



# Politechnika Wroclawska

**Projects concerning  
economic side of energy security  
realised by  
Wrocław University of Technology**

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*Institute of Organization and Management, WUT*





# Agenda

1. Institute of Organization and Management
2. Security of energy supply
3. Energy strategy on Lower Silesia
4. Small projects - cooperation with Marshall Office
5. Cooperation with other Universities
6. Researches made for energy companies
7. Center of energy security



# Institute of Organization and Management

In Institute of Organization and Management work almost **90 scientists, researchers and lecturers**, including over 70 research workers with Ph.D., 9 associate professors and 6 professors.

Strong point of Institute is increasing scientific & research activity of workers supported growing numbers of scientific papers, growing numbers of realizing scientific & research projects, which are financed by own resources, or by Ministry of Science and higher education or by European development funds.



# Institute of Organization and Management

Researches and studies conducted in Institute concern management sciences on large scale. Particular research's area contain below mentioned subjects:

- management systems,
- strategic management of company,
- financial management of companies and public intitutions,
- market structure analysis,
- local and sector strategies,
- management of innovations, and
- **security of energy supply.**



# Institute of Organization and Management

Subject of research: Factors and effects of the regulation of economic processes

Overall, in this direction go further work of the research team. They focus on thematic areas in particular:

- interception of regulation (eg. in energy and telecommunications),
- identify areas of regulation or regulations that are perceived as problematic,
- determine the regulation of causing a large and unjustified burden for entrepreneurs,
- impact of regulation on competitiveness and innovation.



# Security of energy supply

1. According to the Ministry of Economic Affairs (2004):

***“the ability to satisfy the electricity, heating and gas demand in the market conditions in terms of its quantity and quality, for the possibly lowest price resulting from supply and demand considering the environmental protection”***

2. According to Poland’s Energy Policy (2005):

***“... state of a national economy enabling to cover current and future consumer needs for fuel and energy in a way technically and economically justified by the minimization of the negative impact of the energy sector over environment and social living conditions”***



# Security of energy supply

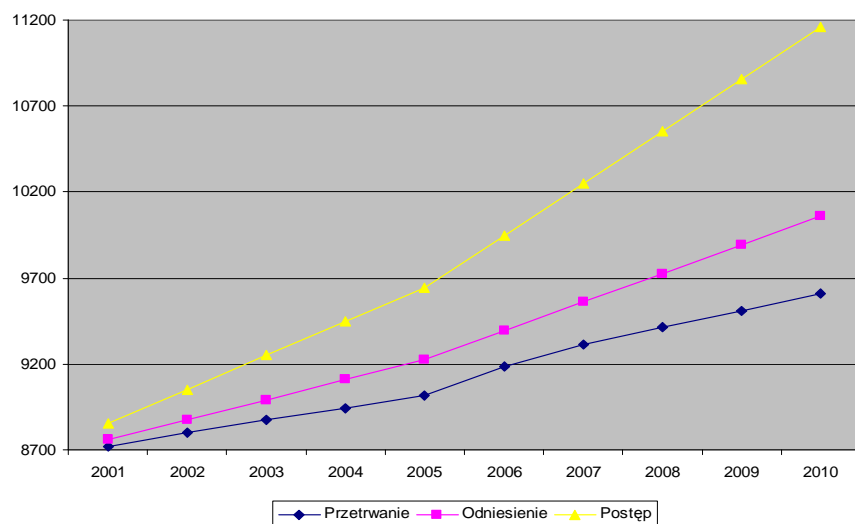
”security of energy supply becomes a risk-management strategy with a strong inclination towards cost effectiveness, involving both the supply and the demand side”

Jamasb, Pollitt (2008) *Energy Policy*



# Energy strategy on Lower Silesia 2001-2010

We take part in realization of document named:  
„Energy Strategy on Lower Silesia”.  
Project was realized in 2000-2001.  
It was the first local energy strategy.  
Consortium of energy companies order the research.





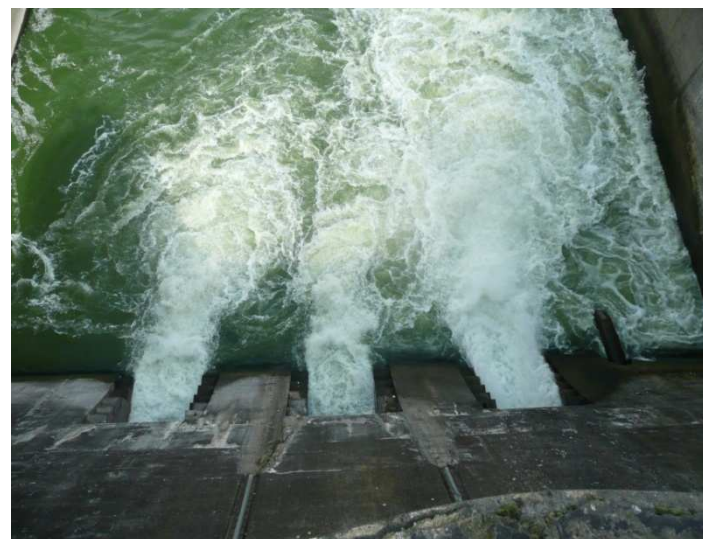


# Energy strategy on Lower Silesia 2001-2010

The main aim of the Strategy was:  
Harmonization of energy potential of the Lower Silesia  
with needs of regional development

## Vision:

Cooperation between consumers  
and suppliers of energy guarantee  
balance between economic  
business and local development





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# Energy strategy on L 2011-2020

Project: *Strategy of development of energy on Lower Silesia on the basis of foresight study*

Co-financed by the European Development Fund and state budget under OP 2007-2013, project no POIG.01.01.01-02-005/08-00,

Project was realized in 2009-2011.

## STRATEGIA ROZWOJU ENERGETYKI NA DOLNYM ŚLĄSKU NA PODSTAWIE METODY FORESIGHTOWEJ DELPHI





# Energy strategy on Lower Silesia 2011-2020

Mission: Ensuring the energy security and the innovative, ecological and open to competition the regional energy sector based on the local energy sources.

**Aim 1**

- Ensuring of energy security

**Aim 2**

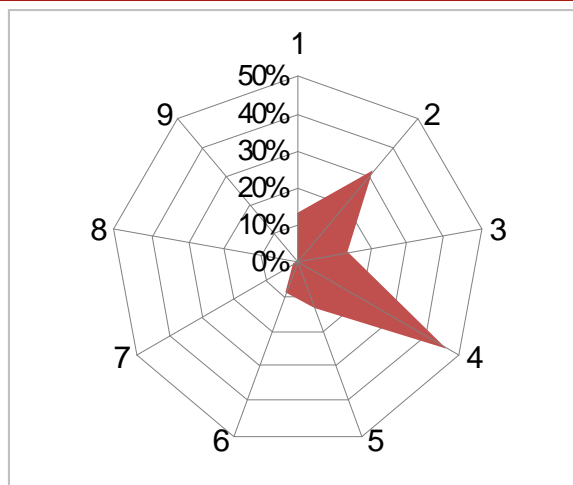
- Intensification of the innovation processes in the regional energy

**Aim 3**

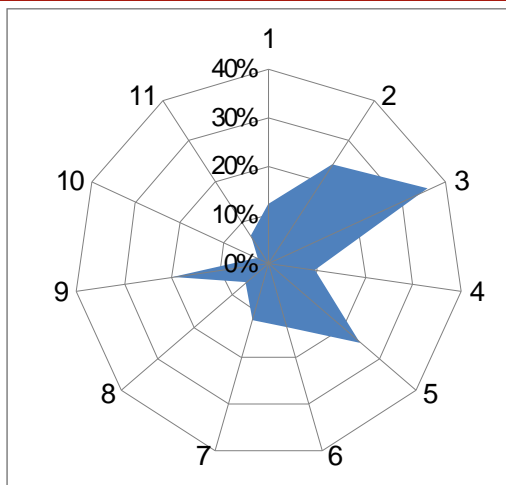
- Minimization of the affect the nature environment and introduce the activities to more economical use and produce of energy



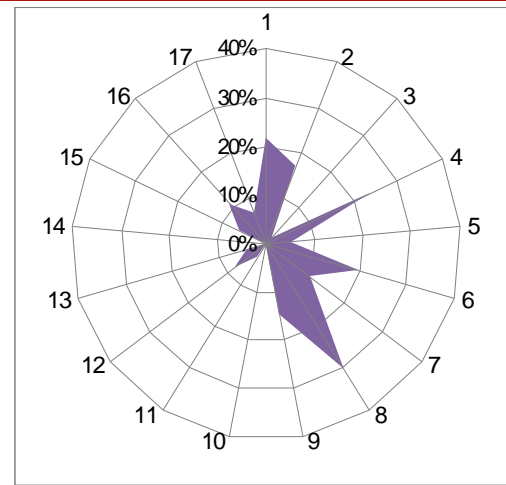
# Energy strategy on Lower Silesia 2011-2020



Costs



Benefits



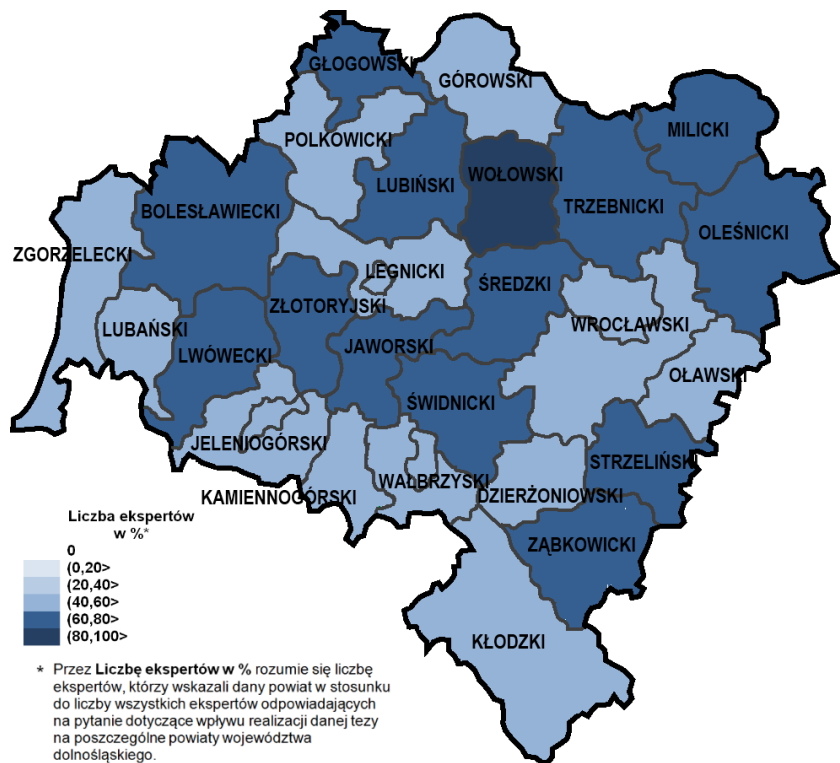
Barriers

The results of foresight study.  
For every technology (thesis) we  
specify factors, which affect  
costs, benefits and barriers.

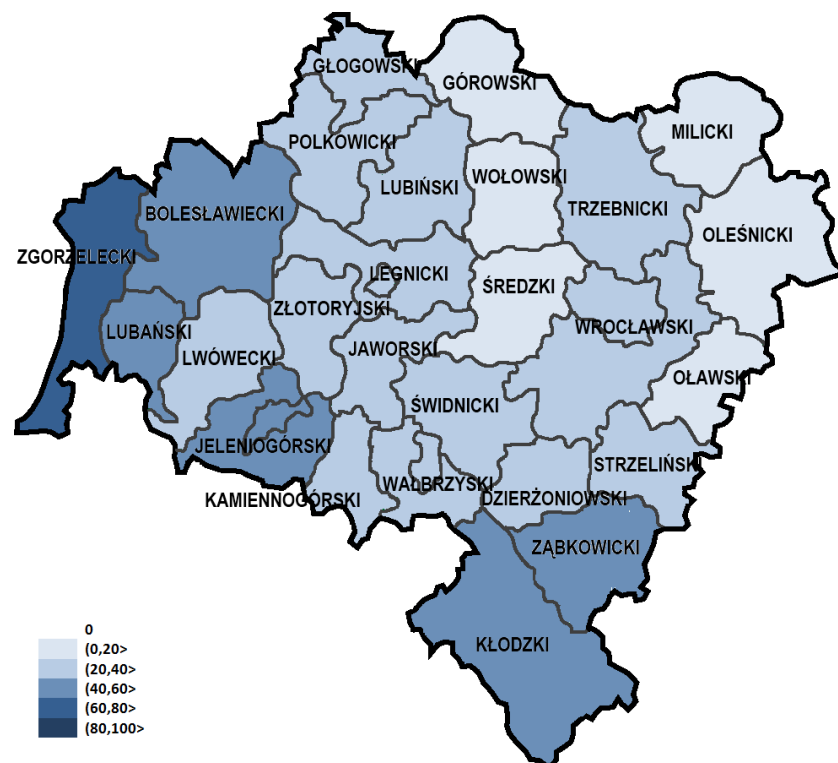




# Energy strategy on Lower Silesia 2011-2020



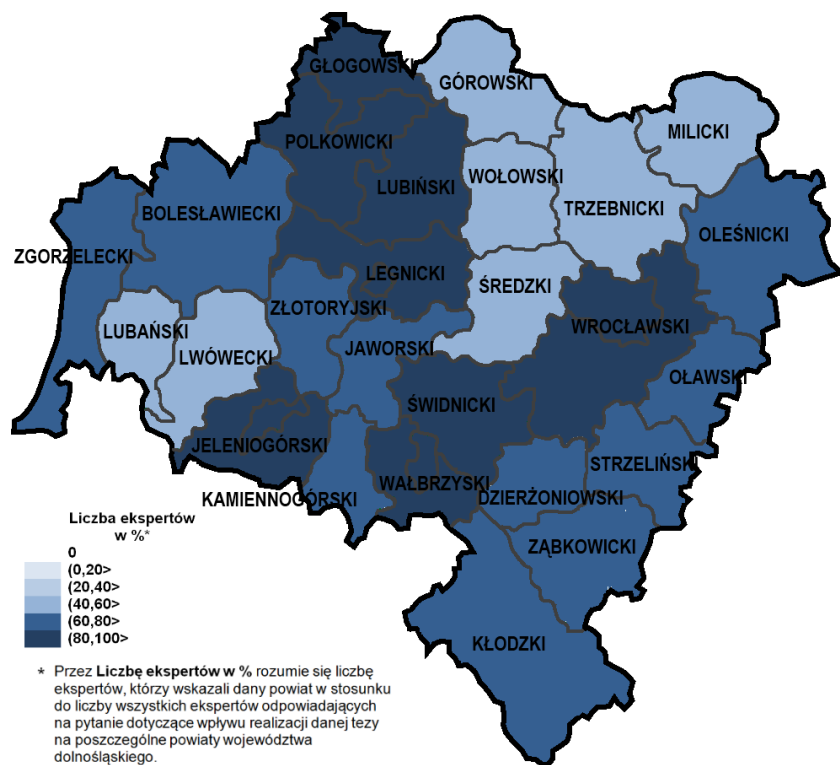
Thesis 2.2. Technologies expander effectiveness of plant cultivation for energy purposes



Thesis 4.1. Electricity production technologies using wind turbine form 600 kW to 2 MW



# Energy strategy on Lower Silesia 2011-2020



Thesis13.1. Technologies, which enable decreasing of energy consumption about 20% in industries



Teza 13.3. Technologies of waste separation will be commonly used.



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# Small projects - cooperation with Marshall Office

Project named: *Formation of cooperation networks for energy security of Lower Silesia allowing economic and social aspects.*

ZPORR 2.6 agreement no P/22/09 between  
Wroclaw University of Technology and  
Lower Silesia Marshal Office

Project was realised in 2009.

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# Small projects - cooperation with Marshall Office

Project named: *Development conditions of Renewable Energy Sources on Lower Silesia allowing wind farm in context of European Union directives and national regulations.*

ZPORR 2.6 agreement no P/23/09 between  
Wroclaw University of Technology and  
Lower Silesia Marshal Office.

Project was realised in 2009.

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# Cooperation with other Universities

## Cooperation:

- Prof. Waldemar Skomudek - Technical University Opole,
- Prof. Andrzej Graczyk - Uniwersytet Ekonomiczny,
- Prof. Jan Składzień - Silesian Technical University
- Prof. Jan Popczyk - Silesian Technical University

Every year we take part in Polish-Saxon Economic Forum



# Researches made for energy companies

We makes researches and analysis for energy companies:

- Dolnośląska Spółka Gazownictwa
- EnergiaPro Grupa Tauron
- PGE Górnictwo i Energetyka Konwencjonalna S.A. Oddział Elektrownia Turów





## Center of energy security

Our ambition was to form Center of energy security, which will operate on Lower Silesia.

Project no Z/2.02/II/2.6/01/06 named: *ABS-cluster*.

*Formation of innovative cluster for ensuring the energy security at Lower Silesia. Analysis, Research, Simulation.*

Project was realized in 2006-2007.

Now we are at the last stage of formation of the Center.





# Contact

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