



Study Tour to Central and Eastern Europe, August 2013

In the framework of

**"Engaging Citizens in Sustainable Energy to improve environment and local Economy"
ECSE Project in 2012-14.**

**Introduction of the "1 village-1MW" program of
the Bukk-Muskolc rural development community**

By

Lajos Vass

More about the Project:

<http://www.inforse.org/europe/ECSE.htm>

http://inforse.org/europe/ECSE_RU.htm

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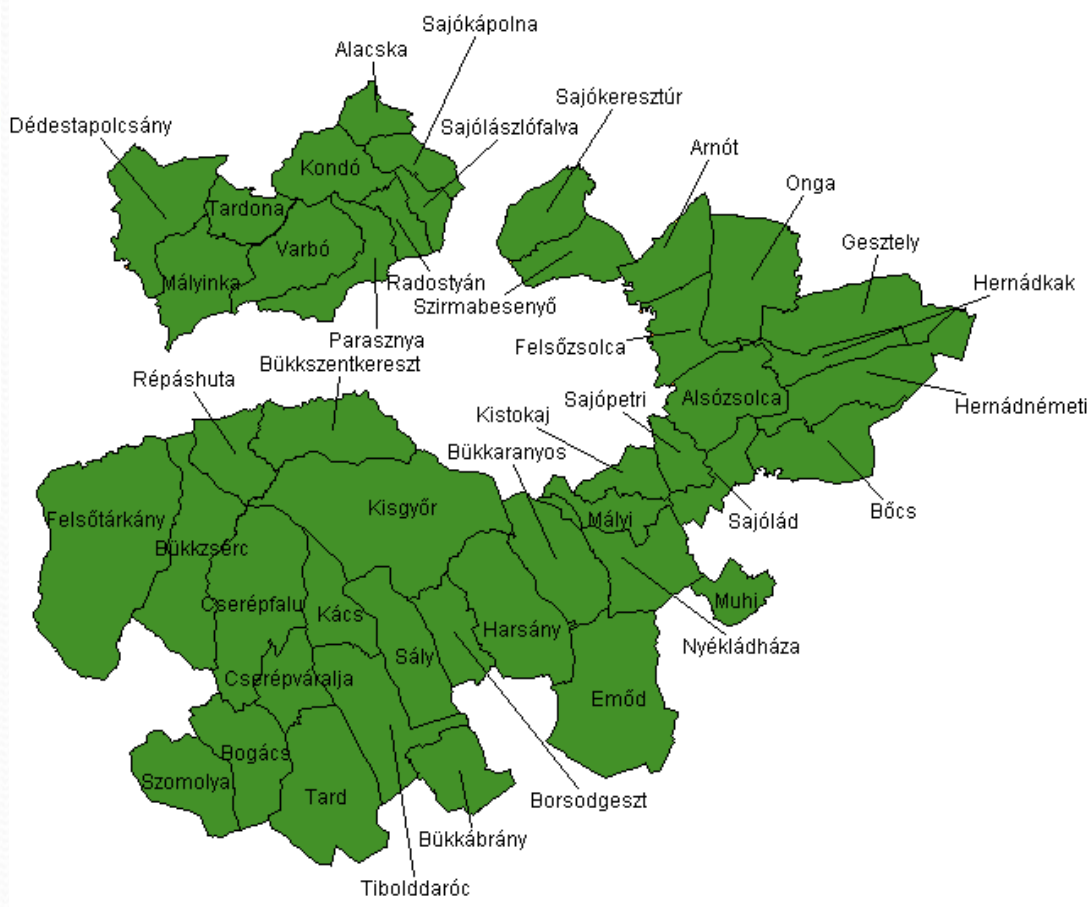


Introduction of the ‘1 Village – 1 MW’ program of the Bükk-Miskolc rural development community

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Bükk-Társégi LEADER Egyesület**

August 2013

Our settlements



- 44 settlements
- 94.363 inhabitants
- 4 small towns

Landscape of the Bükk mountain



Flatland landscape



Lignite mine of Bükkábrány

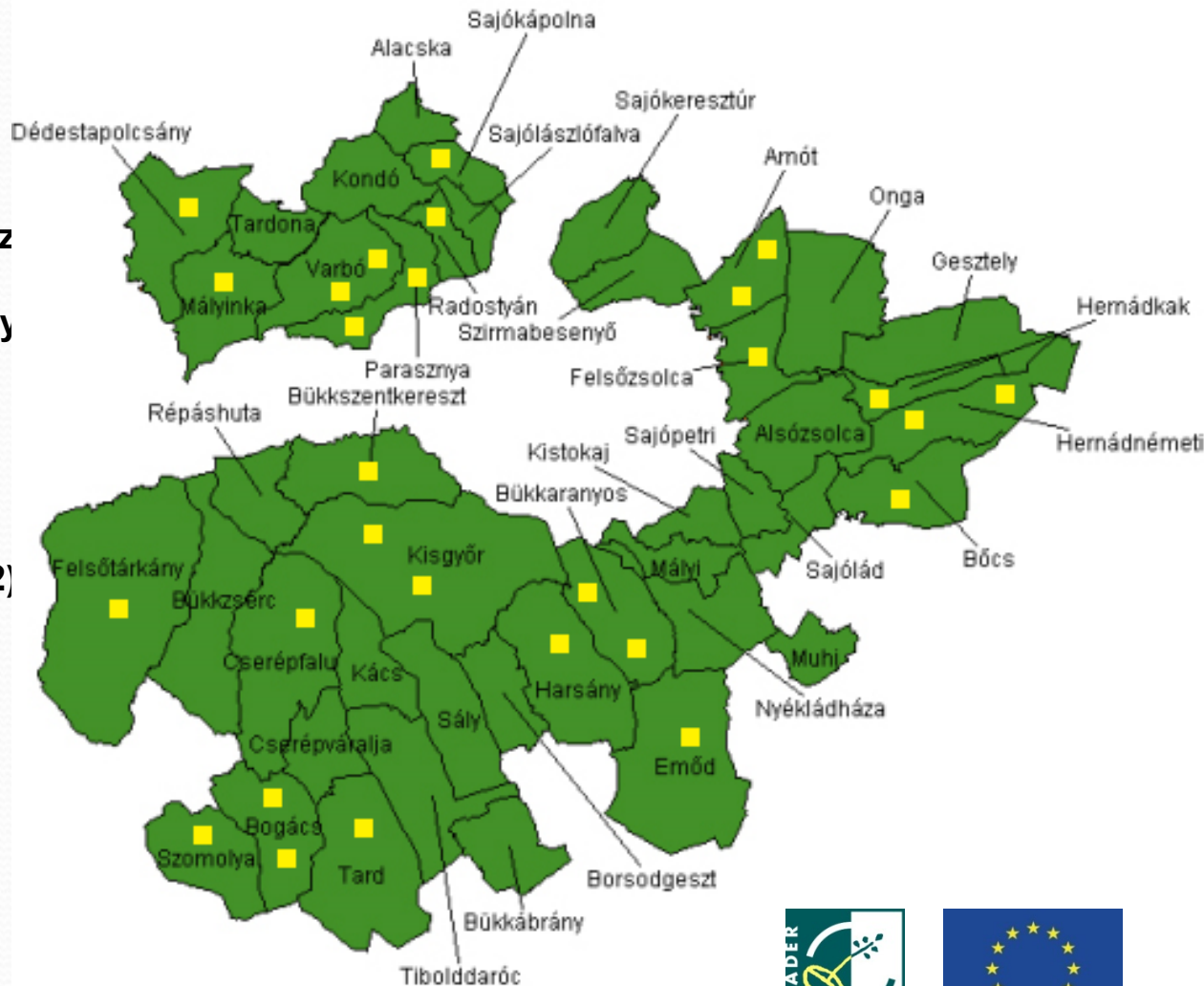


Priorities of the rural development strategy

- 1. Usage of the renewable energy sources (RES), increase of the energy efficiency (EE).**
- 2. Knowledge transfer of the clean technologies of the 21. century.**
- 3. A higher standard of living in the villages.**
- 4. Development of the communities.**
- 5. Development of the tourism.**

'1 Village – 1 MW' program 1st phase

- Arnót (2)
- Bogács (2)
- Böcs
- Bükkaranyos
- Bükkszentkeresz
- Cserépfalu
- Dédestapolcsány
- Emőd
- Felsőtárkány
- Felsőzsolca
- Harsány
- Hernádkak
- Hernádnémeti (2)
- Kisgyőr (2)
- Mályinka
- Parasznya (2)
- Radostyán
- Sajókápolna
- Szomolya
- Tard
- Varbó (2)



'1 Village – 1 MW' program 1st phase

In 27 'Community Energy Yard'

- 24 PV plant (3-5 kWp),
- 5 vegetable oil based CHP (5-15 kW),
- 2 sun parabola (60 kW),
- 2 wood chips furnace (150 kW),
- 1 wind turbine (1,7 kWp),
- 18 solar collectors (2 m²)

**will be installed with 100% EU LEADER support,
with a budget of a bit less than 1 million euro.**

'1 Village – 1 MW' program 1st phase

- 3-5 kWp PV plants with solar tracker

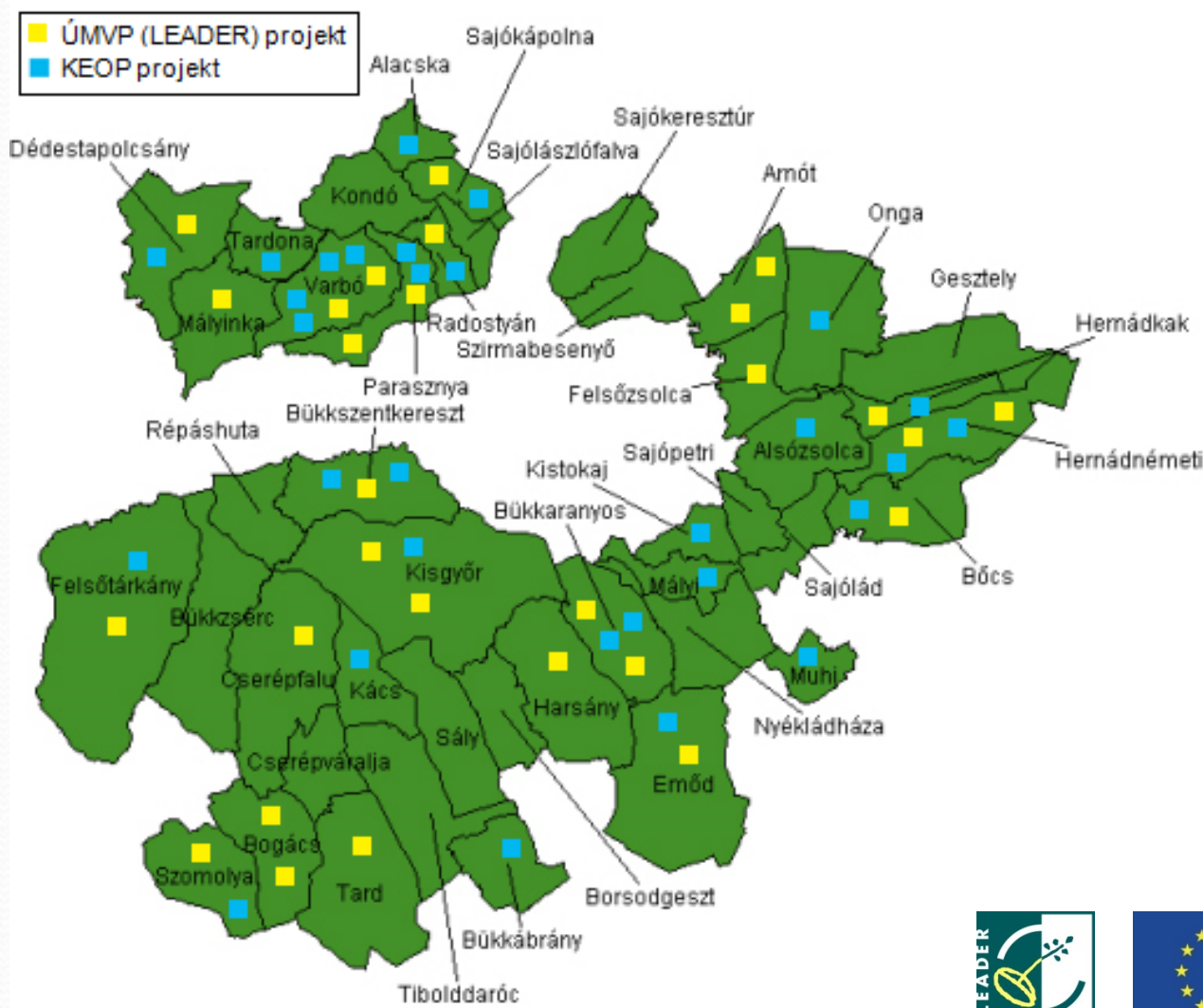


'1 Village – 1 MW' program 1st phase

- 3-5 kWp stabile PV plants



'1 Village – 1 MW' program 2nd phase



'1 Village – 1 MW' program 2nd phase Biomass integration



'1 Village – 1 MW' program 2nd phase Biogas



'1 Village – 1 MW' program 2nd phase Biogas



'1 Village – 1 MW' program 2nd phase Business model

- **For communal green biomass we offer**
 - money,
 - power bonus,
 - heat bonus.

'1 Village – 1 MW' program 2nd phase RES – H2



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Eger, 2007. február 28.



'1 Village – 1 MW' program 2nd phase

RES – H2



'1 Village – 1 MW' program 2nd phase

RES – H2



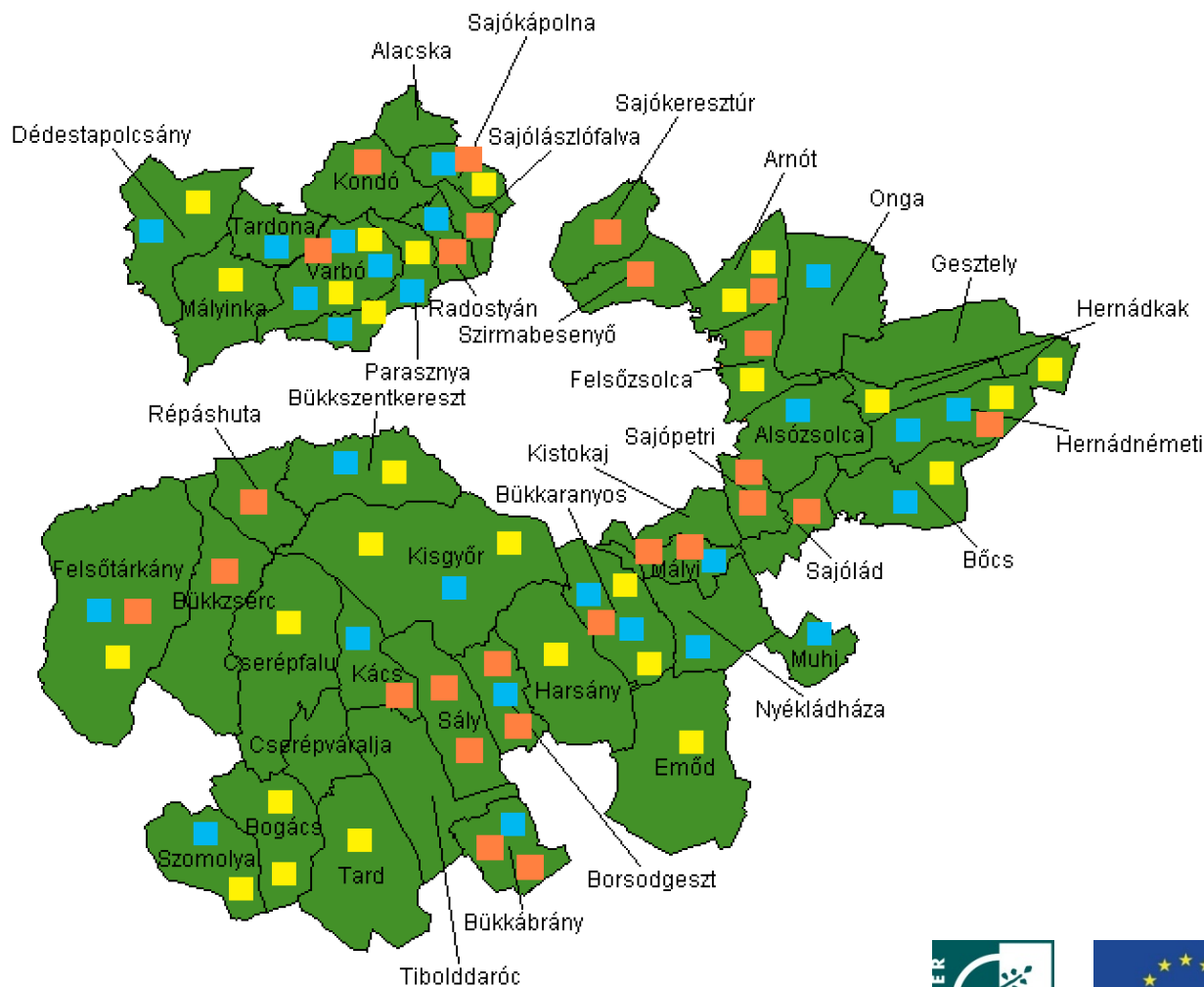
'1 Village – 1 MW' program 2nd phase RES – H2



'1 Village – 1 MW' program 2nd phase Business model

- **For RES power we offer**
 - money
 - safe energy supply
 - hydrogene

'1 Village – 1 MW' program 3rd phase



'1 Village – 1 MW' program 3rd phase

In 26 'Community energy yard'

- 23 PV power plant (0,5-12 kWp)
- 3 e-garage,
- 2 biomass furnace,
- 18 batteries,
- 23 electric chargers,
- 1 geothermal pilot system,
- 1 wind power plant (5 kWp)

will be installed with 100% EU LEADER support, with a budget of more than 1 million euro.

Related legislation and technology background (2010-2050.)

- **The fuel of green vehicles:**
 - **Electricity (BEV),**
 - **Hydrogene (FCEV),**
 - **biogas or other liquid bio fuels.**

(EUCOM (2010) 186 official statement)

Alternative vehicles

FCEV

PHEV

BEV



MIKROVIRKA integration

Plug-in fast chargers



Gyorstöltő

- 50kW DC gyorsöltő egység
- 10 – 20 perc töltési idő
- CHAdeMO (TEPCO) certified
- Mode 4 with Yazaki connector
- CE certifikát
- Incorporating EBConnect A központtal kommunikál. Adat továbbítás, kétirányú kommunikáció.



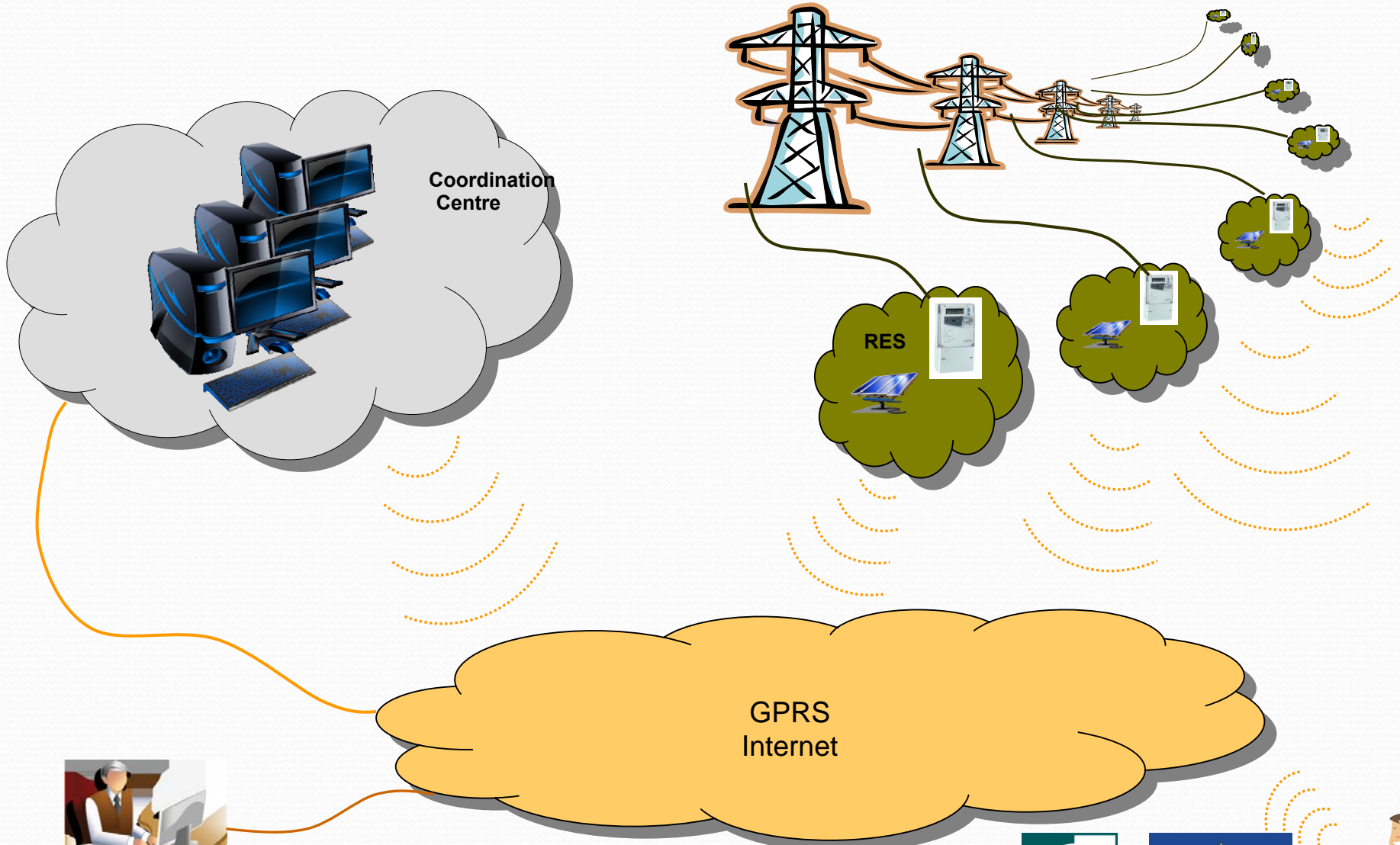
MIKROVIRKA e-garage



E-garage in Sajókápolna




MIKROVIRKA smart grid integration





Thank you for your attention



Afternoon schedule

- Bükkábrány – Energy Yard
PV Solar Plant and Electric Car Tank Station
- Böcs – Straw Power Plant
- Böcs – Green House and Bio-diesel CHP
- Sajókápolna – Energy yards
- Parasznya – Energy yard