

Interreg

CENTRAL EUROPE



European Union
European Regional
Development Fund

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Local Energy Agency Spodnje Podravje



**SUSTAINABLE ENERGY TRANSITION - ENERGY
EFFICIENCY IN PUBLIC BUILDINGS AND SMART GRID**



Janez Petek

Local energy agency Spodnje Podravje:

- ZERO CO2 (Interreg Europe): Promotion of near zero CO2 buildings due to energy use
- PANEL2050 (HORIZON2020): Partnership for new energy leadership 2050
- FEEDSCHOOLS (Interreg Central): Financing environmental and energy efficiency development in schools
- NEDO-MOVE CONSUMPTION (SI-JAP) demonstration project for smart grid
- ENETUR (Program razvoja podeželja): Energy and environment efficiency of the touristic destinations.



Local energy agency Spodnje Podravje:

- Energy manager for 21 Municipalities
- Design of the renovation of the district heating system in Ptuj with a wood biomass boiler and new pipes
- District heating system with wood biomass in Ormož (analysis of the energy consumption, concession for the heat production and distribution)
- Supervision of the total energy renovation of the 7 public buildings in Ormož municipality
- Energy auditing of the 8 public buildings in Brežice
- Energy auditing of two enterprises (Tosama Domžale and GEA Slovenska Bistrica)
- Total energy renovation of the School Center Ptuj, Gymnasium Ptuj and students dormitory Ptuj



Local energy agency Spodnje Podravje:

- More than 50 energy audits of the public buildings
- 30 Local energy concepts
- 80 Energy certificates of the buildings
- 37 energy renovations of the public buildings
- 2 energy renovations of the public lighting systems
- 16 mio EUR of the Cohesion funds obtained



FEEDSCHOOL- FINANCING ENVIRONMENTAL AND ENERGY EFFICIENCY DEVELOPMENT IN SCHOOLS



- 40 % of the total energy consumption in buildings
- Nearly Zero Energy Building renovation
- Increasing Public Authorities capacity at renovation
- Developing a holistic, innovative and transnational approach for supporting Local Authorities in all steps of the Nearly Zero Energy Building renovation (from analysis, financing to the implementation)
 1. Developing an approach for harmonising and simplifying the energy audit process
 2. Developing an approach for selecting innovative financing mechanisms tailored to the needs of the target areas and aimed at creating links between public and private funds



- 3. Presenting the best innovative nZEB renovation measures and technologies
- 4. Face-to-face and online trainings tackling financial, environmental and energy aspects of nZEB renovations
- 5. Open lessons in schools involving teachers, students and staff to boost behavioural change



Phases of the project:

1. Analysis of the existing procedures: legislation, decision making, financial sources, financing and implementation
2. Approaches to the analysis and documentation
3. Financing mechanisms: Energy contracting, Private-public partnership, Co-financing, bank loans, Guidelines for financing energy renovation and transforming existing buildings into nZEB
4. Collecting data, need analysis, database of the case studies
5. Design of the tool kit structure
6. Harmonization of the energy and environmental indicators
7. Creating the toolkit, testing, translation into project partners languages



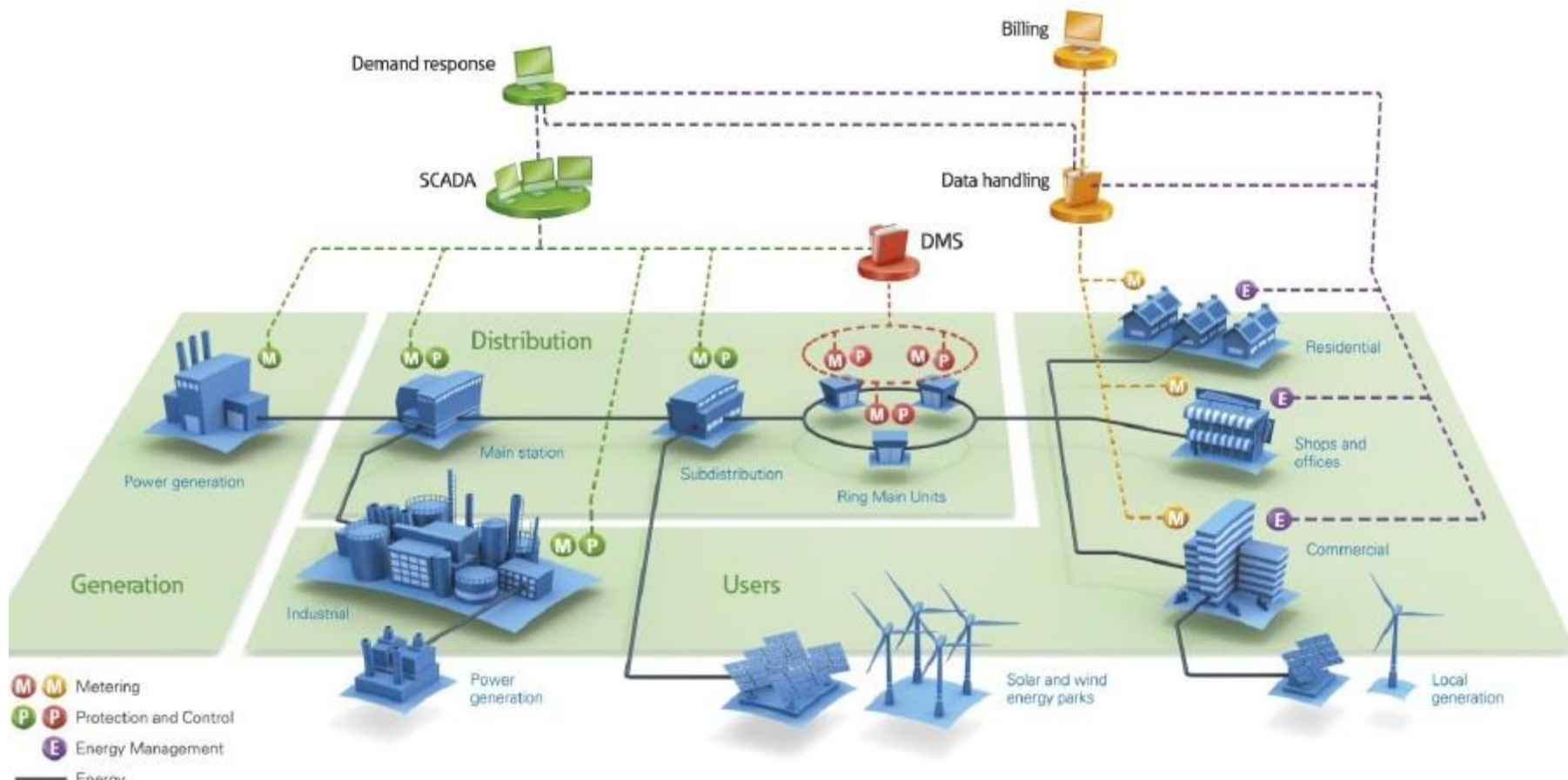
- Energy audits of the 48 schools, sport-halls and canteens by the international team of the energy experts as pilot actions: various approaches upgraded to the most efficient procedures which will be transferred into the toolkit
- Training of the school managers, energy managers, maintenance people, technicians, consultants
- Workshop: train the trainers
- Developing E-learning modules
- Policy recommendations and action plans



School	Year of Construction	Heated area (m2)	Energy Number (kWh/(m2 a))
Primary School Tinje	1985	1.745	165
Secondaryy School SB	2004	3.462	97
Primary school Šmartno	1982	1.717	134
Primary School Kebelj	1975	833	166
Primary School 2 SB	2008	4.582	110
Primary School Laporje	1906/1999	2.962	100
Primary School Črešnjevec	1975	2.504	106
Primary School Sp. Polskava	1980/2015	3.395	102



NEDO DEMO PROJECT SI-JAP: SMART GRID





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PORABO**

Bodi aktiven in prihrani!



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Bodi aktiven in prihrani!

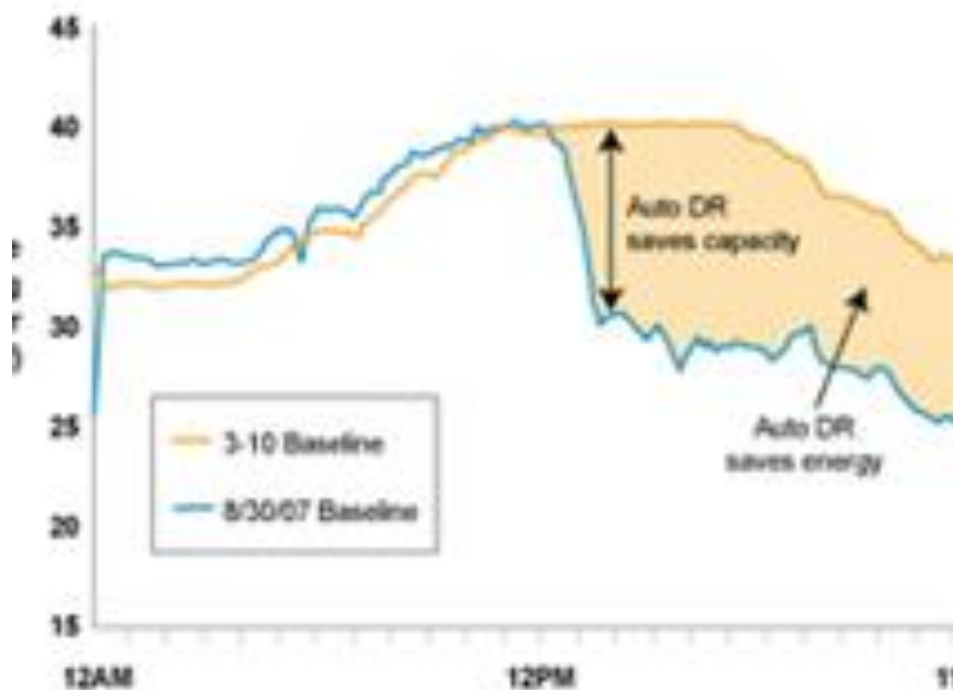


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Auto Demand Response Load



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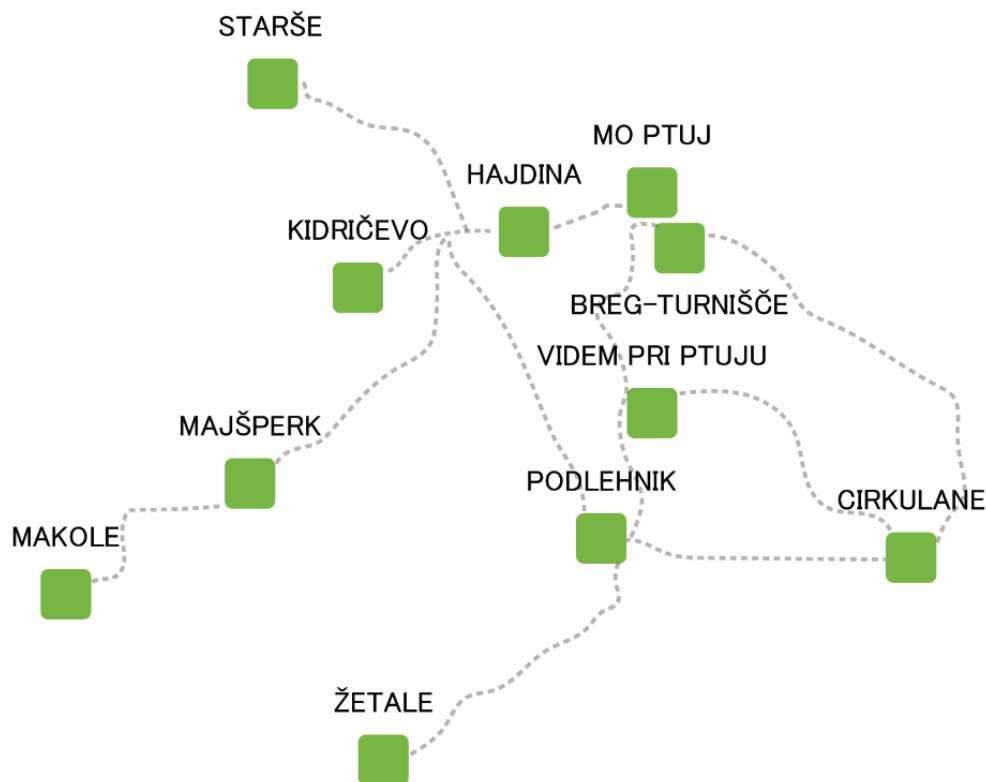


ELEKTRO MARIBOR



HITACHI
Inspire the Next





PROJEKT ZAJEMA NASLEDNJE OBČINE:

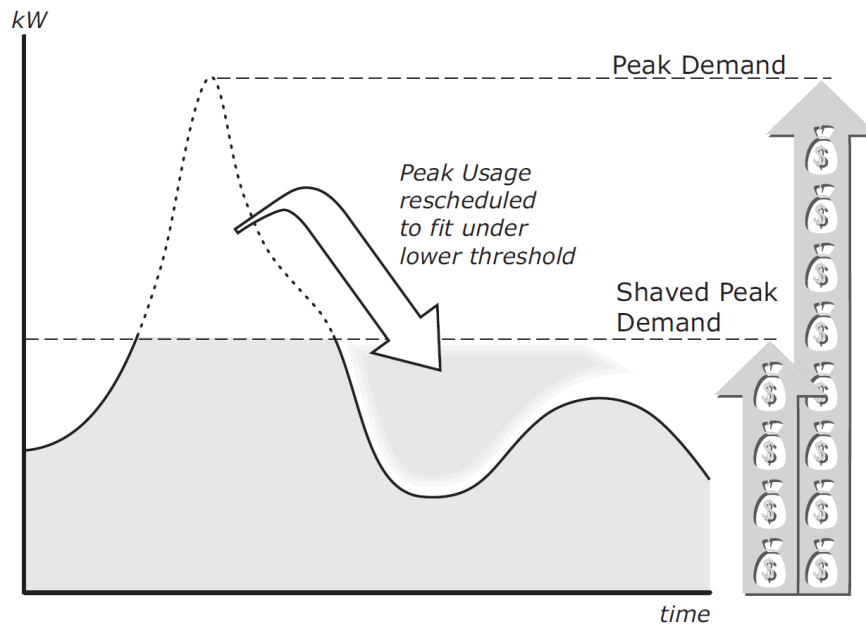
Starše,
MO Ptuj - Četrtna skupnost Breg - Turnišče,
Cirkulane,
Videm pri Ptuj,
Podlehnik,
Žetale,
Hajdina,
Majšperk,
Makole,
in Kidričevo.

Vse občine so priklopljene na razdelilno transformacijsko postajo Breg (RTP Breg).

70 % mm v NMS
2/3 mm enotarifno merjenje



DEMAND RESPONSE (PEAK SHAVING)



- Active participation of the households: **MOVED ELECTRIC POWER CONSUMPTION**
- Testing consumers behaviours to decrease power demand of the electric grid
- Voluntary participation of the consumers



3 groups of consumers:

- **A group:** households are informed by E-mails and telephone to switch of the most demanding electrical consumers during the critical tariff
- **B group:** installed Direct Load Control System (DMS) at the households. Operator manage with the electrical consumers via Demand Response Centre
- **C group:** Installed Home Energy Management System (HEMS) at the households. Operator sends information regarding Critical Tariff and households themselves decided, which electrical consumers are switched of.



Main goals of the project are:

- Active participation of the electricity consumers into the DEMAND RESPONSE programmes and advanced systems for the charging electrical power
- Testing the consumers behaviours and submitting recommendations to the Energy Agency for developing future critical tariffs



A consumers: 730

B consumers: 50

C consumers: 50

Splošne informacije

Vaša merilna mesta

Splošne informacije

(Za uporabo tega dela aplikacije se morate prijaviti oz. registrirati.)



Učinkovita raba energije



Kontakti



Ceniki



Tehnični podatki



Vnos stanja števca



Pregled porabe



Spremembe na MM



Nov števec



Lokacija polnilnic



Moji računi



Seznam merilnih mest



Prijava napake



Planska dela



SN izpadi



Novice



Lokacija OE



Podatki za obveščanje



Premakni porabo



INFO



SMS



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Results of the first three months of the project:

- Total savings of the power: 3.726 EUR
- Peak demand reduced at least by 30 %

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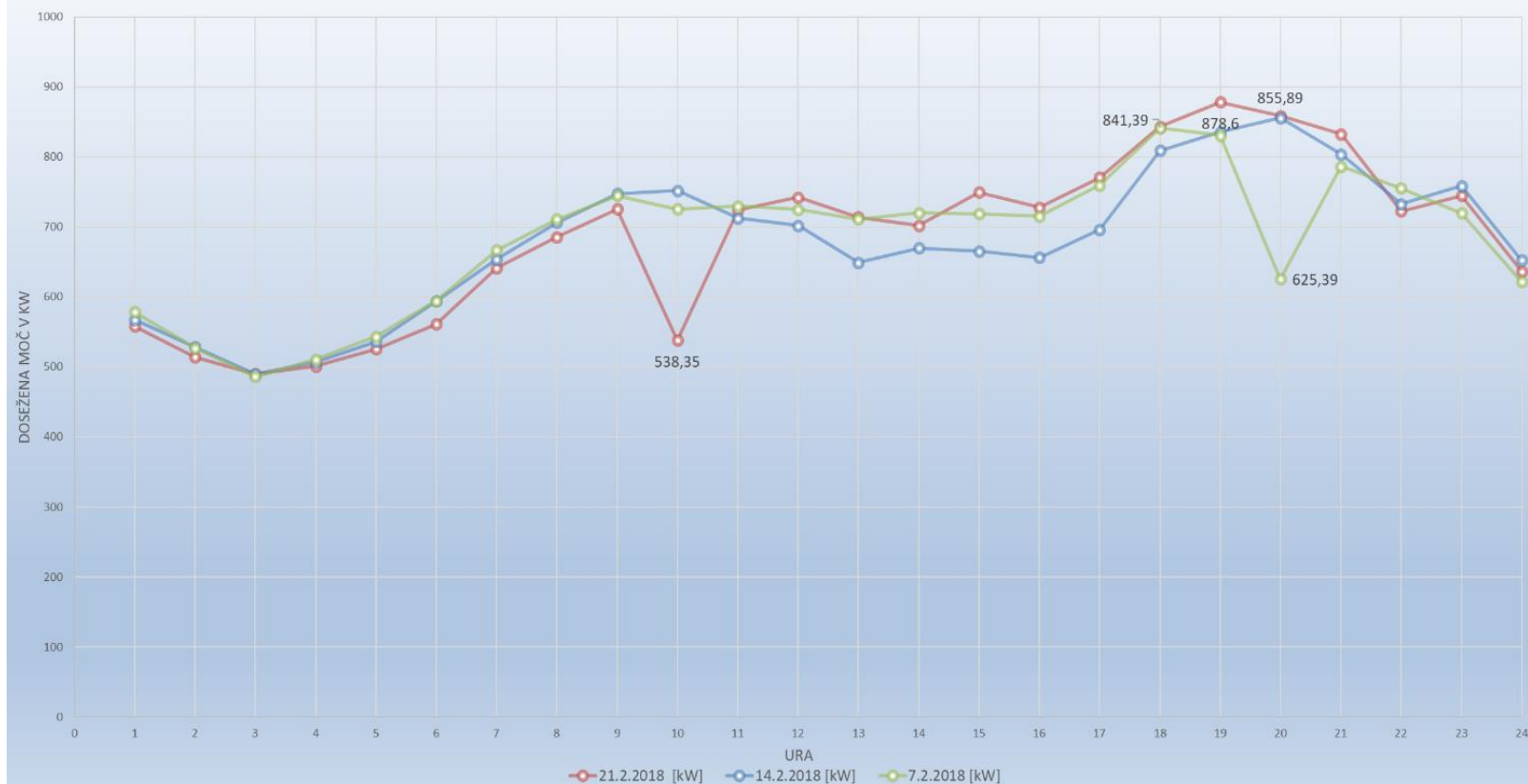
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