



ENERGAP EXPERIENCES INVOLVING MUNICIPALITIES

26. 11. 2024



**Co-funded by
the European Union**

This project is a LIFE project, co-funded by the European Union under contract n° 101120998
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Energy communities – open issues

- legislation not finalized yet
- grids limitations
- initial financing
- administration and management within EC
- Cooperation and communication

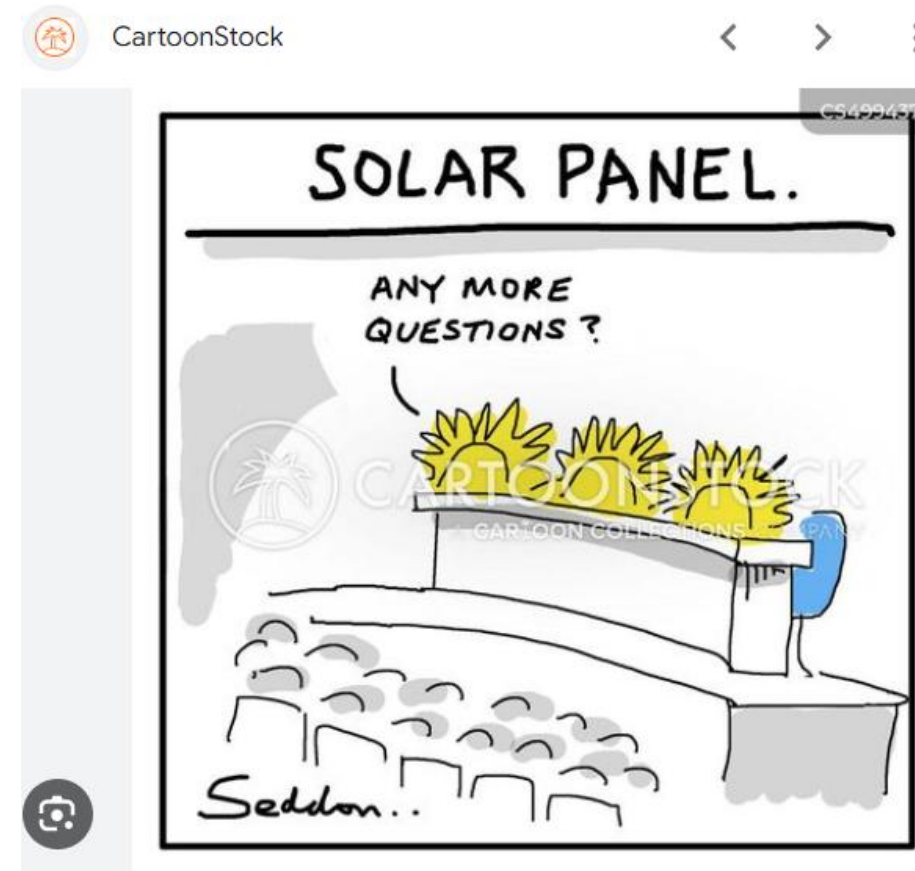


<https://siol.net/novice/posel-danes/prva-slovenska-lokalna-samooskrbna-energetska-skupnost-559921>

Important role of municipalities in Slovenia

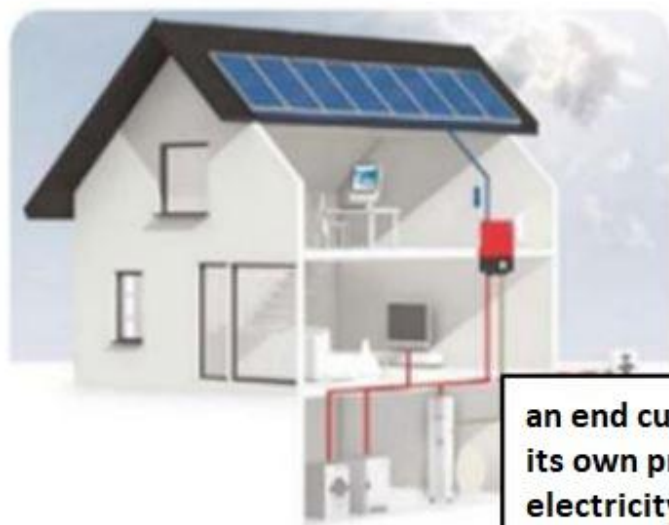
"Municipalities in Slovenia are at the heart of energy community development, playing a variety of critical roles:

- 1. Strategic Planning:** They lead the creation of local energy concepts and spatial plans, identifying areas for renewable energy development.
- 2. Facilitators:** Municipalities serve as bridges between stakeholders, fostering collaboration among residents, businesses, and technical experts.
- 3. Resource Providers:** By offering access to public land or buildings, they reduce costs and simplify project implementation.
- 4. Policy Enforcers:** They adapt and enforce national renewable energy policies to local contexts.
- 5. Financial Support:** Municipalities provide seed funding and attract external investment by reducing financial risks.
- 6. Public Engagement:** They educate and motivate communities to actively participate in energy initiatives.



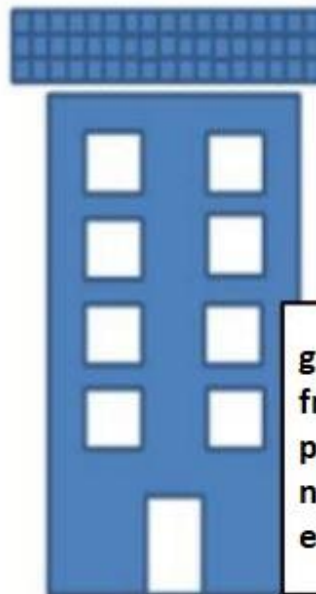
Without municipalities - Energy self-sufficiency and self-sustaining communities

individual self-sufficiency



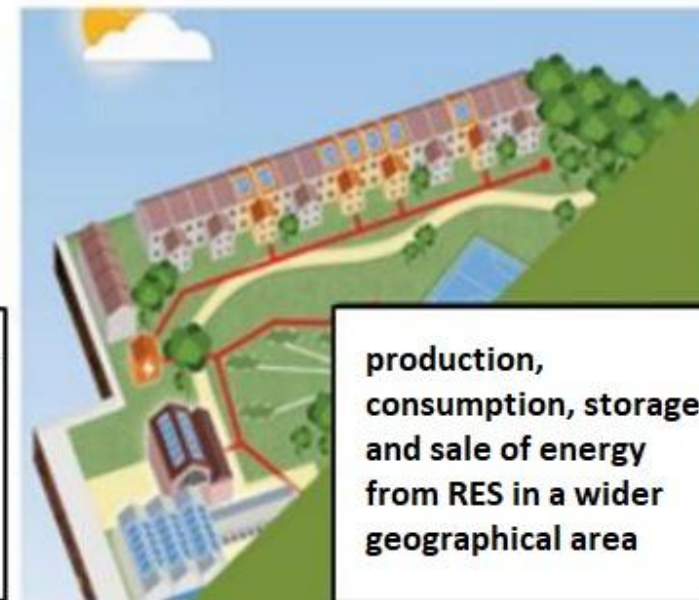
an end customer with its own production of electricity for self-sufficiency

community self-sufficiency



generating electricity from RES to fully or partially cover the needs of at least two end customers

energy community



production, consumption, storage and sale of energy from RES in a wider geographical area

Vir: prirejeno po CEER

With the main role of municipalities

The first examples of good community practices self-sufficiency in Slovenia

ALREADY IN 2009, THE FIRST COMMUNITY PV PLANT ON AN APARTMENT BUILDING IN JESENICE

- **Location:** Jesenice, Slovenia
- **Type:** First community solar power plant for self-supply in a multi-apartment building in Slovenia
- **Capacity:** 36.7 kW (15.1 kW for common areas, 21.6 kW for apartments)
- **Annual Energy Production:** 37.000 kWh of green electricity
- **CO2 Reduction:** 18 tons per year
- **Savings:** €4.500 annual savings for residents
- **Investment:** €36.400, paid off in 8 years
- **Business Model:** No upfront investment from residents; financed by GEN-I
- **Post-Payback:** Free electricity for residents for 22 years
- **Impact:** Long-term financial savings, environmental benefits, enhanced community cooperation and trust



<https://dovoljzavse.si/praksa/skupnostna-soncna-elektrarna-jesenice/>

First Slovenian self-supply community using solar energy on a public building

- **Location:** Budanje, Slovenia (on the roof of a local primary school)
- **Collaboration:** GEN-I, Municipality of Ajdovščina, and local residents
- **Capacity:** 55.68 kW
- **Annual Energy Production:** 58.500 kWh
- **Project Timeline:** Installed in 5 days, operational since early 2021
- **Connected Properties:** Seven residential homes, sharing the same transformer station as the school
- **Annual Savings:** Approx. €100 per household on electricity bills
- **CO2 Reduction:** 28.500 kg CO2 annually, 853 tons over 30 years
- **Business Model:** Affordable monthly fee, no maintenance or insurance worries for residents, no need for rooftop modifications or upfront investment
- **Community Benefit:** Sustainable energy at a lower cost, environmental impact reduction, and support for the local municipality's budget through the paid easement



<https://dovoljzavse.si/praksa/skupnostna-soncna-elekrarna-budanje/>

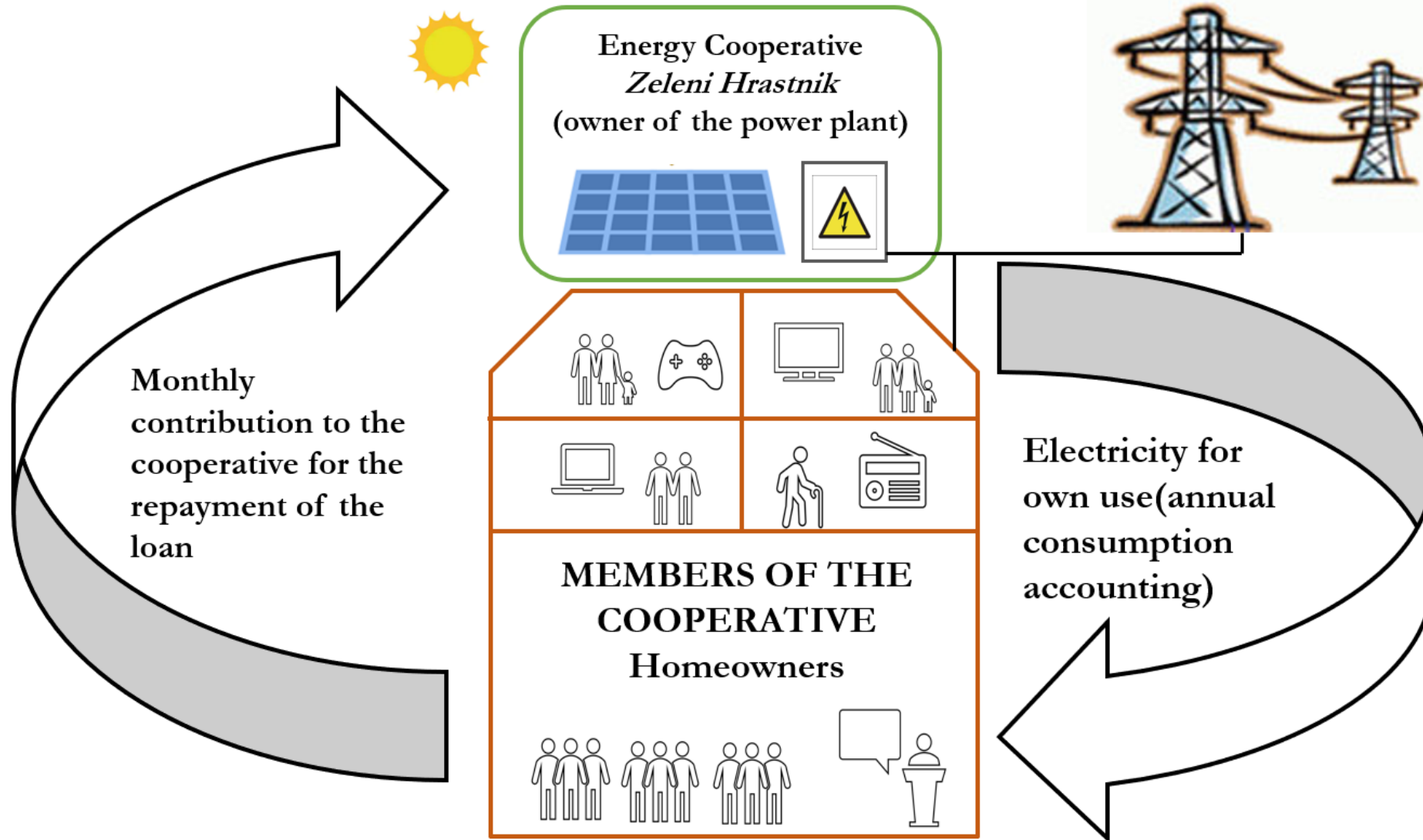
The first solar energy cooperative in Koper

- **Location and Setup:** Installed on the Community Hall (90 kW) and Branch School (100 kW) in Sv. Anton.
- **Total capacity:** 190 kW, producing 200 MWh/year.
- **Collaboration:**
Partners: **Municipality of Koper**, local residents, and project stakeholders. Participants are limited to the same transformer station as the installation.
- **Investment and Costs:**
 - Total investment: €170.000.
 - Operational costs: €5.000/year; loan repayment: €8.990/year (15 years).
 - Electricity cost: €85.34/MWh (first 15 years), dropping to €30.50/MWh thereafter.
- **Energy Savings and Benefits:**
 - For the Branch School: Meets 50% of energy needs (55 MWh/year), saving €125.250 over 25 years.
 - Participating households: Monthly energy costs reduced to €18.21 in the early years.



<https://www.koper.si/prva-skupnostna-soncna-elektrarna-v-slovenski-istri-bo-v-sv-antonu/>

MUNICIPALITY OF HRASTNIK



Energy Cooperative „Zeleni Hrastnik“

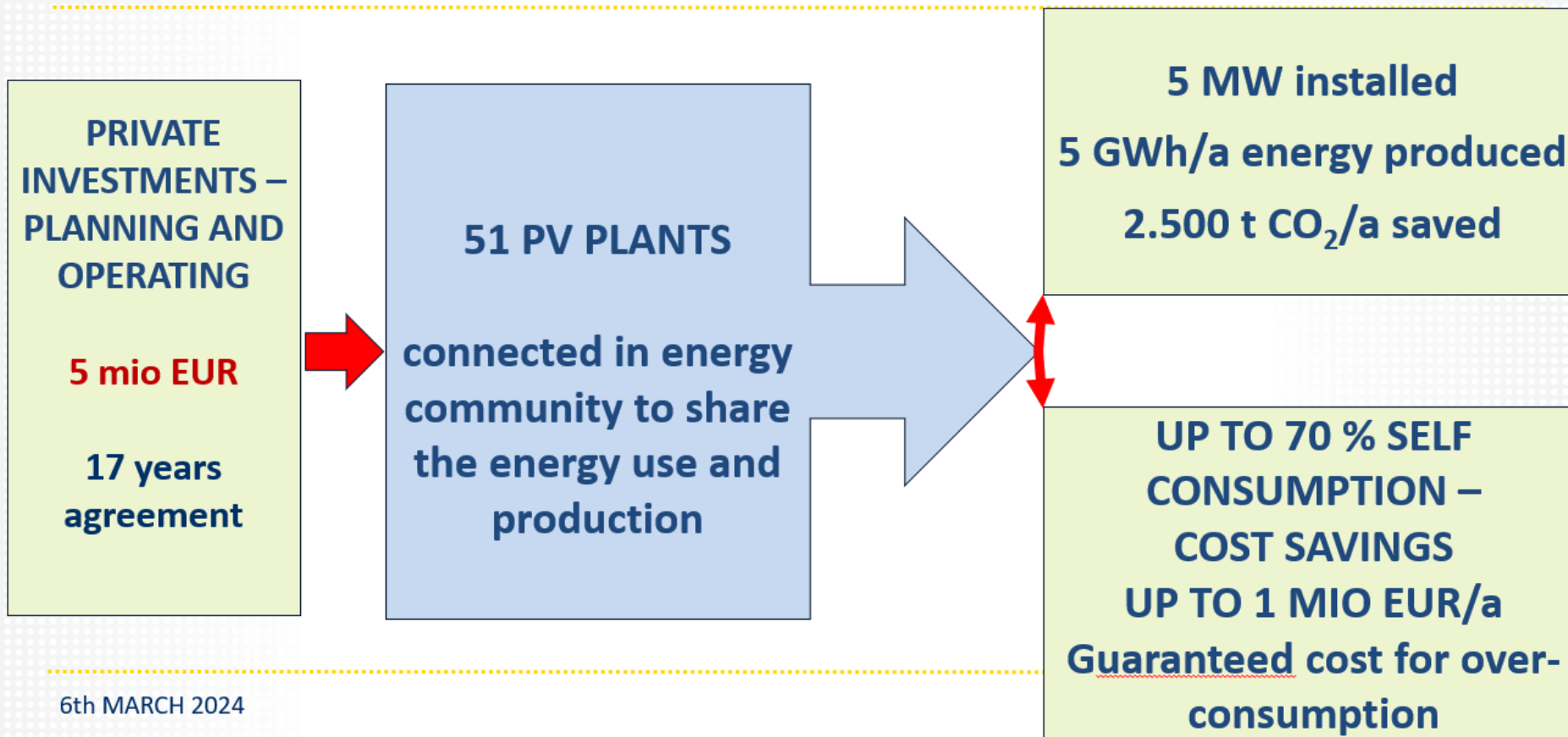


- The members of the cooperative are the municipality and households, i.e. electricity consumers.
- The cooperative invests in solar panels, all necessary infrastructure and other costs (estimated investment = 268.348 €):
 - 16.3 % (43,677 €) of the shares of the members of the energy community (cooperators and municipality)
 - 20 % (53,670 €) grant (JR SE OVE)
 - 63.7 % (171,001 €) bank loan
- The shares of the members of the Energy Community are determined in such a way that each member pays a proportionate share according to the size of the Solar Power Plant to which it will belong.
- The share is set at €150 for each kWp of solar power plant.
- The proportionate share of the plant is determined according to the electricity consumption of each building/apartment.
- 1 kWp of solar power generates approximately 1 MWh of electricity per year; i.e. a building/apartment consuming 5 MWh of electricity needs 5 kWp of power.



CITY OF LJUBLJANA

PPP FOR SOLAR ENERGY PRODUCTION



6th MARCH 2024



CITY OF LJUBLJANA

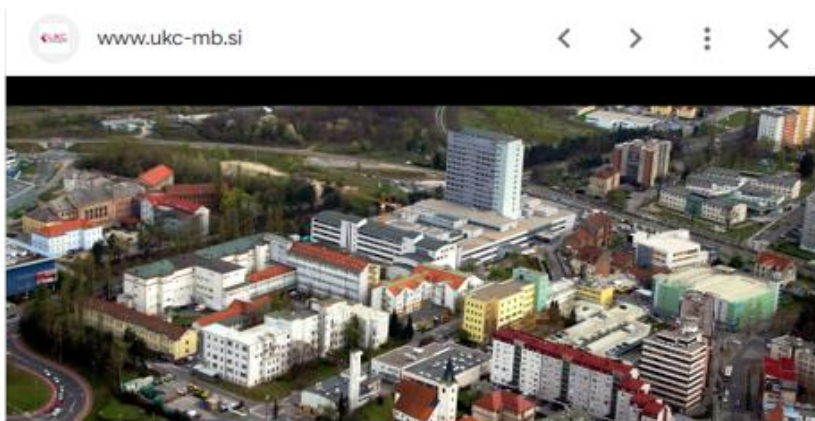
- **Project Goal:** Installation of 51 solar power plants on public building rooftops, including schools, kindergartens, healthcare centers, and sports and cultural facilities.
- **Total Capacity:** Nearly 5 MWp, with annual production exceeding 5.200 MWh.
- **Investment Value:** Approximately €5 million.
- **Concession Duration:** 17 years; after this period, ownership of the solar plants will transfer to the City of Ljubljana.
- **Public-Private Partnership:** Collaboration between the City of Ljubljana and private companies RESALTA d.o.o., RES ERP d.o.o., and Energetika Ljubljana.
- **Energy Community:** 47 out of the 51 solar plants will be integrated into a single energy community, making it the largest in Slovenia.
- **Net Billing System:** Enables the City of Ljubljana to use surplus solar energy produced during one billing month to offset energy shortages.



<https://n1info.si/novice/slovenija/v-ljubljani-bodo-na-strehe-postavili-51-soncnih-elektrarn/>

ENERGY COMMUNITY „for weekends“

- UNIVERSITY HOSPITAL MARIBOR 3700 employees



Energy use: 15.000 MWh per year
POTENTIAL SAVINGS 100.000 EUR per year

- BUSSINES AND INDUSTRIAL ZONE CONA TEZNO
- more then 200 companies, 3500 employees



FV energy production: 5.000 MWh per year, potential 12.000 MWh

Thank you!



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