



# Bioenergy Promotion



Baltic Sea Region - Programme area 2007 - 2013



■ EU regions/member states  
■ non-EU member states

## Bioenergy development in the forest sector of the Grodno region: state, goals and perspectives.

International Conference - From strategies to activities  
Latvia, Riga, 18 October 2013



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# Legal basis for energy policy



- Directive "Economy and thrift are the main factors of economic security of the state" (14/07/2007)
- National development program of local and renewable energy sources for 2011-2015 (10/05/2011)
  - increase the use of domestic energy resources in the balance of fuel and heating oil to 30 % in 2015.
- Program Ministry of Forestry for improving utilization efficiency of wood-fuel resources for 2011-2015 year (28/04/2010)
  - develop capacities to produce clean fuel (pellets, briquettes) and involvement in the production of low-grade wood raw material and waste

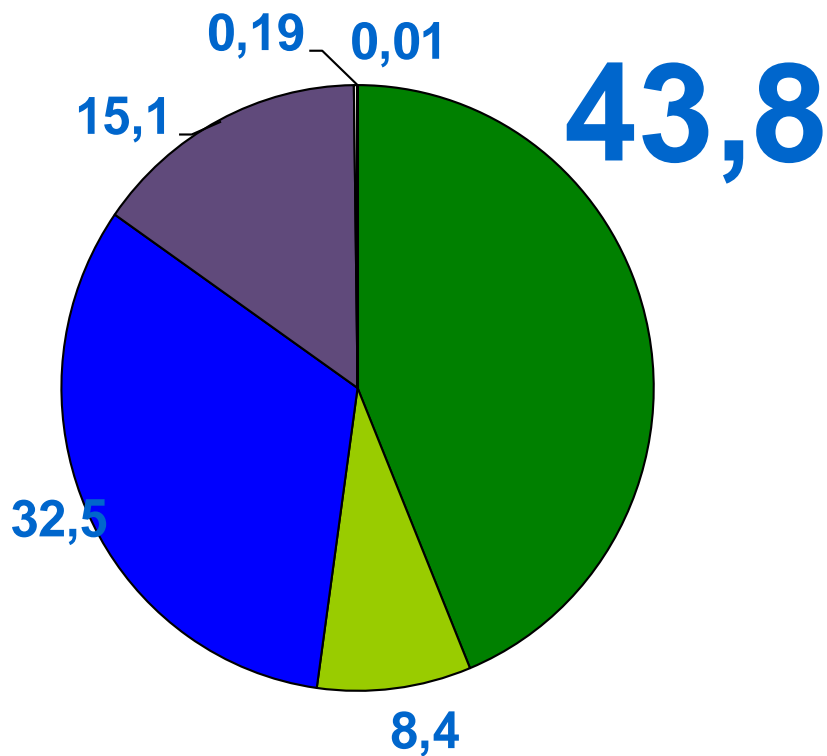


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# The structure of renewable energy sources in Belarus



- Firewood and wooden chips
- Timber waste
- Second heat and overpressure
- Other (incl biogas)
- Hydro-power
- Wind-power



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# Grodno Region



- Area – **2,51** mln.ha
- Population – **1,26** ml.
- Districts – 17
- Forests – **988,1** th.ha
- Forests of Grodno
- RFB – **92%**
- Forestry enterprises – 11
- Stuff – 4,4 th. people.
- Timber harvesting – 1180 th.cub.m/year
- Annual turnover – 41 mln. euro



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# Production of bio-energy in the period of participation in Bioenergy Promotion 2



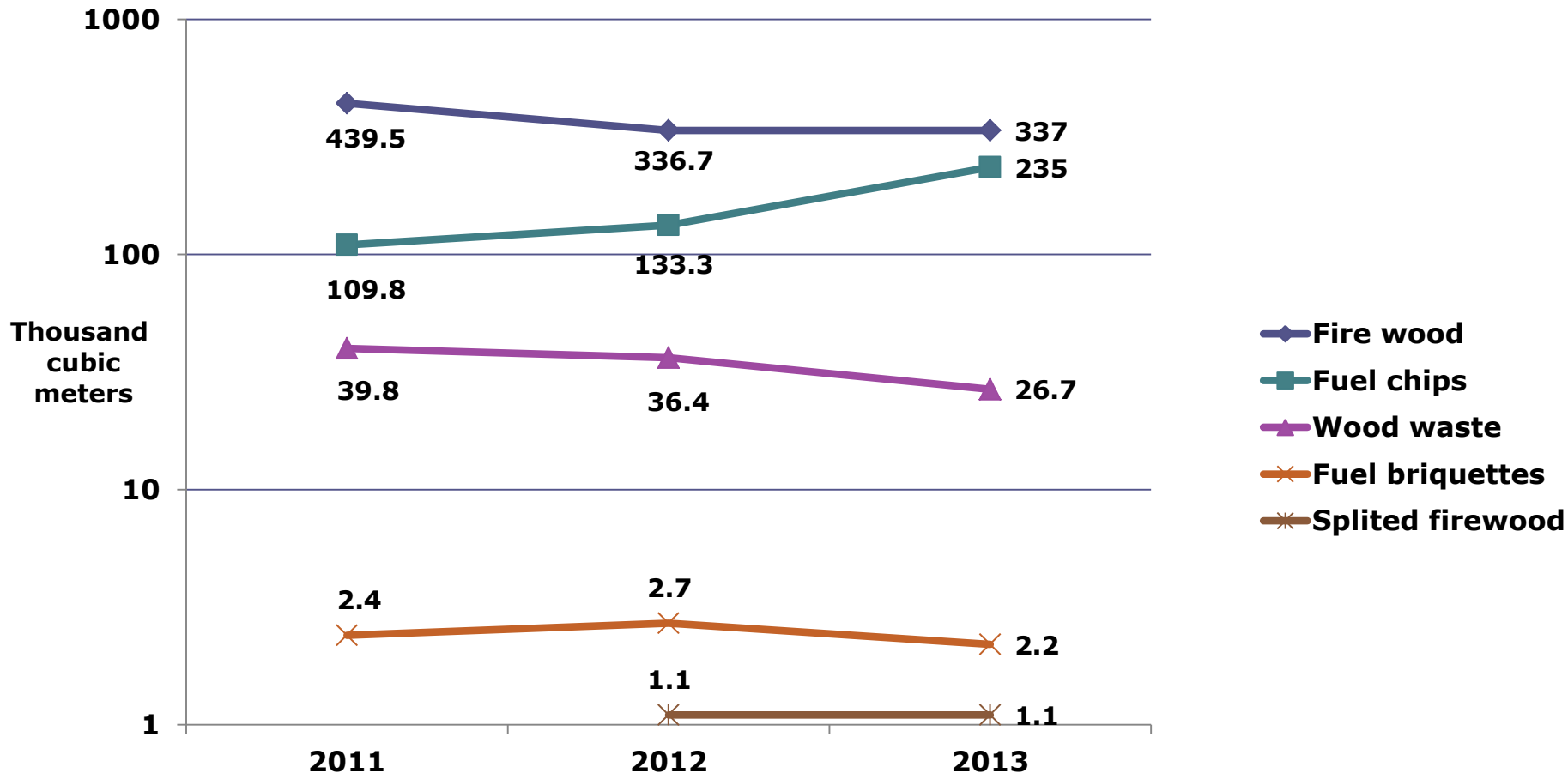
- Firewood
- Wooden chips
- Fuel briquettes
- Splited firewood
- Energy plantations



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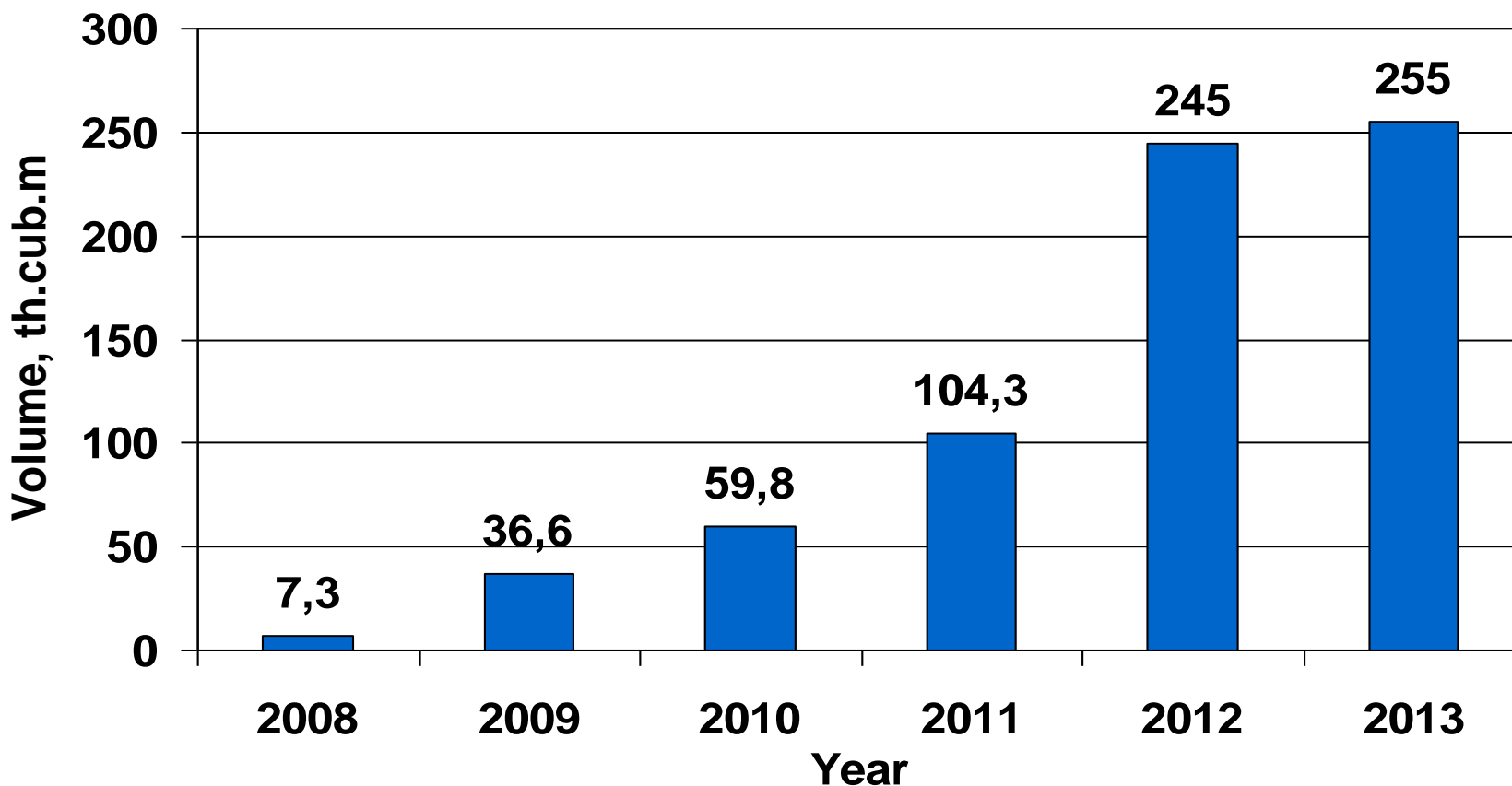
# Dynamics of production of bio-energy



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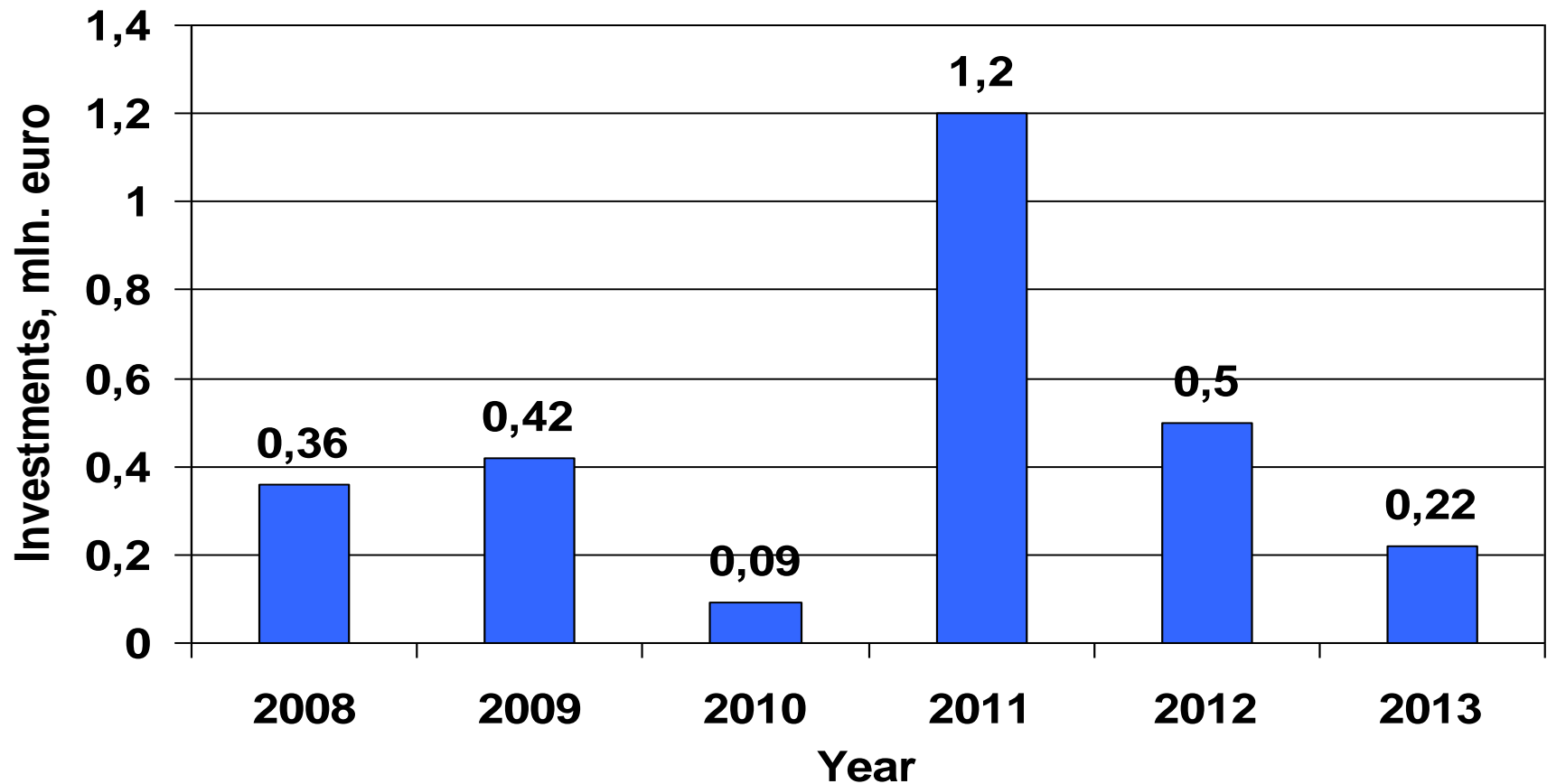
# Wooden chips production



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# Investments in bioenergy development



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# Forest - Sustainable base for bioenergy

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- Wood is traditional source of bioenergy
- Forest products and wood are sustainable base for the development of bioenergy on a regional basis.



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# Wood - the main raw material source of bioenergy



Amount of raw material available for the annual harvesting in the region for the production of biofuels are:

- Firewood (round) – 600 th.cub.m/year with potential 800 th.cub.m in 2020
- Wooden waste of wood industry – 43 th.cub.m/year
- Wood-fuel plantations – 10 th.cub.m in 2020

Unused resources that can and should be used in the energy sector according to sustainable forest management

- Forest harvesting residues – 60 th.cub.m/year
- Wooden stumps (not in forest lands) – 1,5 th.cub.m/year.



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# Strategic direction

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- Increasing the production of wood chips for local businesses and for export
- Production of fuel briquettes oriented on export (during the years of the project has been created 4 briquette production)
- Replacing fossil fuel to renewable energy sources in our own productions (boilers for space heating and dry chambers)
- Creating wood-fuel plantations on base of domestic forest tree species (Pine, Birch) in order have biomass potential for future use.



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# Demo region – Ostrovets Forestry Enterprise



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# Brief description of demo region



- Forestry area is 84.1 thousand ha, and covered with forests - 75.2 thousand ha
- On the territory of forestry enterprise pass: Railroad Minsk-Vilnius, highway Vilnius - Polotsk
- The distance to the border with Lithuania 10 kilometers
- The number of employees 434 person
- Web site **[www.ostrovles.by](http://www.ostrovles.by)**



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# Demo region – fuel briquettes



- Production of fuel briquettes in Ostrovets forestry enterprise established in 2011.
- Production capacity is 1700 tonnes/year.
- Export countries: Germany, Poland; Latvia ; Slovenia.



Cost about 96 euro/tonn  
The calorific value of  
briquettes is 18 MJ / kg.



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# Demo region – dry kilns



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# Results and future steps



- New approaches for estimating resources for energy production from forest wood and capacity to use them.
- The forest is a sustainable source of raw material for biofuel production.
- Creating conditions in economic sector for investment.
- Necessary apply the experience from the EU of the use of forest residues for bioenergy production, taking into account the natural conditions of Belarus
- There is potential for involvement of unused resources - forest residues and stumps on non-forest lands.

This direction needs to be developed

Next  step

involve in the energy sector unused resources – forest harvesting residues



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# Bioenergy Promotion

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**Thank you for attention**

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