Renewable energy – for a safe future

Overview of the renewable energy market in Central and South Eastern Europe

Selected country reports

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Foreword

The current energy crisis and the progressing climate change represent a serious concern for the whole world. There is thus an urgent need for a vision that will lead to modern, prosperous and competitive energy and climate action. At times like these it is even more important to focus on renewable energies as they are the key for a save future.

The targets of the European Green Deal, to turn Europe into the first climate neutral continent by 2050, have grown in importance due to the war in Ukraine and its implications on energy security. Apart from the "Fit-for-55 package", the European Commission has introduced the REPowerEU program, destined to make Europe independent from Russian fossil fuels well before 2030. It´s focus is on saving energy, producing clean energy and diversifying our energy supplies and it strenghtens the Fit-for-55 package that contains changes to over 10 pieces of European legislation, including the Renewable Energy Directive, the Energy Tax Directive, the Alternative Fuels Infrastructure Directive and the EU Emissions Trading System.

The TPA country reports are an efficient business intelligence tool for investors and analysts in the renewable energy field. This brochure provides you with a clear overview of the most important markets for renewable energy in Central and South Eastern Europe: Austria, Bulgaria, Croatia, Czech Republic, Hungary, Poland, Romania, Serbia and Slovakia.

The country reports, valid as of October 2022, contain the latest figures on renewable energy sources, i.e. wind, solar, hydro and biomass. In the light of various legislative changes introduced in recent years, this report provides an overview of the latest trends in the renewable energy sector, including the regulatory environment, financing sources and profitability, on the Central and South Eastern European market.

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Content

Austria

A. COUNTRY PROFILE

1. Overview and trends

The Renewable Energy Expansion Act (EAG Act 2021) pursues ambitious goals. In 2030, 100% of Austria's electricity is to derive from renewable sources. To achieve this, production must be increased by 27 TW.

Energy production in 2021 was structured as follows:

Wind energy sector:
- The installed capacity is currently 3.300 GW (298 MW were added in 2021). It covers the usage of electricity 2,5 Mio. households.
- 3,7 Mio tons of Co^2 are avoided annually.

Photovoltaic energy sector:
- The installed capacity is currently around 2,78 GW (0,74 GW were added in 2021).
- 8 out of 9 federal states are offering funding

Water energy sector:
- Water energy represents a share of 29% of total energy production (2020)
- Hydro power plants produce between 55 and 67 % of electricity in Austria.
- Highest capacity is gained from large hydro power plants

Biomass energy sector:
- Over 45% of total energy production derives from biomass. It covers 17% of energy used in Austria. (2020)
- The share of biomass within District heating has risen steadily to 50% (about 30% of all Austrian households are supplied by district heating)

2. Funding situation

The Renewable Expansion Act (EAG Act 2021) has been in force since 2021. In order to achieve the targeted quota of 100% renewable by 2030, among other things, 1 billion euros of funding will be made available annually for expansion until 2030.

For 2022, the following investment subsidies are offered. They are split across different application windows and the respective capacities. (Figures expected to be higher for 2023):
- Photovoltaic energy: 240 Mio.
- Water energy sector: 45 Mio.
- Wind energy: 4 Mio.
- Biomass energy: 6 Mio.

Banks:
In 2021, banks are looking for opportunities to invest preferable in infrastructure projects. Renewable energy projects are very likely to be supported in general, also because of their high acceptance from the population.

3. Permits and authorizations

In Austria a cross-national law between the federal states does not exist. Every single federal state has its own regulations, which makes the situation very complex. In general the following permits are necessary:

Building permit (suitability)
The application documents should include in general:
- A technical report
- Planning documents
- Information about the owner of the installation

Austrian regional planning (type of use)
Planning schemes are prepared by the regional and local authorities and generally allow the following usages:
- Building land
- Traffic area
- Open land

The **setting-up authorization** is not necessary in every single federal state and depends on the installed output.

To summarize: Austrian law is dependent on the respective federal state and each project has to be reviewed closely on a case-by-case basis. As aconsequence, wind energy for example is concentrated in 5 federal states only.

4. Competitiveness

Due to the positive investment environment, Austria is a very competitive country in the renewable energy field. The regulatory framework provides investors with high investment and planning security. This has led to the continuing development of the renewable energy sector in Austria. The efforts will be intensified as a consequence of the current energy-crisis and are propelled by state-owned energy suppliers to a large extent.

5. Grid connection

The grid connection is controlled by the independent regulator Austrian Power Grid ("APG"), which is the only transmission system operator in Austria. The overall power grid has 3 layers.
The Austrian transmission power grid system
- is almost 7,000 km long
- has over 12,000 power poles and
- transports approx. 46,000 GWh per year

Due to the increasing amount of alternative energy, also the Austrian transmissions system is more and more difficult to stabilize. In accordance with the "APG Masterplan 2030", the APG will enlarge their transmission system by 220km over the next years.

B. LEGAL FRAMEWORK

Real rights required

Under Austrian law, there are two main ways for investors to hold the specific rights required for a building permit:

- An ownership title to the land
- A right of superficies to the land (not registered in the land register)

Ownership right

The ownership right under Austrian law offers the owner an absolute right to:

- use
- build
- encumber and
- sell

Necessary regional permits, easements and other loads can restrict this right.

Superficies right

A right of superficies consists of:

- The right to have or to erect a building on, under or above the land owned by another person
- The ownership right to the building
- The right to use the land pertaining to the building

The Civil Code limits the duration of a right of superficies to a maximum of 99 years, with a prolongation option.

Conventional and statutory right of usage and easements

- During the permission-phase abutting owners have the right to raise objections against the project, if their right would be limited through it.
- The investor must hold rights of easement to the lands crossed by the access ways or by the cables.
- The right of way is incumbent upon the federal state and has to be reviewed closely on a case to case basis.

C. SUPPORT SCHEME / GREEN CERTIFICATES

Issues that might impede/delay the investment process

The following issues have to be taken into consideration when planning a renewable energy plant in order to avoid any delays or even cancellation of the project:

- No cross-national law exists
- Property rights have to be suitable for the project
- Instatement of ownership title; prohibitions on sale
- Necessary regional permits
- Normally an energy study is required (UVP)

Legal provisions

- Renewable energy expansion act (EAG 2021), governed by the "processing centre for renewable energy" (OeMAG)
  - Funding scheme for investments (see 2.0)
  - Subsidies for ongoing production of energy
  - Energy communities (enables the collective production, storage, use, sale of energy)
- National Emissions Certificate Trading Act 2022 (see below)

National emission certificate trading

- Introduction of the "National Emissions certificate trading act 2022" to impose a financial burden for distributors of emissions rather than for consumers
- Initial price per ton of CO2 EUR 30,00), the price to rise constantly up to EUR 60,00
- Applicable as of October 2022

D. ISSUES AND PROFITABILITY

Profitability

Any investment expenditure analysis must account for the preparation and design costs, incurred during the initial stage of a project (the first 1 – 4 years). Currently this expenditure ranges between EUR 55,000 up to as much as EUR 70,000 per MW of capacity of the designed wind farm (which represents about 2 – 4 % of the investment value). These costs include, but are not limited to:

- Developing technical design
- Drafting a feasibility study
- Erecting measuring masts and wind density measurements
- Performing a study on the impact of the wind farm on the natural environment and local community geological research
- Administrative proceedings

Due to the decentralization of power generation, other grid solutions are necessary. Smart grids can deal better with non-stable renewable energy sources and, as a result of the better connection, power will become cheaper. A successful energy transition is only possible with smart grids. Furthermore, customers have an important part to play. They should help to make the system more effective. First "renewable energy model regions" have been installed and act as role models.

The Austrian energy fund "KLI.EN" has started a funding programme to support the self-supply of industry and private households, by installing their own renewable energy systems.

Bulgaria

A. COUNTRY PROFILE

1. Overview and trends

Renewable energy sector development:
The targets for the production of energy from renewable energy sources by the year 2020 for all EU countries were set in EU Directive 2009/28/EC.
Percentage of renewable energy in the total gross consumption:
2020 - 23,3%
2019 - 21.6 %
2018 - 20.53%
2017 - 19.1 %
2016 - 19.2 %
2015 - 19.1 %
2014 - 18.9 %

Installed capacity as of December 2020:
Wind energy - 703 MW,
Photo voltaic - 1 097 MW
Water - 3376 MW
The total renewable energy capacity is around 40 % of the total capacity installed.

2. Funding situation

EEA Grants:
EU grants for EUR 115 million for the period 2014 - 2021 provided with support from Norway, Iceland and Liechtenstein. The thematic panel "Economy" consisted of projects from 2 programmes – Green Industry Innovation and Energy Efficiency and Renewable Energy Sources.

Banks are also an important source of financing for wind energy and corporate finance projects. Investment projects may be subject to grant financing by the European Bank for Reconstruction and Development and the European Investment Bank in collaboration with local banks.
The Bulgarian Energy Efficiency and Renewable Sources Fund provides loans and guarantees for execution of investment projects related to using of renewable energy sources.

Recovery and Resilience Plan:
The final adopted version of the Bulgarian Recovery and Resilience Plan envisages an approximate budget of EUR 1.7 billion in the form of grants for investments in the renewable energy sector. The first projects under the Recovery and Resilience Plan in the renewable energy sector are expected to be announced in the last quarter of 2022 and are concentrated, to a large extent, on the building of new renewable energy power plants together with electricity storage capacities. Beneficiaries under the projects would be micro, small and medium enterprises.

3. Permits and authorizations

Building permits:
Obtaining a building permit for building a power plant generally includes drafting an investment project, drafting and coordinating a technical and an operative investment project and concluding a preliminary agreement for a grid connection.

Operating permission:
Constructions of first category (power plant of over 100 MW working capacity), second category (power plant with working capacity between 25 MW and 100 MW) and third category (power plant of less than 25 MW working capacity) are entered into exploitation on the basis of an operating permission, issued by the state bodies.

An exemption from the requirement for drafting an investment project and the issuing of a operating permission is prescribed for power plants of working capacity of up to 1 MW which are built on existing buildings in urban areas.

Renewable Energy Power Plants for Self-consumption:
A final customer is entitled to build renewable energy power plants for self-consumption with installed capacity up to 5 MW on buildings or immovable properties in urban areas. A simplified administrative regime is implemented for building these type of constructions, e.g. the requirement for approving of investment project is removed, instead an expert statement together with schemes, drawings and instructions shall be presented. An agreement between the final consumer and the electricity network operator shall be concluded before the issuing of the building permit.

Licensing:
The production of electricity requires a licence issued in the name of the producer by the EWRC, unless the producer's power plant installed powers do not exceed 5 MW. The licence must be obtained prior to commencement of the production activity.

4. Competitiveness

Bulgaria is competitive in terms of its natural assets, as well as due to its favourable investment environment with still relatively low salary levels and a 10 % flat tax rate on profit.

5. Grid connection

Producers of renewable electric energy wishing to build an energy site for production or to enlarge an existing one submit an application to join the operator of the relevant electricity network in regions indicated by the grid operator. The application is subsequently to be approved by the EWRC.

B. LEGAL FRAMEWORK

Real rights required

According to the Energy Act, anyone applying for a licence to produce electric energy must prove the presence of a real right over the power plant producing energy.

Ownership right

The ownership right under Bulgarian law includes a right to use, possess, encumber and sell the owned property without limitation in time. It is usually established by way of agreement executed in notarised form for validity purposes.

Superficies right

The right of superficies consists of the right to erect a building on land owned by another person; the ownership right to the building; and the right to use the land pertaining to the building.

Conventional and statutory right of usage and easements

Easements under the Energy Act arise for entities when building power facilities. They comprise of the right of passage of people and equipment; laying power lines, technical installations as well as corresponding security restrictions.

C. SUPPORT SCHEME / GREEN CERTIFICATES

Issues that might impede/delay the investment process

Starting an investment project requires the preliminary completion of thorough and professional research of the project's compliance with the local laws as well as of any other existing or possible claims. Examplary points regularly taken into consideration are: the existence of required ownership rights; clear property status; environmental status of the area; archeological and cultural status of the area; connectivity capacity of the corresponding grid operator.

Legal provisions

Bulgarian national legislation: Energy Act, Renewable Energy Sources Act, Spatial Planning Act, Environmental Protection Act, and subordinate legislation.

Green certificates

Green Certificates, as a trading instrument, have not yet been implemented in the Bulgarian energy market. The support scheme for the mandatory purchase of electricity produced by renewable energy sources (RES) is connected to the presence of monthly guarantees issued by the Sustainable Energy Development Agency (SEDA) per megawatt produced energy.

Updates

The Energy Act (EA) imposes an additional financial obligation upon all electric energy producers. The obligation consists of a 5 %-monthly installment based on the producer's aggregate net income from electricity sales on a monthly basis. The purpose of the installment is to cover costs and losses of the National Electric Company and to pay compensation premium to energy producers with total installed electricity power 500 kW and over 500 kW subject to requirements set out in the applicable legislation and after approval of the EWRC. Recent amendments in the EA also prescribe that the energy produced by newly established renewable energy power plant stations and by previously established power plants with installed capacity 500 kW and more than 500 kW shall be sold on a market price by using the services of a coordinator of a balancing group on an organized electricity market. For this purpose, the producer shall sign a contract with a licensed energy trader.

D. ISSUES AND PROFITABILITY

Tax issues

The general tax frame, as well as the special regulations which are applicable for the power production stated above, are fully applicable to electricity producers from renewable sources.

Profitability

Any investment expenditure analysis must account for the preparation and design costs incurred during the initial stage of a project (the first 1-4 years). Currently this expenditure ranges between EUR 55,000 up to as much as EUR 70,000 per MW of capacity of the designed wind farm (which represents about 2-4 % of the investment value). These costs include, but are not limited to:

- Developing the technical design;
- Drafting the feasibility study;
- Erecting measuring masts and wind density measurements;
- Performing a study on the impact of the wind farm on the natural environment and local community;
- Geological research;
- Administrative proceedings.

Advance grid connection fees are applicable:

- for Projects =< 5 MW, BGN 25 000 per MW;
- for Projects > 5 MW, BGN 50 000 per MW

The EA limits the purchase of electricity from renewable energy sources at a preferential price [only] for the quantities of electricity up to [not exceeding] the “net specific production of electricity”, based upon which the preferential prices have been set in the corresponding decisions of EWRC. Quantities for “net specific production of electricity” are set in resolutions of EWRC defining different thresholds for the different types of power plants.

Croatia

A. COUNTRY PROFILE

1. Overview and trends

Croatia has accepted commitments to apply European Directives in the field of renewable energy sources ("RES"), including EU Directive 2009/28/EC. From the 2021 annual report made by Croatian Energy Market Operator (HROTE), the total installed RES capacity is more than 1049 MW and is structured as follows:

- Wind power plants: 718 MW
- Solar power 56 MW
- Small hydro 6 MW
- Biomass: 96 MW
- Biogas power plants: 47 MW
- Cogeneration plants: 113 MW
- Gas power plants: 3 MW
- Geothermal power plant: 10 MW

In the Croatian Integrated Energy and Climate Plan for the period 2021-2030 emphasis is placed on the reduction of greenhouse gas emissions, increase of the renewable energy sources, increase in the energy efficiency and electricity interconnection.

The most important targets that the Croatian Integrated Energy and Climate Plan sets for 2030 are:

- reduction in greenhouse gas emissions for the ETS sector, compared to 2005 for at least 43%
- reduction in greenhouse gas emissions for non-ETS sectors, compared to 2005 for at least 7%
- target of the share of RES in gross final energy consumption of 36.4%
- target of the share of RES in final energy consumption in transport of 13.2%
- primary energy consumption (total energy consumption without non-energy consumption) at 344.38 PJ (8.23 ktoe)
- final energy consumption at 286.91 PJ (6.85 ktoe)

2. Funding situation

Renewable energy is mainly supported through a feed-in tariff (Art. 24 of Act on Renewable Energy Sources and High-Efficiency Cogeneration; RES Act).
Every producer who holds the status of "qualified producer" ("povlasteni proizvodac", Art. 36 RES Act), who has been selected as the lowest bidder in a public tender and who has signed a formal agreement with the Croatian Energy Market Operator HROTE (as defined in Art. 26 RES Act) has the right to the guaranteed purchase price. The Market Operator issues a call for tenders at least once a year, if quotas for the support of certain technologies of renewable energies are available (Art. 25 § 1 and 2 RES Act).

3. Permits and authorizations

The following are the main permits required for the construction and operation of a RES power plant:

- inclusion into spacial plan(s)
- energy permit
- grid connection contract
- environmental approvals procedure
- location permit
- completion of land permit
- building permit
- use permit
- energy licence.

4. Competitiveness

Croatia has great resource potential for RES. The cost-competitive potential of renewables in Croatia is several times higher than the current demand for electricity. The big potential for the development of onshore wind farms, PV power plants, geothermal power, and biomass, is not being utilised enough. This could be addressed by implementing best practices from other EU countries such as introducing a one-stop shop, shortening lead times for developing renewable energy projects, and introducing longterm visibility in auctions for support mechanisms.

5. Grid connection

The access of electricity from RES to the grid is regulated by the general legislation on energy and follows the principle of non-discrimination. Electricity from RES is subject to special provisions only in the case of wind power plants, which must meet special requirements and technical specifications during the connection process. The electricity transmission service within the Croatian power system is provided by the grid operator "HEP-OPS" to network users according to the agreements which they sign with the grid operator.

B. LEGAL FRAMEWORK

Real rights required

Under Croatian law, one of the legal preconditions for the issuance of a construction permit is that the applicant submits sufficient evidence that he has the appropriate title to the land on which the construction is supposed to take place. Such evidence includes ownership of the land and other rights to the land recognised by the law as a legal basis for issuance of the construction permit.

C. SUPPORT SCHEME / GREEN CERTIFICATES

Issues that might impede/delay the investment process

Some of the main issues that have to be taken into consideration when planning a renewable energy park in order to avoid any delays or even cancellation of the project:

- obtaining a necessary right over land;
- obtaining necessary permits;
- securing a grid connection;
- obtaining financing.

Ownership right

Croatian law recognises the following rights over land: ownership right (pravo vlasnistvo); mortgage (hipoteka); easement right (pravo sluznosti); land charge (pravo stvarnog tereta); and building right (pravo gradenja). These rights are in principle established by their registration in the land registry and have legal effect not only between contractual parties but also against all third parties.

Superficies right

Superficies is a limited in rem right. It consists in the exclusion of the principle that the owner of the land owns whatever building is erected on his property. The superficies right consists of:

- the right to have or to erect a building on, under or above the land owned by another person;
- the ownership right to the building;
- the right to use the land pertaining to the building

The superficies right allows for delimitation between the ownership of the land and the ownership of the building erected on, under or above the land owned by another person.

Conventional and statutory right of usage and easements

- If the power plant is to be constructed on agricultural land, this would require the conversion of the agricultural land into construction land.
- The investor must hold rights of easement to land crossed by access ways or by cables.
- During the permit phase, abutting owners have the right to raise objections against the project, if their rights would be limited by it.
- The investor must hold rights of easement to the lands crossed by access ways or by cables.

Legal provisions

The Act on Renewable Energy Sources and High-Efficiency Cogeneration was adopted in 2015. Since then it has been amended 5 times. The last amendment was in December 2021. It contains the legal framework for application of the support scheme in the form of feed-in tariffs and premium tariffs. Renewable energy generation is mainly supported via a feed-in tariff for certain producers ("qualified producers"). Additionally, the Croatian Bank for Development and Reconstruction (HBOR) and the Fund for Environmental Protection and Energy Efficiency operate a loan scheme for RES-E projects.

Green certificates

Guarantee of origin is issued to the RES producer and represents a generation of 1 MWh. Such guarantees are transferable. Guarantees of origin issued in other countries are also valid in Croatia under certain conditions. Feed-in tariffs are used. GO is issued either for electricity produced from renewable energy sources power plants or from high-efficient cogeneration plants. Eligible producers who participate in the feed-in system and who are entitled to subsidised prices are not eligible to participate in the guarantees of origin system.

Updates

On February 28, 2020 the Croatian Parliament adopted Energy development strategy of the Republic of Croatia till 2030 with a look at 2050 .

D. ISSUES AND PROFITABILITY

Profitability

Any investment expenditure analysis must account for the preparation, design costs and costs of obtaining the relevant permits/approvals for the project.

These costs include, but are not limited to:

- Developing the technical design;
- Drafting the feasibility study;
- Erecting measuring masts and wind density measurements;
- Performing a study on the impact of the wind farm on the natural environment and local community;
- Administrative proceedings for obtaining relevant permits/approvals.

A. COUNTRY PROFILE

1. Overview and trends

EU Directive 2018/2001 imposes a 13% renewable energy quota for the Czech Republic as a minimum by 2020 and 40% for the whole Europe by 2030 (according of a updated Fit for 55 package). According to the National Energy and Climate Plan of the Czech Republic (NECp), the share of renewable energy sources (RES) in gross final consumption should be 22 % (14% in transport) by 2030. In 2021, the production of electricity from renewables amounted to 10,547 GWh, 12,4% of the brutto consumpiton. This level of output was stabilized in 2013 after the significant development in photovoltaic installations. In this year, Czech Republic also met its 13% renewable energy quota. The largest company operating in the energy sector in the Czech Republic, the state owned company CEZ wants to be carbon neutral by 2050. CEZ also wants to build 1,5 GWh RES capacity until 2025 and 6 GWh RES capacity until 2030. Renewable sources key figures:

Photovoltaics:

- The installed capacity as of end of 2021: 2 083,4 MW
- The NECp aims for 3,975 MW in 2030
- In 2010, there was a significant increase in installed capacity (from 464.6 MW as of end 2009 to 1,959.1 MW as of end 2010), from this point no significant change occured.
- The share of electricity produced by photovoltaics to all eletricity from RES in 2021 was 20,4%.

Wind energy:

- The installed capacity as of end of 2021: 339,4 MW
- The NECp aims for 970 MW in 2030
- The share of electricity produced by wind power plants to all eletricity from RES in 2021 was 5,7 %.

Water energy:

- The installed capacity as of end of 2021: 1 113,4 MW
- The NECp aims for 1,127 MW in 2030 (pumped storage power plants are not included)
- The share of electricity produced by hydropower plants to all eletricity from RES in 2021 was 22,83 %.

2. Funding situation

The support scheme is based on two alternative forms of support: (i) green bonuses and (ii) feed-in tariffs. In 2021, 1,643 million EUR was distributed as support / subsidies for renewables (supported volume 8,431 GWh). Breakdown for type of sources is as follows:

- photovoltaic: 1,089 million EUR
- wind power: 43 million EUR
- hydro power: 89 million EUR
- bioenergy: 421 million EUR

Most major banks in the EU and the Czech Republic provide their services that are conditional on acheiving carbon neutrality and support ESG (Environmental, Social and Goverenance) projects.

The support for renewables is financed from the state budget in form of subsidies and the rest of the amount is paid by consumers through their energy bills. Due to the situation in a first half of 2022 in a energy sector in the whole Europe, the Ministry of Industry and Trade of the Czech Republic proposes to increase state support for renewables by approximately 402 mil. EUR in order to relieve citizens. The proposal has not yet been approved by the government.

3. Permits and authorizations

In the Czech Republic, the following permits and authorizations should usually be obtained in order to operate renewable energy sources in line with the national legislation:

- Building permit
- Licence from the Energy Regulatory Office (www.eru.cz)
- Connection agreement to a distribution grid
- Specific permits and authorizations dependent upon the type and size of an installation (e.g. authorization for use of surface water)

4. Competitiveness

Tension escalated in 2013 when the Energy Regulatory Office with legal support stopped support payments for new energetic producers using renewable energy from 2014 onwards. This real fear led the owners of renewables installations and their creditors to become anxious as their expected profits would not materialise. At the end of December 2015, the Energy Regulatory Office published the new price decision which laid down the support payments also for those installations commisioned from 2006 to 2012. However, this was not provided for in the Energy Regulatory Office's price decision from November 2015. The new proposal of price decision for 2020 contains these support payments as well. However, new guideline of European Commission reduces support of renewable energy in Czech Republic in its recent form, and changes of whole support scheme are expected. This inconsistency has led to uncertainty amongst investors and made investment into renewables in Czech Republic considered to be unstable, unpredictable and nontransparent. According the amendment of the Act 382/2021 (the main law for RES in the Czech Republic) which went into effect at the end of 2021, there will be an increase in taxation and lower profitability due to the lower IRR of solar plants that were built in 2009 and 2010.

5. Grid connection

CEPS is the sole Czech transmission system operator, which is fully owned by the state. CEPS is reponsible for electricity transmission at the highest voltage level and for maintaining the balance between the production and consumption of electric power. The system is 5,703 km long,

- thereof length of 400 kV power lines: 3,795 km
- thereof length of 220 kV power lines: 1,824 km
- thereof length of 110 kV power lines: 84 km

Czech Republic

A. COUNTRY PROFILE

The amount of electricity transferred across the transmission system was 68,723 GWh in 2021, which was 5,6% more than the previous year.
The electricity transmission network is deemed to be strong and reliable thanks to its robust technological infrastructure. CEPS pursues an extensive investment plan to maintain grid stability and the realibility of supplies and 2.011 billion EUR are expected to be invested until 2031. Most of the funds for investments will go to grid development.

B. LEGAL FRAMEWORK

Real rights required

The following legal documents govern the renewables in the Czech Republic principially:

- Act No. 382/2021 on supported energy sources and amending certain laws
- The Energy Regulatory Office's Price Decision
- National Energy and Climate Plan of the Czech Republic (NECp)

C. SUPPORT SCHEME / GREEN CERTIFICATES

The main regulatory body is the Energy Regulatory Office which is responsible for determining the scope and level of support for supported energy sources. The term "supported energy sources" is stated in Act No. 382/2021 on supported energy sources and amending certain laws.

There are two types of support available, namely green bonuses and purchase prices (feed-in tariffs), nevertheless green bonuses are prioritized. In 2021 reported total support paid reached 40,841 mil. CZK (1,643 mil. EUR) and supported production volume reached 8,431 GWh:

- the reported volume breakdown is as follows: (i) green bonuses 7 330 GWh (86.94 % of total) and (ii) feed-in tariff 1,103 GWh (13.08 % of total);
- the support after settlement breakdown is as follows: (i) green bonuses 1,123 million EUR (68.36 % of total) and (ii) feed-in tariff 520 million EUR (31.64 % of total).
- the number of applicants breakdown is as follow: (i) green bonuses 28 170 and (ii) feed-in-tariff 4 763.

The Energy Regulatory Office determines green bonuses and the feed-in tariff seperately for each type of renewable energy source on a yearly basis with possible amendments during the period.
The above-mentioned support scheme changed after the amendment to Act No. 382/2021 went into effect at the end of 2021. The main change is introduction of the auction-based support for renewables which replaces feed-id tariffs for newly built power plants. Auctions will be announced by the Ministry of Industry and Trade. The principle is simple – the lowest bid wins. The aim of auction scheme is therefore to minimize the costs of RES support. Power plants established earlier will use the old support scheme. Any future changes also depends on new EU's quotas.

Ministry of Industry and Trade has its subsidies in form of Operational Programme for legal persons outside the city of Prague (OP PIK) for use of biomass, biogas and hydro power; and for public institutions in whole area of Czech Republic (OP ŽP) for use of photovoltaic rooftop and facade installations. These programmes are aimed to efficient energy management, development of renewable energy sources and support of production and distribution of renewable energy.
Although commercial investments in the installation of new renewables peaked back in 2009/2010, the Czech Republic could participate on a new EU Modernzation Fund ("MF"), which primarily draws funds from emission allowances. The purpose of the MF is to support lower-income EU Member States in their transition to climate neutrality by helping to modernise their energy systems and improve energy efficiency. The support is a fixed amount according to the type of new energy source/system acquired and limited to 50 % of the proven expenditure. In terms of photovoltaic systems for households, installed capacity should not exceed 10 kWp. The total amount available to the Czech Republic from the MF is approximately 6 billion EUR. This amount must be used until 2030. Another form of investment support aimed at renewable energy in the Czech Republic is the National Renewable Energy Plan. The total capacity of the National Renewal Plan is 7,67 billion EUR and 70% of this amount must be used by the end of 2022. Other forms of investment support are mainly aimed at family houses.

D. ISSUES AND PROFITABILITY

Profitability

Feed-in tariffs are set by the Energy Regulatory Office such that the 15-year simple return on investment is guaranteed. In the case of green bonuses, the owner of a renewable project bears the higher market risk as he/she is responsible for finding a customer for the electricity generated and for setting the conditions of such supply. However, this higher risk tends to be associated with higher revenue and hence theoretically can shorten the pay-back period and lead to higher IRR.
As it was mentioned in the section about the competitivness, the amendment of the Act 382/2021 which went into effect at the end of 2021, adjusts parameters for carying out activities in the RES field. Solar power plants built in 2009 which have not been impact by the solar tax so far, will now be taxed by 10% in the case they use feed-in tarrifs and 11 % for those which use green bonuses. Solar power plants built in 2010 will see a 10% tax increase. For those which use feed-in tariff will be taxed by 20% (10% so far) and 21% for the those which use green bonus (11% so far).
Also, the adequacy of the support will be checked. The support will be adequate as long as the IRR does not exceed the range 8,4 % – 10,6 %. Furthermore, the Czech Republic is often deemed by investors as an unstable and also unpredictable venue for their long term investment in RES. Renewable sources are subject to negative scrutiny from regulators and politicians.

Hungary

A. COUNTRY PROFILE

1. Overview and trends

EU Directive 2018/2001 of the European Parliament and of the Council imposes a 13 % renewable energy quota for Hungary by 2020 as a minimum. In 2020, the production of electricity from renewables amounted to 11.9 % (2019: 10 %) of the gross consumption, including

- 30.1 % biomass
- 44.5 % solar energy
- 11.8% wind energy
- 5.9 % bio gas
- 4.4 % water energy
- 3.0 % renewable part of municipal waste
- 0.3 % geothermal

2. Funding situation

The most common fundings for the support of the use of renewable energies were announced by the Hungarian state and the EU.

In 2021, the framework of the EU tender supporting the renewable energy developments of companies was increased to HUF 55.6 billion (approx. 154 Million EUR).

Among the renewable energy sources in Hungary, the state mostly supports energy production from solar energy and biomass.

3. Permits and authorizations

The following are the main permits required for the construction and operation of a RES power plant:

- Construction permit and use permit is needed
- For power plants with a capacity of 50 MW or more an operating license, for small power plants with a capacity of 0.5 MW or more a combined small power plant license must be held

4. Competitiveness

Hungary is favourable investment environment with relatively low salary levels and a 9 % flat corporate income tax rate, however might be disadvantageous for green energy investors because of the so-called “Robin Hood tax” and the new Special tax on the energy sector entered into force on 01.07.2022.

5. Grid connection

The new power plant to be built is entitled to a grid connection fee discount if it can only be operated with the following primary renewable energy sources:

- solar energy
- wind energy
- geothermal energy
- hydro energy

B. LEGAL FRAMEWORK

The power plant construction permit procedure may be initiated by the power plant licensee or the builder if they certify their right to build on the property used for the location of the power plant.

For the installation of production lines of power plants with a capacity of more than 50 MW and power plants using renewable energy sources, the authority may grant a right of way for the benefit of the builder or the licensee of the production line, provided that the use of the property is not significantly impeded.

C. SUPPORT SCHEME

Until 31.12.2016 it was possible to submit applications in the "KÁT" fixed feed-in-tariff support scheme. In 2017 a new scheme called "METÁR" (renewable energy support scheme) was launched, which had several sub-programs since its inception.

Currently, solar PV projects can secure support through the scheme by successfully bidding in the green premium auction system (in the case of biomass and biogas projects there is a brown premium system). Over time the conditions of the support schemes gradually shifted from a fixed feed-in tariff, which generated stable cash flows to the investors, to a competition-oriented and technology-neutral system.

With the exception of the brown premium system and the small household-scale installations, METÁR is available for renewable electricity production projects prior to the construction phase.

D. ISSUES AND PROFITABILITY

Profitability

Under the regulations, the income tax of energy suppliers (a.k.a. "Robin Hood tax") is payable by renewable electricity producers, except those that participate in KÁT or METÁR funding system and have a capacity of less than 50 MW. The tax is 31 % (the tax base roughly corresponds the base of corporate income tax).

Under the current regulations, the special tax of energy suppliers is payable by renewable electricity producers if their contract for balancing group membership under KÁT Decree, premium support or green premium support terminates in the tax year 2022 or 2023, or if they commence their commercial operation in the tax year 2022 or 2023, but do not conclude a contract for balancing group membership, premium support or green premium support. The tax base is the revenue generated by the electricity sold, less the amount of electricity fed in and multiplied by the mandatory offtake price or the subsidised price. The rate of the special tax is 65%.

These tax burden puts future PV developments that would take place without the above subsidies in a difficult position by putting the producers concerned at a multiple disadvantage, as they do not receive state subsidies and they have to pay the special taxes.

Poland

A. COUNTRY PROFILE

1. Overview and trends

Latest developments in the Polish renewable energy market point to the end of a stagnation period.

- **Wind onshore** - 7.212 MW
- **Photovoltaic** - 9.401 MW
- **Hydro** - 978 MW

Total capacity of RES sector reached 18.770 MW in 1Q2022.
The share of renewable energy in gross final energy consumption in 2020 (latest official data) amounted to 16,10%. Forecasts suggest that the 23 % level will be reached in 2030.

2. Funding situation

There are the following **support systems**:

- Auction system (feed-in-premium)
- Tradable certificates of origin (green certificates) – old projects
- Feed-in tariffs (for water and biogas installations < 500kW)

On the basis of the project of the long-term EU budget 2021-2027 it can be concluded that further development of RES will be able to expect further and significant financial support, in the spirit of the European Green Deal.
EU and Government funds - new funding options for RES investments to be expected. The details are yet to be revealed.
Bank financing - in general, higher requirements for RES projects due to regulatory instability over the last few years. The approach of the banks could change in the wake of the European Green Deal.
Corporate PPA - private power purchase agreements for the period of 10 to 15 years may remain a reasonable alternative in case of limited accessibility of public support.

3. Permits and authorizations

Requirements depend on the type and size of the power plant. Basic requirements are:

- **Building permits (for RES and grid connection)**
- **Local Zoning Plan** - an act of local law which defines the purpose and the conditions of land development.
- **Decision on environmental conditions of the permission for realisation of the project**

4. Competitiveness

In 2015-2018, the attractiveness of the Polish market of renewable energy sources significantly decreased. In particular, the wind energy market struggled with the multiple increase of the taxation level of windmills (changes introduced in 2017 that were reversed in mid 2018) and restrictions on their location at a distance of not less than 10 times its height from residential buildings or protected areas (10H rule). This regulation is supposed to be replaced with a less restrictive limit although the works on introduction of the law change has been recently put on hold. After a few years of stagnation new business opportunities are opening up in the light of the changing market conditions and the policy change driven by the European Green Deal. The auction outcomes prove that in Polish conditions wind energy and photovoltaic is the cheapest on the market and that its development is a chance for cheaper energy for Poles. Almost 14 TWh of electricity was contracted in the December 2021 RES auction, of which more than 96% of the winning bids were for photovoltaic. The remaining accounts for hydro and wind energy. This demonstrates the still low availability of wind projects on the Polish market due to the unfavourable regulatory environment. However, the full unlocking of the onshore potential will only occur with the lifting of the rigid 10H rule. Poland has also a huge potential for offshore wind energy, stemming from, among other things, good natural conditions in the Baltic Sea. The potential of the Baltic Sea is estimated at the level of 93 GW by 2050, which would mean the production of electricity at the level of approximately 325 TWh per year (by comparison – in 2021 the gross domestic electricity consumption in Poland was approximately 174.4 TWh). The Polish Wind Energy Association (PSEW) indicates that in 2030 the capacity of offshore wind farms in Polish maritime areas could reach approx. 6.3 GW, in 2040 – 12 GW, and in 2050 even 28 GW.

5. Grid connection

The transmission grid, operated by PSE S.A., the transmission system operator using its own transmission grid of the highest voltage, consists of (as at 31 December 2021):
295 lines with a total length of 15,693 km, including:
125 lines of 400 kV voltage with a total length of 8,227 km,
169 lines of 220 kV voltage with a total length of 7,352 km,
1 line of 750 kV voltage with a length of 114 km (not in use),
110 extra-high voltage (EHV) substations under-sea 450 kV DC connection between Poland and Sweden, with a total length of 254 km (127 km belongs to PSE).

B. LEGAL FRAMEWORK

Real rights required

Under Polish law the legal title to the land must be obtained for all the infrastructure of the power plant. There are four ways to hold the legal title to the land:

- ownership right
- perpetual usufruct
- limited right in rem (usufruct, transmission easement),
- civil law contract (i.e. leasing, lease contract).

B. LEGAL FRAMEWORK

Ownership right

Ownership right ensures the right to:
- possess
- use
- dispose

within the limits set by the:
- law
- principles of community life
- the socio-economic purpose of the right.

Perpetual usufruct

A perpetual usufruct consists of:
- the right to use the real estate in the manner specified in the agreement, for example, the right to erect a building and other facilities, establishing manufacturing plant,
- disposal.

The duration of a perpetual usufruct is limited by the agreement to a maximum of 99 years.

Conventional and statutory right of usage and easements

Usage (usufruct) - a non-transferable limited real right which gives the user the right to use the real estate and collect profits from it
Easement - generally taking one of two main kinds:
- land easement
- transmission easement.

Civil law contract

Lease contract is the most frequently used form of obtaining the legal title to the real estate for the location of renewable energy power plants such as wind or photovoltaic power stations.

Issues that might impede/delay the investment process

Following issues have to be taken into consideration when planning a renewable energy park in order to avoid any delays or even cancellation of the project.
- potential changes of law (in particular regarding support system)
- potential difficulties associated with obtaining grid connection
- environmental requirements
- necessary permits

C. SUPPORT SCHEME / GREEN CERTIFICATES

Legal provisions / Support scheme

Act dated February 20, 2015, on Renewable Energy Sources and further amendments that introduced auction system in 2016.

Green certificates / Auction system

All RES installations that started production of electricity before 1 July 2016 had the possibility of being granted green certificates for the next 15-year period. The price of green certificates on the stock exchange is shaped in a market manner by the demand for certificates, their supply and the substitution fee. It is defined by law, and the President of the Energy Regulatory Office announces its amount annually. The system does not provide for a minimum price.
The auction system's most important features are:
- the offer includes the amount of energy the producer undertakes to deliver over a period of 15 years and the unit price of the energy produced,
- the price in the offer can not exceed the reference price for a given type of installation,
- support is granted to projects that have declared the lowest unit price, until the volume limit determined by the President of the Energy Regulatory Office,
- for 15 years after completing the investment and introducing the energy for the first time, the producer will sell the agreed amount of energy and for the agreed price,
- the price for auction winners will be awarded for a period of 15 years and indexed each year by CPI inflation.

D. ISSUES AND PROFITABILITY

Tax issues

For further information please use our "Wind energy in Poland 4.0" brochure.

Profitability

On average, operational costs of wind farms are relatively low (3-4 % of investment outlays annually). The amount of outlays depends on a kind of applied technology and the location of a power plant. Current outlays in the purchase and installation of turbines and construction works (including electrical works) amount to approximately PLN 5.8 million per MW. Total investment outlays reach PLN 7.1 million per MW. Investment outlays are mainly the costs of turbines, which constitute around 60 % of the total value of preparing and erecting a farm on land (PLN 5.1 million per MW). Moreover, the investor bears, among others, the costs of construction works (PLN 0.5 million per MW), project preparation (PLN 1.0 million per MW), and connection to the grid (PLN 0.2 million per MW). In December 2021 reference (maximum) auction price for onshore wind with a total installed electric power of more than 1 MW was set at PLN 250. In the auction conducted 8 June 2021, the lowest price at which the producers agreed to generate energy from wind farms for a period of 15 years amounted than PLN 179 / MWh whereas the highest rate agreed was PLN 242/MWh. At the time of publication, no auction has been held in 2022, and it is uncertain whether there will be at least one round of auctions, and if so, what their key parameters will be.Average price of electricity (MWh) in June 2022, quoted by the Energy Regulatory Office, reached PLN 884,68 per MWh. Average green certificate price on Polish Power Exchange as in June 2022 was PLN 176,95 per MWh.

Romania

A. COUNTRY PROFILE

1. Overview and trends

Renewable energy sector trends
Romania has a balanced mix of resources: hydropower, wind, photovoltaic, geothermal and biomass. Despite its potential and the European Union's efforts to stress the importance of renewable energy, most recently by proposing the "Fit for 55" package, the lack of predictability in the national legislative framework has led to a stark decrease in investment. In 2020, the reported net generating capacity of the Romanian Energy System based on renewable sources was 10,904 MW (hydropower, 6.505 MW; wind power, 2,953 MW; solar power, 1,362 MW; and biomass, 84 MW), representing 57.5% of the entire installed energy capacity. By 2030, Romania aims to add 2,302 MW of wind power and 3,692 MW of solar power, based on the figures for 2020.

Mandatory quota of renewable energy for 2030: 72% including hydropower (41.7% without hydropower), according to the 2020 Romanian National Plan for Energy and Climate Change. The Romanian government estimates that, in addition to new investments, 3 GW of existing wind power capacity and 1.35 GW of existing solar power capacity will need to be repowered by the end of 2030, contributing substantially to the growth of installed capacities.

2. Funding situation

Applications for renewable energy projects could be submitted to the Romanian Recovery and Resilince Facility (RRF) until June 2022, they are currently being evaluated. In automn 2022 applications for the Modernisation Fund will be possible, and in spring 2023 for the EU-programmes related to the financing period 2021 – 2027.
The RRF and the Modernisation Fund are also open for projects regarding the production and usage of green hydrogen, investments in CHPs and the storage of electric energy.

3. Permits and authorizations

The construction of a renewable energy plant always requires a building permit, irrespective of the installed capacity. As a rule, the building permit will be issued by the local public administration; however, in specific cases the permit will be issued by the president of the county council with the consent of the mayor of the town or commune in question. A building permit is issued within 30 days of submission of the complete documentation to the competent authority. The process for obtaining the complete documentation requires various other permits and approvals, depending on the location and specific technical documentation and the real rights over the project land. A “setting-up authorisation”, separate from the building permit, is required for energy projects with an installed capacity >1 MW and will be issued by the ANRE within 60 days of submission of the complete documentation. Where the installed capacity falls between 500 kW and 1 MW, this authorisation is not necessary, but ANRE must be provided with data about the investment project and with regular reports on the development status. For an installed capacity <500 kW, no such notification is necessary.

Where the maximum electric power charged in the network of the capacities is less than 1 MW inclusive, it is not necessary to obtain this authorization, but ANRE must be provided with data about the investment project and with regular reports on the development status.

4. Competitiveness

Romania's main objectives in recent years have been to improve the competitiveness of the internal electricity market, to play an active role on both regional and EU energy markets, and to develop cross-border exchanges. According to energy specialists, Romania is entering the second stage of renewable energy development. Energy efficiency and renewable energy are one of the six pillars of the National Recovery and Resilience Plan for 2021, through which Romania has access to EUR 29.2bn of funding. The Green Transition, one of the plan's six pillars, establishes a separate category for renewable energy and energy efficiency. If a project is mature and has advanced technical and economic documentation, it may be eligible for funding. The full impact of wind farms on the Romanian economy is expected to be EUR 5.47 billion between 2021 and 2030. The direct effect (EUR 2.52 billion) reflects the total of all activities carried out by wind power plant suppliers and subcontractors, while the indirect effect (EUR 2.95 billion) is the sum of all activities carried out by wind power plant suppliers and subcontractors. In 2022, law no. 157/2022 for the amendment and completion of Law no. 256/2018 on some measures necessary for the implementation of oil operations by holders of oil agreements on offshore oil perimeters which establishes some measures necessary for the implementation of oil operations of exploration, development, exploitation of oil fields and abandonment, as well as works / well works related to oil operations, carried out by the holders of oil agreements regarding the offshore and onshore deep oil perimeters, in accordance with the provisions of the oil agreements concluded between the holders and the National Agency for Mineral Resources. During the length of the oil agreements relating to offshore and deep-sea offshore oil perimeters, the holders of the agreements, including their economic operators affiliated to them, have the right to freely trade the hydrocarbons produced from the respective oil perimeters. By the decision at the proposal of the Ministry of Energy, the Government may introduce temporary price and sale restrictions for the quantities necessary to ensure the consumption of household customers and heat producers for the population, as well as those necessary to fulfill obligations under European solidarity mechanisms provided by European regulations.

5. Grid connection

Connection to the grid is only achieved if, following the issuing of the Technical Connection Permit (ATR), a connection agreement is signed and the connection fee paid within a certain timeframe after the ATR has been issued. It's all about timing. Before signing the connection contract, various processes (such as acquisition of building consent) need to be completed. Payment of the connection fee, which is usually quite high, implies that financing is already in place. Please note that in the Dobrogea area (South East of Romania) no new ATRs will be issued until at least 2025, due to the overcharging of the existing grid.

B. LEGAL FRAMEWORK

Real rights required

A building permit is required to build any facility for the production of energy and will only be granted if a specific *in rem* right to the land on which the facility is to be erected has been demonstrated. The *in rem* right can be demonstrated either by means of an ownership title to the land or a superficies right to the land.

Ownership right

An ownership right affords the owner the absolute right to use, encumber and sell the owned real property without limitation in time, including the right to build on the property any building or other type of structure, whether permanent or temporary.

Superficies right

A superficies right consists of:

- the right to have or to erect a building on, under or above the land owned by another person
- the ownership right to the building
- the right to use the land pertaining to the building.

The duration of a superficies right is limited to a maximum of 99 years with an option to extend.

Conventional and statutory right of usage and easements

In order to access the energy plant during and after finalisation of the construction works or with respect to the path of electric cables crossing any third party property, the investor must hold rights of easement vis-à-vis the land in question.

Issues that may impede/delay the investment process

Issues to be taken into consideration: public property; restitution claims/litigations affecting the land; instatement of ownership title; interdictions to sell the land; historical monument status; archaeological status; lack of urbanism certificate.

C. SUPPORT SCHEME / GREEN CERTIFICATES

Green certificates

GCs may be traded on OPCOM's centralised green certificates market, as well as on the market for bilateral GC contracts. Producers may enter into bilateral sale-purchase agreements for GCs directly negotiated with suppliers to end consumers, similar to energy trading.

Green certificates are traded at a price that fluctuates within a range established by Government Decision. A minimum price is set in order to protect producers, and a maximum price in order to protect consumers.

In 2016, the support scheme for GCs came to an end, which means that new projects no longer have GCs. However, investors who built before December 2016 will continue to be able to trade GCs until December 2031.

D. ISSUES AND PROFITABILITY

Tax issues

Starting 1 September 2022, players in the renewable energy market (producers, traders etc.) are required to pay a monthly contribution to the Energy Transition Fund, for the energy that they sell. The contribution amounts to 100% of the energy sale price and the reference price; the latter equals, for example, RON 450/MWh for energy producers, or the acquisition price plus a 2% margin for traders. An exception applies for production capacities that are commissioned after 1 September 2022.

Particular levies imposed by the energy regulatory body should be assessed on a case-by-case basis.

Profitability

The profitability of renewable energy projects commissioned up until the end of 2016 has been based on the Green Certificates Scheme. This scheme was initially very attractive for RES investors, but this became less the case later on, leading to a dramatic fall in investor confidence due to the significant decline in the profitability of their projects.

There is currently no support scheme for operational costs of newly built projects, but Romania is working on implementing a new support mechanism based on tenders, the so-called Contract for Differences (CfD) mechanism. This is aimed at eligible producers of clean energy using low-carbon technologies such as hydropower, wind power, solar PV, etc., as well as nuclear power and fossil fuels by means of storage technologies. This mechanism is based on tenders and is subject to individually negotiated Contracts for Differences. With this commercial instrument, eligible producers enter into a private contract (a CfD) with a nominated counterparty and agree on a 'strike price' (Romanian: 'pret de exercitare').

The electricity is then sold at the market price on the centralised power exchange. If the market price drops below the strike price, the counterparty reimburses the difference to the producer; where if the market price exceeds the strike price, the producer reimburses the difference to the counterparty.

Once implemented, the CfD scheme will run in parallel with the GC system, which is valid until 2031. Alongside other types of support and financial instruments which will become available under the Modernisation Fund, the Recovery and Resilience Facility and other programmes, the CfD scheme will play a significant role to achieving climate ambitions for net-zero by 2050.

Slovakia

A. COUNTRY PROFILE

1. Overview and trends

EU Directive 2009/28/EC imposes a 14% renewable energy quota for Slovakia as a minimum in 2021, the production from electricity from renewables amounted to 23% of the gross consumption.

In 2021, the overall production of electricity in Slovakia totalled 30.9 TWh, of which 52% was produced by nuclear powerplants, 24% by fossil powerplants, 15% by hydro powerplants and 8% by other renewable sources of electricity. 3.8TWh had to be imported to Slovakia.

2. Funding situation

In 2022, Ministry of Economy as part of the initial auction from the Recovery and Resilience Plan of the Slovak Republic, a package worth 18 Million Euros has been set aside for domestic RES technologies. Further auctions will follow in the coming months, thanks to which approximately 120 MW of new installed RES power should be connected to the electricity system by 2026.

Banks
In order to attract further interest from banks to support the RES projects, it is important that the implementing legislation adopted pursuant to the Energy Law is seen as bankable.

3. Permits and authorizations

In Slovakia, the following permits and authorizations should usually be obtained in order to operate renewable energy sources in line with the national legislation:

- Building permit
- Licence from the Regulatory office for Network Industries (www.urso.gov.sk)
- Connection agreement to a distribution grid
- Specific permits and authorization dependent upon the type and size of an installation

4. Competitiveness

In 2015, several investors in renewables were removed from a support scheme not allowing them access to the feed-in tariff system. Controversy arose as this step was taken retroactively via a new administrative obligation – a notification process – which some operators failed to fulfil.

This abrupt change might have economically endangered some operators. Covenants of financing banks providing the necessary leverage to the projects could be broken and stricter loan conditions could be imposed for the coming years, ultimately changing the return for owner. Moreover, it might have led to a deterioration of the the position of sellers in renewable projects during the sale process.

Due to the stable regulatory environment the only consequence could be a lower exit value. The development of new projects has likely been negatively affected as investors have lost confidence in the stability of the legal framework.

5. Grid connection

The transmission system operator in Slovakia is the Slovenska elektrizacna prenosova sustava, a.s. company (SEPS, www.sepsas.sk).
According to published 2020 data the transmission system lines is 3,126 km long:

- thereof length of 400 kV power lines: 2,356 km
- thereof length of 220 kV power lines: 690 km
- thereof length of 110 kV power lines: 80 km

The transmission system has more than 7,300 towers. In 2021, a total of 32,808 GWh of electricity was transmitted through the system.

Slovakia

B. LEGAL FRAMEWORK

The following legal documents govern renewables in Slovakia principally: Act No. 309/2009 on support of renewable energy sources and high efficiency CHP and amending certain laws, the Act amendment effective 1 January 2019 enables electricity production for private purpose and introduces auctions which are expected to tender low electricity prices and to generate 500 MW.

The Regulatory Office for Network Industries resolutions are setting conditions of the support scheme National Action Plan for renewable energy.

C. SUPPORT SCHEME / GREEN CERTIFICATES

Regional grid operators are obliged to prioritize renewable energy installations for connection to the grid. Mandatory off-take by a regional distribution system operator for "the electricity price on loss" (stable prices for 15 years with expectation of prolongation to 20 years by the green energy legislation amendment in 2021).

The price on loss represents the arithmetic mean of electricity prices for the purpose of covering losses of all regional distribution grid operators and is calculated on the basis of the schemes determined by the Slovak Regulation Office. Feed-in tariffs are set by the Regulatory Office for Network Industries.

D. ISSUES AND PROFITABILITY

Profitability

In Slovakia, the profitability of the energy industry is 11.5 %, based on figures of the top 70 companies published in Trend Top Raking 2014.

The trend is clearly towards biomass.

Due to the Act No. 309/2009 small plants (< 10 kWp) are excluded from entrepreneurial activities.

TPA's integrated services for the energy industry

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Investment Optimization
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- terminal investments realized with third parties
- application for national and/or EU funding

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- tax risk management
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- optimization of taxation of real estate (standalone units, technical buildings, objects in buildings, non-structural elements of buildings, mines and recultivated grounds)
- tax optimization of green certificate's trade
- transfer pricing and tax planning of intra-group transactions
- tax optimization of intangibles
- tax planning with respect to contracts with trade unions and benefits for employees
- design of motivation systems, individual systems for remunerating
- and awarding employers and management board members

Audit
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- conversion of financial statements from local GAAP to IFRS
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- reviews of accounting books with respect to arranged procedures

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- Preparation and support regarding the preparation of voluntary and mandatory sustainability reports according to various standards (e.g. GRI, CSRD, etc.)
- Advice regarding ESG rating issues
- Gap analysis, ESG aspects in due diligence, EU-taxonomy
- Support for Green Transformation / Green Transition
- Green Finance, Sustainable Finance, Social Finance
- Regulatory ESG topics, ESG topics regarding capital markets
- Cooperation with selected, reputable partners (with regard to technical or construction-related topics/ aspects, carbon footprint, building certificates, life cycle assessments, etc.)

List of abbreviations

CHP	Combined heat and power
CPI	Consumer price index
EA	Energy act
EIB	European Investment Bank
GC	Green certificates
GO	Guarantees of origin
GWh	Gigawatt hour
kV	Kilovolt
kW	Kilowatt
kWp	Kilowatt peak
MW	Megawatt
MWh	Megawatt hours
MWp	Megawatt peak
NAP	National action plan
PPA	Power purchase agreements
PV	Photovoltaic
RES	Renewable energy sources
RES-E	Renewable energy sources - electricity

Notes

TPA Group

In tax advisory, auditing and advisory, not only the phrase “other countries, other customs” is valid but also other markets, other legislation, other languages and much more. Therefore, we await you on-site with high-quality consultancy, know-how and an understanding for your individual situation.

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The TPA Group is active in twelve countries in Central and South Eastern Europe: Albania, Austria, Bulgaria, Croatia, the Czech Republic, Hungary, Montenegro, Poland, Romania, Serbia, Slovakia and Slovenia.

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