



Trade and Investment Promotion Section

Embassy of the Republic of Poland in Copenhagen

# **„New Market Opportunities in Poland”**

Seminar arranged in cooperation with trade experts from the Polish Embassy in Copenhagen and the Royal Danish Embassy in Warsaw.

## **Cooperation with Polish Companies within the Energy Sector**



**Instytut  
Studiów Energetycznych**

**Andrzej Sikora PhD**

København, November 23<sup>th</sup>, 2011

## Disclaimer

The information on which this presentation is based derives from our own experience, knowledge, data and research.

The opinions expressed and interpretations offered are those of Energy Studies Institute and have been reached following careful consideration.

However, the Oil&Gas business is characterized by much uncertainty and all of our comments and conclusions should be taken in that light.

Accordingly, we do not accept any liability for any reliance which our clients may place on them.

# The plan of the workshop

*„strengthen on new and arguable statements with highlights on Poland”.*

- ✓ Poland needs to revise internal Energy Policy?
- ✓ Renewable energy - „with a little help from our friends...”
- ✓ Engineering / Environmental Protection/ Infrastructure
- ✓ Will unconventional gas break the trend and Poland is ready to lead the European quest for gas independence?
- ✓ Denmark - Poland opportunities for energy dialog.



Source: [www.baranow.com.pl/galeria\\_start/albums](http://www.baranow.com.pl/galeria_start/albums).



# Poland needs to revise internal Energy Policy?

- ✓ Will unconventional gas break the trend and Poland is ready to lead the European quest for gas independence?

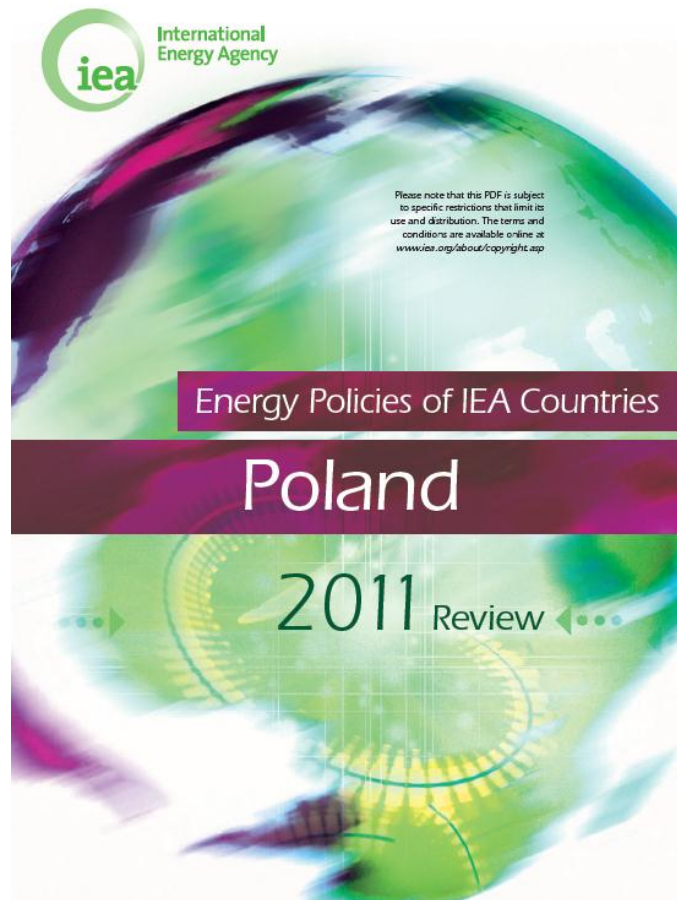
Appendix to Resolution no. 202/2009  
of the Council of Ministers  
of 10 November 2009

Ministry of Economy

Energy Policy of Poland until 2030

Document adopted by  
the Council of Ministers  
on 10 November 2009

Warsaw, 10 November 2009



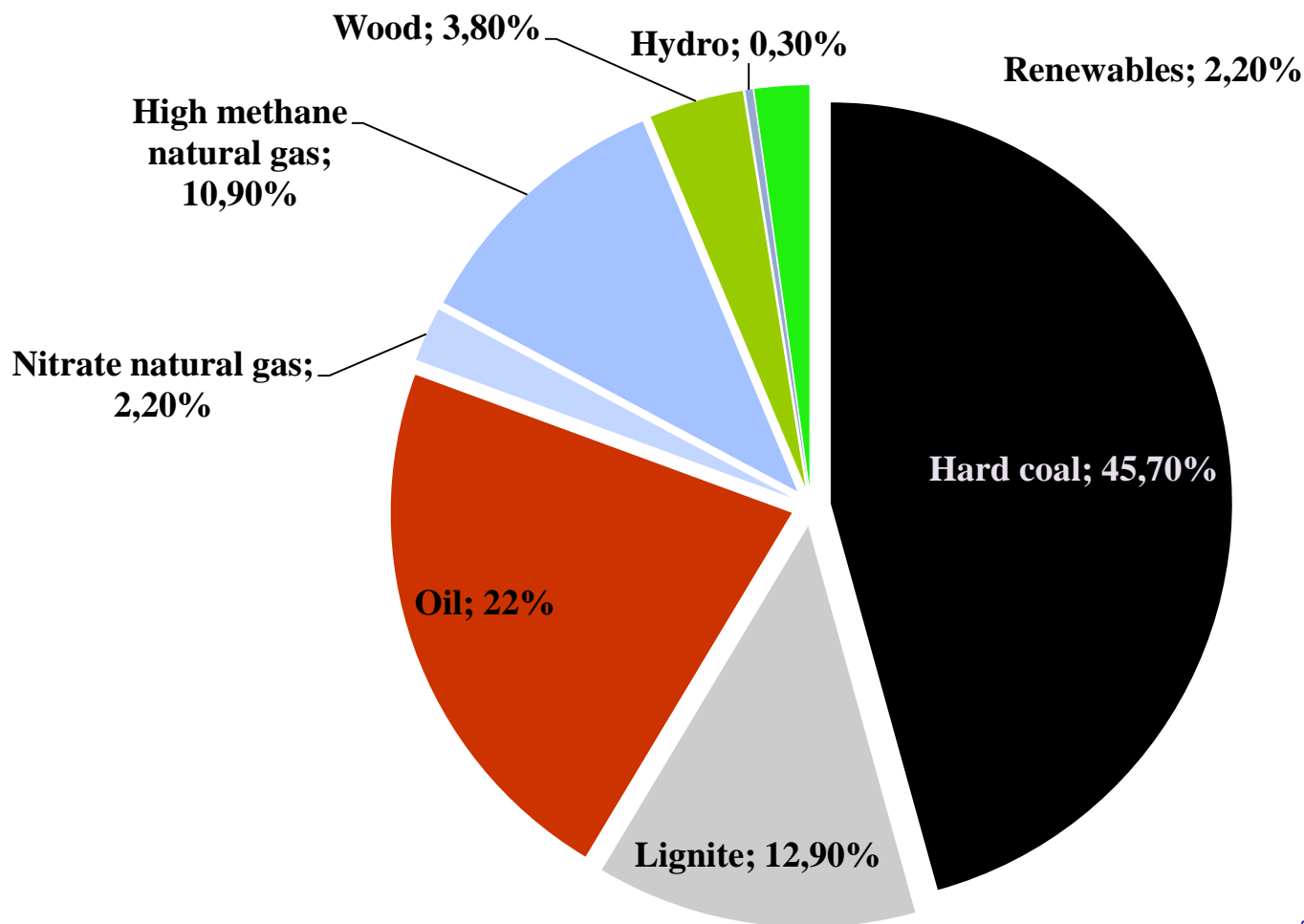
<http://www.mg.gov.pl/node/8134>

Source: [www.iea.org](http://www.iea.org)



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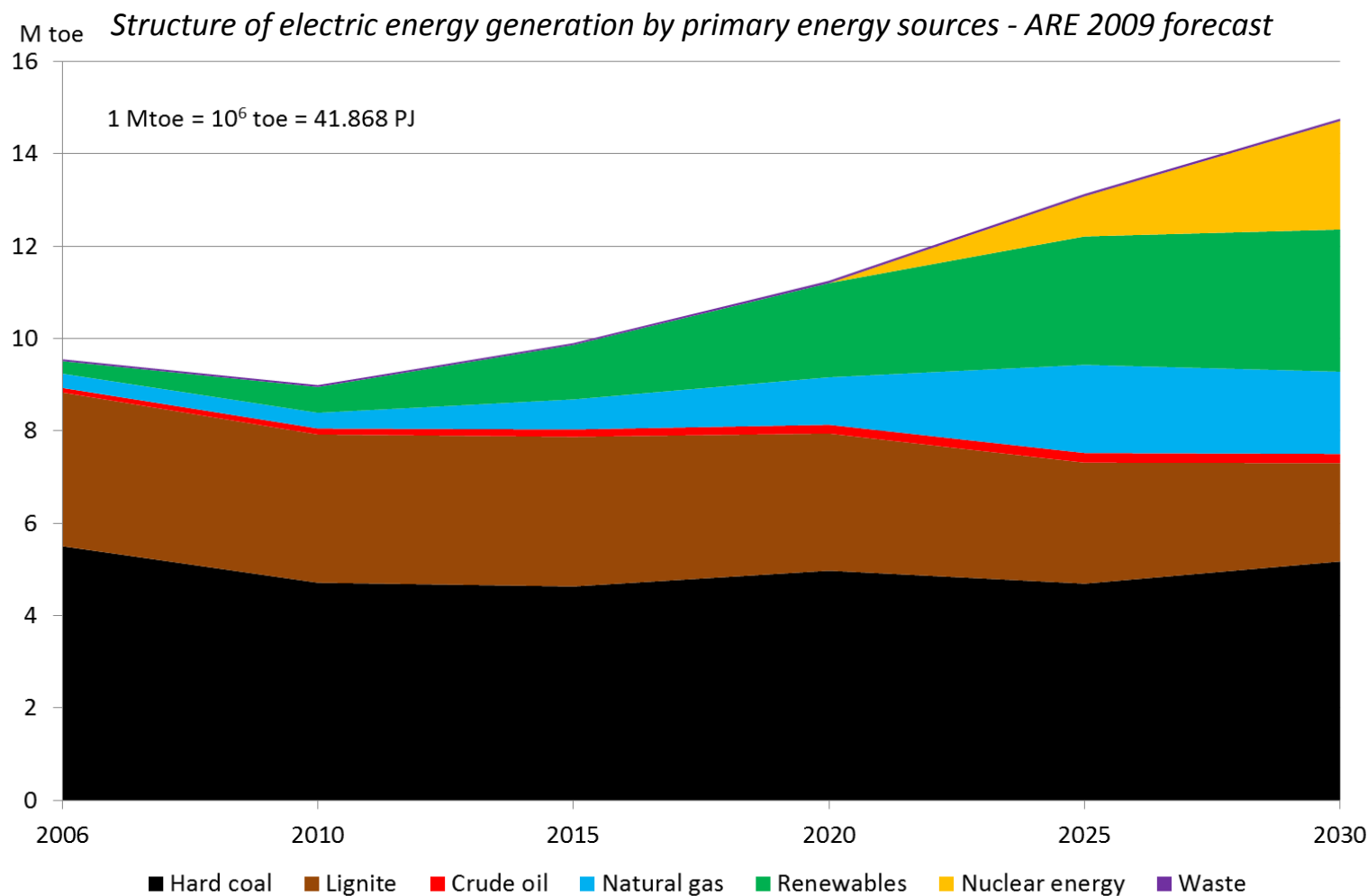
## Structure of the primary energy consumption, Poland 2009/10.



Source: Ministry of Economy. 2011

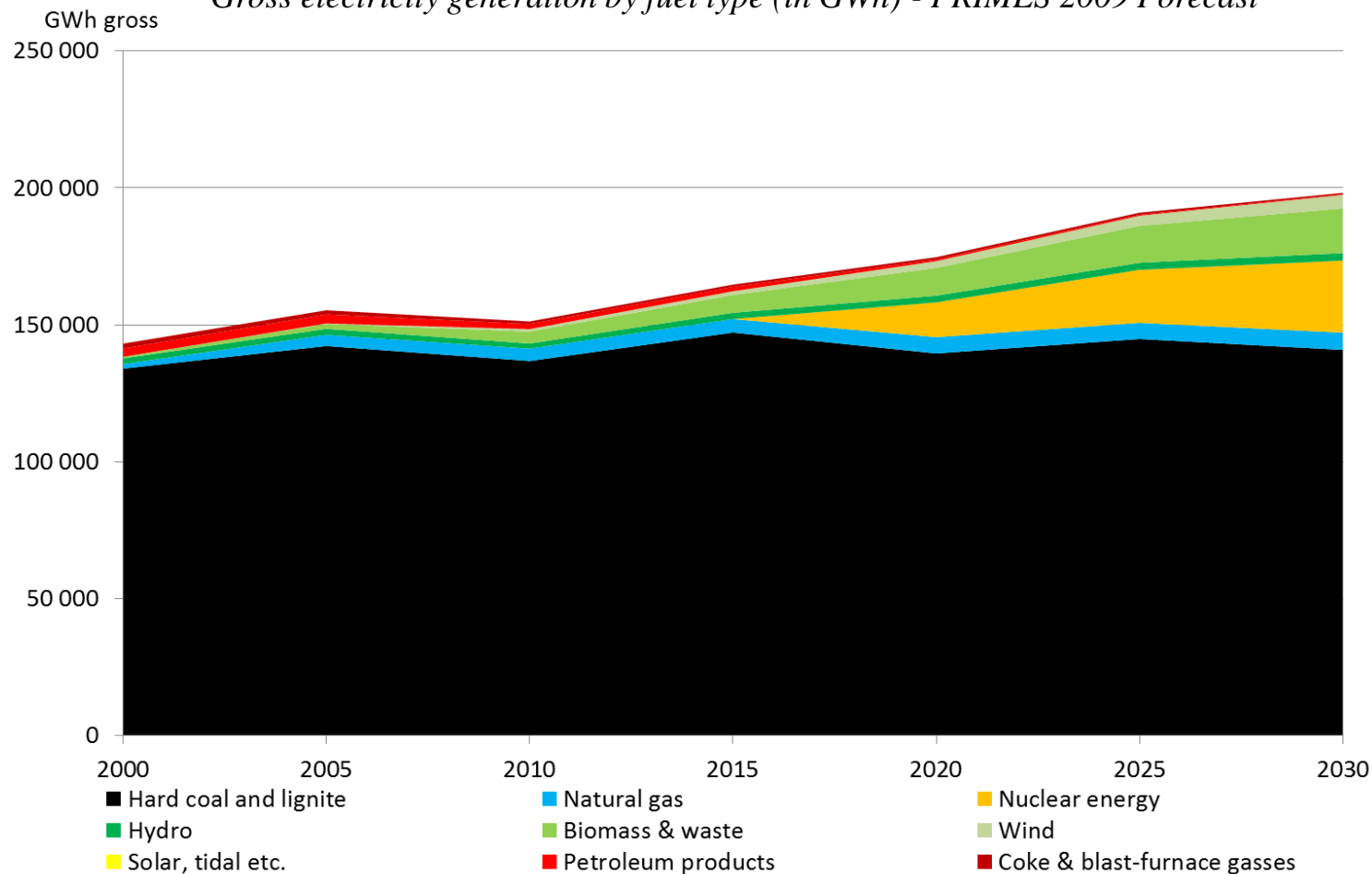


# Historical and planned electrical energy generation



# Historical and planned electrical energy generation

*Gross electricity generation by fuel type (in GWh) - PRIMES 2009 Forecast*



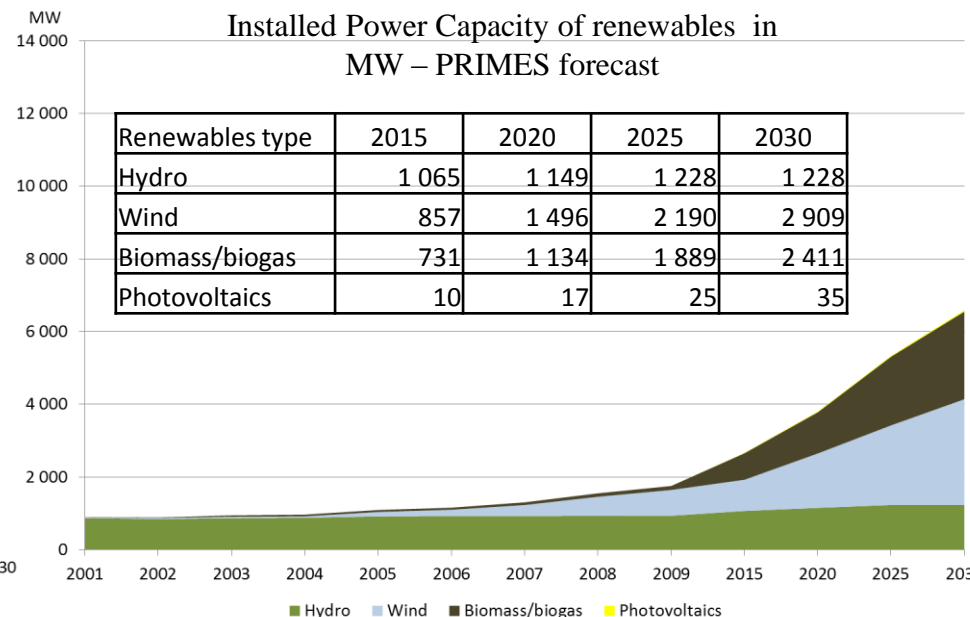
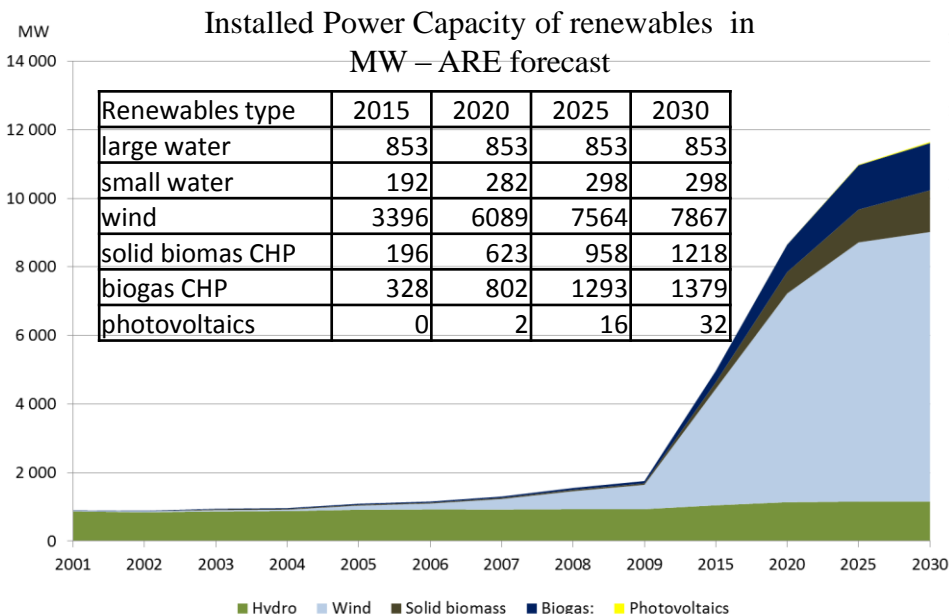




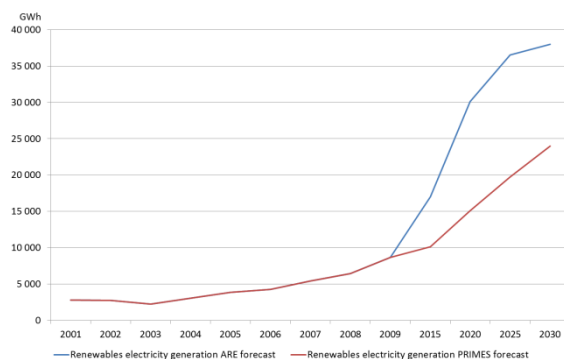




# Hydro, renewable plant additions



## Renewables electricity generation forecasts



## Production capacity of electrical energy in Poland brutto (MW)

	<b>2006</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>
<b>Wind</b>	<b>173</b>	<b>976</b>	<b>3,396</b>	<b>6,089</b>	<b>7,564</b>	<b>7,867</b>
<b>Biomass - CHP</b>	<b>25</b>	<b>40</b>	<b>196</b>	<b>623</b>	<b>958</b>	<b>1,218</b>
<b>Biogas - CHP</b>	<b>33</b>	<b>74</b>	<b>328</b>	<b>802</b>	<b>1,293</b>	<b>1,379</b>
<b>Photovoltaic</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>16</b>	<b>32</b>
<b>Other energy sources</b>	<b>34,812</b>	<b>35,190</b>	<b>36,087</b>	<b>36,948</b>	<b>37,932</b>	<b>40,916</b>
<b>total energy capacity</b>	<b>35,043</b>	<b>36,280</b>	<b>40,007</b>	<b>44,464</b>	<b>47,763</b>	<b>51,412</b>

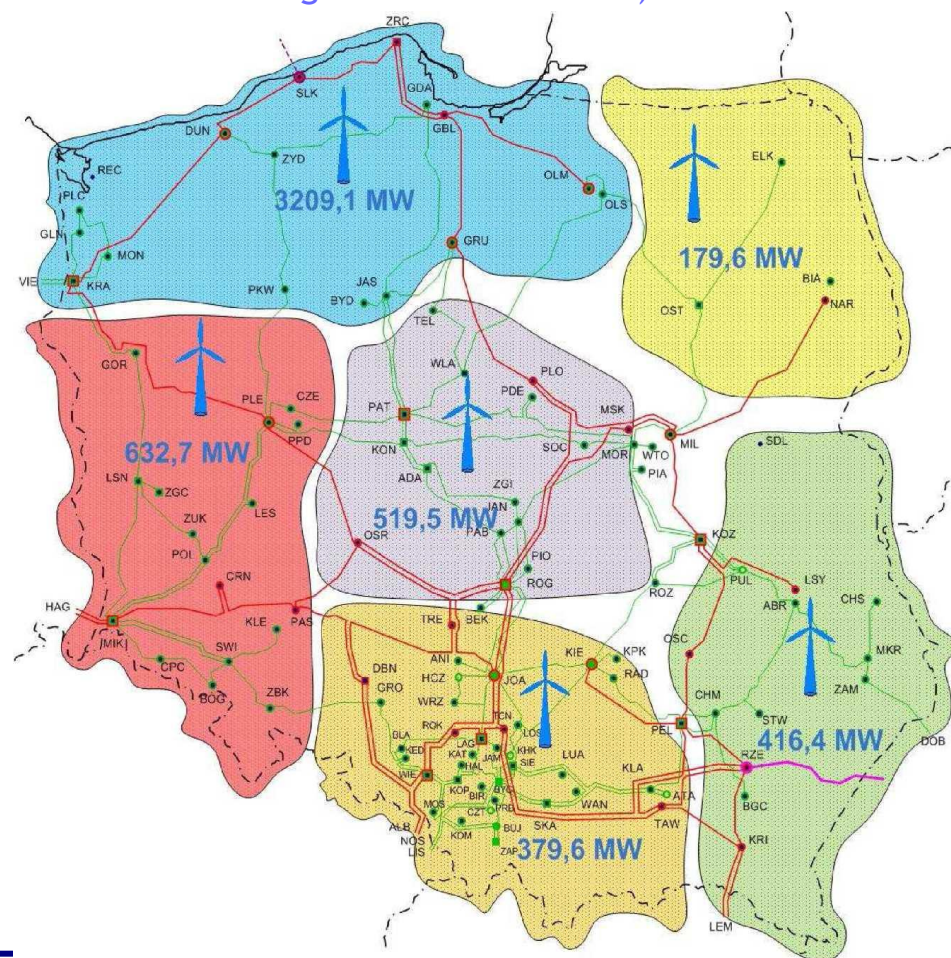


# Hydro, renewable plant additions

Current locations of wind farms in Poland



Areas of wind farm locations by 2015  
(presented on the map of the transmission grid valid as of 2009)



## Hydro, renewable plant additions

- Due to the unfavorable natural conditions possibilities to construct new large hydro power plants in Poland are very limited.
- On the other hand investment in small and very small hydro power plants are quite interesting for investors. It can be assumed that total increase in generation of hydro will be at the level of 100-200 MW up to 2030.
- Wind farms have been hot investment topic Poland in recent years.
- Within the period of 2005-2010 a huge amount of applications for grid connection terms and conditions was submitted.
- Total power referring to of those applications was about 50 TW.
- Most of the applications were not supported by financing and based only on preliminary land rental agreements. The main purpose of those applications was to book connection to network that has had limited capacity.
- Due to the number of application DSO (distribution system operators) rejected them or set up distant connection date ( i.e. 10 years).
- As a result in the trading of issued grid connection terms and conditions has begun. Issued grid connection terms and conditions were sold to companies technically and financially capable to build wind farms.
- To solve the problem some amendments in Energy Law was introduced a few months ago. Mandatory prepayment for connection fee is the key one.
- The amount of prepayments is equal to PLN 30/kW (USD 10~11). T
- he main reason of the prepayment is to reduce the amount of applications without sufficient financing.
- Currently it is hard to determine the effectiveness of this change. It is however very likely that more strict requirements will reduce the number of projects.



# Hydro, renewable plant additions



[www.biogazzeneris.com](http://www.biogazzeneris.com)

*„CEERES Sp. z o.o. is a Polish company started by international investors to develop biogas projects in Poland and Central Europe. While the company is new, its engineering and technical expertise from Denmark and the United States goes back more than two decades”.*

[www.ceeres.eu](http://www.ceeres.eu)

The National Plan called for 2,500 biogas plants by 2020. Poland currently has about 10 biogas plants, virtually all small and on farms. Another 30 projects under construction, again mostly small farm plants.

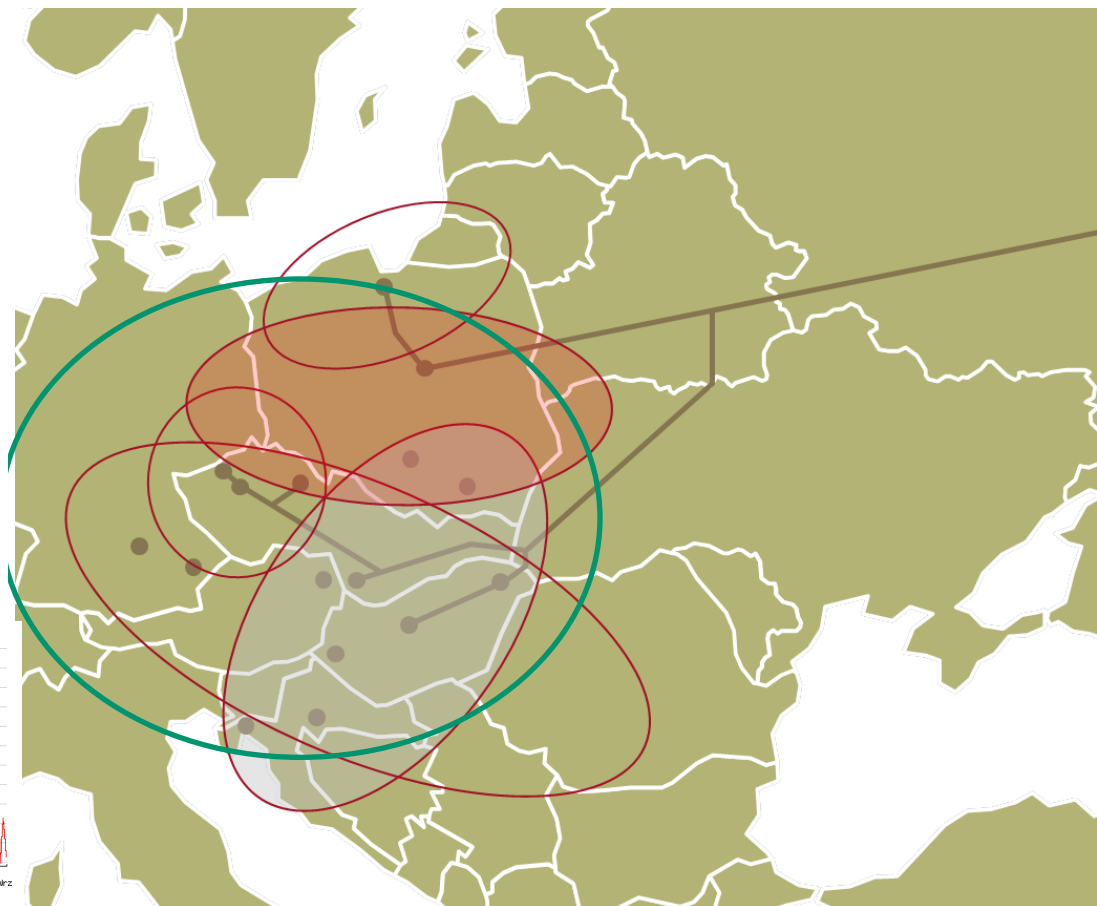
About 300 projects are in the pipeline nationally. (IEO 2011).

Since only one third of announced biogas projects in the entire EU get actually built, Poland is on track to have 250-350 plants by 2020.

Public objections to proposed projects in Poland have stopped most projects, based on fears of odor problems.



# Acquisition of the minority (ENERGA, PGE, TAURON, ENEA) to create a market leader in renewables





**Questions ?**



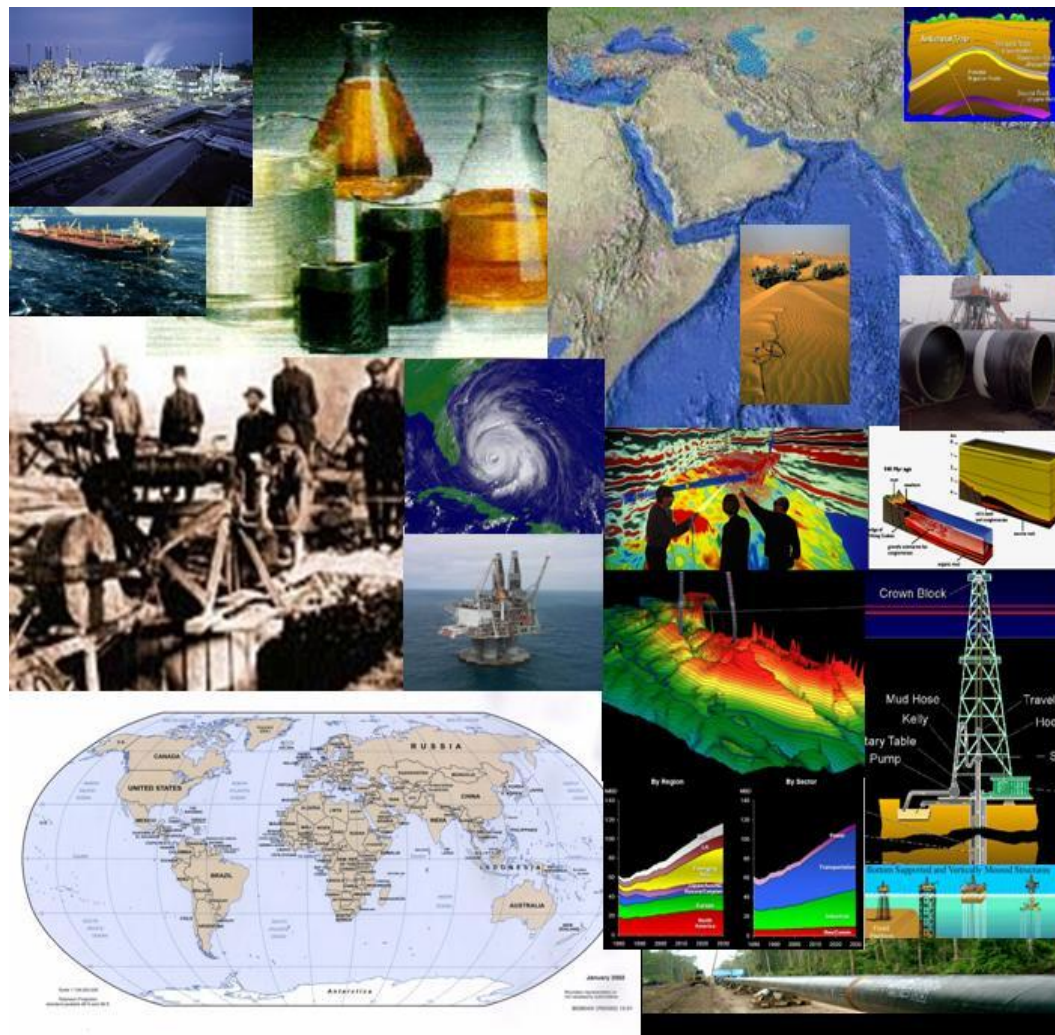
# About Energy Studies Institute

**Energy Studies Institute**  
is a Polish consulting company  
dedicated for Oil&Gas sector.

Our services are well-known  
in heavy chemistry business  
and power generation (CHP)  
based on natural gas.

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# Thank you very much !



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**Instytut  
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