

## CITY OF DORNBIRN (AT)

### Strategic Approach & Innovation Highlights

Dornbirn combines local resource use, spatial data, and stakeholder engagement to plan and implement climate actions. The KLIMDO Energy Master Plan, 15-minute city planning, and youth-driven innovation reflect an integrated, forward-looking strategy. Participation in national and transnational initiatives boosts knowledge exchange and local capacity for climate resilience.

### REGION OVERVIEW

Dornbirn is a mid-sized urban-industrial city in Vorarlberg, Austria, with a population of around 50,000. It serves as a regional economic hub in the textile, high-tech, and manufacturing sectors. The city has evolved from fossil fuel dependence into a climate innovation leader in the Rhine Valley, leveraging natural resources, digital infrastructure, and strong cross-border cooperation with Switzerland and Germany to pursue climate neutrality and energy autonomy.

### PROBLEM STATEMENT

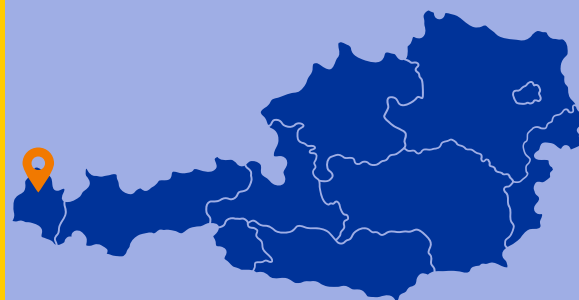
- Heavy dependence on fossil fuels in industrial processes, especially natural gas.
- Limited impact of municipal buildings, which account for only 3% of city-wide energy use.
- Low internal capacity for EU funding access and application procedures.

### PROJECT OBJECTIVES

- Achieve climate neutrality by 2040 and reduce emissions by 50% by 2030.
- Transition all municipal operations to 100% renewable energy by 2030.
- Increase renewable energy share and expand district heating networks.
- Empower communities through participatory planning and youth involvement.
- Pilot climate-neutral urban districts and improve local adaptation capacities.

### RESULTS & OUTLOOK

- 450+ climate and energy projects implemented since the 1990s.
- 100% green electricity in all municipal buildings.
- Seven new solar PV systems installed in 2023 with citizen participation.
- KLIMDO Energy Master Plan completed; strategy supported by data-driven tools.
- Strong youth and citizen engagement; long-term implementation ongoing through PioneerCity and MISSION CE CLIMATE projects.



### Governance & Stakeholder Engagement

- City of Dornbirn leads coordination and implementation.
- Collaboration with FH Vorarlberg and research institutions.
- Residents and youth engaged through pilots, workshops, and the Youth Climate Council.
- Regional and national co-funding via PioneerCity and Klima- und Energiefonds.
- Support from Vorarlberg state government and European Energy Award framework.

### Finance & Timeline

- Funded by national (Klima- und Energiefonds), regional (PioneerCity: staff costs €2M/5 years), and local sources.
- EU funds underutilised due to capacity gaps.
- **Timeline:**
  - **1996-2019:** Foundation and strategy alignment
  - **2023-2025:** Pilot solar and retrofit expansion
  - **2025-2030:** 50% CO<sub>2</sub> reduction, full e-mobility transition
  - **2030-2040:** Full climate neutrality target

### Lessons Learned

- **Long-term political continuity** enables deep structural change.
- **Community participation** strengthens legitimacy and innovation.
- **Spatial energy data** is essential for prioritising impactful actions.

| NUTS 3 | LAU 2    | Type  | Population 2023 | Area 2023 (km <sup>2</sup> ) | GDP NUTS 3 2022 (mil. €) | GHG (CO <sub>2</sub> e) NUTS 3 2022 (t per capita) | Share of RES (NUTS2) | Share of FVE (NUTS2) | Share of wind energy (NUTS2) |
|--------|----------|-------|-----------------|------------------------------|--------------------------|--|----------------------|----------------------|------------------------------|
| AT342  | AT_80301 | LAU 2 | 51,876          | 121                          | 18,372.49                | 4.115056843  | 100%                 | 0.00%                | 0.00%                        |

### Case Study



## SYNERGYS (CZ)

### REGION OVERVIEW

The Ústí nad Labem Region in northern Czechia has historically been a key industrial hub, heavily reliant on brown coal mining, energy production, and heavy industry - resulting in significant environmental degradation. Despite improvements in air quality, it remains the country's most environmentally impacted region, while continuing to lead in electricity generation and natural gas consumption. The city of Litoměřice serves as a pioneering hub for renewable energy.

### PROBLEM STATEMENT

- Over-reliance on lignite and natural gas
- Environmental degradation, rising energy costs
- Lack of investment and policy disinterest in geothermal innovation

### PROJECT OBJECTIVES

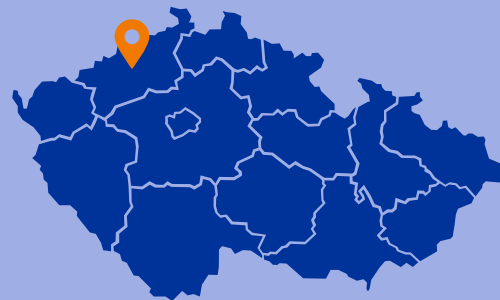
- Develop integrated geothermal, solar, hydrogen system
- Reduce fossil fuel dependence
- Provide stable, affordable energy
- Create a model replicable across Central Europe

### RESULTS & OUTLOOK

- 2.36 MW of new renewable energy capacity
- 7.45 MWh of new energy storage capacity
- 1,809 MWh/year new production of renewable energy
- Long-term replication potential in post-industrial EU regions

## Strategic Approach & Innovation Highlights

The SYNERGYS project integrates four core components - Green Building, Green Hydrogen, Shallow Green Heat, and Deep Green Heat - into a unified energy system designed for self-sufficiency. Key innovations include the use of deep and shallow geothermal wells, solar panels with seasonal heat storage, and a hydrogen electrolysis pilot, all deployed across public buildings serving as demonstration sites.



## Governance & Stakeholder Engagement

- Key institutions (Charles University, Czech Geological Survey, Czech Technical University, CAS Geophysical Institute, City of Litoměřice, Ministry of Environment)
- Public consultations and workshops
- Awareness campaigns through schools and local media

## Finance & Timeline

- **Total Budget:** CZK 1.208 billion
- **Funding:** 95% EU/national (Just Transition Fund), 5% local/private
- **Timeline:**
  - Start: 2023
  - Drilling: 2025-2026
  - Testing: 2027
  - Full Operation: 2028+

## Lessons Learned

- **Unlocking potential requires more than geology.** Favourable underground conditions are essential, but without streamlined permitting, sustained funding, and supportive policy, deep geothermal projects struggle to move forward.
- **Integrated systems need integrated planning.** Combining geothermal, solar, and hydrogen can boost system resilience, but this approach demands careful technical coordination and realistic expectations.
- **People make the transition possible.** Early and continuous engagement with local communities builds trust, accelerates adoption, and helps embed innovative energy systems in the social fabric of the region.

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|--------|-----------|-------|-----------------|------------------------------|--------------------------|--|----------------------|--------------------|-------------------------------------|
| CZ042  | CZ_564567 | LAU 2 | 23,179          | 18                           | 15,739.2                 | 29.46260099  | 2,05%                | 1,43%              | 0,62%                               |

**Case Study**

[synergys.cz](https://synergys.cz)

Litoměřice, Czech Republic

# CITY OF LÖRRACH (DE)

## Strategic Approach & Innovation Highlights

Lörrach integrates long-term energy planning with citizen participation and cross-border cooperation. Through instruments like IEKK and the Climate Round Tables, it combines top-down strategy with bottom-up engagement. The focus on local data, district heating, and tailored incentives creates a replicable and adaptive model for mid-sized cities.



## Governance & Stakeholder Engagement

- Environment and Climate Protection department coordinates efforts.
- Stakeholder forum (Climate Round Tables) fosters civic co-creation.
- Collaboration with industry, SMEs, and residents for retrofits and renewables.
- Engagement with Swiss and French partners through 3Land and SuMo-Rhine.
- Educational campaigns and local competitions (e.g. Solar365).

## Finance & Timeline

- **Finance:** Funded through federal/state grants, EU climate funds, and local subsidies.
- City support for solar PV, heat pumps, balcony solar kits, and energy-saving devices.
- **Timeline:**
  - **2023–2025:** Expand solar PV, grow district heating, 30% renewables.
  - **2025–2030:** Major renovations, 50% CO<sub>2</sub> reduction.
  - **2030–2040:** Full renewable supply, climate neutrality.

## Lessons Learned

- **Long-term commitment** and **consistent strategy** yield strong results.
- **Tailored financial tools** and **subsidies** are essential for scaling implementation.
- **Local monitoring tools** and **citizen involvement** build trust and improve outcomes.

## REGION OVERVIEW

Lörrach is a mid-sized German town (50,000 residents) near the Swiss and French borders. A frontrunner in sustainability, it sources ~80% of its electricity from hydroelectric power and 10% from solar. It has received multiple European Energy Awards and aims for climate neutrality by 2040. Its long-standing energy strategy integrates public engagement, regional cooperation, and investments in renewable energy and e-mobility.

## PROBLEM STATEMENT

- High costs and complexity of building renovations and energy infrastructure upgrades.
- Public scepticism, especially in rural areas, toward wind and solar energy projects.
- Need for greater data transparency and coordination among smaller municipalities in the region.

## PROJECT OBJECTIVES

- Achieve climate neutrality by 2040 through CO<sub>2</sub> reductions of 83% (baseline: 1990).
- Expand renewable energy, especially solar, wind, and biomass.
- Improve energy efficiency via building renovations (2.75% per year).
- Promote sustainable mobility through e-mobility and public transport.
- Foster cross-border cooperation with Swiss and French neighbors.

## RESULTS & OUTLOOK

- Over 80% of electricity already from renewables (hydro and solar).
- Five-time recipient of the European Energy Award® Gold.
- Active public participation through Climate Round Tables.
- Clear roadmap with phased targets leading to 2040 neutrality.
- Strong integration of civil society and regional partnerships.

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|--------|-------------|-------|-----------------|------------------------------|--------------------------|--|----------------------|----------------------|------------------------------|
| DE139  | DE_08336050 | LAU 2 | 49,876          | 40                           | 8,673.04                 | 13.38515485  | 80.44%               | 10.49%               | 9.75%                        |

Case Study

## ISLAND OF KRK (HR)

### REGION OVERVIEW

The Island of Krk, Croatia's largest island in the northern Adriatic, is home to around 20,000 residents. With strong roots in tourism and agriculture, Krk is emerging as a national sustainability leader. It aims to become Croatia's first zero CO<sub>2</sub> emission island by 2040, a goal driven by grassroots initiatives in waste, energy, and community innovation. The island now combines local action with strategic EU cooperation and advanced energy technologies.

### PROBLEM STATEMENT

- Bureaucratic complexity and regulatory hurdles hinder small-scale renewables.
- Limited access to national energy data impairs local planning and KPI tracking.
- Public opposition and communication gaps delay some wind and infrastructure projects.

### PROJECT OBJECTIVES

- Achieve full energy autonomy by 2030.
- Install 100 MW of renewable energy (solar, wind, biogas).
- Scale EV infrastructure and smart grid systems.
- Empower citizens through cooperative energy models.
- Strengthen resilience with storage, education, and innovation hubs.

### RESULTS & OUTLOOK

- Over 1000 rooftop solar units installed; prosumer network expanding.
- Smart grid pilot and 100+ smart meters under development.
- EV and e-mobility network rolled out across island.
- Established educational centre and startup support programs.
- SECAP completed for all seven municipalities.
- Krk is seen as a model in EU island decarbonisation strategies.

## Strategic Approach & Innovation Highlights

Krk's transition follows a 4D framework: Decarbonisation, Decentralisation, Digitalisation, and Democratisation. Its innovation lies in blending grassroots participation with EU pilot projects, from smart grids and battery storage to cooperative solar ownership and climate-oriented education hubs.



## Governance & Stakeholder Engagement

- Municipality leads planning and coordination.
- Otok Krk energy cooperative drives local projects.
- Religious and civic leaders shaped early sustainability culture.
- Public advisory office supports citizens with funding and installation.
- Educational centre fosters youth and startup involvement.

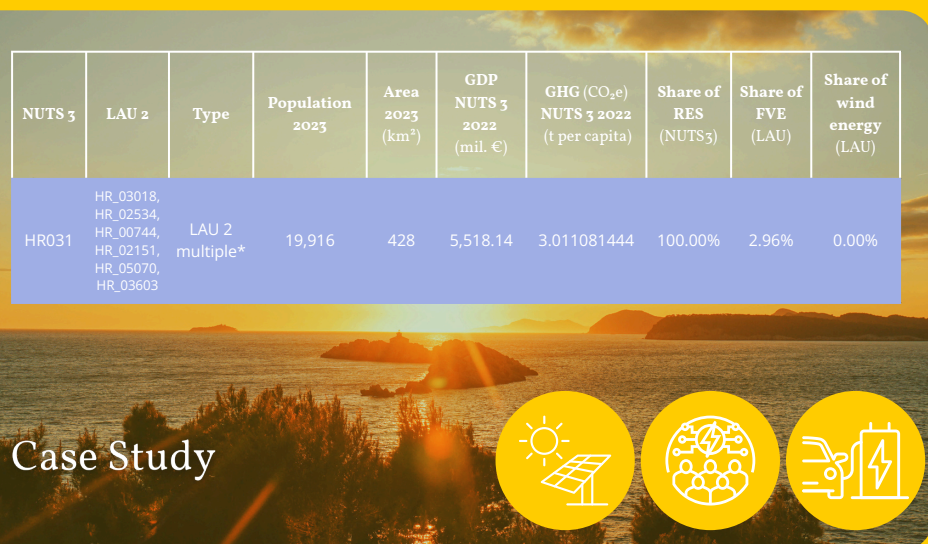
## Finance & Timeline

- **Financial Model:** "Family budget" approach combining private savings, municipal funding, cooperative shares, and EU co-financing (e.g. EUKI, Horizon).
- **Incentives:** Up to 50% subsidies for rooftop solar; EV rebates; local co-financing (e.g. 10% by Omišalj).
- **Timeline:**
  - **2023-2025:** Scale rooftop solar and EV infrastructure.
  - **2025-2030:** Launch electric catamarans; reduce CO<sub>2</sub> by 50%.
  - **2030-2040:** Achieve full climate neutrality and energy autonomy.

## Lessons Learned

- **Simplify national legal frameworks** to support community energy systems.
- **Make energy data transparent and accessible** to local governments.
- **Encourage replication of cooperative models** across other Croatian regions.

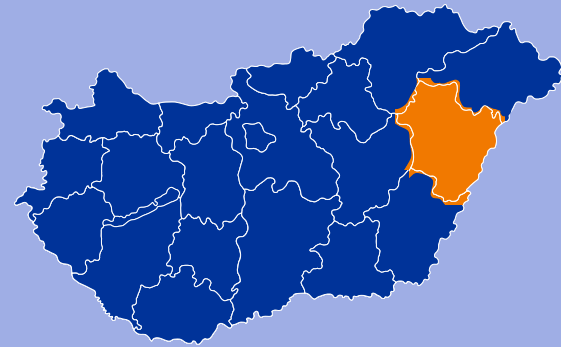
### Case Study



## HAJDÚ-BIHAR COUNTY (HU)

### Strategic Approach & Innovation Highlights

Hajdú-Bihar leverages local solar, biomass, and geothermal assets while fostering energy communities and public-private partnerships. It integrates renewables into farming and heating systems, pilots citizen-led cooperatives, and explores regulatory sandboxes. Cross-border projects and local champions help overcome regulatory, technical, and financial barriers to build a resilient energy system.



### Governance & Stakeholder Engagement

- County government leads coordination and planning
- Municipalities implement renewable projects and energy communities
- LENERG agency supports technical capacity and planning
- Debrecen University, NGOs, and farmers co-drive innovation
- Local champions drive pilot models (e.g. Újszentmargita mayor)

### Finance & Timeline

- Heavily reliant on EU, national, and INTERREG funds; PPPs and citizen co-investment emerging. Regulatory uncertainty challenges solar incentives.
- **Timeline:**
  - **2023-2025:** Expand solar/biogas, pilot energy communities
  - **2025-2030:** Scale geothermal/biomass, assess cross-border results
  - **2030-2040:** Full renewable-based energy system

### Lessons Learned

- **Local strengths matter.** Tailor renewables to geography and economy.
- **Funding is fragile.** EU reliance is critical but politically risky.
- **Trust and champions.** Local leaders and sustained engagement drive success.

### REGION OVERVIEW

Hajdú-Bihar, a rural Hungarian county of 540,000 people, combines strong agricultural roots with rich geothermal and solar potential. Solar farms span 31 municipalities, and biomass and geothermal energy are common in heating. Debrecen, the industrial capital, drives rising energy demand. The county faces dual challenges: high fossil fuel reliance and balancing rural-agricultural and urban-industrial energy needs.

### PROBLEM STATEMENT

- High dependence on imported energy and fossil fuels
- Limited grid capacity, outdated infrastructure, and complex permitting
- Uneven community engagement and regulatory instability

### PROJECT OBJECTIVES

- Expand solar, biogas, and geothermal capacity
- Support energy communities and rural co-investment
- Improve energy efficiency and reduce emissions in public buildings
- Integrate renewables into smart agriculture
- Promote cross-border and public-private cooperation

### RESULTS & OUTLOOK

- 90+ solar parks established; 2 towns are electricity self-sufficient
- 50-hectare BMW solar park underway in Debrecen (2025)
- Pilot energy communities launched in Újszentmargita and Biharkeresztes
- Cross-border geothermal retrofit in 6 towns with Bihor County (Romania)
- Grid modernization, increased RES, and citizen ownership prioritized

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|--------|-------|--------|-----------------|------------------------------|--------------------------|--|----------------------|----------------------|------------------------------|
| HU321  | ...   | NUTS 3 | 520,656         | 6,209                        | 6,621.97                 | 6.122984226  | 30.44%               | 30.44%               | 0.00%                        |

### Case Study



# Renewable Energy, Hydrogen, and Energy Communities

## AUTONOMOUS PROVINCE OF TRENTO (IT)

### Strategic Approach & Innovation Highlights

Trento's strategy blends diversified renewables (solar, hydrogen, hydropower) with integrated urban planning and strong institutional research capacity. Flagship initiatives like the Hydrogen Valley and ECOEMPOWER's REC pilots show how sectoral coordination and transnational collaboration can turn climate goals into tangible, local action.



### Governance & Stakeholder Engagement

- APRIE leads energy planning and coordinates policy.
- Research bodies (FBK, FEM, UniTrento) support innovation and pilot deployment.
- Municipalities and electric consortia implement local actions.
- Sectoral stakeholder forums ensure participatory governance.
- EU project partners foster regional dialogue and citizen engagement.

### Finance & Timeline

- **Finance**
  - EU (Green Deal, Horizon Europe), National Recovery Plan, and provincial subsidies.
  - PPPs for decarbonisation and hydrogen infrastructure.
  - Solar and energy efficiency incentives (PV subsidies, tax benefits, Conto Termico, White Certificates).
- **Timeline**
  - **2023-2025:** Expand RECs, pilot hydrogen projects, incentives for building retrofits.
  - **2025-2030:** Achieve 55% CO<sub>2</sub> reduction.
  - **2030-2050:** Reach climate neutrality.

### Lessons Learned

- **Diversification strengthens resilience.** Moving beyond hydropower to hydrogen, solar, and RECs improves energy security.
- **Integrated planning is key.** Embedding energy goals in spatial strategies boosts coherence and implementation.
- **Institutional and research capacity matters.** Innovation thrives where strong public-research-industry collaboration exists.

### REGION OVERVIEW

The Autonomous Province of Trento (pop. 545,000) is a leader in Italy's energy transition. Traditionally reliant on hydropower, Trento is now diversifying into solar, hydrogen, and energy communities. With 83% of electricity from renewables, its broader energy mix still requires improvement. Through integrated planning, strong research partnerships, and innovation pilots like Hydrogen Valley and ECOEMPOWER, Trento aims for 55% emissions reduction by 2030.

### PROBLEM STATEMENT

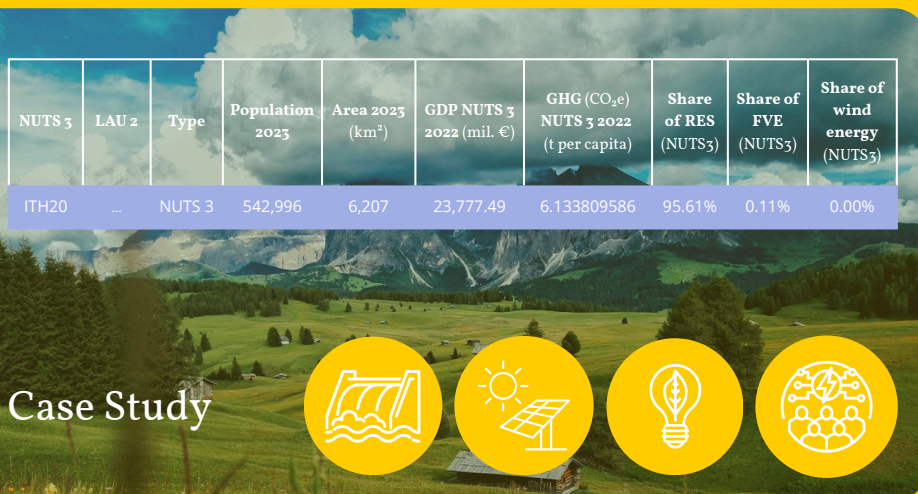
- Low energy renovation rates due to fragmented ownership and limited uptake despite generous incentives.
- Climate change threatens water availability, impacting hydropower stability.
- Bureaucratic complexity and legal uncertainty hinder the scaling of Renewable Energy Communities (RECs).

### PROJECT OBJECTIVES

- Achieve 55% CO<sub>2</sub> emissions reduction by 2030.
- Expand renewable share in the full energy system from 34.8% to 48.2%.
- Increase energy efficiency in private and public buildings.
- Develop over 20 Renewable Energy Communities (RECs).
- Launch Hydrogen Valley with industrial-scale hydrogen production.
- Strengthen electric and hydrogen-powered mobility.
- Foster multi-sectoral coordination and smart grid development.

### RESULTS & OUTLOOK

- Over 83% of electricity already from renewables.
- Hydrogen electrolyzer under construction in Rovereto for district heating.
- Three energy community pilots underway (ECOEMPOWER).
- Integrated energy and land-use planning institutionalised.
- Transnational innovation projects boosting regional capacity.



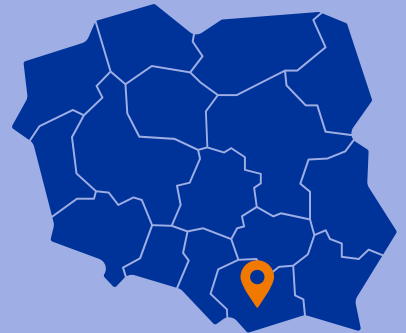
Case Study

# Building a Just and Citizen-Driven Energy Transition

## CITY OF NIEPOŁOMICE (PL)

### Strategic Approach & Innovation Highlights

Niepołomice's strategy links technical solutions with social justice and local identity. It blends EU-aligned planning (e.g. PGN, Low-Emission Economy Plan) with citizen co-ownership of solar systems, targeted eco-advisory support, and inclusive governance. Pilots like cooperative PV in apartment buildings demonstrate how local values drive equitable energy transitions.



### Governance & Stakeholder Engagement

- Municipality leads planning, citizen engagement, and project coordination.
- Niepołomice Energy Cooperative empowers citizens as co-owners of PV systems.
- NGOs and consultants support education, outreach, and facilitation.
- EPAH provides expertise for energy poverty reduction.
- Youth City Council actively contributes through POWERYOUTH.

### Finance & Timeline

- **Finance:** Funded by EU Cohesion Fund, Swiss-Polish Programme, national and regional grants.
- Cooperative financing enables citizen co-investment and supports vulnerable groups.
- Municipal budget provides co-financing and administrative capacity.
- **Timeline**
  - **2011–2017:** PGN adopted, major solar rollout via Swiss-Polish cooperation.
  - **2022–2024:** Energy cooperative established; poverty-targeted programmes launched.
  - **2025–2030:** Mid-term adaptation, digital monitoring, and youth mobilisation.
  - **2030–2040:** Expansion of self-sufficiency and energy democracy.

### Lessons Learned

- **Citizen ownership builds trust.** Cooperative models enable inclusive participation, especially when accessible to low-income households.
- **Local advisors make change real.** Eco-advisors helped thousands navigate funding, overcome scepticism, and access energy support.
- **Youth engagement shapes the future.** Involving young people builds long-term ownership and innovation in local energy action.

### REGION OVERVIEW

Niepołomice, a 30,000-resident town in southern Poland near Kraków, is a sustainability pioneer in the region. Once known for its royal heritage and forests, the municipality has evolved into a leader in renewable energy, energy cooperatives, and citizen-led climate action. Since joining the Covenant of Mayors in 2009, Niepołomice has embedded social equity, energy poverty alleviation, and youth engagement into its long-term energy strategy.

### PROBLEM STATEMENT

- Persistent air pollution in the Małopolska region despite renewable energy adoption.
- High energy poverty rates, especially among low-income and migrant households.
- Initial public skepticism toward cooperative energy models and local renewables.

### PROJECT OBJECTIVES

- Reduce CO<sub>2</sub> emissions by at least 20% by 2027 (from 2010 levels).
- Increase share of renewables and energy efficiency in buildings and transport.
- Alleviate energy poverty through targeted support and inclusive cooperative models.
- Build community resilience and awareness through participatory planning.
- Engage youth as key actors in local energy and climate action.

### RESULTS & OUTLOOK

- First citizen-led energy cooperative established in 2022 with inclusive co-investment.
- 15% increase in renewable energy share; 25% efficiency gain in public buildings.
- 31,600+ eco-advisory consultations delivered, including energy-poor households.
- Youth involvement strengthened via EU LIFE POWERYOUTH programme.
- Foundations in place to scale community energy models through 2040.

| NUTS 3 | LAU 2             | Type  | Population 2023 | Area 2023 (km <sup>2</sup> ) | GDP NUTS 3 2022 (mil. €) | GHG (CO <sub>2</sub> e) NUTS 3 2022 (t per capita) | Share of RES (NUTS2) | Share of FVE (NUTS2) | Share of wind energy (NUTS2) |
|--------|-------------------|-------|-----------------|------------------------------|--------------------------|--|----------------------|----------------------|------------------------------|
| PL214  | PL_100112 1201904 | LAU 2 | 32,781          | 96                           | 9,399.02                 | 10.33847391  | 6.95%                | 0.44%                | 0.00%                        |

### Case Study

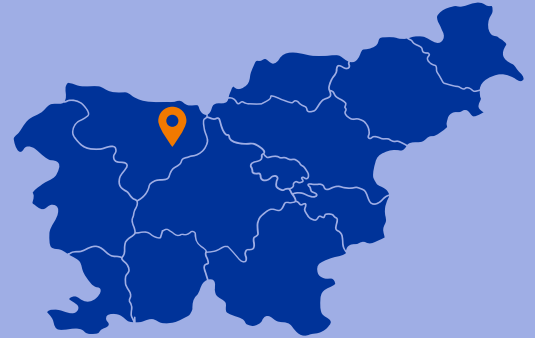


# Renewable Energy, E-Mobility, and Green Tourism

## CITY OF KRANJ (SI)

## Strategic Approach & Innovation Highlights

Kranj's approach blends digital innovation, citizen engagement, and ambitious climate targets. Through EU Mission 100 support, it pilots smart tools (UrbanMind, CeKr), engages citizens via one-stop shops, and invests in clean transport and solar. By aligning climate neutrality with tourism, mobility, and housing, Kranj offers a replicable model for mid-sized cities.



## Governance & Stakeholder Engagement

- City of Kranj leads integrated planning and citizen outreach.
- Residents, building managers, and businesses co-shape transition.
- NGOs and schools support awareness and climate education.
- Green Team and public workshops foster participatory governance.
- National and EU support via Eco Fund, LIFE, Horizon, and Interreg.

## Finance & Timeline

- **Finance:** €361M total budget to 2030: municipal (€96M), private (€102M), state (€52M), SMEs (€72M).
- Funded by EU programmes (Horizon, LIFE, Interreg), national Eco Fund, and PPPs.
- Key measures: PV on public buildings, OSS for home retrofits, e-bike and EV subsidies.
- **Timeline**
  - **2023–2025:** Launch OSS, solar rollout, EV infrastructure, PPPs.
  - **2025–2030:** 50% GHG cut, smart mobility, public building retrofits.
  - **2030–2040:** Full neutrality, renewable heating, hydrogen mobility.

## Lessons Learned

- **Citizen ownership enables change:** OSS, Green Team, and education ensure public buy-in.
- **Smart governance unlocks potential:** Tools like CeKr and UrbanMind support real-time action.
- **Regional mobility needs coordination:** Commuting emissions require solutions beyond city limits.

## REGION OVERVIEW

Kranj, a city of 56,000 in northern Slovenia, is a key industrial and commuter hub near Ljubljana. With high transport and building emissions, it joined the EU Mission 100 Cities to become climate-neutral by 2030. Its strategy combines solar expansion, e-mobility, green tourism, and deep community engagement. Smart governance tools and EU-funded pilots support its transition toward a more liveable, resilient urban future.

## PROBLEM STATEMENT

- High emissions from car commuting and outdated building stock.
- Slow adoption of public transport and EV infrastructure due to cost and behaviour.
- Legal, financial, and heritage constraints on energy retrofits and renewables.

## PROJECT OBJECTIVES

- Achieve 80% CO<sub>2</sub> reduction by 2030 (vs. 2018 baseline).
- Transition district heating to 90% renewables.
- Expand solar PV to 55,000 MWh/year.
- Reduce car commuting by 30%; one car per household target.
- Renovate all public/residential buildings with citizen support.
- Integrate smart digital platforms (UrbanMind, CeKr) for urban services.
- Promote green tourism and circular economy.

## RESULTS & OUTLOOK

- €361M investment plan through 2030; €62M already implemented.
- Smart platforms and e-citizen cards piloted.
- Hydrogen refuelling station planned for municipal and military use.
- Solar installations and EV charging expanding through PPPs.
- LIFE and Horizon projects supporting OSS, tourism, mobility, and resilience.

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|--------|--------|-------|-----------------|------------------------------|--------------------------|--|----------------------|----------------------|------------------------------|
| SI042  | SI_052 | LAU 2 | 57,171          | 151                          | 4,978.51                 | 4.873658264  | 39,46                | 0,34%                | 0.00%                        |

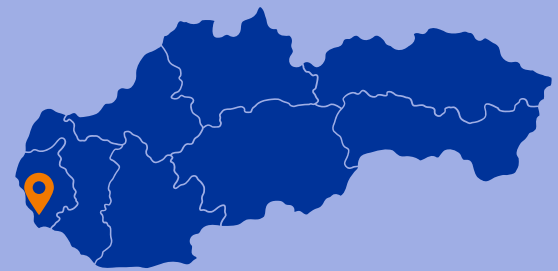
## Case Study



## CITY OF BRATISLAVA (SK)

### Strategic Approach & Innovation Highlights

Bratislava takes a holistic approach to energy transition, combining EU funding, local innovation, and cross-border learning. Notable is its participation in the ATELIER and DecarbCityPipes projects for smart grids and heating decarbonisation. It leverages international best practices and local leadership, supported by tools like SECAP 2030, Climathon events, and energy efficiency partnerships with large employers.



### Governance & Stakeholder Engagement

- Municipality leads planning and policy execution.
- EU and Slovak government provide regulatory and financial support.
- Heating, water, waste, and transport utilities implement sector-specific measures.
- NGOs and research groups engage citizens and provide expertise.
- Climathon and public consultations ensure local participation.
- Partnerships with Austria, Japan, and EU cities shape innovation.

### Finance & Timeline

- **Funding Sources:** Horizon 2020, Green Deal, EEA Grants (€1.38M), ESIF 2021–2027, Modernisation Fund, Social Climate Fund (post-2027), PPPs.
- **Incentives:** Grants for solar PV, green roofs, water retention systems.
- **Timeline:**
  - **2025–2030:** 55% emissions reduction, major upgrades in buildings and transit.
  - **2030–2050:** Achieve net-zero emissions, full e-mobility and renewable integration.

### Lessons Learned

- **Local leadership is key** but must be matched with supportive national policy.
- **Cross-border and international cooperation accelerates progress and capacity-building.**
- **Diverse and secure financing streams** are essential to maintain momentum and autonomy.

### REGION OVERVIEW

Bratislava, the capital of Slovakia with approx. 475,000 residents, is a key regional hub located on the Danube River. Facing high energy demand and climate risks such as heatwaves and flooding, the city is committed to achieving climate neutrality by 2050. Forests cover 20% of the urban area, contributing to its climate adaptation. The city integrates cross-border collaboration and EU-funded projects to modernise heating, electrify public transport, and improve energy efficiency.

### PROBLEM STATEMENT

- High energy demand in district heating, public transport, and urban infrastructure.
- Vulnerability to climate risks including flooding, heatwaves, and extreme weather events.
- Regulatory and financial barriers slow down innovation and project implementation.

### PROJECT OBJECTIVES

- Reduce greenhouse gas emissions by 55% by 2030 (compared to 2005).
- Achieve full climate neutrality by 2050.
- Increase energy efficiency in buildings and public infrastructure.
- Electrify public transport and phase out fossil fuels.
- Foster climate resilience and public participation.
- Strengthen international cooperation and local leadership.

### RESULTS & OUTLOOK

- Ongoing district heating modernisation and electrification of public transport.
- Launch of “Building Power” pilot to reduce building emissions.
- By 2030: 35% energy savings in public buildings, 40% renewables in heating, 100% LED lighting.
- 400 new EV charging stations and 25,000 new trees to be planted.
- Collaboration with Austria and Japan influencing planning and innovation.

| NUTS 3 | LAU 2 | Type   | Population 2023 | Area 2023 (km <sup>2</sup> ) | GDP NUTS 3 2022 (mil. €) | GHG (CO <sub>2</sub> e) NUTS 3 2022 (t per capita) | Share of RES (NUTS2) | Share of FVE (NUTS2) | Share of wind energy (NUTS2) |
|--------|-------|--------|-----------------|------------------------------|--------------------------|--|----------------------|----------------------|------------------------------|
| SK010  | ...   | NUTS 3 | 728,370         | 2,052                        | 31,208.17                | 5.293169013  | 0.66%                | 0.66%                | 0.00%                        |

### Case Study

