

# FACILITATING RES DEPLOYMENT IN ELECTRICITY SECTOR OF SLOVENIA

Final progress report

**Technical Support Instrument**

*Supporting reforms in 27 Member States*



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REPUBLIKA SLOVENIJA  
MINISTRSTVO ZA OKOLJE, PODNEBIE IN ENERGIJO  
REPUBLIKA SLOVENIJA  
MINISTRSTVO ZA NARAVNE VIRE IN PROSTOR



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# 1 Project background

Slovenia has requested support from the European Commission under Regulation (EU) 2021/240 establishing a Technical Support Instrument (“TSI Regulation”). Following analysis of the request, the Commission has agreed to provide technical support through the project "Facilitating renewable energy deployment in the electricity sector of Slovenia". The technical support project aims to support to Slovenia address possible legal, administrative and implementation barriers of RES deployment in the electricity sector as well as implement a public awareness campaign on the deployment of RES. The Ministry of Environment, Climate and Energy and the Ministry of Natural Resources and Spatial Planning are the primary beneficiaries of the project. To implement the technical support project, the Commission has engaged the company Ernst & Young.

The technical support includes:

- Comprehensive analysis and overview of the further potential of RES deployment for electricity production, taking into account the sensitivity of protected species and habitats, protection of Natura 2000 sites and other areas under different protection;
- Analysis and overview of possible legal, administrative and implementation barriers for RES deployment in the electricity sector and identification of good practices, compliant with the EU legislation
- Capacity building and communication strategy for the further deployment of RES in Slovenia.

The results of the project are incorporated in 6 deliverables:

- Deliverable 1: Inception report
- Deliverable 2: Mapping of RES potential for electricity production across the entire territory of Slovenia
- Deliverable 3: Analysis of optimal sites for deployment of large RES for electricity production
- Deliverable 4: Analysis of possible barriers for RES deployment in electricity sector and recommendations for improvements
- Deliverable 5: Training material and programme supporting the further deployment of RES in electricity sector
- Deliverable 6: Communication strategy

## 2 Overview of deliverables

### 2.1 Deliverable 1 summary

The inception report’s aim is to provide a common understanding among parties (European Commission, the beneficiaries, and the contractor) on the implementation approach of the project. The report includes the presentation of the proposed methodology, the project’s timeline, a communication protocol, the minutes of the kick-off meeting, and follow-up of activities agreed at the kick-off meeting. The report also includes a proposal by the contractor of indicators to monitor the project during its implementation, and indicators to be used to monitor the outcomes and impact of the project after the conclusion of the contract.

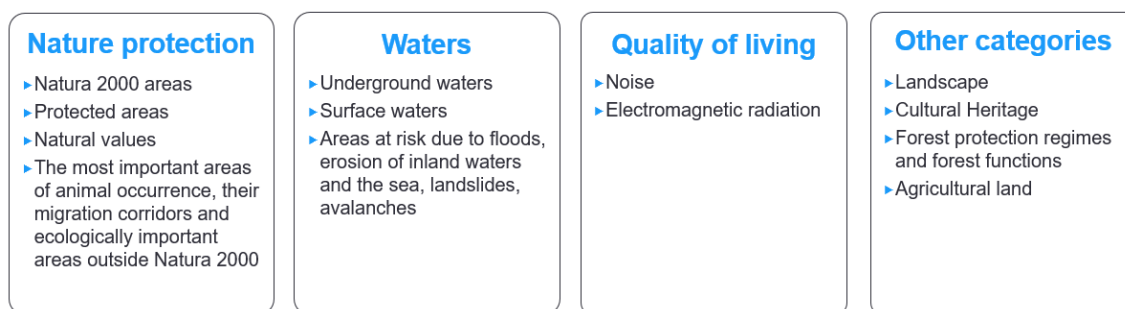
## 2.2 Deliverable 2 summary

Deliverable 2 analyses the potential of renewable energy sources (RES) for electricity production and, based on the identified risks<sup>1</sup>, displays the potential areas for guiding further RES development at the national level.

Several opinion givers in the spatial planning procedures (Institute of the Republic of Slovenia for Nature Conservation, Slovenian Water Agency, etc.) as well as various other stakeholders (investors, non-governmental organisations, engineers, researchers, etc.) were actively involved in the working process. Cooperation with stakeholders took place in the form of workshops, individual consultations, data sharing and review of the results.

Deliverable 2 consists of three main parts: sensitivity analysis, analysis of the overall production potential of RES and overlapping analysis.

As part of the **sensitivity analysis**, 4 groups of protection categories were analysed: nature protection, waters, quality of life and other categories. Under the 4 groups, 13 protection categories were considered, as displayed below.



Sensitivity analysis was prepared for each of the considered RES technologies separately (wind, hydro, solar and geothermal energy) which in total sums up to 104 matrices and the same number of individual sensitivity layers.

Within the **analysis of the overall production potential of RES**, three RES technologies were analysed: wind, solar and hydro energy. Geothermal energy was analysed in a limited form due to unavailability of data.

Within the **overlapping analysis**, the results of the previous two analyses were overlapped to show the areas with recognised production potential and the corresponding risk score based on the the sensitivity analysis. The areas and their production potential are categorized based on the identified risks into areas without risk (grade 0), as well as areas of lower, higher and very high risk of significant impact on protection categories (grades 1 to 3).

Additionally, the overlapping analysis also included the data on transmission and distribution network system. The display of transmission grid, existing transformation stations and their capacities was prepared mainly to be used later on in the Deliverable 3 of this project when identifying and analysing the optimal sites for RES deployment.

The results of the sensitivity analysis, the analysis of the overall production potential of RES and the overlapping analysis consist of individual methodological reports, including input matrices for sensitivity analysis, and graphical maps produced in the Geographic Information System (GIS) in active format (.shp).

By providing very detailed and granular results, this deliverable forms a good basis for subsequent RES planning steps and provides guidance to stakeholders by identifying

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<sup>1</sup> Risk corresponds to the possibility of a significant impact on any of the protection categories in the sensitivity analysis.

opportunities for further analyses. However, the study was not prepared within the framework of concrete environmental assessment processes: strategic environmental assessment (SEA), environmental impact assessment (EIA) or acceptability assessment, and therefore does not prejudge the results of these procedures. The results constitute merely a starting point of the further strategic planning and siting of RES. After the completion of the project, the results should be regularly updated in compliance with regulations in force, views of the opinion givers, new and improved data, and European Commission guidelines.

## Summary of production potential calculations

The results show that from all analysed RES technologies only rooftop solar power plants (SPP) (4,257 GWh/year) and ground SPP (31.63 GWh/year) have any production potential in areas without risk of a significant impact on the protection categories. The total potential of all analysed RES in areas of lower risk of significant impact on protection categories (grade 1) is 992 GWh/year. Except for solar energy potential, most of the identified potential is located in areas of higher and very high risk of significant impact on protection categories. With the development of technology, improvement of data and changes in legislation, the results need to be updated and changed in the future.

### Solar energy<sup>2</sup>

Among all technologies, rooftop solar power plants (SPP) have the highest amount of production potential in areas without identified risks, namely 4,257 GWh/year, while the potential of ground SPP in the same areas is 31.63 GWh/year. The potential in areas of lower risk is the highest for ground SPP (760.10 GWh/year), followed by the rooftop SPP (106.76 GWh/year). The potential of SPP on water surfaces is mostly located in areas of higher and very high risk.

### Wind energy<sup>3</sup>

The potential of large wind power plants (WPP) in lower risk areas is 64.50 GWh/year, and for small WPP 35.91 GWh/year. The analysis did not identify any potential for WPP located in areas without identified risks.

### Hydroelectric power<sup>4</sup>

The total potential of hydro power plants (HPP) in lower risk areas is 27.76 GWh/year. The analysis did not identify the potential for HPP located in areas without identified risks.

*Calculations of the surface areas, production potential and estimation of rated power from each type of RES for Slovenia*

Calculations	Type of RES	Classes within the gradation of Level 2 sensitivity				TOTAL
		0 <sub>p</sub> (no risk)	1 <sub>p</sub> (lower risk)	2 <sub>p</sub> (higher risk)	3 <sub>p</sub> (very high risk)	
Surface area [km <sup>2</sup> ]	Large WPP	0	3.09	49.29	1,723.04	1,775
	Small WPP	0	1.31	36.15	1,213.30	1,251
	HPP	/	/	/	/	/
	Rooftop SPP	23.67	0.62	2.00	1.63	27.92
	Ground SPP	0.18	4.49	61.38	340.53	406.59

<sup>2</sup> For the purpose of this project, SPP above 100kW are considered.

<sup>3</sup> For this project, small WPP are defined within capacity of 1MW – 10MW, and large WPP within capacity above 10MW.

<sup>4</sup> For this project, small HPP are defined within capacity of 100kW – 10MW, and large HPP within capacity above 10MW.

Calculations	Type of RES	Classes within the gradation of Level 2 sensitivity				TOTAL
		0 <sub>p</sub> (no risk)	1 <sub>p</sub> (lower risk)	2 <sub>p</sub> (higher risk)	3 <sub>p</sub> (very high risk)	
	SPP on water surfaces	0	0.64	1.57	15.91	18.12
Overall annual production potential [GWh/year]	Large WPP	0	64.50	1,311.63	17,337.47	18,713.60
	Small WPP	0	35.91	676.61	13,354.48	14,067.00
	HPP	0	27.76	550.36	3,653.87	4,232.02
	Rooftop SPP	4,257.41	106.76	359.10	292.07	5,015.34
	Ground SPP	31.63	760.10	10,245.99	57,346.16	68,383.88
	SPP on water surfaces	0	33.15	81.85	819.68	934.68
	<b>TOTAL (best case scenario)</b>	<b>4,289.04</b>	<b>992.27</b>	<b>12,548.93</b>	<b>79,449.25</b>	<b>97,279.52</b>
Rated power [GW]	Large WPP	0	0.05	1.10	14.52	15.67
	Small WPP	0	0.02	0.33	6.43	6.77
	HPP	0	0	0.13	0	0.13*
	Rooftop SPP	3.87	0.1	0.33	0.27	4.56
	Ground SPP	0.03	0.69	9.31	52.13	62.17
	SPP on water surfaces	0	0.03	0.07	0.75	0.85

Calculations are a reflection of current input matrices and graphic results. The graphic results and calculations are changed every time the input data matrices are changed.

The possible rated power must be accurately calculated at the project level based on the spatial capabilities.

\* When calculating the rated power of HPP, only the currently planned large HPPs in the middle Sava (HP Renke, HP Trbovlje and HP Suhadol) and lower Sava (HP Mokrice) area are taken into account.

## 2.3 Deliverable 3 summary

Deliverable 3 report identifies and analyses the sites for deployment of large RES (above 10 MW) for electricity production and categorizes them into optimal (without risk – score 0, or lower risk – score 1) and other (higher identified risk – score 2) sites. Areas with very high risk (score 3), which represent 82 % of the total identified RES production potential, were not included in this analysis. Analysis of the sites was made based on the Deliverable 2 mapping outputs of RES potential for electricity production. On top of that, it analyses the key issues to long-term deployment of large RES.

Among the key issues for long-term deployment of large RES, the key regulatory and procedural barriers were first analysed based on the outputs of Deliverable 4. Among them, the lack of a comprehensive spatial planning document, which would determine the priority areas for RES deployment, was highlighted as a key barrier for large RES projects. This report will serve as one of the inputs to prepare such spatial planning document by identifying the potential optimal sites for deployment of large RES projects.

In addition to the analysis of key barriers and other issues for the long-term deployment of large RES, the identification and analysis of sites for the deployment of large RES projects above 10 MW has been carried out. Based on the outputs of Deliverable 2, the identified sites for the development of large-scale wind, solar and hydro power plants are divided into optimal and other sites.

Deliverable 2 divides the areas with identified production potential into 4 risk categories<sup>5</sup>: risk score 0 (areas without risk), risk score 1 (areas of a lower risk), risk score 2 (areas of a higher risk), and risk score 3 (areas of a very high risk),

Optimal sites consist of areas with risk scores 0 and 1, while other sites consist of areas with a risk score 2. The areas with a risk score 3 were not analysed in this report, as they are the most protected and are considered to be the least desirable choice for RES deployment. The optimal and other sites were analysed based on:

- an estimate of the annual overall production potential of the area [in MWh/year],
- the number of wind turbines or the solar power plants (SPP) surface area [in ha] with an estimate of the rated power [MW],
- a risk assessment<sup>6</sup>,
- the reason for the risk assessment (which protection subcategories affect the risk assessment) with a more detailed explanation of the risk assessment,
- the ground distance from the 110 kV grid [in km],
- the ground distance [in km] from the distribution substation and its capacity<sup>7</sup> [in MW].

Within the analysis of **optimal sites** for deployment of large RES **above 10 MW**, that were classified as sites **without identified risk or lower identified risk** (based on the Deliverable 2 outputs), only sites within the category of a lower risk were identified (risk score 1). The analysis did not identify any sites that would fall within the risk score 0 (without risk) and at the same time allow for deployment of RES above 10 MW. Within lower risk sites, there were 4 identified sites for wind power plants (WPP) with a total rated power of 80 MW, 3 sites for ground solar power plants (SPP) with a total rated power of 52 MW and 1 site for SPP on water surfaces with a rated power of 22 MW.

Results of the analysis of **optimal sites** for large RES above 10 MW

RES technology	Number of sites	Estimated annual overall production potential [in MWh/year]	No. of wind turbines / surface area of the site [in ha]	Estimated rated power [in MW]	Estimated potential contribution to increase the RES share in gross total energy consumption [in percentage points]*	Estimated potential contribution to increase the RES share in gross electricity consumption [in percentage points]*
WPP	4	93,500	15	80	0.16%	0.68%
Ground SPP	3	57,696	36	52	0.10%	0.42%
SPP on water surfaces	1	24,024	9	22	0.04%	0.17%
<b>TOTAL</b>	<b>8</b>	<b>175,220</b>	<b>-</b>	<b>154</b>	<b>0.30%</b>	<b>1.27%</b>

\*Assumptions used for the calculations are listed in chapter 5.2

Within the analysis of **other sites** for deployment of large RES **above 10 MW**, that were classified as sites with a **higher identified risk** (based on the Deliverable 2 outputs), 38 sites were identified for WPP with a total rated power of 1,044 MW, 110 sites for ground SPP of

<sup>5</sup> Risk of significant impact on the protection categories.

<sup>6</sup> a risk assessment for the potential of a significant impact on one or more protection categories (from Deliverable 2)

<sup>7</sup> SODOkart (SODO, <https://geo-portal.si/gisapp/sodokart?public=on&lang=sl>)



which the largest 10 sites were analysed with a total rated power of 309 MW, 3 sites for SPP on water surfaces with a total rated power of 280 MW and 2 sites for hydro power plants (HPP) with a total rated power of 130 MW.

Results of the analysis of **other sites** for large RES above 10 MW

RES technology	Number of sites	Estimated annual overall production potential [in MWh/year]	No. of wind turbines / surface area of the site [in ha]	Estimated rated power [in MW]	Estimated potential contribution to increase the RES share in gross total energy consumption [in percentage points] <sup>*</sup>	Estimated potential contribution to increase the RES share in gross electricity consumption [in percentage points] <sup>*</sup>
WPP	38	1,244,000	197	1,044	2.16%	9.03%
Ground SPP	10	316,870	197	309	0,55%	2.30%
SPP on water surfaces	3	308,694	170	280	0.54%	2.24%
HPP	2	533,000	-	130	0.93%	3.87%
<b>TOTAL</b>	<b>53</b>	<b>2,402,564</b>	<b>-</b>	<b>1,763</b>	<b>4.18%</b>	<b>17.44%</b>

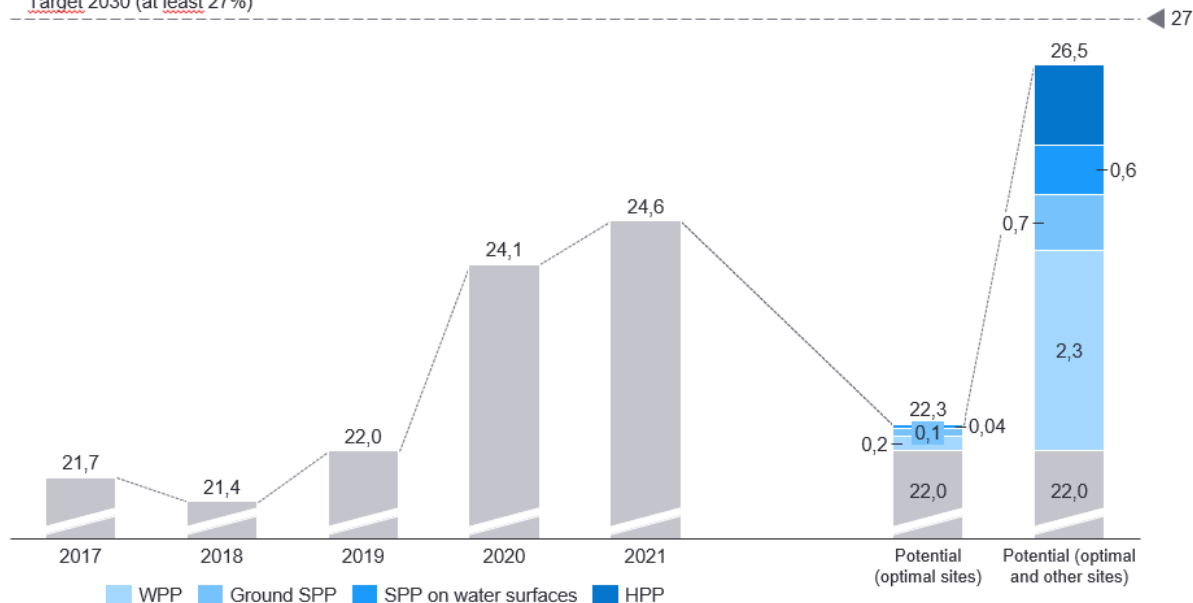
\*Assumptions used for the calculations are listed in chapter 5.2

Assuming the successful deployment of large RES projects in **all optimal sites above 10 MW identified** in this analysis, the **share of RES in gross final energy consumption could be raised to 22.3%**. The largest contribution would come from the implementation of WPP in optimal sites, namely by 0.16 percentage points. This is followed by ground SPP, where the successful deployment in the identified areas would contribute 0.10 percentage points. The deployment of SPP on water surfaces in optimal sites would contribute 0.04 percentage points.

By taking into account the successful deployment of large RES projects in **all optimal and also all other sites above 10 MW identified** in this analysis, it would be possible to **raise the share of RES in gross final energy consumption to 26.5%**. The largest contribution would come from the implementation of WPP within the identified sites, namely 2.32 percentage points. This is followed by ground SPP, where the successful deployment in the identified sites would contribute 0.65 percentage points. The deployment of SPP on water surfaces would contribute 0.58 percentage points. In addition, HPP can also be located within the other sites and their deployment would contribute 0.93 percentage points.

The results show that **Slovenia will not be able to reach the existing target share of RES in gross final energy consumption by 2030 and the target climate neutrality by 2050 with the deployment of large RES above 10 MW alone (even by deployment in both optimal and other sites above 10 MW)**. To reach the RES share target in terms of the energy consumption, it will be necessary to further investigate the possibility of deploying RES additional sites (areas of very high risk) above 10 MW not included in this report or in areas of a smaller size (below 10 MW). Furthermore, to achieve the climate neutrality target, Slovenia will most likely need to deploy RES in smaller sites with potential below 10 MW.<sup>8</sup>

<sup>8</sup> The potential of all sites cumulatively is presented in detail in the Deliverable 2 report.



**Potential increase in the total share of RES in the gross final energy consumption with sites above 10 MW (in %)<sup>9</sup>**

## 2.4 Deliverable 4 summary

The goal of Deliverable 4 is to analyse the potential key barriers to the deployment of renewable energy sources (RES) in the electricity sector of Slovenia and to make recommendations for improvements.

The analysis consisted of five steps:

- Together with the beneficiaries (Ministry of Environment, Climate and Energy, and Ministry of Natural Resources and Spatial Planning) and relevant institutions, we first identified the potential key barriers to further development of RES in the energy sector, including the barriers regarding legislation, administration and implementation.
- In order to identify the additional existing and potential barriers to the implementation of legislative framework for further development of RES in the energy sector, we also carried out consultations with other relevant stakeholders.
- We further analysed best practices in other Member States aimed at removing the identified barriers.
- Following the identification of the barriers and analysis of best practices, we prepared a report with recommendations for removal of the identified barriers and with specifications of the way to resolve conflicts between environmental goals and ambitions for development of RES.

The Deliverable 4 final report combines the results of all five steps (activities).

The barriers were identified based on collection of information from beneficiaries and relevant stakeholders (state authorities, investors in RES, distribution and transmission network

<sup>9</sup> Contribution of RES deployment in optimal and other sites is based upon the assumption of gross final energy consumption from 2019.

operators, local communities and NGOs, as well as developers of project documentation and educational institutions). Furthermore, they were identified based on examination of Slovenian legislation and identification of procedural inefficiencies, found in Slovenian case-law, and following our past experience.

Based on the meetings and workshops, we have made a list of all the identified barriers. We analysed the latter together with the two beneficiaries, before preparing this deliverable, to define the criteria for prioritising barriers, that is barriers which will be further analysed. These barriers included in particular:

- the barriers that affect the duration of procedures for siting of RES projects, their construction and installation, connection to the network and beginning of operation,
- the barriers that hinder a large-scale deployment of RES, and
- the barriers to meeting the requirements of the National Recovery and Resilience Plan (NRRP) and the implementation of the EC recommendation on speeding up permit-granting procedures for renewable energy projects and facilitating Power Purchase Agreements, and the EC proposal to amend the Renewable Energy Directive, Directive (EU) 2018/2001.

The analysis of best practices was made based on detailed review of selected Member States – Czech Republic, Austria, Croatia and Netherlands. These were selected based on different criteria, from similarity of the market to the level of RES deployment and further complemented, where relevant, by specific best practice mechanisms from other Member States.

Following the identification of barriers, analysis of best practices and analysis of the existing system for deployment of RES, the selected key barriers were divided into two sets:

- key barriers in the procedures of siting and granting permits for implementation of RES projects
- other key barriers to implementation of RES projects.

With each set, the key barriers are first presented in detail, followed by findings and conclusions, which are then used to make recommendations for addressing the barriers.

Analysed barriers were further streamlined with respect to the promotion of wind energy as required by the Recovery and Resilience Plan, as well as other aspects of promotion of RES in Slovenia. The final list of recommendations is streamlined in the same way below (chapter Recommendations for improvements) and consists of two tables. The first table of recommendations is related to the Recovery and Resilience Plan and its connection to the results of this Technical Support Instrument (this deliverable), which should identify recommendations resulting from revision of legislation for spatial planning of wind power plants. The second table of recommendations is related to other key barriers (not directly linked to the requirements of the Recovery and Resilience Plan), and presents recommendations aimed at removal of key barriers, which are implementable within the specified time limit – 1 or 2 years.

All recommendations are implementable (individually and collectively) within the specified time limit – 1 or 2 years.

## 2.5 Deliverable 5 summary

Deliverable 5 aimed to provide capacity building and support training of all relevant stakeholders (ministries, expert organisations, NGOs, municipalities, local energy agencies, distributor operators, investors, etc.) taking part in RES spatial planning procedures, environmental assessments and permitting of RES plans and projects.

The training was based on the relevant Commission's guidance documents on the application of Article 6 of the Habitats Directive (including those related to hydropower and wind energy) and good practices in Member States. The training was carried out in two phases:

**Phase 1 training** took place over 2 days for a narrower group of participants which were trained with the aim to empower them to continue future trainings. To provide the trainees with the right tips and tools for conducting future trainings and become ambassadors for RES, they were invited to learn about the best practices in other EU member states on Day 1 of the training, and on Day 2 they were trained in the area of soft skills, namely teaching methods, public speaking and mediation. The 2-day workshop was conducted in hybrid mode, where more than 40 unique participants were included in the training. The training was conducted by 7 experts.

**Phase 2 training** took place over 5 days for a wider group of stakeholders with the aim to transfer the knowledge regarding the procedure of RES deployment and the requirements of the Habitats Directive. During this phase, the project team conducted a standard daily curriculum in the morning by presenting the insights into the two areas specified above, while the second part of the training covered specific focus topics. The focus topics covered during the 5 days were the following:

- SEA best practices,
- EIA,
- screening under Article 6.3 of Habitats Directive,
- appropriate assessment,
- overriding public interest and emergency regulation,
- best practices in energy efficiency of cultural heritage.

The standard curriculum in Phase 2 was carried out by Slovenian experts, while focused presentation and discussion were carried out by international experts, including DG ENV. More than 300 stakeholders were invited to join the training in Phase 2, the total participation throughout the 5 days was beyond 150 participants. The training was conducted by 7 experts.

At the end of each day of training, participants were asked to provide suggestions for future trainings. Based on these, we recommend further inclusion of additional international experts in future trainings, which can cover best practices from individual countries on the topics of RES deployment. Additionally, stakeholders are interested in specific legislative changes within both Slovenian and international legal systems. Mitigation measures were also pointed out as a topic of high interest. Generally, we also recommend organizing training also for topics not related to Habitats Directive and nature protection, such as best practices re. new technology such as agrivoltaics and floating photovoltaics, cultural heritage, grid integration, and mitigation measures (e.g., for noise from wind power plants).

## 2.6 Deliverable 6 summary

Deliverable 6 aimed to support Slovenia in preparation of Communication strategy with the goal to promote further deployment of RES, raise awareness on the importance of RES and to minimise the “not in my backyard” (NIMBY) / “build absolutely nothing anywhere near anything” (BANANA) effect. Besides the strategy, the work under this deliverable comprised also support to implementation of the strategy.

The results of this deliverable are:

- Communication strategy,
- public polling report,
- photo and video material,
- website design manual,
- supporting materials for communication activities, and
- final report on communication activities.

Communication strategy was based on the results and conclusions of the public polling. Based on the Communication strategy, we delivered 10 videos and photo materials, which address the key misconceptions and barriers identified within the public polling and the topics for which the beneficiaries requested the supporting material. Based on the plan for communication activities, we conducted the support by preparing 10 communication materials in form of articles, which the beneficiaries can use when preparing and conducting the activities. As a final step, we prepared the final report on all communication activities.

## 3 Project implementation indicators

This project helped Slovenia:

- analyse the potential of renewable energy sources (RES) for electricity production,
- find optimal sites for deployment of large RES infrastructure,
- analyse legal, administrative and implementation barriers for RES deployment and prepare recommendations for improvement,
- build capacity of RES sector through trainings,
- prepare communication strategy and support its implementation.

Based on the key performance indicators (KPI) set at the beginning of the project, the image below summarizes the comparison between the target and actual values. Out of 10 KPIs, 8 of them were met or exceeded, while 2 of them have not been met. The project team mainly exceeded the expectations concerning the number of participants expected at the trainings and the number of meetings and workshops held. The number of communications released exceeded the predicted number, mainly due to active communication and multiple events to which stakeholders were invited, due to the large amount of deliverables shared with the stakeholders prior and post events, and the communication material prepared within the scope of the project.

The level of attendance at stakeholder meetings was lower than planned, mainly due to a large number of stakeholders included in the project (350+) but also due to challenges in ensuring timely communication. Another factor that limited the availability of public authorities was the EU presidency of Slovenia in the second half of 2021. At the beginning of project, the timeline was set back for 5 months due to challenges in confirming the Inception report.

Additional external factor that impacted the timeline was the parliament elections and restructuring of the beneficiaries into new ministries. Summer holidays also limited the possibility of interactions with the stakeholders and beneficiaries, namely between June and August 2022. Consequently, the project was challenged with a more pressing timeline and with delays in revisions and confirmation of deliverables. However, all deliverables were submitted within the project timeline as set out by the Request for Service, with the exception of recommendations for future training – in light of the availability of beneficiaries and experts, the Commission agreed that the training under Deliverable 5 is extended until 1.6.2023 and that the final recommendations are subsequently finalised.

Indicator	Target value	Actual value
Portion of country area analyzed for RES potential	>90%	~99%
Number of key stakeholders mobilized	>5	>5
Number of improvement measures agreed for implementation	>10	13
Number of participants in the training sessions	100	>150
Level of attendance on stakeholder meetings	>75%	~20%
Number of stakeholder's meetings / workshops held	>50	>100
Number of communications (posts, videos, etc.) released	>20	>30
Share of deliverables reviewed for quality control	100%	100%
Share of deliverables submitted with delay	0%	<5%
Share of deliverables proofread by native speakers	100%	100%

## 4 Lessons learned

This project aimed to improve the conditions for further deployment of RES in Slovenia. All parties under this project faced several challenges, which led to the following lessons learned described below.

### a) Balancing the protection of the environmental values and the development ambitions

Deployment of RES mainly involves Ministry of Environment, Climate and Energy, and Ministry of Natural Resources and Spatial Planning. During this project, it was challenging but very important to balance the needs and expectations between the protection of environment and further deployment of RES infrastructure. This process identified the need for further capacity building on the side of environmental bodies regarding the latest available technology, case studies and best practices from other countries. By raising the knowledge on the RES technology, the positions of environmental authorities are expected to alleviate for the benefit of faster and easier RES deployment.

### b) Timely communication with the stakeholders and stakeholder fatigue

This project included in total over 350 stakeholders in several workshops, presentations, and other types of meetings. Stakeholders were also included in the review of certain deliverables by providing comments and suggestions. As a best practice, we concluded that notifying stakeholders at least one month in advance delivers best results in terms of active

participation. Project team did not always meet this best practice and had to communicate with stakeholders at a shorter notice due to several reasons, most frequently due to deliverables not being confirmed for sharing.

#### **c) Deadlines and timeline**

Additional time was required to reach a common understanding of the approach for project implementation. Several iterations of discussions took place between the beneficiaries, the European Commission and the contractor over the course of the first 5 months, leading to a subsequent delay in activities. Since then, the project team aimed to set a project timeline which would still meet the previously set deadlines, which at certain points put the project team and the beneficiaries under time pressure. Regardless, the project did not meet the foreseen timelines for individual deliverables because of the time-consuming reviewing process and difficulties in securing a confirmation.

#### **d) Decision making**

During the project, there were multiple occasions where the two beneficiaries or their departments could not agree on the same position, which resulted in demands that could not be met by the project team. In such cases, it would be more optimal to secure active involvement by either beneficiaries' leadership or to delegate decision making in such cases to the European Commission as the contracting authority and sponsor of the project.

#### **e) Geopolitical situation and the energy sector**

This project started in September 2021 and ended in May 2023. During this period, the energy field went through one of the major crises in the European Union history. Following Russia's invasion on Ukraine, the European Union started preparing major changes on the legislative level in connection to the energy and especially renewable energy. The shift towards speeding up deployment of renewables spilled over also to individual countries, which caused the uncertainty within the beneficiaries and many key stakeholders of this project. This shift initiated many parallel activities during the project in Slovenia, one of them being a preparation of a new legislation for RES deployment. These changes could affect the results of this project, but also set back a lot of the work and processes already done. By setting the methodological cut-off date for relevant deliverables, project team managed to contain the unforeseen changes to the work done and methodology.

#### **f) Reviewing process**

Throughout this project, there have been numerous deliverables which needed to be reviewed and confirmed by the beneficiaries and the European Commission. The project team faced several challenges within the reviewing process. The group of reviewers was very wide (certain documents were being reviewed by more than 20 people) which caused in multiple occasions a misalignment between the comments, their duplication and misunderstanding of the report's purpose. At many occasions, new reviewers joined the reviewing process at a stage where a deliverable has already been revised, and they contested the content aligned with other reviewers. The reviewing process could be optimized by limiting the amount of reviewers or dedicating a person which would review the holistic feedback before sharing it on the side of the both beneficiaries. Furthermore, a reasonable amount of reviews should be specified in the contract, based on our processes and experience from the project we believe there should be maximum 3 rounds of revisions per each deliverable, maximize the meaningfulness of revisions, and avoid revision fatigue. Optimally, it should be the role of the contracting authority (in this case European Commission), to collect feedback and provide one unified formal feedback within the set deadline.





## Appendices

### Appendix 1: Takeaways for other initiatives

# Facilitating RES deployment in electricity sector of Slovenia

Takeaways for other initiatives

24/05/2023



**Funded by  
the European Union**

*This project was carried out with funding by the European Union via the Technical Support Instrument in cooperation with the Directorate-General for Structural Reform Support of the European Commission.*

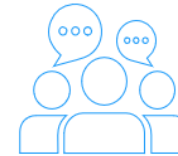
## Project management takeaways

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- ▶ It is important to determine a clear **reviewing process** at the beginning of the project to avoid delays, allow realistic timeline planning and optimize the quality of revisions



- ▶ When **communicating to stakeholders**, it is important to keep unified messages and to start communicating as early as possible



- ▶ When designing **project timeline**, it is necessary to plan for possible contingencies such as delayed intermediary steps, misalignments between key parties, challenges in obtaining final decisions, etc.



- ▶ Key steering committee members of the project should have the **authority to make decisions**
- ▶ It is important that all key steerco members are present on meetings where decisions are taken



## Takeaways from deliverables and results

- ▶ **Interactive mapping** is an important tool which allows countries to identify potential for RES deployment and analyse sensitivity of individual areas



- ▶ Trainings and capacity building programmes achieve stronger buy-in from participants if led by **international experts**



- ▶ Discussing status quo and barriers with **stakeholders directly involved** brings key insights into actual problems
- ▶ When designing improvements, same stakeholders often have ideas for improvements



- ▶ Key to unlocking **broader support to RES** might lie in addressing misunderstandings and misconceptions about RES, not persuasion
- ▶ Public poll can provide a good basis for preparing the communication strategy



## Appendix 2: Communication material (Section 2.7 of the Request for Service)

### Project description

<b>Title</b>	Facilitating RES deployment in electricity sector of Slovenia
<b>Summary</b>	The technical support project aims to support to Slovenia address possible legal, administrative and implementation barriers of RES deployment in the electricity sector as well as implement a public awareness campaign on the deployment of RES.
<b>Context</b>	Slovenia has requested support from the European Commission under Regulation (EU) 2021/240 establishing a Technical Support Instrument (“TSI Regulation”). The European Commission has agreed to provide technical support to Slovenia in the areas of energy and environment, with the aim to help Slovenia more ambitiously plan and deploy renewable energy sources.
<b>Support delivered</b>	<p>The technical support includes:</p> <ul style="list-style-type: none"> <li>• comprehensive analysis of further RES potential for electricity production, including the sensitivity of protected species and habitats, protection of Natura 2000 sites and other areas under different protection,</li> <li>• analysis of possible legal, administrative and implementation barriers for RES deployment in the electricity sector and identification of good practices, compliant with the EU legislation,</li> <li>• capacity building and communication strategy for the further deployment of RES in Slovenia.</li> </ul>
<b>Results achieved</b>	The project achieved to provide mapping of RES potential in Slovenia as well as the sensitivity mapping. Analysis of barriers in RES deployment process and the resulting recommendations will serve as important input for the implementation of the Recovery and Resilience Plan and further legislative changes. Training has increased the capacities of the stakeholders involved in RES deployment procedures. Finally, the project facilitated open communication among the stakeholders in the RES deployment process and created an environment for further discussion.
<p><i>This project was carried out with funding by the European Union via the Technical Support Instrument in cooperation with the Directorate-General for Structural Reform Support of the European Commission.</i></p>	

## **Social media text**

### **Twitter post #1**

We are thrilled to have supported Slovenia in its pursuit of a "green transition" through the successful "Facilitating renewable energy deployment in the electricity sector of Slovenia" project! 🎉

Together with the Ministry of Environment, Climate and Energy (@mope\_rs) and the Ministry of Natural Resources and Spatial Planning (@rs\_mnvp), we have achieved:

- ✅ Mapping of RES potential and protection areas
- ✅ Analysis of legal barriers and recommendations for a greener future
- ✅ Capacity building and fostering stakeholder engagement

Slovenia's commitment to sustainable energy is shaping a greener and more resilient future. 🌱

#RenewableEnergy #Sustainability #CleanEnergy #EUProjects #GreenTransition

### **Twitter post #2**

The "Facilitating renewable energy deployment in the electricity sector of Slovenia" project brought together a dynamic collaboration of X workshops and engaged Y stakeholders and agencies, accelerating sustainable energy ambitions! 🙌

Highlights:

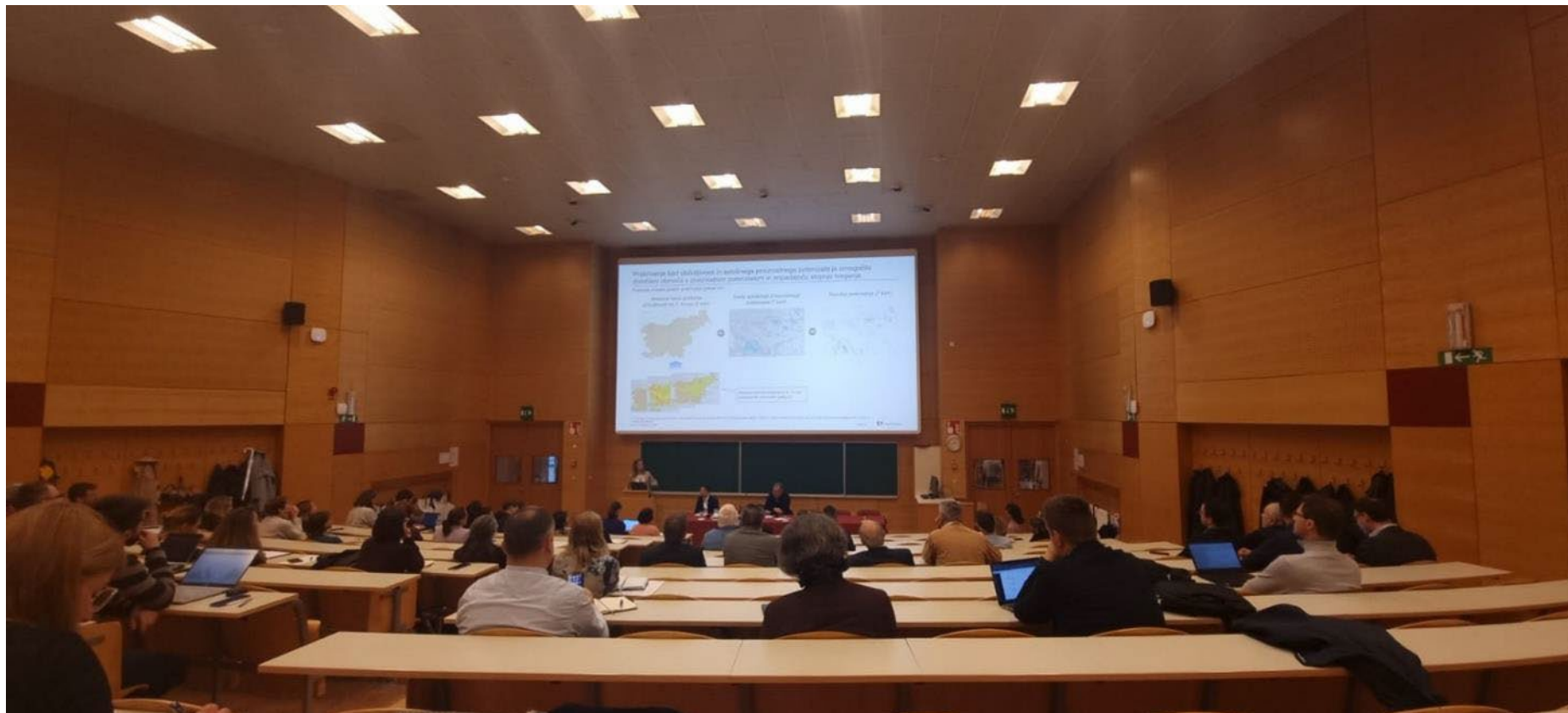
- 💚 More than 30 workshops promoting knowledge exchange and best practices
- 📅 Over 70 stakeholders and agencies working hand in hand
- 🌿 Joint efforts driving the green transition in Slovenia

Together, we are shaping a brighter and cleaner future! 🌱

#RenewableEnergy #Sustainability #Collaboration #GreenTransition #EUProjects

## Visual materials

D2 public presentation of draft final report, 13/04/2023





D4 identification of barriers with stakeholders, 30/03/2022





D6 shooting video material, 19/05/2023

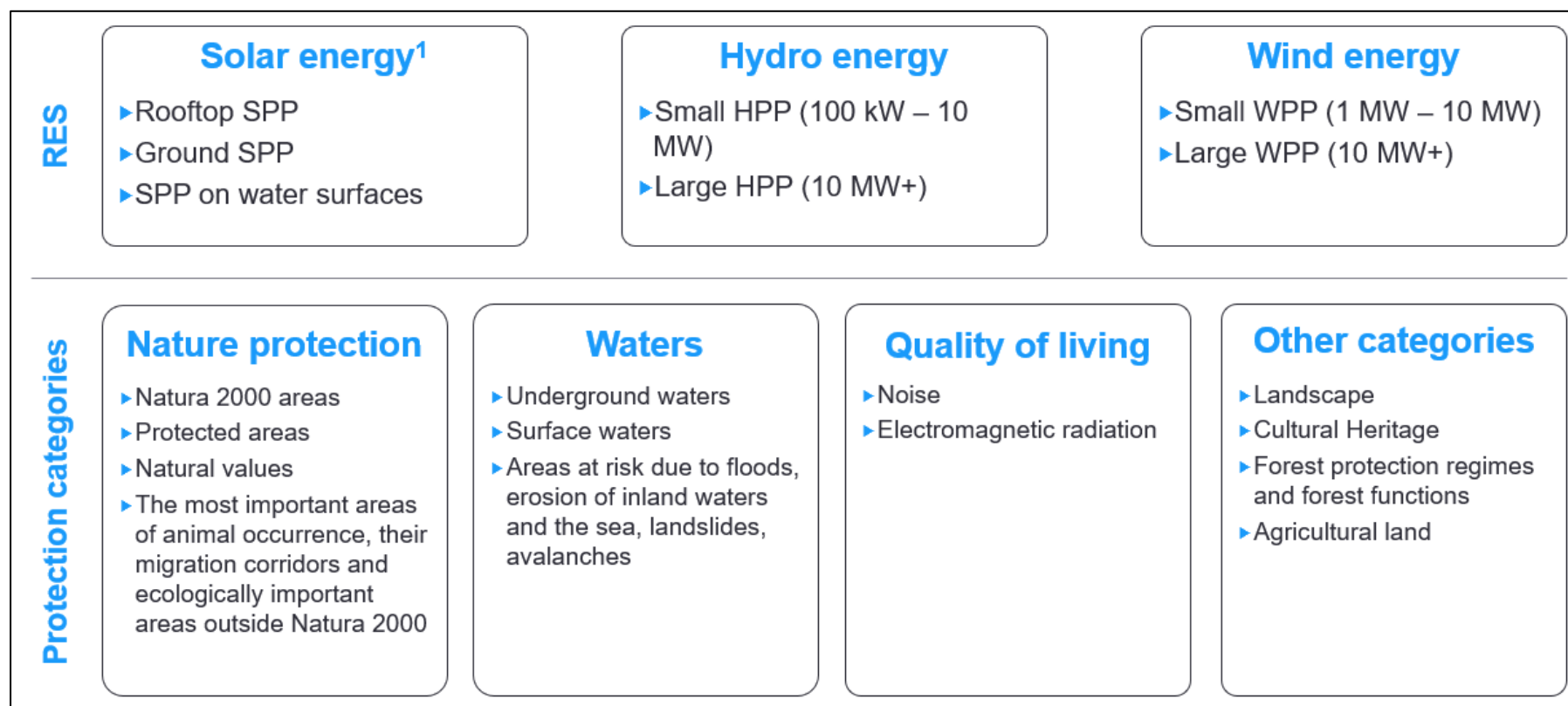




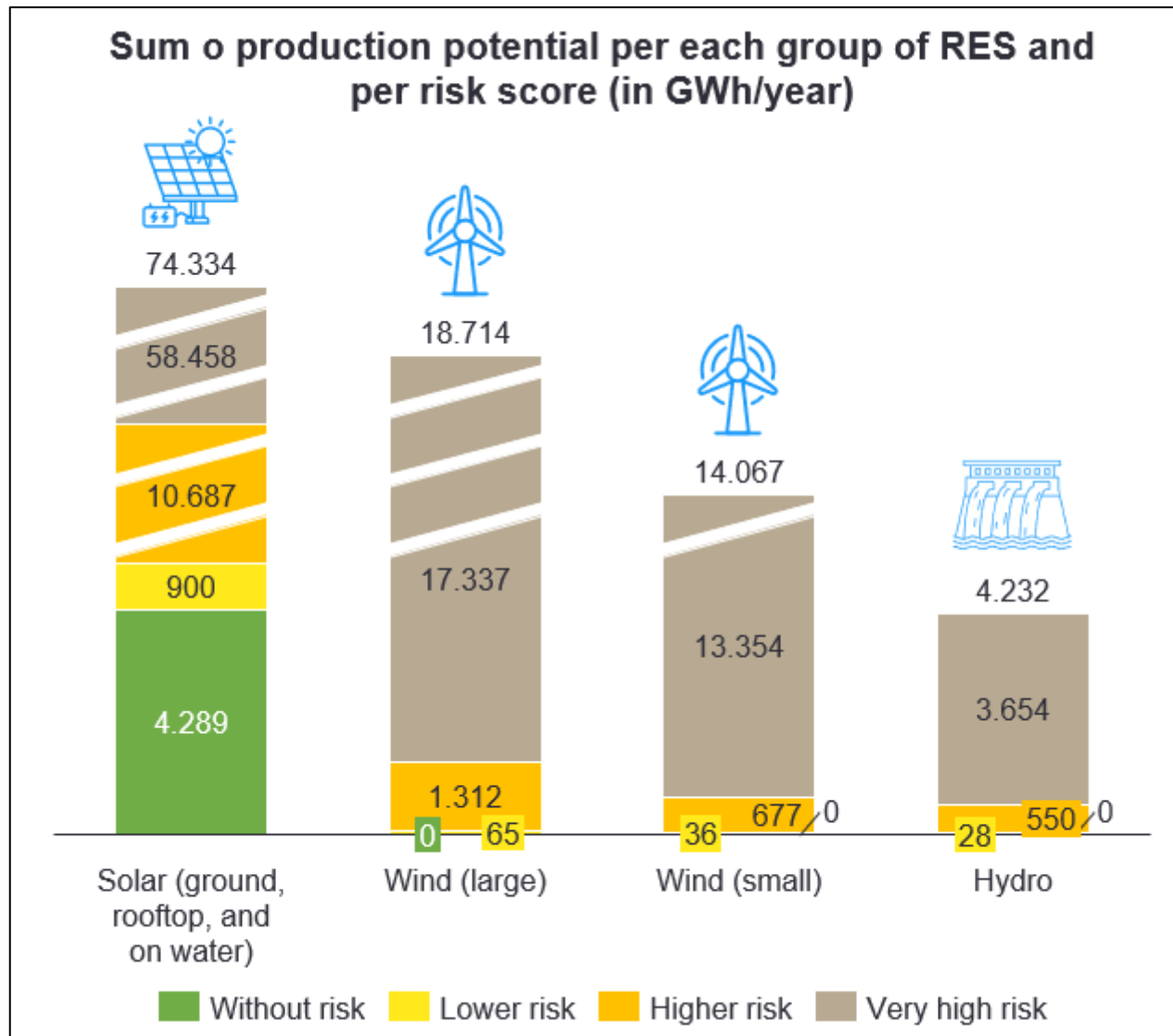
D5 training, 18/05/2023



## Overview of Deliverable 2 framework



Production potential calculations – summary



## Background of the project

- ▶ The 2020 target for Slovenia for share of energy from RES in gross final energy was 25%. Slovenia itself did not reach the set goal and had to resort to statistical transfer.
- ▶ Slovenian Integrated National Energy and Climate plan (NECP) proposed a RES target of 27% by 2030, to which EC recommended Slovenia should significantly raise the RES share to at least 37%.
- ▶ To help Slovenia, EC sponsored the project “**Facilitating Renewable Energy Deployment In Electricity Sector Of Slovenia**”, in which EY-Parthenon Slovenia offers technical support to the Ministry of Environment, Climate and Energy and to the Ministry of Natural Resources and Spatial Planning in increasing RES share.



### The project aims at improving:

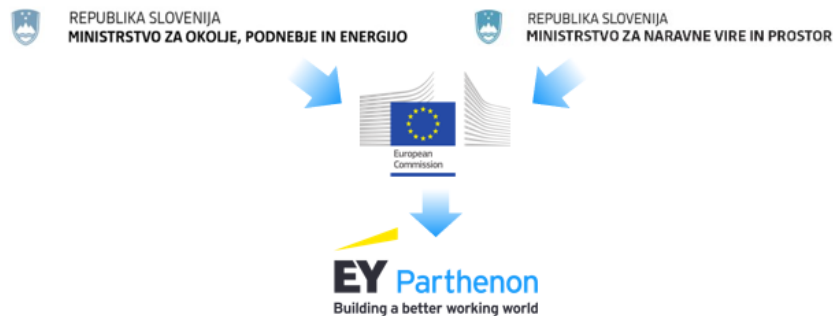
- ▶ Spatial planning, environmental assessments, permitting procedures and their interplay
- ▶ Acceptance of RES development by the public and its maintaining

### Our approach:

- ▶ Deliver comprehensive analysis of RES production potential
- ▶ Analyze legal, administrative and implementation barriers for RES deployment and provide recommendations
- ▶ Provide capacity building and communication strategy for the further deployment of RES in Slovenia

## Ozadje projekta

- ▶ Cilj Slovenije v letu 2020 za delež energije iz OVE v bruto končni porabi energije je bil 25%. Slovenija sama ni dosegla zastavljenega cilja in je morala poseči po statističnem prenosu.
- ▶ Slovenski Nacionalni energetske in podnebni načrt (NEPN) je predlagal cilj najmanj 27% OVE, v bruto končni rabi, do leta 2030. Evropska Komisija je sicer priporočila, da naj Slovenija delež OVE bistveno dvigne, na najmanj 37%.
- ▶ V pomoč Sloveniji je EK sponzorirala projekt »**Omogočanje uvajanja obnovljivih virov energije v elektroenergetskem sektorju v Sloveniji**«, v katerem EY-Parthenon Slovenija nudi tehnično podporo MOPE ter MNVP pri povečanju deleža OVE.



### Cilj projekta je izboljšati:

- ▶ Prostorsko načrtovanje, okoljske presoje, postopke pridobivanja dovoljenj in njihovo medsebojno povezanost
- ▶ Sprejemanje razvoja OVE v javnosti in vzdrževanje pozitivnega odnosa

### Naš pristop:

- ▶ Izvedba celovite analize izkoristljivega potenciala OVE
- ▶ Analiza zakonodajnih, upravnih in izvedbenih ovir pri uvajanju projektov OVE in predlogi rešitev
- ▶ Krepitev zmogljivosti in priprava komunikacijske strategije

## Overview of deliverables

<b>Deliverable 1</b>	<b>Inception report</b>	<ul style="list-style-type: none"> <li>▶ Alignment of the approach to project implementation between the project team, MOPE, MNVP and EC</li> </ul>
<b>Deliverable 2</b>	<b>Mapping of RES potential for electricity production across the entire territory of Slovenia</b>	<ul style="list-style-type: none"> <li>▶ Sensitivity mapping for each RES</li> <li>▶ Analysis of the overall RES production potential for electricity</li> <li>▶ Overlapping of detailed mapping</li> </ul>
<b>Deliverable 3</b>	<b>Analysis of optimal sites for deployment of large RES for electricity production</b>	<ul style="list-style-type: none"> <li>▶ Identification of optimal sites for the deployment of large RES infrastructure aggregated to over 10 MW</li> </ul>
<b>Deliverable 4</b>	<b>Analysis of possible barriers for RES deployment in electricity sector and recommendations for improvements</b>	<ul style="list-style-type: none"> <li>▶ Identification of legal and administrative barriers for RES deployment in the electricity sector</li> <li>▶ Recommendations for improvements and solutions in consultations with stakeholders</li> <li>▶ Confirmation of the proposed measures with the beneficiaries</li> </ul>
<b>Deliverable 5</b>	<b>Training material and programme supporting the further deployment of RES in electricity sector</b>	<ul style="list-style-type: none"> <li>▶ Capacity building and support training of all relevant stakeholders taking part in RES spatial planning procedures, environmental assessments and permitting of RES plans and projects</li> </ul>
<b>Deliverable 6</b>	<b>Communication strategy</b>	<ul style="list-style-type: none"> <li>▶ Preparation of a communication strategy to promote the further deployment of RES and raise awareness of the importance of RES</li> </ul>





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