UNIUNEA EUROPEANĂ

GUVERNUL ROMÂNIEI

Fondul Social European
POSDRU 2007-2013

Instrumente Structurale
2007-2013

MINISTERUL EDUCAȚIEI NAȚIONALE

OIPOSDRU

ACADEMIA DE STUDII ECONOMICE DIN BUCUREȘTI

The theory of environmental modernization and its feasibility application in capitalist economy

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Acknowledgement

This work was cofinanced from the European Social Fund through Sectoral Operational Programme Human Resources Development 2007-2013, project number POSDRU/159/1.5/S/142115 „Performance and excellence in doctoral and postdoctoral research in Romanian economics science domain"

Pecs, Hungary . March 2015

Agenda

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2. Theoretical Background
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1. Introduction

- Addressing major environmental challenges (global warming, ozone rarefaction, fading biodiversity, rampant deforestation and deterioration of living conditions in large urban areas) requires international concerted efforts, national public policies and strategies, developed and implemented in a proactive and smart manner.
- Even if companies and institutions must undergo transformation of all levels to survive in a future of limited resources, the feasibility of ecological modernization remains a serious problem in capitalist economies because a very rapid change would have major implications on the stability of actual social systems.

Economic advantages of renewable energy

- ✓ Reduce the transaction costs in companies
- ✓ Employment growth by creating new jobs in "green companies"
- ✓ Health costs reduction
- ✓ Improved educational opportunities
- ✓ Reduction of poverty by increasing the quality of life
- ✓ For European Union the effects could be enhanced by ensuring the energy security

2. Theoretical Background

- **An environmental paradigm in economy**:

✓ Starting with Peter Drucker (1999), the father of modern management, it has become already a truism that economic performance should depend now by new determinant vectors for ensuring economic growth

✓ This new idea of "economic growth" is mandatory to be smart, sustainable and socially inclusive in order to be placed in a new dominant logic

- **Theory of Environmental Modernization**

✓ it is very well structured both epistemological and methodological;

✓ it combines economic development ideas in close relation to environmental sustainability;

✓ followers argue that the transition from traditional resources exploitation to redesigned sources can occur within existing structures, under the circumstances of providing new future industrial development, through technological paradigm shift, ensuring a high environmental level (Mol, 1995; Mol and Spaargaren, 2000; Mol, Spaargaren and Sonnenfeld, 2009).

- **Is it unfeasible**?

✓ Foster (1995) explained the idea through the annual growth of 4% in industrial production, which would basically mean that industrial production would double every quarter century

Global situation of investments and policies

- According with REN 21 Report on 2014, the renewable energy investments values increased to over 84% globally and reached the USD 220 Billion, from 2004 to 2013.
- At the end of 2012, renewable energy represented 19% of total worldwide consumption and continued to grow strongly during 2013.
- Modern renewable energy was being increasingly used in four distinct markets:
  - Power generation
  - Cooling and heating
  - Transport fuels
  - Rural/ off grid energy services

Global situation of investments and policies

- According to a Global Top 5, which included end of 2013 data, China ranks first by dividing the total value of investments in renewable sources followed by the United States
- Among the European Economic Area, we find in this top United Kingdom and Germany (4, respectively 5)
- This report also provide optimistic results regarding the number of states that adopting environmental policies during the 2004-2013 period (from 48 to 144).

Renewable energy in Romania

- Europe 2020 Strategy:

✓ Reduction of gas emissions with 20 %

✓ Increasing by 20 % the energy from renewable sources

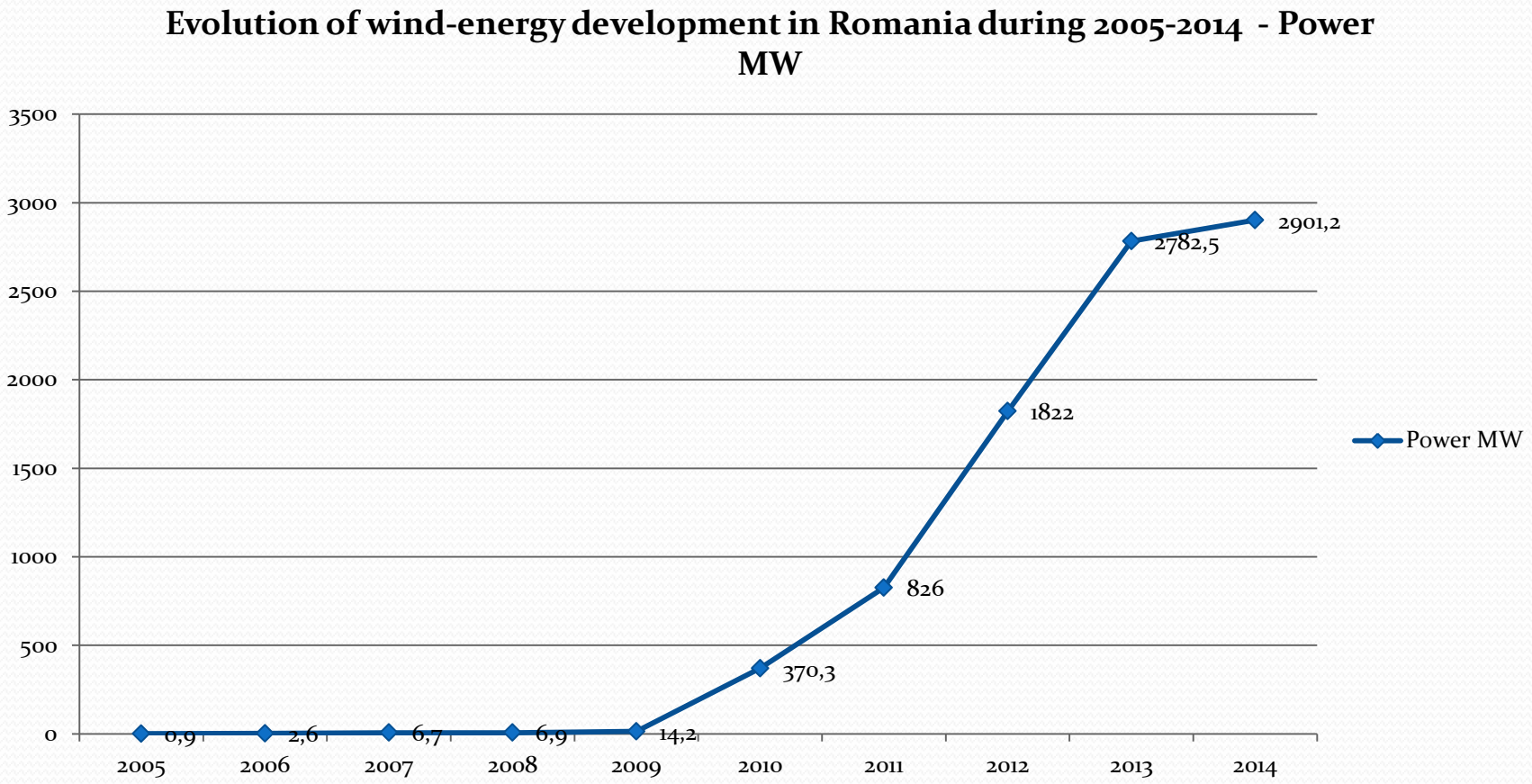
✓ A target of 10 % bio-fuels in transport energy consumption

- Romania government set up more ambitious environmental policies regarding energy production from RES, so that the gross consumption of total produced electricity to be at the level of 33% in 2010, 35% in 2015 and 38 % in 2020.

Renewable energy in Romania

- According to Romanian Wind Energy Association (2011), the number of companies and business units that conducts research and development operations associated with RES energy is increasing
- The highest exploitation of RES are represented by wind and photovoltaic sources
- According with National Action Plan for Renewable Sources Energy, until 2020, approximately 12.589 MW of energy should come from RES, out of which 4000 MW from wind energy.
- The most important centers are located in Dobrogea and Constanta counties, on the Black Sea Coast.

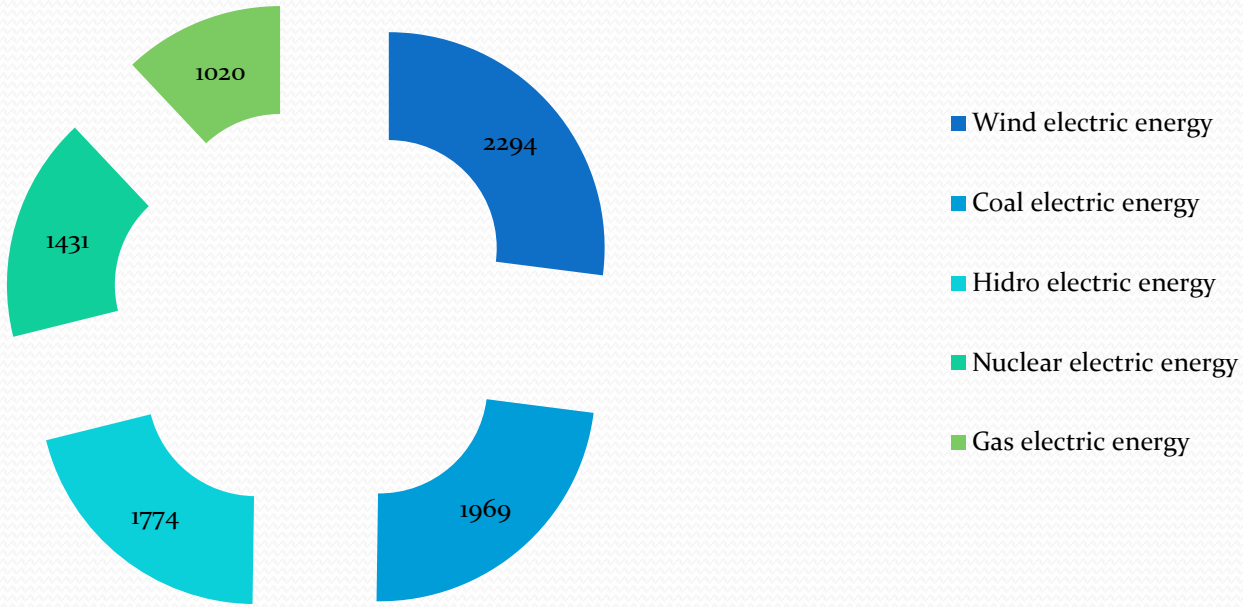
Development of wind-energy in Romania



Source: Society of Power Engineers, 2014

Total electric energy production in National Energy System (MW).

Values recorded on 03.10.2014 at 08.05 AM.

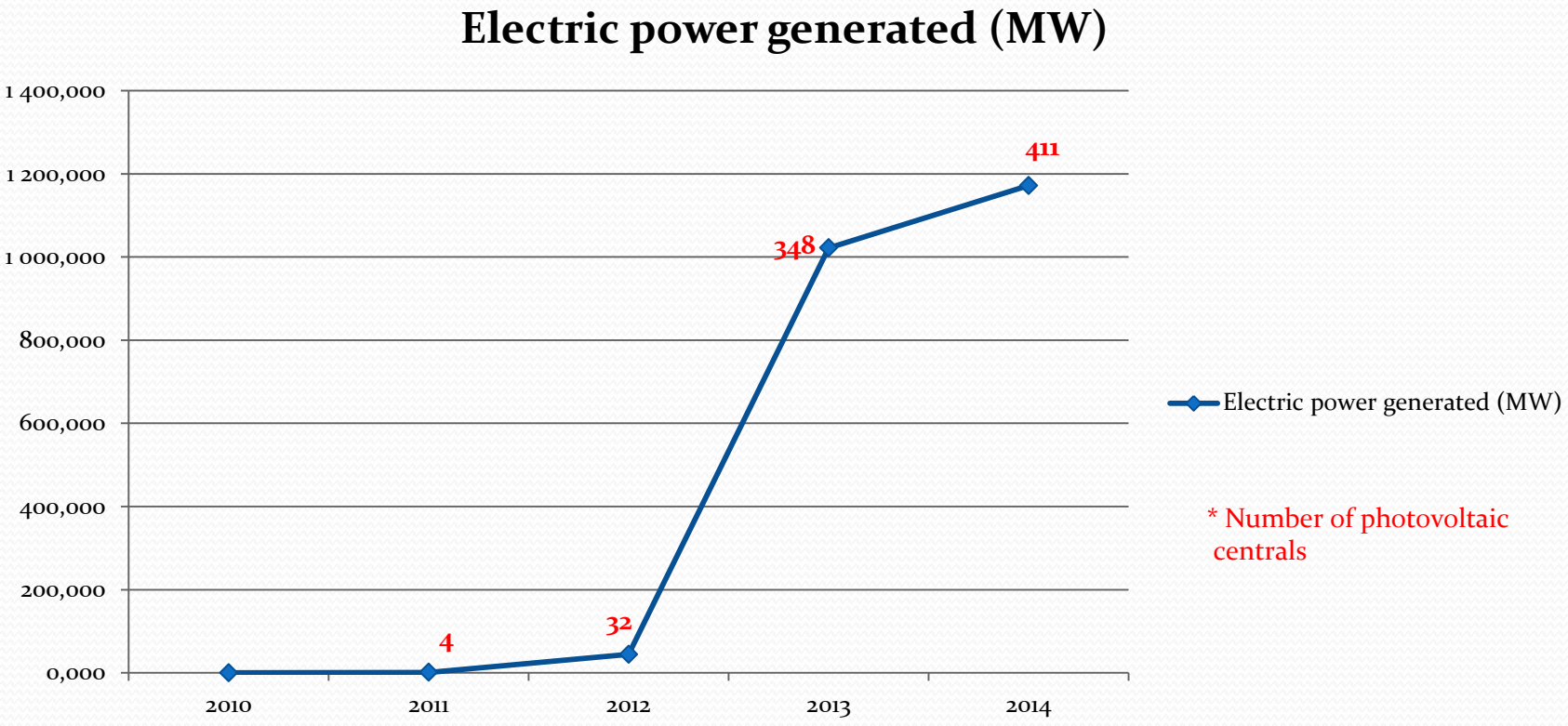


Source: Society of Power Engineers, 2014

Development of photovoltaic energy

- According to the European Photovoltaic Industry Association report (2014), Romania ranked the 4th in the total 2013 EU market, with a 10% produced photovoltaic energy, being surpassed only by Germany (30%), United Kingdom (14 %) and Italy (13%).

Development of photovoltaic energy



Source: Society of Power Engineers, 2014

Conclusions

- Availability of the largest global economies for future investment in reducing the consumption of non-renewable energy, greenhouse gas emissions, wind and solar energy production and increased consumption of renewable energy, make us optimistic and confident.
- We can look confident to reformed future of Europe, by the fact that Britain and Germany, the two most important economies in the European Economic Area, rank a Global Top 5
- It can be surprisingly the 1st rank of China, because it demonstrates, to some extent, the fact that emerging economies can quickly transit to ecologically sustainable systems
- Romania has set ambitious environmental targets, higher than EU2020 goals. In this respect, the reports provided by the Romanian Association of Power Engineers, shows great progress in the field of wind and Photovoltaic sources

Conclusions

- Although the rate of exploitation of these renewable sources is alert, we detach however the idea that complete shutdown of traditional sources and ensuring energy security, still remain as goals.
- First, a rapid transformation can have major economic implications for fragile economies, on the stability of the existing social systems, in most of ex-communist countries.
- However, this gap can be filled by applying alternative government policies, much needed in transition period systems.
- From the jobs' sustainability perspective, companies producing wind and photovoltaic energy, could provide jobs not only for installing parks or other services, but also in research needed to develop other types of renewable sources.
- From the economic perspective, the feasibility application of environmental reform seems to be transition dependent.

Thank you for your attention!