Energy coops in Croatia

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Green energy coop

Energy coop providing consultancy to other energy coops and their RE projects

Energy coop starting up RES based electricity supply in partnership with other coops and RES producers

Our vision is to include citizens into development of energy sector and energy transition in Croatia and Europe
ABOUT US!

GEC founded in Nov 2013

22 experts from various backgrounds in energy sector:
   Electrical, machinery, physics and ecology engineers and PhDs
   Economy, law, philosophy and sociology experts
   with cumulative experience on many RES and EE projects

**Average age**: 31 years

Experience from renowned companies and institutions in Croatia:
   Elektroprojekt d.d., RP Global, HEP d.d., Končar,
   Fakultet elektrotehniike i računarstva (FER), UNDP
WE COOPERATE WITH:

Locally
Municipalities and Local Action Groups
Energy coops
Entrepreneurs in agriculture, tourism and RES sector
Coop for ethical financing / ebanka

Internationally
REScoop.eu and individual foreign REScoop’s
Horizon2020 partners – Joanneum Research, Ecologic Institute, Center for European Policy Studies, Ecosoluzioni, IFAS, CEDER, AVEBIOM, FEBEA, etc.
Services GEC

- Sustainable energy development strategies
- Foundation of other energy coops
- Project management and project finance
- International projects / HORIZON2020
Situation with RES in Croatia:

- No governmental support for PV – FITs stopped after 50 MW signed, high connection costs;
- FIT for wind energy stopped after 400 MW installed, announced 340 MW more to be allowed by 2020;
- FIT stopped and subsidies limited for bioenergy projects;
- New financing and business models needed that would bring renewables directly to the market – and bypass the dependence on political will to subsidize;
Energy cooperatives in Croatia:

**Energetska zadruga otoka Krka** – energy independent island Krk

**Energetska zadruga Kaštela** – solar power plant on school and households, biomass production

**Braniteljska zadruga Kapela** – biomass production

**Zelena energetска zadruga** – setting up other energy cooperatives, green supply, agriculture and tourism

**Zadruga za dobru ekonomiju** – micro biogas, houses made of straw, DIY wind power plants, small PVs

**Energetska zadruga Novi otok** – PV systems and EE for small rentiers and agriculture producers on the island

**Biogas cooperatives** – several farmers working together on biogas production
KRK

- Largest island in Croatia, 17,000 inhabitants in winter and 8 times more in summer
- Strategy – zero-CO2 emission island by 2030
- Cooperative members – Krk town, all municipalities, NGOs, citizens; 300 members interested to join with first projects funded
- First in Croatia started with waste recycling, best results
- Started working on many feasibility studies and development for RE projects
WORK IN PROGRESS

- Biomass and biogas power plant (180-340 kW)
- PV – net-metering (200 roofs) plus several MW ground mounted
- LED – streetlights
- EVs and 9 charging stations in 2016
- Wind energy (36 MW pre-feasibility study)
- Pumped storage hydro
PV/LED project:
- Investment: 63.800 €
- Electricity savings: 9.580 €/y
- Simple payback: 6,6 y
- ESCO signed for 5 y period
- LED: 474 lights, installed power 9,4kW instead of 546 lights, installed power 31,3kW = 19.604kWh instead of 65.862kWh
- PV: 25kW
- 20.000€ own funds from crowdfunding (80.000$ overall CF)
- Signed net-metering contract on the market
WORK IN PROGRESS
- Usage of agricultural biomass
  - Olive stones
  - Olive pomace
- Net-metering PV and EE for households
Energy coop Novi otok

WORK IN PROGRESS

- EE measures and small RES for rentiers
- EE measures and small RES for agriculture producers – mainly olive oil and wine producers
- EV and charging stations
PROJECT OBJECTIVES

Implement RES, EE and environmental protection measures in camping sector

- Solar water heating
- PV installations
- Waste water treatment
- Waste separation
- Composting
- Biomass usage
- Water and energy savings
- LED lighting
ENERGY EFFICIENCY IN TOURISM

Implement RES and EE measures in private apartments and small hotels sector

- Solar water heating
- PV installations
- Heat pumps
- Biomass usage for heating
- Water and energy savings
- LED lighting
- Smart energy management
HOW CAN FARMERS:

• Save energy and water?
• Use their waste?
• Secure financial closure for projects?

PROFESSIONAL HELP:

• Low-cost feasibility studies and technical documentation
• Application to EU funds
• Sustainable turn-key projects

FINANCIAL SUPPORT:

• Financial closure for projects
• Efficient financial services
Biogas

- Equity based crowdinvesting and/or ethical bank financing
- Financial profitability and security of waste supply are enhanced via co-ownership of members who provide waste, but also other services to the facility
- Integrated planning is crucial, where the profitability of the facility is measured not only by sales of electricity and heat, but also by the impact in the whole value chain connected with heat usage, fertilizers and waste treatment in agricultural processes
Members = clients / investors / prosumers

SPV producers

Spot/wholesale market
External consumers
External IPPs
• Ethical bank is transparent, democratic organization based on solidarity which, to it’s members, offers:
  – Most competitive financial conditions
  – Perpetual consultancy support in business
  – Actively lowers risks through synergy of economy sectors

• Ebanks is ethical development bank owned by it’s clients whose primary goal is to pursue higher quality of life for it’s members

• Criteria for project financing: financial, ecological and social sustainability
Coop for ethical financing

- Low interest rates (<4%)
- Best presence on the field through a wide network of coop members (including municipalities, development agencies, etc.)
- Individual approach and understanding clients needs
- Consultancy services and support to members
- Without hidden fees
- Flexibility with collateral and guarantees
- International cooperation (FEBEA, EIF, BCOE,...)
- Innovative models of development financing – e.g. encourages savings through crowdfunding
HVALA LIJEPA!
THANK YOU!
DANKE!