Regional development opportunities for the renewable energy sector in Csongrád County

International megatrends of the sector

- EU countries count with 5 main energy market trends and processes
  - reduction of air pollution and greenhouse effect
  - disappearance of fossil fuels
  - application of biomass, wind and solar energy
  - spread of atomic energy
  - lower energy prices
- Legal regulation, social, economic, political reforms

Relevance of the sector in Csongrád County

- High number of sunshine hours → investments realized by the Uni. of Szeged
  - Heat pumps
  - Use of rainwater
  - Mini solar system
  - Solar panels
- Construction of solar power plants (Domaszék, Ópusztaszer, Pusztaszer, Balástya)
- Outstanding geothermal potentiall → thermal water, geothermal energy, thermal well
  - Heating
  - Geothermal cascade system

Installation factors

Measurable

- activity costs
- taxes
- cost of human resources
- annual number of sunshine hours
- bouyancy (in case of hydropower)
- previously measured wind strengths (in case of wind energy)

Quality

- openness of local entrepreneurs towards renewable energy
- consumer awareness
- willingness, quality, and qualifications of local labor force
- Infrastructure quality
- European market

Key competences of the county

- Geothermal stocks
  - medical spas
  - balneological treatment centres
  - agricultural utilization (greenhouse use)
  - public institutons' heating
  - potential thermal power station
- Number of sunshine hours is the highest in Szeged
- Built infrastructure (presence of highway)
- Extensive cultural and leisure activities

Main stakeholders

- ArchEnerg Klaszter (ArchEnerg Cluster (International Renewable Energetic and Construction Innovation Cluster) brings together
  - businesses
  - non-profit and municiapal organizations related to local renewable energy
- Thermal Energy Cluster
- DÉMÁSZ
  - E-mobility Program
- Education
- Agricultural industry, processing industry
- Banking business (financing investments)
- Vehicle industry

Overall targets

- EU- Renewable energy Roadmap by 2020
  - approx. 20 % increase of renewable energy share
  - 20% increase of energy efficiency
  - Reduction of greenhouse gas emissions to 20%

- Energy policy of the Parliament
  - Reducing import dependency, saving energy, using renewable energy sources
  - Competitiveness → Reducing costs, saving energy
  - Sustainable development

Strategic targets

- Environmental sustainability, climate protection
  - Reducing carbon dioxide emissions
- Competitiveness
  - Agriculture and Rural Development
    - Workplace preservation, creation
    - Productive waste management of animal organic substances
    - Use of forest and agricultural by-products, crockery
  - Green economy development, contribution to community goals

Steps

1) Support measures, programs that include domestic financing, EU co-funding and direct EU funding

1) Other financial incentives (financial, budgetary)
   - green economy development financing, R&D, conversion of green electricity, biofuel discounts, tariffs, taxation issues

2) Generic regulatory, comprehensive program-building incentives
   - energy management law, renewable energy law, licensing procedures

3) Social measures
   - employment, national and regional trainings, social consciousness formation, and the development of energy expert networks

Cross-border opportunities

- HUSRB + ROHU interregional programmes
- Interreg programs: **Central Europe** whose central aim is to improve regional development capacity
  - Innovation, reduction of carbon dioxide, protection of natural and cultural resources through transport and mobility
- **DARLING** (Danube Region Leading Geothermal Energy) financed by the Danube Transnational Programme
  - aims to encourage the southern regions of the Carpathian Basin between 2017 and 2019
  - objective: make more efficient and economical use of thermal water, make more efficient use of the residual thermal energy of effluent water during balneological utilization

Cross-border projects

- Application of environmentally friendly, sustainable and job-creating technologies
- Renewable energy sources are usually modern technologies that are constantly evolving
- Important:
  - Think in whole product lines
  - Domestic end-use also
  - Adapting to domestic workforce as well