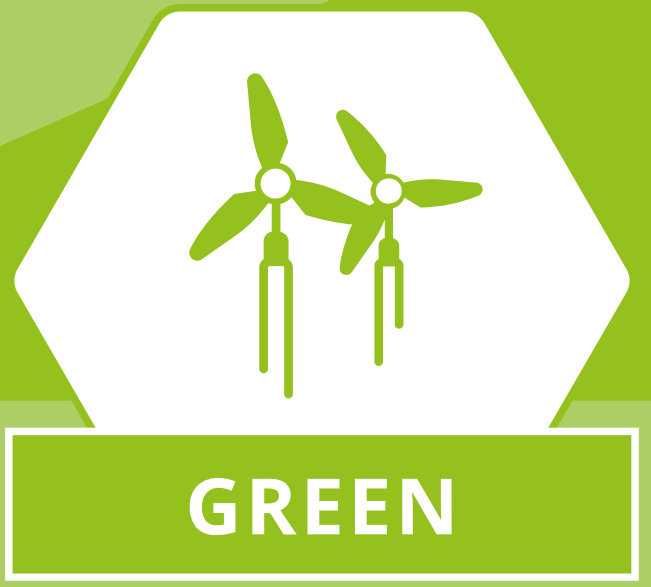
Joint Procurement of Solar Power Systems
Two Case Studies



Capacity building event, 19 June 2025
Chisinau, Moldova

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Joint Procurement in North Karelia, Finland

Best Practice & Lessons

by Project Manager Eetu Ahlberg

Regional Council of NORTH KARELIA

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North Karelia – the easternmost region of continental Europe

- North Karelia is a province of Finland and the easternmost region of continental Europe
- Population 162 500
- Number of municipalities 13, of which 5 are towns
- Regional Centre Joensuu is a University City
- Total area 23,000 km^2, of which 70% are forests
- Distance to Helsinki, capital city, is 450 km which is covered e.g with one hour flight or five hours by car.

Why Solar Power in North Karelia?

- Rural region with long distances and high energy dependency
- Strategic aim: oil-free and low-carbon by 2040
- Strong community networks – opportunity for collective action
- Growing demand for affordable renewable energy solutions

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Events & Engagement in 2016

- Procurement events in 5 municipalities during Sept 2016
- Review session with registered participants in Oct 2016
- Earlier presentations in Nurmes & Tohmajärvi in Feb 2016
- Local outreach vital for buy-in and visibility

Joint Procurement Implementation

- Two rounds: for households and SMEs
- Tender docs sent to over 20 companies
- Three package sizes: 2.5, 4.5, 7 kW
- Winner both times: LEM-KEM Oy (turnkey systems)
- Installations included panels, inverter, mounting, setup
- Not a public procurement – each buyer signed their own deal
- **Prices were up to 30% lower than market average**

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Results and Impact (2017–2018)

- 41 installations in 2017, 22 in 2018
- Total installed capacity: 225.2 kW
- Est. annual production: ~195 MWh
- CO_2 reduction: ~32,000 kg/year (≈4 people's emissions)
- 350+ interested individuals reached – some self-procured
- Model selected as EU Smart Specialisation good practice
- Adopted also in Southwest Finland & Northern Ostrobothnia

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Part of a Bigger Picture

Supports North Karelia's 2040 roadmap to carbon neutrality

Integrated with regional energy & climate planning

Joint procurement as a practical, scalable tool

Tied into community-led energy transition

What We Learned from Feedback

- Survey after 1st round showed positive reception overall
- Challenges: unclear roles, varying communication, coordination gaps
- Next round improved based on feedback:
  - → Dedicated project lead
  - → Clearer tender structure
  - → Improved communication with stakeholders

Iceland Liechtenstein Norway grants

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Ministarstvo regionalnoga razvoja i fondova Europske unije

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ENERGETSKI INSTITUT HRVOJE POŽAR

One Sun Connecting North and South (One Sun)

Solar Roofs for Green Virovitica (Green VTC)

Regionalna energetska agencija Sjever

ONE SUN
CONNECTING NORTH AND SOUTH

SOLAR ROOFS FOR GREEN VIROVITICA

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Energy and climate change

Project aggregation

Solar Roofs for Green Virovitica

One Sun Connecting North and South

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Fulfilled goals and activities

01 Installation of integrated photovoltaic power plants on public buildings

02 Strengthening capacities for energy management and promotion through workshops, conferences and educational AR content

03 Establishing and improving bilateral relations between Croatian and Norwegian partners

36 pilot projects

- 6 PV power plants 5 kW AC
- 19 PV power plants between 5 and 30 kW AC
- 9 PV power plants between 30 and 100 kW AC
- 2 PV power plants between 100 and 400 kW AC

Unified public procurement in response to risks

- **Risk identification**
  - Installation work threatened due to an increase in the price of equipment and works (approx. 30%)
  - Installation workd jeopardized due to lack or delay of materials and equpiment and delays in works („boom” in demand for PV power plants)
- **Answers**
  - Unified public procurement ensures lower prices and competitiveness of the Client
  - Advance Payment
  - Tax relief for photovoltaic power plant installations (zero VAT rate)

Geographical divison into groups

1 Central Public Procurement Authority; 20 individual Contracting Authorities; 20 contracts; 36 photovoltaic power plant locations

- GROUP 1: East, 106.855 € → 92.655 €
- GROUP 2: South, 28.200 € → 25.776 €
- GROUP 3: North, 268.455 € → 248.931 €
- GROUP 4: West, 356.055 € → 343.218 €
- GROUP 5: Central, 575.605 € → 571.723 €

Real value	Estimated value	**Contracted value**
cca. 1.200 €/kWp	cca. 820 €/kWp	**cca. 787 €/kWp**

Key Takeaways

- Joint procurement lowers costs and accelerates adoption
- Transparency and structured outreach build trust
- Defined roles, good coordination are essential
- Model is replicable – with local adaptation
- Could empower municipalities and communities alike