HAS Research Centre for Economic and Regional Studies

Renewables energy as "green infrastructure" – slogan, interest or integrated policy?

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Content

- Methodes and materials
- What is „green infrastructure” – differentiation in notion → What can be called green
- Challanges in greening – policy aspects and their influences
- (Renewable) Development strategies and behind **motivations**

Methods and materials

- G-FORS EU Framework Programme – SEA in strategic planning: 2007-13 http://ec.europa.eu/research/social-sciences/projects/241_en.html
- SEA: Settlement, county and national level research/survey by the author (HU, SK, RO) 2010; 2013
- Case studies in different countries (literature review)
- Empirical base 2011 – Strathclyde Univ.-Fraser Ass.; (HU) MTA RKK – DG Region → 2000-06(10) ISPA/CF WP D: Implementation and management
  (Interviews, workshop, desk research): Focusing on environmental investments
- **REGPHOSYS** – renewable energy as actuator for regional development
- OTKA (#NK 104985) New driving forces of spatial restructuring and regional development paths in Eastern Europe at the beginning of 21st century-> online survey questioning developers in CEEC

- **City-cooperation** – joint project for city planning of Pécs – Coordinating and integrating „expert knowledge" into urban planning on civil basis

Literature review, questionnaires, interviews with stakeholders

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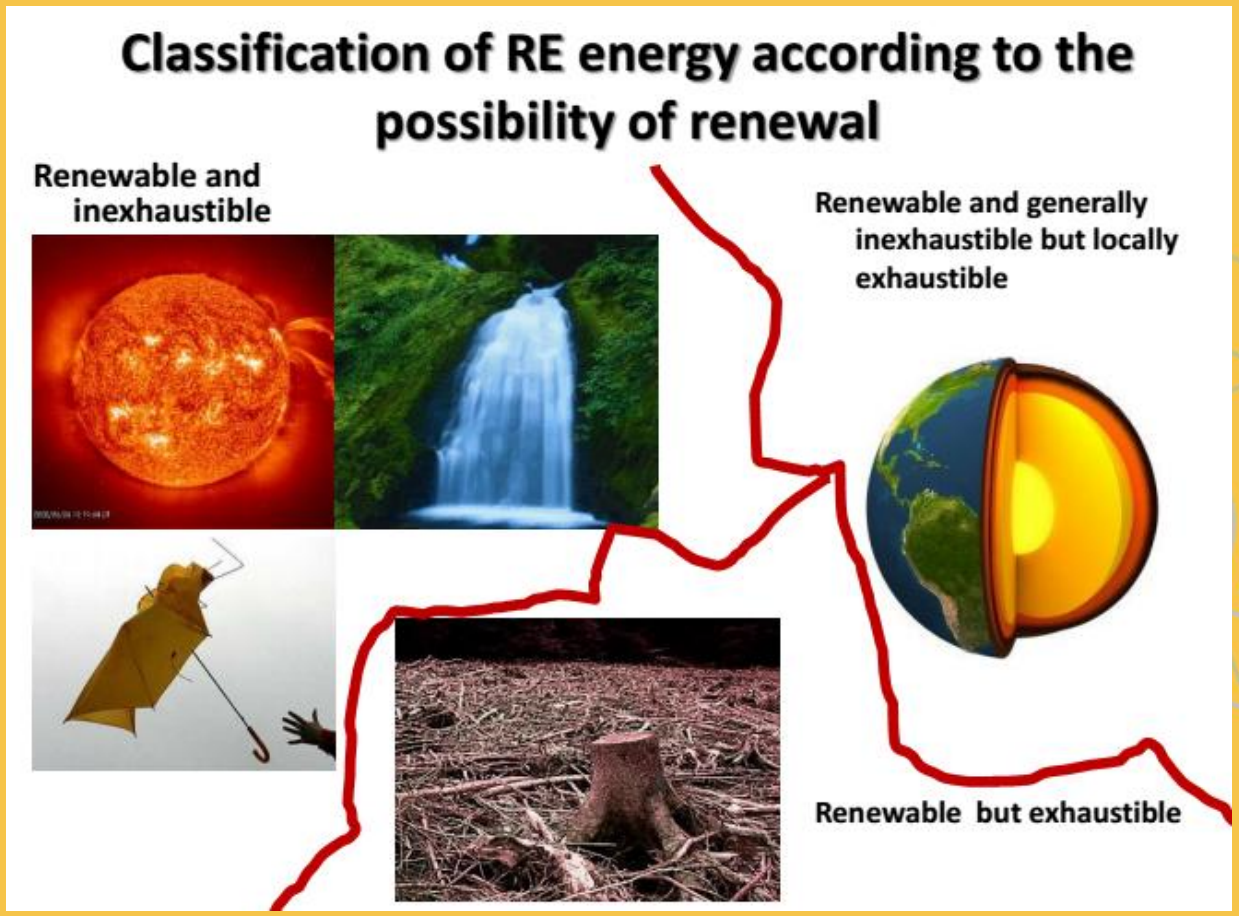
- Green job/green economy/green-renewable(?) infrastructure



Source: Somogyvári M. presentation 26.09.2014.

Cavalcade of notions „Paralelism" between green economy and green infrastructure

- Green infrastructure has several, but clear definition in academic and planning-expert sphere.
- However, now, we are in the era of „greenness" and „smartness"- especially from the side of decision makers
- We all know, what is ‚green infrastructure': ‚…building with nature' (Pötz and Blueze (2012) →The main components of this approach include…sustainable energy production… (*See Previous picture*!!)
- Rivers are an important element of green infrastructure (EC) – it is often referred as ‚blue infrastructure', not ‚green'
- Why it is misunderstandable some times? It has very strong **economical approach**: ‚…provide society with a stream of valuable, economically important goods and services…' such as ‚green economy' (*There is a crosstalk*)

Green economy as an example for „understanding" „green cavalcades":

- The notion of green economy came to the forefront in the last decade, the enforcement of climate and environmental policies.
- In 2011 *US Bureau of Labor Statistics* defined the notion of green job and started to measure.
- Green economy <-> Brown economy *(Cai, W. et al. 2011)*
- **5 most referred sector of green economy:**
- (1) Renewable energy sector (2) Energy efficiency sector incl. Products and services (3) Pollution reduction sector (**4) Protection of natural resources** (incl. Organic production and sustainable forestry) (5) Environmental education (*Shapira, P. et al. 2014*).
- Clean economy as equivalent of green economy – reflects to climate → nuclear power plant investment is part of clean economy

Climate adaption/mitigation – green – infrastructure/investment

- Renewable energy as a priority area is appearing more and more frequently not only in "Green" (such as in "European Green Capital" candidates or "Smart Cities") but in "average" cities' strategies as well.
- **Local politicians** often say for local renewable investments as „**green investments"/"green infrastructure**" + „green city" is often understood as a city operated with renewable energies; „**biomass**" is the „greenest"
- **Energy plantation** is sometimes taking into consideration as ‚**green infrastructure**' investment (especially in small towns), as a „climate adoption measure".

Sources: ILO 2012, Shapira, P. 2014, Mathews et al. 2015.)

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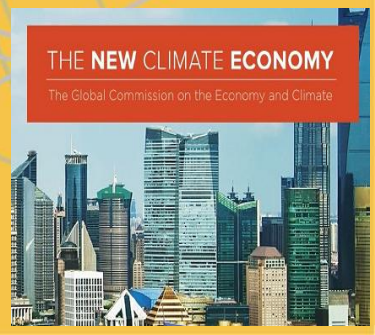
Challenges and goals – *the role of meta-governing level*

EU2020 Biodiversity Strategy
(T2): ‚…ecosystems and their services are maintained and enhanced by establishing green infrastructure and restoring at least 15% of degraded ecosystems…'

EU 2030 (23.10.2014.)
- 40% of CO2 reduction
- 27% of renewable energy
- 27% of energy saving

Roadmap 2050
- 80% of CO2 reduction (2040 60%)
- 30% less energy in 2050 than in 2005
- „**More locally produced energy would be used, mostly from renewable sources**"

New Climate Economy: „…to analyse and communicate the economic benefits and costs of acting on climate change"



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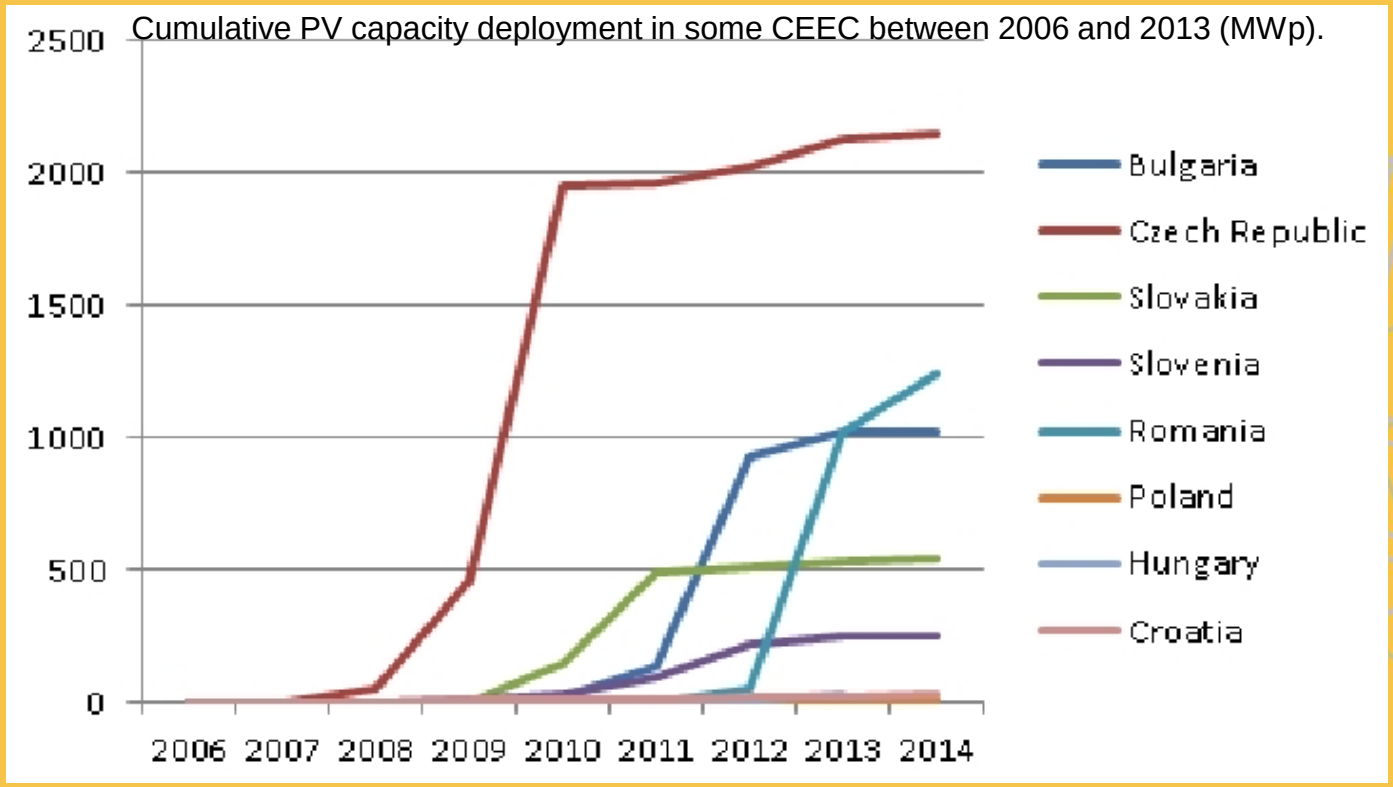
Subsidy policies - *The role of government level*

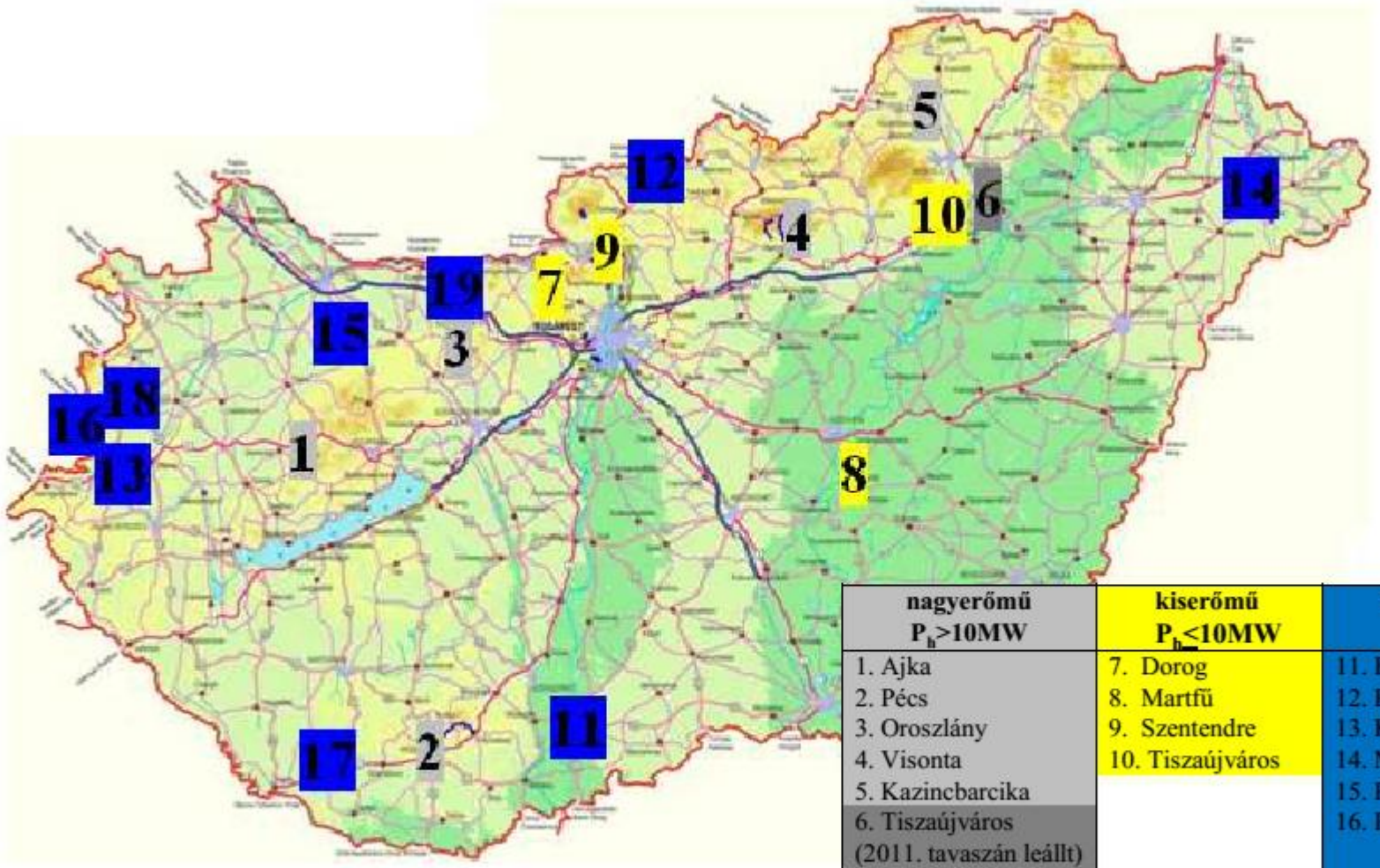
- The danger of subsidy policy (BG, SLO, CZ) had negative impact → cut in subsidies, increase in household prices
- HU (CRO, PL) low level of subsidy → far from EU goals
- The danger of ‚green' → Pécs

Cumulative PV capacity deployment in some CEEC between 2006 and 2013 (MWp).



Source: Dusonchet, L.– Telaretti, E. (2010); Photovoltaic energy barometer 2007, 2009, 2010, 2011, 2012, 2013 – EurObserv'ER, and http://photon.info data own edition

Biomass power plant in Hungary



nagyerőmű P_h>10MW	kiserőmű P_h<10MW	fűtőmű
1. Ajka	7. Dorog	11. Baja
2. Pécs	8. Martfű	12. Balassagyarmat
3. Oroszlány	9. Szentendre	13. Körmend
4. Visonta	10. Tiszaújváros	14. Mátészalka
5. Kazincbarcika		15. Pannonhalma
6. Tiszaújváros (2011. tavaszán leállt)		16. Pornóapáti
		17. Szigetvár
		18. Szombathely
		19. Tata

Source: Pintér G. pres. 27.03.2015.

Local case(s): Biomass/Green capital scepticism – the role of locel government

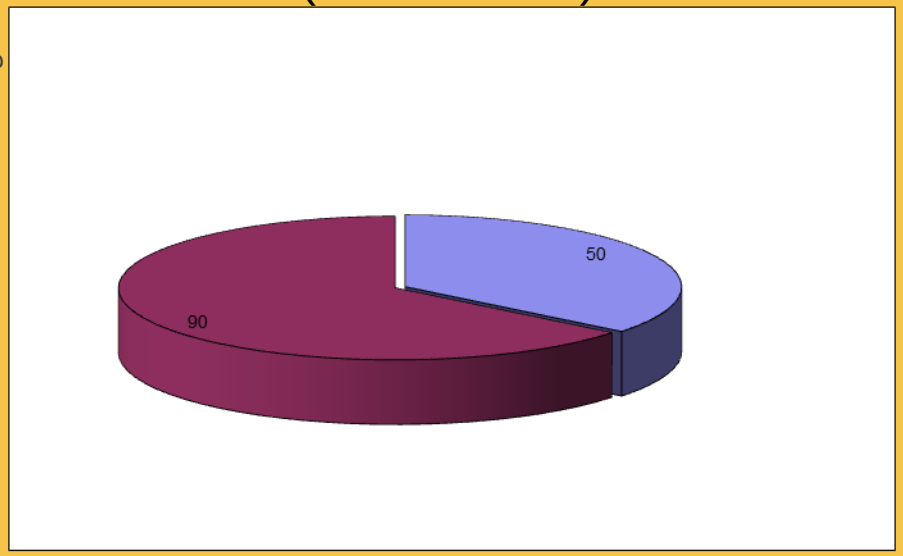
Case: Pécs (bid for GC in 2015) - Pannon Power Biomass power plants + Királyegyház arboreal energy crop plantation

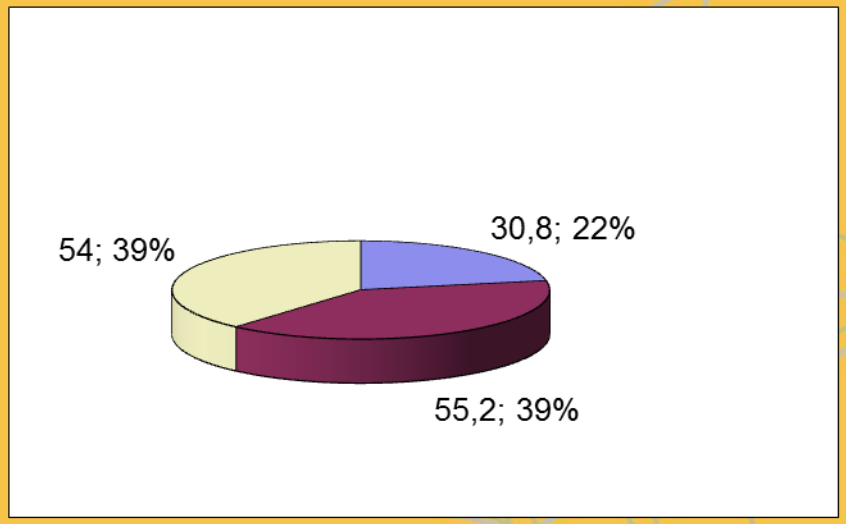
- 400.000 (1.000.000) t wooden chips dendromass/year – 50 MW
- 7000 (1,8%) t ash → fluidbed: 8750 t
- 35MW – (Biomass) straw
- Forestry production is not enough so the agricultural production
- 100 km from
- Land use
- Traffic risk (low)

Further investigated „green infrastructure" investments: Nagypáli, Bóly, Véménd, Szigetvár

Scepticism land use modelisation

Wheat and corn cropland reduction and the increase of forest plantation in Baranya county based on
(thousand ha)





Source: Based on the data of statistical offoce, own edition

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Common aspects of these „green planning” investments

Systematic, strategically supported – renewable infrastructural investments are in smaller settlements. (There are investments in major cities, but pioneers (and leadings in technology) are small towns.

What are the driving forces to create „green strategies”, focusing on settlement development procedures? → Research Result: the ‚governance factors’:

- Civil society tries to influence local governments
- Personal (mayor) behaviour is crucial
- Decision-making is based on personal competencies, there are few public involvement
- What is also a strange phenomenon that local governments have not significant impact on household sector
- Main motivation is economic interest (not lead by sustainable urban development or environmental policy) – environmental sustainability appears later as a slogan, as a marketing element
- The above is improved by the fact that HU is „tender-led society” – most of the investments are „ad hoc” style
- Relatively major distance from party politics (high politics)
- There is local renewable/green development strategy
- In it, there is no reflection to EU goals

Conclusion

- There is a challenge for small towns and big cities to react to the challenge of climate change and to go towards „greenness” and „smartness” – it is lead by mainly „tenders” „fashion” – subsidies from

- government level

- They have strategies for that

- Cavalcade in notions
- The basis of development is economic interest; sustainability and greenness is a ‚spin-off’, rather just slogan

Thank you for your attention

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