/1230.asp



4. Energy performance of Moldovan industry (cont.)

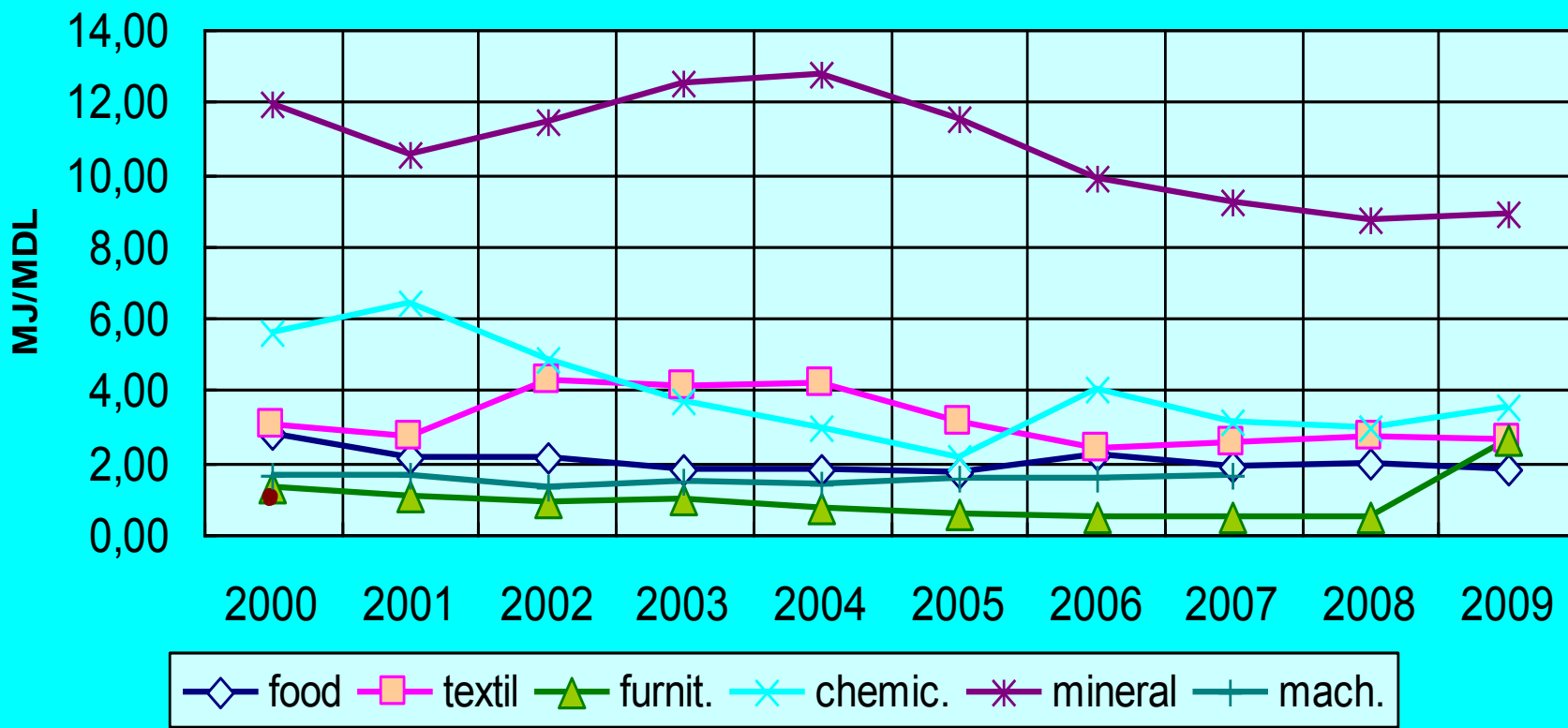
Industrial Output and Energy Consumption





4. Energy performance of Moldovan industry (cont.)

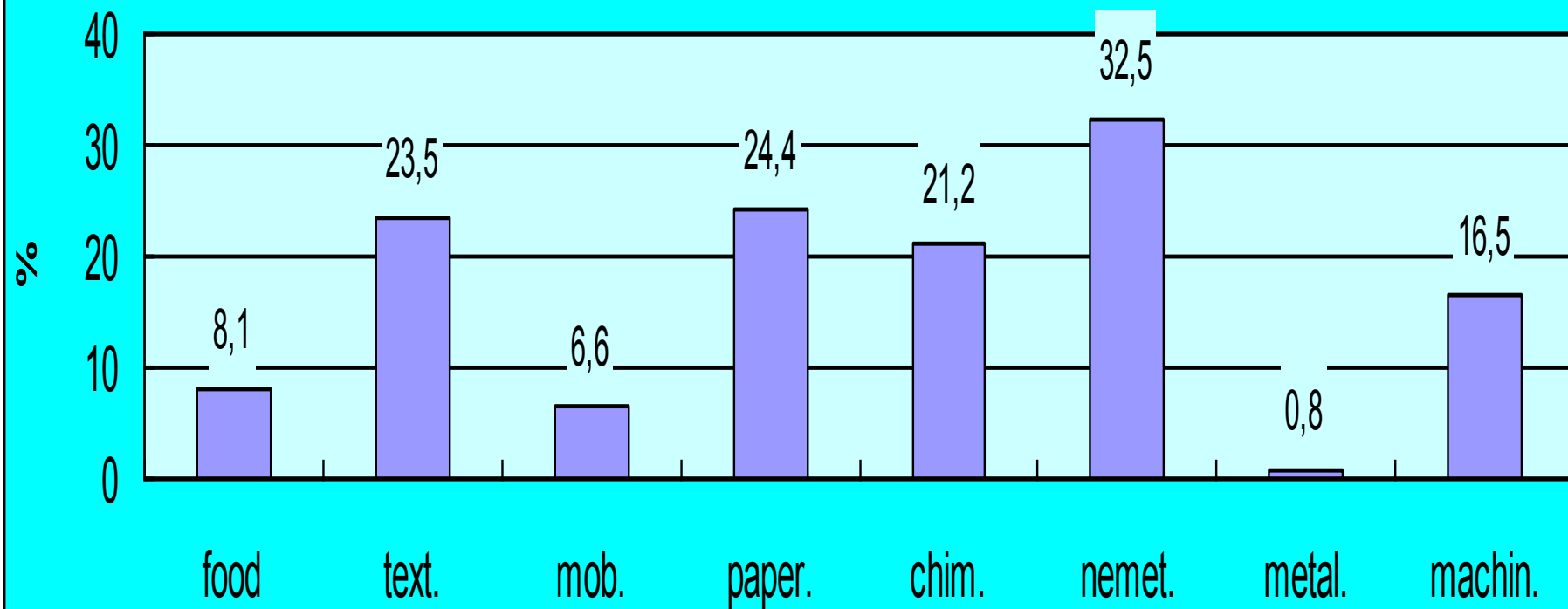
Dinamic of energy intencity (constant prices)





4. Energy performance of Moldovan industry (cont.)

Energy share in cost of production, 2008





5. Barriers to improved industrial energy efficiency

1. Limited understanding within industry decision-makers of energy saving potential and related economic benefit - where and how to save energy, and at what cost
2. Energy conservation policy and regulatory frameworks – still incomplete, inadequate resources and capacity for implementation and enforcement
3. Limited financial resources of enterprises combined with a focus on process technologies and first capital costs (rather than operational costs)
4. Lack of initiative among many managers, inherited from the Soviet administrative order system
5. The relatively low share of energy cost in the production cost of most of Moldova industries' products
6. Reduced availability of credits (bank interest too high , alternative forms of financing) and poor investment climate in the country
7. High level of corruption and bureaucracy at all levels.



6. Goals of National Policies on EE in Industry

1. Energy Efficiency Law was adopted on **02.07.2010**.
2. Energy Efficiency Agency was set-up in **December 2010**.
3. Energy Efficiency Fund to be operational **by the end of 2011**.
4. National Energy Efficiency Program for the 2011-2020 period is supposed to be approved **by end of the year**.
5. NEEP will be supported by short-term (3 years) National Energy Efficiency Plans, which will be periodically updated (once in 3 years) depending on implementation progress and changes made to relevant European Directives on EE.



7. Legal and Regulatory Requirements for IEE

Energy Efficiency Law (2010)

Goal: creation of premises for improving the energy efficiency.

Basic principles:

- a) supporting programs focused on improving the energy efficiency, which supposed also the implementation of advanced technologies for energy production;
- b) promotion of private initiative and development of ESCO;
- c) State monitoring of the energy consumption;
- d) Cooperation with other countries to promote advanced technologies;
- e) providing information; society awareness and involvement.

Energy Conservation Law (2000)

(Not abrogated)

Goal: setting up organizational and economic conditions appropriate for efficient use of energy resources

Basic principles:

- a) mandatory exertion of measures on energy conservation by all legal entities
- b) State supervision over energy resources efficient use
- c) inclusion of energy efficiency indicators in national standards,
- d) mandatory energy expertise of construction and reconstruction projects.



7. Legal and Regulatory Requirements for IEE (cont.)

According to Energy Efficiency Law (2010)

Energy audit is required in case of:

- a) energy efficiency projects carried out with financial support of the Fund for Energy Efficiency;
- b) energy efficiency measures implemented in the frame of energy efficiency programs/initiatives, with financial support from the state budget and/or local public authorities budgets

According to Energy Conservation Law (2000)

State expertise and audits in the area of energy conservation are mandatory for all enterprises and state institutions.

State institutions and enterprises with an annual consumption of over 500 tons of conventional fuel, regardless of its ownership and legal form of organization, are subjected every five years, to a mandatory energy audit.



7. Legal and Regulatory Requirements for IEE (cont.)

Incentives and sanctions

Energy Efficiency Law (2010)

Not any similar stipulations provided, as in case of Energy Conservation Law

Energy Conservation Law (2000)

Local producers of equipment, energy efficient technologies and devices, equipment designated for recording, controlling and regulating the energy consumption, benefit from tax concessions on income derived from sale of equipment, technologies and above mentioned machines/equipment in the amount of 50 percent, and are also exempted from paying VAT during a period of at least 5 years.

For irrational consumption of energy resources and direct losses, the empowered authority will apply sanctions to the enterprises, institutions and organizations, in accordance with the stipulations of the law.



7. Legal and Regulatory Requirements for IEE (cont.)

National Energy Efficiency Program for the period 2011-2020

Objectives:

Government has the task to stimulate private investments in developing an efficient industry sector, inclusive through applying tax incentives and creation of support funds for these purposes.

Energy Conservation Program for the period 2002-2010

Objectives:

Doubling the GDP;

Increasing the energy consumption by 20%, compared to 2002.

GDP growth realized by 2010, in constant prices – by 43%.

Energy consumption growth realized by 2010 – by 14%.



7. Legal and Regulatory Requirements for IEE (cont.)

National Energy Efficiency Program for the period 2011-2020

Measures on improving energy efficiency in industry:

- a) elaboration and developing proposals of voluntary agreements;
- b) develop an energy efficiency program for industrial sector;
- c) examine the possibility of using the White Certificate Schemes;
- d) setting up the Fund for Energy Efficiency;
- e) Ensuring the Government support for crediting the energy efficiency measures in industry;
- f) ensuring the monitoring of energy consumption in industrial sector;
- g) information and training.

Energy Conservation Program for the period 2002-2010

- a) Mandatory undertaken, once in three years, of the energy audit, starting with the most energy-intensive enterprises. Energy expertise of technologies and equipment.
- b) Elaboration of current and future measures on energy saving and increasing the energy efficiency. Training of the staff according to law.
- c) Mandatory energy expertise of upgrading and modernization industrial projects.
- d) Development by enterprises of the Regulation to stimulate energy saving and energy resources and for applying penalties for unreasonable energy consumption.
- e) Modernization and automation of the system for accounting and controlling the energy flows.



8. Way Forward for Enterprises

1. Continue to build and strengthen understanding of Energy Efficiency potential and related economic benefits
2. Improve management practices and technical skills for energy efficiency and productivity improvements
3. Integrate Energy Efficiency considerations in any production process renovation, modernization and expansion investment
4. Make energy integral part of company's strategic planning (competitiveness, market access and trade, carbon footprint, etc.)



8. Way Forward for Policy Makers and Institutions

1. Enhance promotion and support of Energy Efficiency in public and private sector enterprises
2. Define clear legal and regulatory frameworks, where applicable
3. Operationalize smart, effective and tailored incentive schemes and supporting programs for EE investments and improvements, i.e. clear and “certain” mechanisms
4. Minimize transaction costs for EE projects and investments



Thank you for attention !

For more information:

Prof. Aurel GUȚU

Email: aurelgutu@yahoo.com

Tel: +373 22 237618