

UNECE
Department for Energy Efficiency of the
Standardization Committee of Belarus

Renewable Energy Development in Belarus

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Energy Dependence of Belarus

Fuel consumption thousand tce

| | 2007 | 2008 |
|--------------------------------|---------------|---------------|
| Total | 27254 | 27857 |
| Local fuels | 3648,4 | 3818,4 |
| Share of local fuels, % | 18,1 | 18,3 |

Forecast of local fuels use in 2009 – 19,4%

Forecast of local fuels use in 2012 – 25%

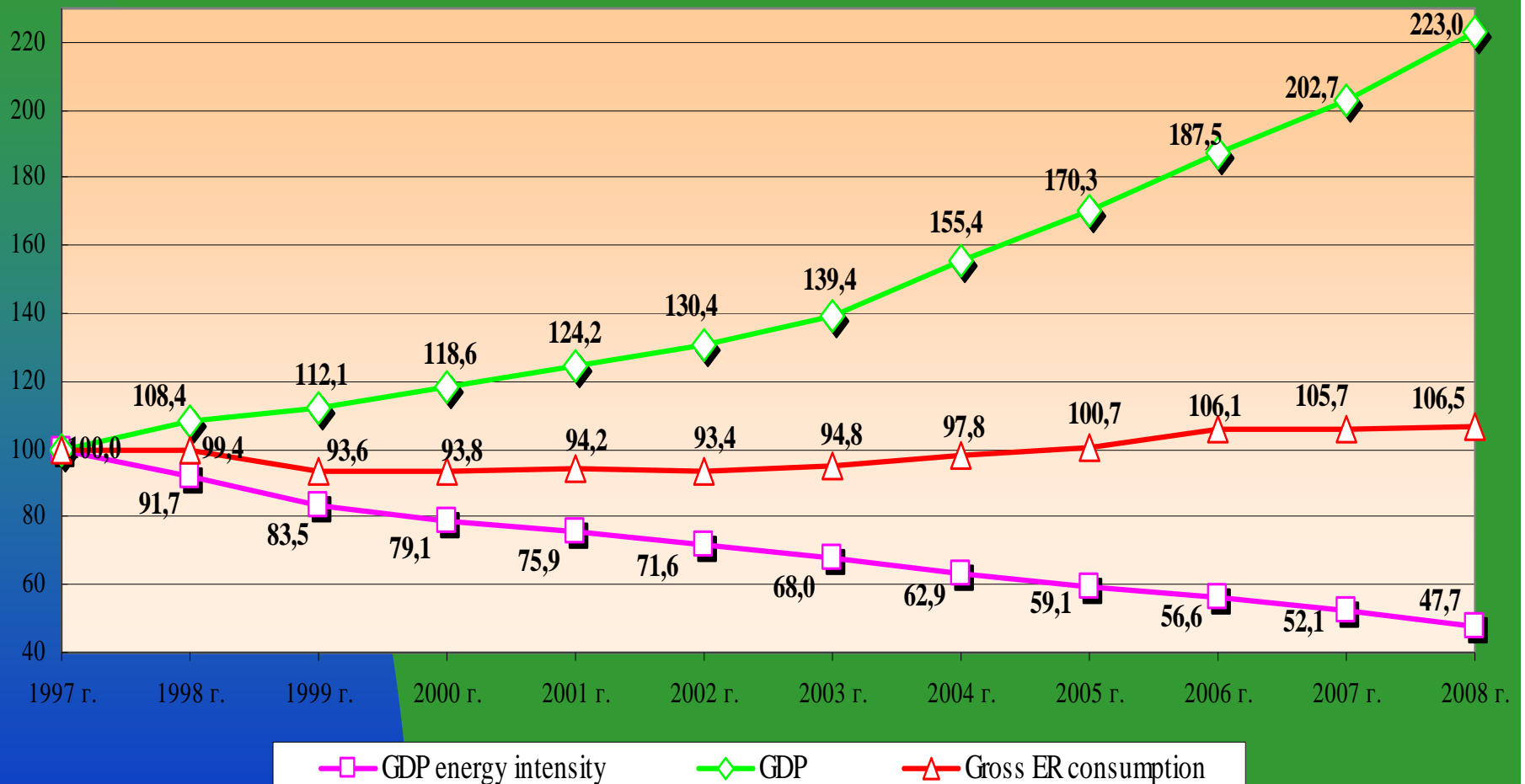
Strategy for reduction of energy resources dependence of Belarus

- **Energy efficiency increase**
- **Reduction of fossil fuel consumption**
- **Increase of local fuels consumption**
- **Increase of renewable energy use**

Main regulations supporting RE

- A Law “Non traditional and Renewable Sources of Energy” - under approval
- President’s of Belarus Decree #3 dated June 2007 “Economy and Thrift – Main Factors of Economical Security of the State”
- “State Integrated Program of Modernization of Belarusian Energy System Generation Facilities, energy efficiency..... till 2011”
- National Program for energy efficiency for the period 2006 – 2010
- “Task Program for ensuring in Belarus not less than 25% of the total production of Heat and electricity by means of local fuel and non traditional and renewable sources of energy for the period till 2012

GDP, Gross Energy Resources Consumption, GDP Energy Intensity against 1997 level in Belarus (%)



Energy Intensity reduction in 2006-2008



2006 – ▲; 2007 - ■; 2008 - ◆

Renewable Energy in Belarus

| <u>RE balance</u> | <u>now</u> | <u>future</u> |
|----------------------|------------|---------------|
| ■ Wood biomass | (95%) | (50%) |
| ■ Agricultural waste | (3,7%) | (20%) |
| ■ Biogas | (0,2%) | (5%) |
| ■ Wind power | (0,02%) | (14%) |
| ■ Hydro power | (0,55%) | (4%) |
| ■ Bio diesel | (0,28%) | (7%) |
| ■ Solar energy | (0,25%) | |

Renewable Energy Potential

Renewable energy production and consumption, thousand tce

| Fuel | 2005 | 2006 | 2007 | 2008 | Potential |
|---------------------|------|-------|-------|-------|------------|
| Wood fuel | 1558 | 1721 | 1731 | 1741 | 3620 |
| Hydro Power | 9,31 | 9,28 | 9,18 | 10,12 | 280 |
| Wind Power | | 0,33 | 0,38 | 0,4 | 975 |
| Biofuel (FAME) | - | - | 1 | 5,1 | 500 |
| Biogas | | | | 3,5 | 350-400 |
| Plant growing waste | | 50,3 | 53,2 | 68,7 | 1460 |
| Total RE | | 1781 | 1794 | 1829 | 7185 |
| All kinds of fuel | | 28900 | 28348 | 29108 | 25% |

Barriers to Development RE in Belarus

- **Institutional Barriers**
- **Technical Barriers**
- **Financial Barriers,**
- **Perception and Awareness Barriers.**

Measures to address Barriers

- Adoption of a Law on “Non Traditional and Renewable Sources of Energy,
- Introduction of Law’s supported regulations, circulars, orders, etc.
- Regulations defining procedures for expedient and coordinated approval of RE-projects,
- Adoption of new standards on RE equipment and technologies,
- RE investment projects implementing using modern efficient equipment,
- Attraction of foreign investments. Creation of favorable conditions for investors,
- Set up of joint ventures for production of equipment and its implementation,
- Construction of demonstration projects,
- Training of local specialists in country and abroad. Development of projects, feasibility studies, detailed designs jointly with foreign consultants,
- Development of manuals, hand books and brochures.

Vileika Forestry. Forest chips production



Vileika Forestry

Loading of wood chips to Vileika CHP



Vileika wood fired CHP



Thank you