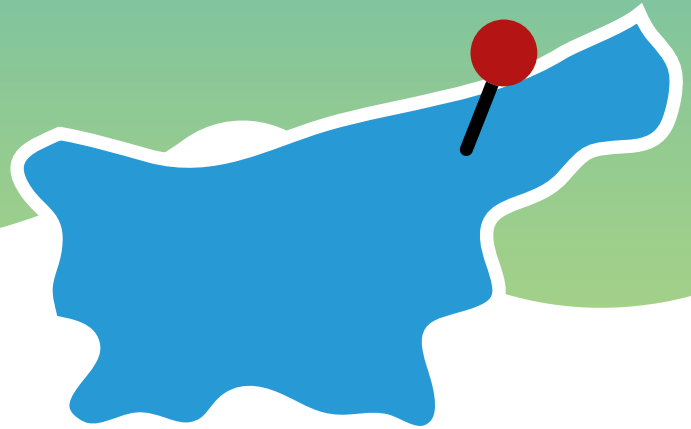


## JustWind4All case studies **EASTERN SLOVENIA**



### **WIND ENERGY DEVELOPMENT IN EASTERN SLOVENIA**

Slovenia has one of the lowest wind energy exploitation rates in Europe. There are only two operating wind turbines in Slovenia – a 2.3-megawatt and 0.9-megawatt installation, both in the West Slovenia region, near the Karst plateau Nanos. Slovenia covers approximately half of its domestic energy needs with domestic production (53 % in 2021), with its main import being petroleum products. At the moment of writing, Slovenia is mostly self-sufficient in its electricity production, however with the upcoming closure of coal fired plants in 2033 and the expected increase in electricity use due to the electrification of heating, cooling and transport, as well as digitalisation, new power plants need to be built to ensure sufficient electricity in future.

Slovenia relies heavily on three energy sources in its electricity production: hydro, nuclear and coal. Among those, nuclear energy is the leading source in energy production (over 40 %), however half of the energy produced in Slovenia's sole nuclear power plant is exported to Croatia, which is the co-owner of the plant (NEK, n. d.). Hydropower plants produce between 25 and 30 % of all electricity and the coal fired power plant produces approximately a third of all electricity in Slovenia.

**33 %**

percentage of  
renewable energy in  
electricity production  
in Slovenia in 2020.

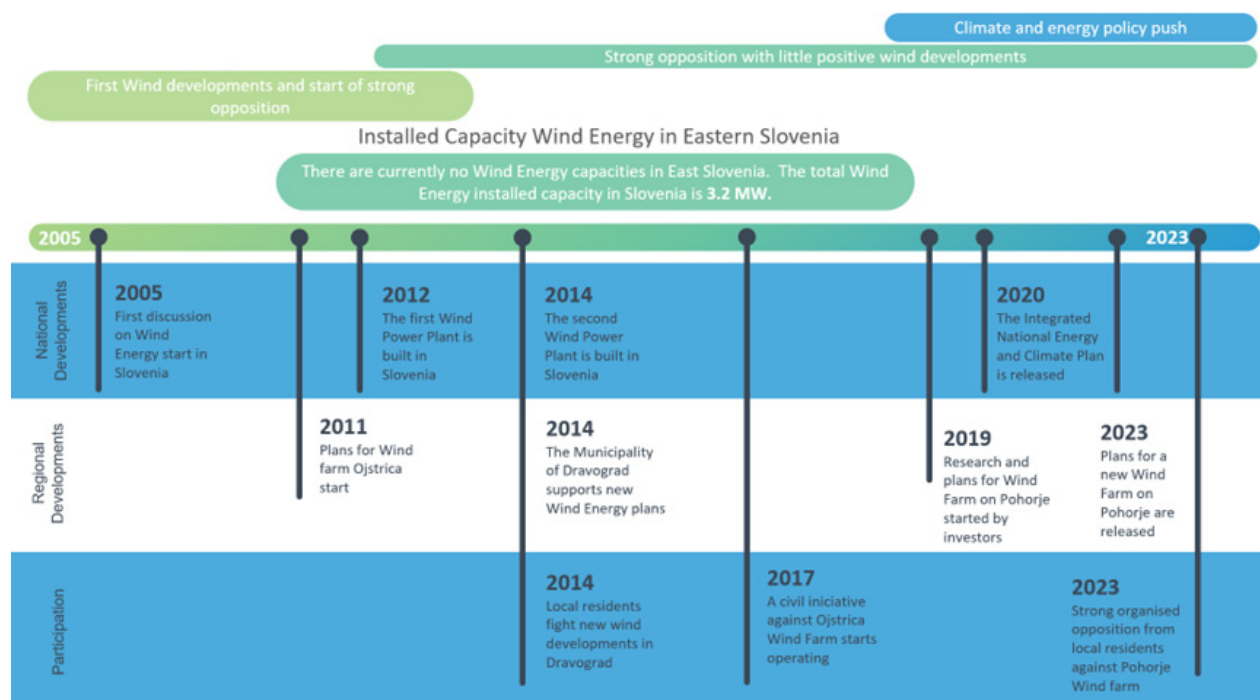
In 2020, renewable energy sources were used to produce 33% of all electricity in Slovenia, missing the goal set in the NECP by 4 %. The majority of this was produced in hydropower plants, and only 2,2% through solar and wind. Additionally, in 2021, Slovenia achieved a renewable energy share of 19% and has failed to meet its 2020 target of 25% renewables share in final energy consumption, which includes electricity, transport and heating/cooling.

By 2030 Slovenia has set the target of 27% of renewables in total energy usage and 43% of renewables in final energy consumption.



Wind and solar energy account for approximately 2 % of the total energy produced in Slovenia. The plans for the upcoming decades focus on increasing the percentage of renewables. The focus lies mostly with solar energy. This preference has increased with the current coalition, elected in April of 2022. In July 2022, the infrastructure ministry was tasked by the government with drawing up a plan to increase photovoltaic capacity by 1,000 megawatts by 2025 in cooperation with national grid operator ELES and distribution system operator SODO, both nationally owned companies (Maček, 2022). Currently, most of Slovenia’s solar capacities are small roof-mounted arrays, with larger solar projects having a strong opposition, similar to wind projects. While goals for the expansion of wind energy capacities were also set, there are little or no specific plans as to how to achieve the targets.

Based on this work, the following recommendations were formulated: engaging local communities early on in the process, encouraging project developers to facilitate transparent communication, and developing specific compensatory measures regarding project impacts; alongside acknowledging the shared responsibility that project developers and government actors hold. These recommendations are described in more detail below.



## Recommendations

Our analysis showed, that there are several issues and challenges which limit the deployment of wind energy in Eastern Slovenia, such as the natural limitations and wind potential in Slovenia, lengthy bureaucratic processes, lack of concrete strategies on national or regional levels and a strong local opposition, noticeable in every wind energy project planned in Slovenia. When discussing the challenges Slovenia faces in wind deployment with interviewees, one issue was highlighted more than others – **the lack of a concise and specific energy policy, strategy and plans on a national level.** Based on the research done, the conversations with stakeholders and documents reviewed, we have conducted several recommendations for different stakeholders.

We have divided the recommendations based on the stakeholders they apply to.

### National Governance Bodies

- Establish a comprehensive energy transition strategy, serving as a guiding framework for all energy-related decisions and investments. This would help streamline discussions and assessments regarding the viability of different energy sources.
- Clearly define requirements for wind energy turbines, such as distance from residential areas, to minimize ambiguity and controversy surrounding proposed locations.
- Incorporate planned areas for wind energy development into national energy strategies to provide clarity and direction.
- Simplify legislation to alleviate barriers for both new and existing wind energy projects. The current bureaucratic hurdles and lengthy planning phases contribute to increased project costs and need to be addressed.
- Increase awareness about wind energy and its benefits, including its impact on health and the environment, to foster informed discussions and decision-making processes.

### Local Authorities

- Develop localized climate and energy strategies in collaboration with all relevant stakeholders, including citizens, industries, and tourism organizations. These strategies can empower municipalities to actively contribute to the energy transition while considering local needs and opportunities.
- Establish mediation agencies to facilitate constructive dialogue and consensus-building around energy projects within specific municipalities.

## Investors

- Involve all relevant local stakeholders in the planning phase of projects and address their questions and concerns to foster community buy-in and support.
- Offer opportunities for local residents to actively participate in and benefit from energy projects beyond mere financial compensation.
- Explore the potential for smaller-scale wind energy projects, considering Slovenia's geographical characteristics and settlement patterns. Such projects could offer more sustainable solutions while minimizing environmental impact.
- By addressing these recommendations collaboratively and inclusively, we can work towards a more sustainable and resilient energy future for Eastern Slovenia.

JustWind4All took a detailed dive into **just and effective wind energy governance** in diverse regions in the EU, summarised in seven case studies. Keep exploring the nuances of energy justice and participatory practices, summarised in regional recommendations and inspiring solutions.

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