WOLF THEISS

THE WOLF THEISS GUIDE TO:

Generating Electricity from Renewable Sources in Central, Eastern & Southeastern Europe

2020 Edition

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This 2020 Wolf Theiss Guide to Generating Electricity from Renewable Sources in Central, Eastern & Southeastern Europe is intended as a practical guide to the general principles and features of the basic legislation and procedures in countries included in the publication.

While every effort has been made to ensure that the country guides were accurate when finalised, they should be used only as a general reference guide and should not be relied upon as definitive for planning or making definitive legal decisions. In these rapidly changing legal markets, the laws and regulations are frequently revised, either by amended legislation or by administrative interpretation.

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WOLF THEISS Rechtsanwälte GmbH & Co KG, Attorneys-at-Law,
Schubertring 6, 1010 Vienna, Austria
www.wolftheiss.com

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FOREWORD

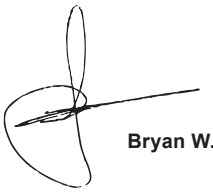
Wolf Theiss is pleased to publish this redesigned, eighth (8th) edition of The Wolf Theiss Guide to: Generating Electricity from Renewable Sources in Central, Eastern & Southeastern Europe for 2020 (the **"Guide"**).

Given the current European and global emphasis on green initiatives and reduction of carbon emissions, the Guide has proven to be a popular publication over the past decade and Wolf Theiss has distributed thousands of hard copies and electronic versions of the Guide to its clients and interested readers. The laws and regulations governing the generation of electricity from renewable energy sources (RES-Electricity) in the Central, Eastern & Southeastern European region remain of major interest to those companies and individuals who are focused on this dynamic and increasingly important sector.

This new edition of our guide reflects some notable modifications in the RES-Electricity legislation in 12 countries of our region since our last publication in 2016.

To facilitate cross-referencing, all country chapters follow a uniform structure. Please note that defined terms in the country chapters apply only to that specific country.

My thanks to all of the teams at Wolf Theiss who have enabled us to produce this eighth (8th) edition of the highly successful RES Guide for 2020. For the reader's benefit, these contributors are all identified (with their contact details) at the end of each chapter.



Bryan W. Jardine ● Partner, Wolf Theiss ● April 2020

RES-ELECTRICITY IN THE VIEW OF THE EUROPEAN AUTHORITIES. EUROPEAN ECONOMIC AND SOCIAL LANDSCAPE FOR 2020-2030

In the fight against climate change, the European Union adopted at the end of 2018 (in near record time) **The Clean Energy Package for all Europeans** – a framework for a consistent approach in transitioning from fossil fuels towards a carbon neutral economy in all Member States.

To do so, the European Union set rules for environmental and economic security of supply for the consumer, increasing the RES quota to thirty two percent (32%), the energy efficiency quota to thirty two point five percent (32.5%). In so doing, the EU has created the basis for a smarter and more efficient electricity market, based on laws that will increase security of supply by helping integrate RES into the grid and mitigate risks, by improving cross-border cooperation and encouraging the use of smart meters. These measures aim to improve energy interconnections between the Member States and to ensure that the energy generators and distribution companies become more competitive and innovative.

Moreover, to strengthen the Member States' efforts, on 11 December 2019, the **European Green Deal** was adopted, which is an integral part of the EU Commission strategy to implement the United Nation's 2030 Agenda and the sustainable developed goals for a clean Europe. The document urges all EU Member States to decarbonise their energy systems to reach climate objectives in 2030 and 2050, to use more RES, complemented by the rapid phasing out of coal and decarbonising of gas. The Commission will assess the targets of the energy and climate plans drafted by the Member States and the need for additional measures if these targets are not sufficiently ambitious.

Under these new guidelines, all EU actions and policies must contribute to the European Green Deal objectives and the European Commission launched a European Climate Pact on 4 March 2020 to focus on ways to engage with the public on climate actions.

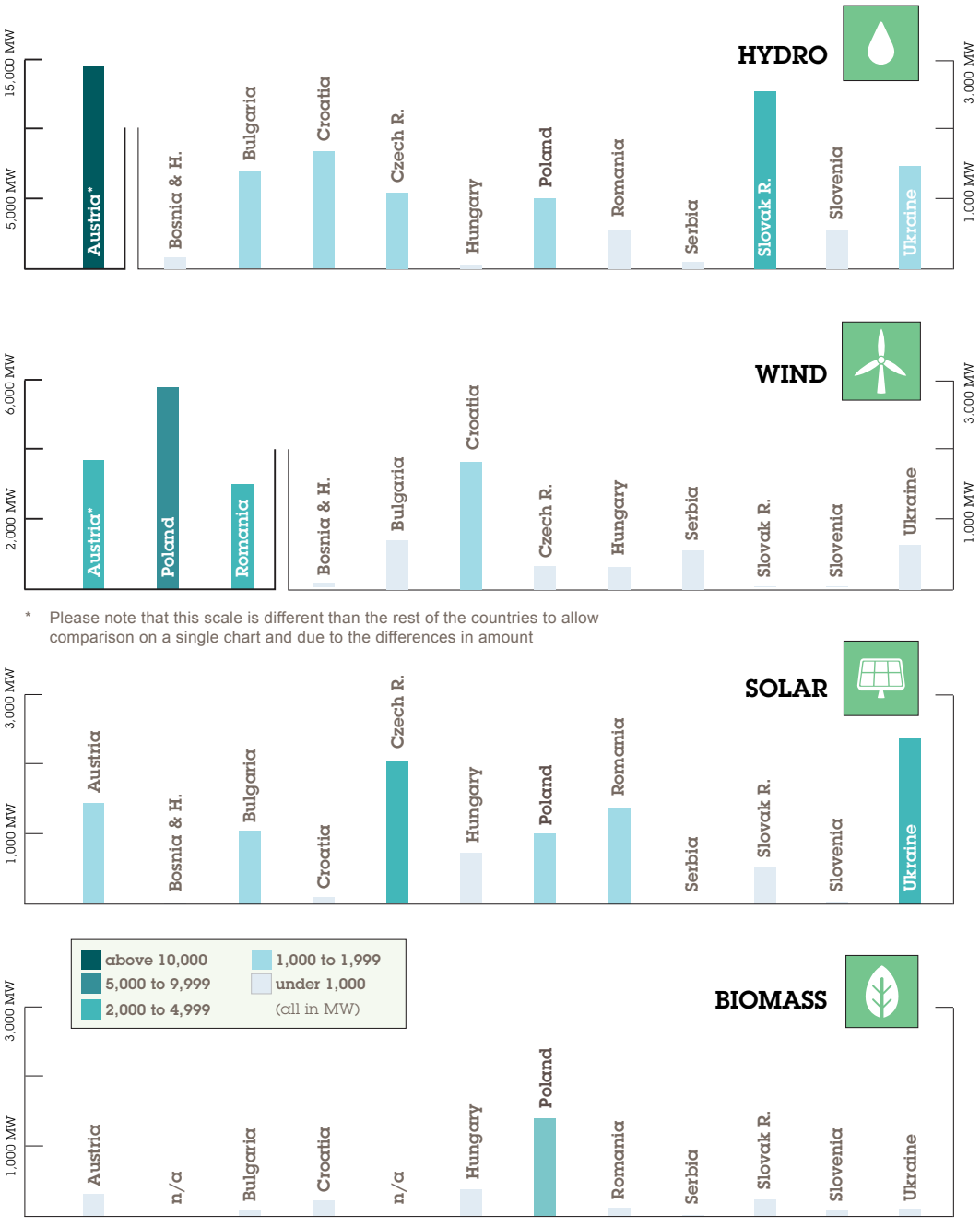
Though the cost of wind power has continued to drop, the inherent variability of wind is an impediment to the effective use of wind power. As a solution, hydrogen fuel and electric power generation could be integrated at wind farms, thereby allowing flexibility to shift production to best match resource availability with system operational needs and market factors. Also, in times of excess electricity production from wind farms, instead of curtailing the electricity as is commonly done, it is possible to use this excess electricity to produce hydrogen through electrolysis.

CLICK ON A COUNTRY TO SEE THE RELEVANT CHAPTER

WOLF THEISS REGION

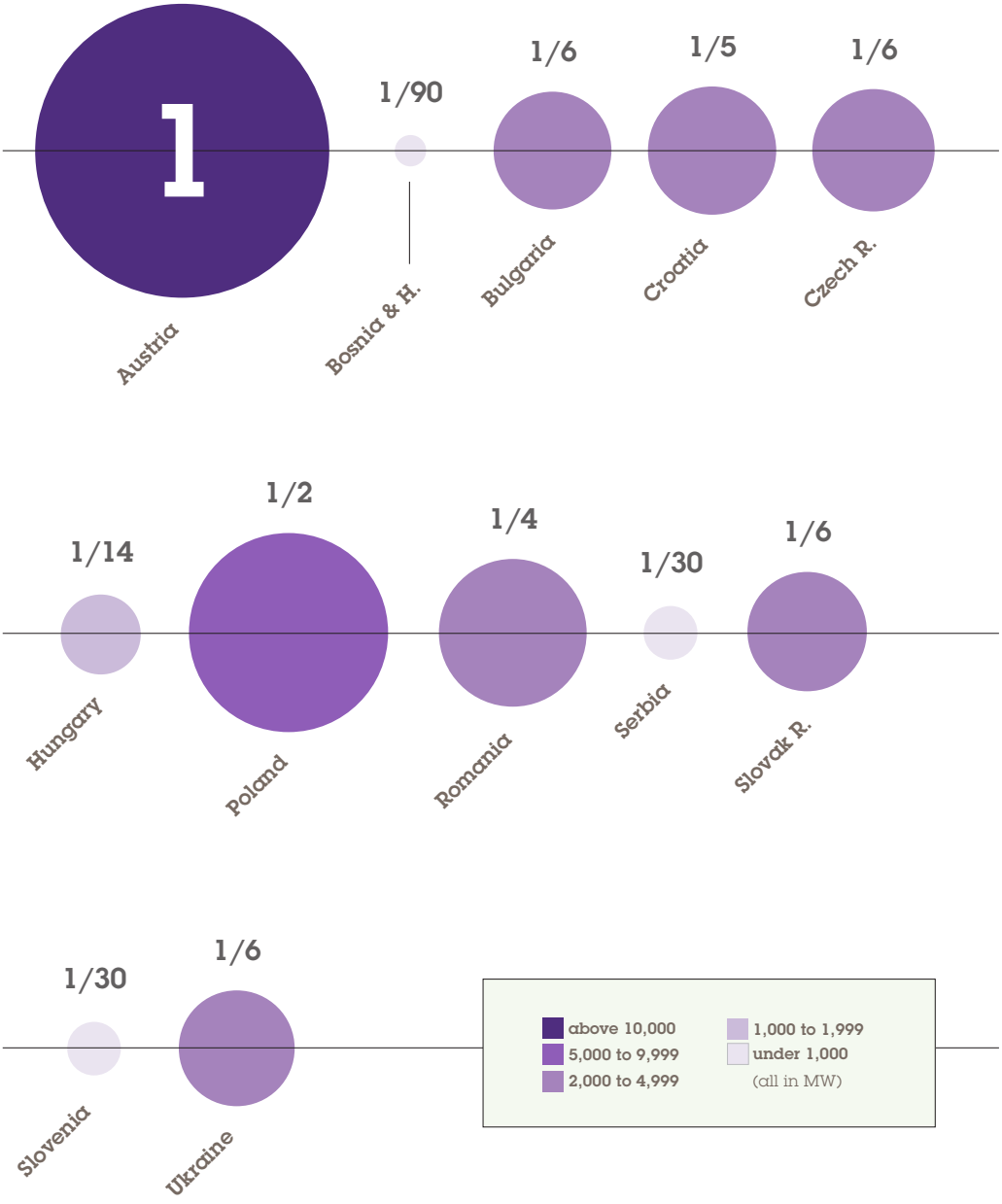
EUROPE

RENEWABLE ENERGY CAPACITY
BY SOURCE



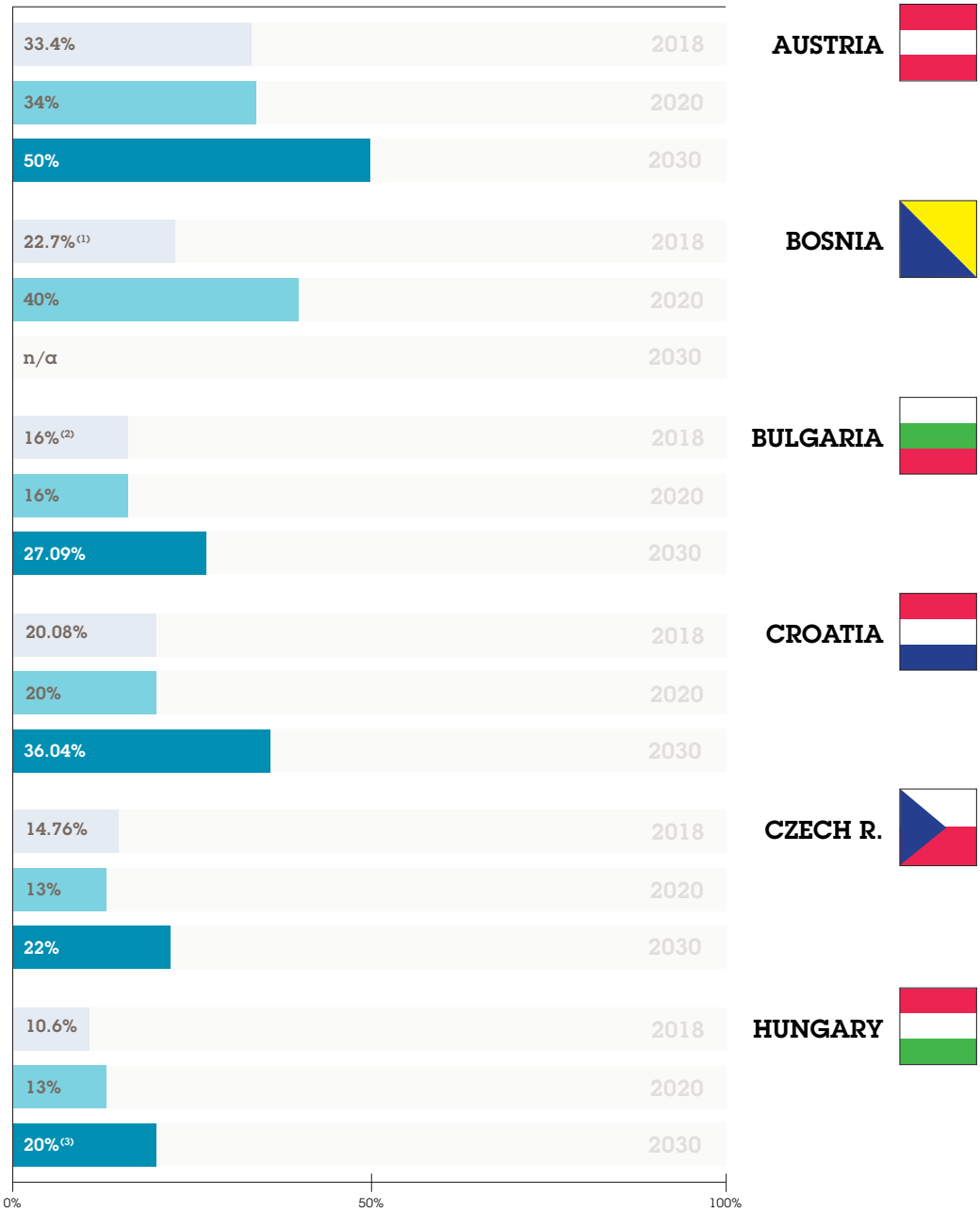
* Please note that this scale is different than the rest of the countries to allow comparison on a single chart and due to the differences in amount

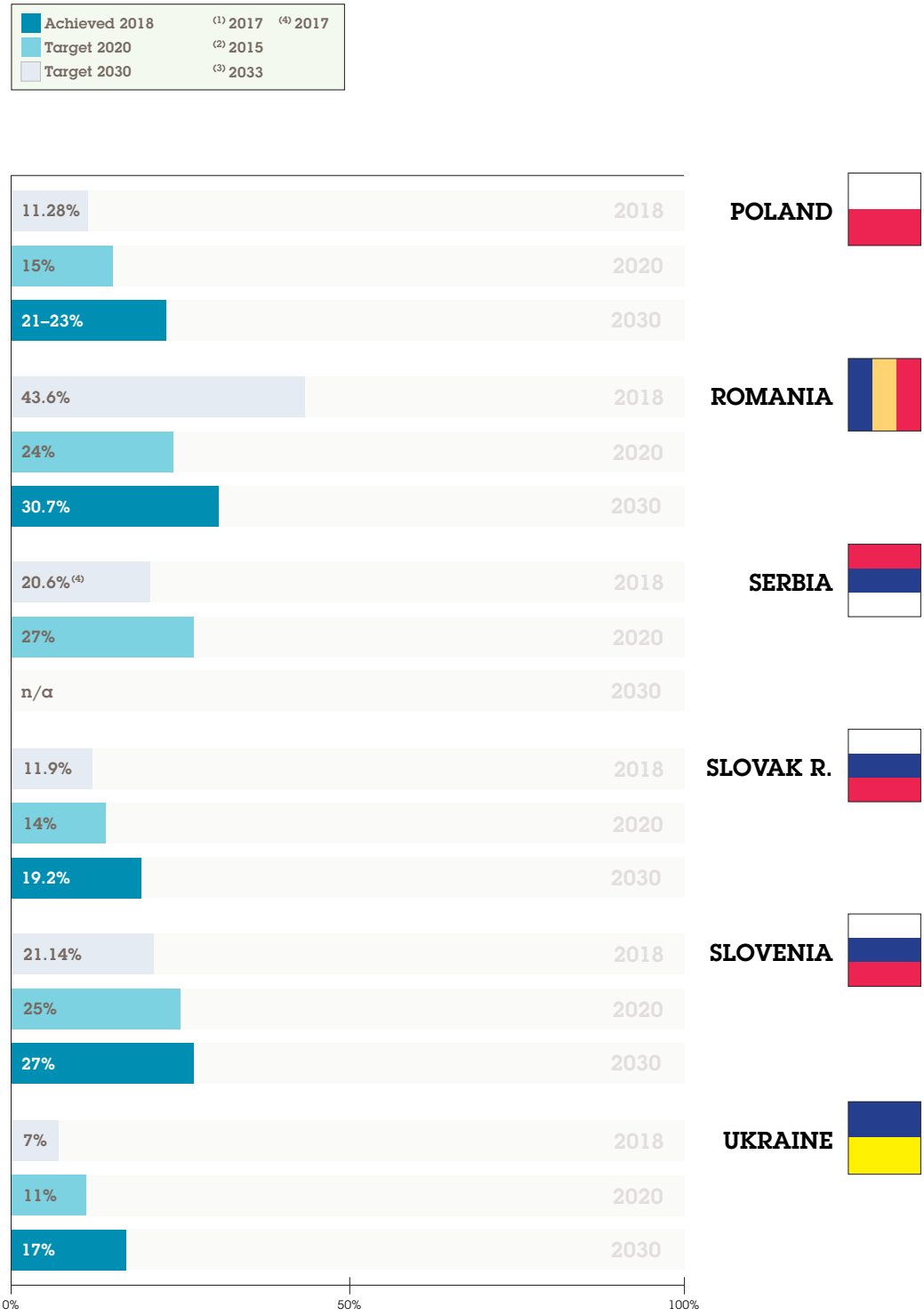
RENEWABLE CAPACITY COMBINED
(HYDRO, WIND, SOLAR, BIOMASS, BIOGAS)



RENEWABLE ENERGY TARGETS AND ACHIEVED VALUES

(AS % OF TOTAL ENERGY CONSUMPTION)




Achieved 2018 (1) 2017 (4) 2017
Target 2020 (2) 2015
Target 2030 (3) 2033
11.28%
2018
15%
2020
21–23%
2030
POLAND
43.6%
2018
24%
2020
30.7%
2030
ROMANIA
20.6% (4)
2018
27%
2020
n/a
2030
SERBIA
11.9%
2018
14%
2020
19.2%
2030
SLOVAK R.
21.14%
2018
25%
2020
27%
2030
SLOVENIA
7%
2018
11%
2020
17%
2030
UKRAINE
0%
50%
100%

WOLF THEISS

AUSTRIA

COUNTRY GENERAL INFORMATION

Capital: Vienna

Location: Austria is a landlocked country in the southern part of Central Europe. It shares its borders with Germany, Czech Republic, Slovakia, Hungary, Slovenia, Italy, Switzerland and Liechtenstein and lies between the latitudes 46° and 49° N and longitudes 9° and 18° E.

Surface: 83,879 km^2

Population: 8,902,600

Climate: Predominantly alpine climate with continental features in the eastern areas and four (4) distinct seasons.

Resources: Minerals are one of Austria's most important natural resources. They include magnesite, iron ore, lignite and non-ferrous metals. Further important resources are Austria's rich farmlands, forests, water, wind and sun. Austria has its own resources of petroleum and natural gas. However, the constant growth of the industrial sector increasingly requires supplementary imports. The generation of hydroelectric power has been very strong historically and is still being expanded, which makes Austria the leader in the field of hydroelectric power in the European Union. Due to its mountainous landscape, the country is particularly strong in storage power plants including pumped storage power plants.

Electricity Grid: The total length of the Austrian electricity grid is approximately 258,907 km. The grid comprises overhead high-voltage power lines with a nominal voltage of 220 kV to 380 kV (6,728 km), a mid-voltage distribution grid with a nominal voltage between 1 kV and 110 kV (80.287 km) and a low-voltage supply grid with a nominal voltage below 1 kV (171,892 km).

Electricity Transmission, Distribution, and Supply: Electricity transmission is a regulated natural monopoly and is provided by Austrian Power Grid AG. In the electricity distribution market, there are currently 122 grid operators. The electricity supply is provided by around 60 private providers. Electricity is also traded on the Austrian electricity and gas exchange market platforms.

Official EU language(s): German. Other regionally recognised languages are Hungarian, Slovene and Croatian.

EU member: Since 1 January 1995.

NATO member: No.

United Nations member: Since 14 December 1955.

Currency: Euro (EUR).

Schengen: Austria is a member of the Schengen area.

Political system, administrative organisation and economy: Austria is a parliamentary representative democracy with a directly elected Federal President as head of state and a Chancellor as head of the federal government. The country is divided into nine (9) federal provinces, one of which is the capital city Vienna. Austria's economy consistently ranks high in terms of GDP per capita. Next to a highly developed services and exporting industry, international tourism is one of the most important parts of the national economy.

1. DEFINED TERMS FOR THE MAIN PERMITS REQUIRED FOR RES-ELECTRICITY GENERATION FACILITIES

Authorisation under Energy law / right (concession) to exploit natural resources

Provincial electricity statutes generally provide for permitting procedures for the construction and operation of power plants, including a facilitated procedure for those power plants generating electricity from RES. The exploitation of certain natural resources (e.g. hydrocarbons) requires a concession granted by the competent Federal Minister. There is, however, no Austrian legislation requiring participation in a prior tender procedure in order to be granted the right to exploit natural resources.

Balancing Group System

In order to generate or to supply consumers with electricity in Austria, membership in a balance group *(Bilanzgruppe)* is required. This membership guarantees the right to use the grid and to physically transport electricity to wholesale and retail customers. Every balance group is represented by a Balance Responsible Party **(BRP;** *Bilanzgruppenverantwortlicher)* vis-à-vis the Imbalance Settlement Responsible **(ISR;** *Bilanzgruppenkoordinator)* and the Control Area Operator **(CAO;** *Regelzonenführer).*

In order to join the Balancing Group System, there are two options: (i) getting licensed as a balance responsible party (i.e. forming a new balance group); or (ii) getting affiliated with an already existing balance group. While option (ii) is less complicated and expensive than option (i), joining an already existing balance group leads to dependence on a third-party BRP who will thereby gain insight into the business activities (procurement channels, quantities, etc.). Existing balance responsible parties are not legally required to accept new members into their balance group.

Building Permit

Building permits may be required under provincial building statutes for the construction and operation of RES facilities. The permitting procedure is usually comprised of three stages: (i) issuance of a declaration declaring the relevant plot as a construction site *(Bauplatzerklärung);* (ii) issuance of a building permit prior to commencement of the construction works *(Baubewilligung)*; and (iii) issuance of a usage permit upon completion of the construction works *(Benützungsbewilligung).* The competent authority for the permitting procedure is the mayor of the relevant municipality or – upon a delegation act – the District Administrative Authority *(Bezirksverwaltungs-behörde),* based upon provincial statutes.

Environmental Permit

An Environmental Impact Assessment *(EIA; Umweltverträglichkeitsprüfung)* is required for (i) wind power projects with a total capacity of at least 30 MW or 20 wind turbines each with a nominal output of at least 0.5 MW (or, under specific circumstances, wind power projects with a total capacity of at least 15 MW, or 10 wind turbines, each with a nominal output of at least 0.5 MW); (ii) hydro power plants with a maximum capacity of at least 15 MW (or, under specific circumstances, 10 MW, or in the case of power plant chains, 2 MW); and (iii) certain facilities combining waste management with power generation. The competent authority is the respective provincial government. Even if no EIA is required, a water use permit, issued by the relevant district authority or, (under specific circumstances), the relevant provincial governor, may be necessary.

E-Control

E-Control is the Austrian energy market regulating authority. Its responsibilities include monitoring the compliance of market participants with all their obligations under energy law and competition supervision--in particular, regarding equal treatment by grid operators, monitoring unbundling and monitoring trade in wholesale energy products.

Feed-in Tariffs	RES-Electricity fed into the grid from officially recognised generating facilities may receive subsidies in the form of feed-in tariffs. These are paid out by the Green Power Clearing and Settlement Agency **(OeMAG;** *OeMAG Abwicklungsstelle für Ökostrom AG).* The tariffs themselves are set forth in the Feed-in Tariff Ordinance *(Ökostrom-Einspeisetarifverordnung 2018 – ÖSET-VO 2018)* and the actual rate depends mainly on the type of generating facility.
Grid Connection	Grid operators are obliged by provincial electricity statutes to grant grid access on the basis of the approved general terms and conditions and certain system usage fees. Priority access is provided for the transport of RES-Electricity, including electricity deriving from Combined Heat and Power (**CHP**) plants, for the purpose of supplying such electricity to customers but only in case of insufficient capacities of the system.
Liability and responsibility for grid connection and/or capacity upgrades, improvements or expansion of grid	The grid operators must provide their services to all users of the electricity grid in a transparent and non-discriminatory manner, ensuring access to the electricity grid in accordance with the law and with the grid capacity to take over the output. The costs of the grid connection are borne by the grid user in the form of a one-off payment to the distribution grid operator. The costs of grid reinforcements, improvements, upgrades and other similar costs are borne by grid users and fixed in an ordinance issued by E-Control on an annual basis.
RES Support Scheme	Certain RES-Electricity facilities recognised under the Green Electricity Act *(Ökostromgesetz 2012 – ÖSG 2012),* are guaranteed for the off-take of the generated electricity at supported Feed-in Tariffs. Facilities eligible for official recognition are (i) facilities run exclusively on the basis of RES; (ii) specific hybrid plants; and (iii) specific mixed combustion plants. Furthermore, investment allowances are possible for constructing/renovating certain hydro power plants and CHP plants, amounting to a certain percentage of the investment costs.
RES-Electricity	Electricity obtained from RES sources such as wind, solar, aerothermal, geothermal, hydrothermal and oceanic waves, hydraulic, biomass and biogas.

2. ENVISAGED NEED FOR INVESTMENTS IN AUSTRIA

At the end of 2019, the Austrian Federal Government submitted to the EU Commission a comprehensive plan to achieve several climate protection targets until 2030 **(#mission2030)** as required by the new EU framework. In its plan, Austria has set itself the goal of increasing the share of energy from RES in gross energy consumption to a value of forty six to fifty percent (46-50%) by 2030. Another ambitious goal is to cover one hundred percent (100%) of Austria's total electricity consumption from RES by 2030.

To this end, it is expected that a number of adaptations to the Austrian legal framework will occur in the years to come which may include

- strengthening of financial support for the expansion of renewable energies by increasing the subsidies;
- digitisation of the energy system, including the transport and distribution networks.

Consequently, it is estimated that in the following years, solar and photovoltaic capacities as well as investments in wind, biomass and other RES will increase. Furthermore, Austria is an interesting market for investors and project developers because of a guaranteed Feed-in Tariff encouraging RES project development.

3. EXECUTIVE SUMMARY-RES MARKET STATUS AND DEVELOPMENT OF RES-ELECTRICITY FACILITIES

3.1 Market Overview – Factsheets

- Comprehensive RES Support Schemes have been available in Austria for almost twenty years and are constantly being expanded;
- The Austrian government has set ambitious climate protection targets which are defined by the government's #mission2030 plan;
- The first big target of #mission2030 (increasing the share of energy from RES in gross energy consumption to forty six to fifty percent (46-50%) by 2030) is likely to be achieved, as thirty two point six percent (32.6%) of total energy consumption (and seventy two point two percent (72.2%) of electricity consumption) was already produced from RES by 2017;
- Until a new comprehensive law on the funding of energy from RES will be passed by the legislator, temporary legislative measures have recently been enacted, aiming at reducing the existing backlog of applications for subsidies for RES facilities by providing further subsidy funds;
- RES-Electricity certified by a guarantee of origin is traded on the markets and monitored and administrated by E-Control. The operator of the grid system to which recognised RES-Electricity facilities are connected is obliged to issue a certificate of origin in relation to the quantities of RES-Electricity that have been fed into the grid, upon the request of the facility operator;
- Generation from CHP plants is an important pillar of bioenergy use in Austria. More than six percent (6%) of Austria's electricity consumption volume and around twenty percent (20%) of the total district heating is produced in CHP plants;
- Green electricity production from solid and liquid biomass as well as biogas has almost doubled from 23.6 TWh in 2005 to 46.1 TWh in 2017.

3.2 RES Market Status, Permitting, Grid Connection, Licensing of RES-Electricity facilities in Austria

RES TARGET 2030 ENVISAGED BY #MISSION2030 (OUT OF FINAL ENERGY CONSUMPTION)	
RES target 2030 envisaged by #mission2030 (out of final energy consumption)	Forty six to fifty percent (46-50%) (thereby one hundred percent (100%) of total electricity consumption), reported achieved in 2018 was thirty three point four percent (33.4%) (and seventy two point two percent (72.2%) of electricity consumption achieved in 2017)
Overall installed general capacity including RES (overall production)	In 2018, overall energy production was 138.89 TWh.
Installed capacity by technology	Biogas – 120 MW; Biomass – 311 MW; Wind power – 3,700 MW; PV – 1,440 MW; Hydro – 14,500 MW.

RES SUPPORT SCHEME	
Beneficiaries of RES Support Scheme	Feed-in Tariffs and allowances are received by the operators of RES electricity facilities recognised under the Green Electricity Act.
Priority and guaranteed off-take into the grid	OeMAG guarantees the off-take of electricity generated in officially recognised RES-Electricity facilities under the Green Electricity Act. Priority access to the grid is provided for the transport of RES-Electricity, including CHP plants for the purpose of supplying such electricity to customers, but only in case of insufficient capacities of the system.
Other incentives	▪ The federal provinces may enact individual incentive mechanisms within their legislative competence. Such investment incentives usually relate to the construction of photovoltaic and biogas facilities operated at a private level; ▪ Investment allowances are available for constructing/ renovating certain hydro power plants and CHP plants, amounting to a certain percentage of the investment costs.
Other conditions	▪ Facilities eligible for official recognition regarding Feed-in Tariffs are (i) power generating facilities that are run exclusively on the basis of RES; (ii) specific hybrid plants; and (iii) specific mixed combustion plants; ▪ The guaranteed Feed-in Tariffs for RES-Electricity from recognised facilities depend on the prices at the time of application and the type of facility; ▪ The allowances for recognised RES-Electricity facilities are based on the electricity produced and fed into the public electricity grid system and the type of facility.
GRID CONNECTION SPECIFICS	
Approvals	Grid operators are obliged by provincial electricity statutes to grant grid access on the basis of the approved general terms and conditions and certain system usage fees.
Permitting Timing: Mainly, depending on licensing procedure (see below).	Connection works to the grid may fall within the licensing requirements as set out below.
LICENSING	
Procedure	▪ EIA required for wind power, hydro power plants reaching certain thresholds as well as for certain facilities combining waste management with power generation; ▪ Possibly required building permissions may include (i) issuance of a declaration declaring the relevant plot as a construction site *(Bauplatzerklärung);* (ii) issuance of a building permit prior to commencement of the construction works *(Baubewilligung);* and (iii) issuance of a usage permit upon completion of the construction works *(Benützungsbewilligung);* ▪ Provincial electricity statutes generally provide for permitting procedures for the construction and operation of power plants, including a facilitated procedure for power plants generating RES-Electricity; ▪ The producer of RES-Electricity must be part of the Balancing Group System.

Duration of administrative procedure	Generally, authorities must issue a decision within six (6) months after submission of a full and complete application. However, the provincial electricity statutes may stipulate a facilitated administrative procedure for permission for the construction and operation of RES-Electricity facilities as a statutory privilege. Such facilitated procedure usually grants the authority a period of three (3) months for a decision on the application. Other – and much longer – time frames may apply according to specific procedural rules (e.g. in the EIA procedures).
Licence's validity	The above-mentioned permits do not have a specific expiry date. However, it may be required to obtain new permits when changes reaching a certain threshold have been made to the RES facility. If specific permits regarding water usage are required, those may be limited in time under the Federal Water Act.

3.3 Designated/preferred legal form of investment vehicle and RES-Electricity project's acquisition

Austrian legislation does not require or recommend a particular type of investment vehicle in the RES-Electricity sector. As a matter of general business practice however, the legal entity operating a RES-Electricity facility will usually be a limited liability company (**"GmbH"**) or a joint-stock corporation (**"AG"**).

The acquisition of/investment into a RES-Electricity project can be performed either through the purchase of the entity/the shares in the entity (share deal) or on an individual asset basis (asset deal). Possible advantages and disadvantages result especially from the fact that the owner of the assets (including the RES-Electricity facility) does not change in case of a share deal, whereas it is not guaranteed that contractual relationships of the vending entity can be taken over in case of an asset deal. In both cases, (and irrespective of the owner of the RES-Electricity facility), the permits regarding the RES-Electricity itself generally remain valid.

For the purchaser's protection, the respective purchase agreement may include a comprehensive set of representations and warranties as well as indemnities, for any issues which the purchaser identified in a possible due diligence process.

Below is a comparison of the advantages and disadvantages of each type of acquisition.

SHARE DEAL

NO.	BENEFITS	DISADVANTAGES
1.	Generally speaking, the transaction can be performed faster and at lower costs. It can also more easily be ensured that the transfer of the RES-Electricity project does not lack contractual relationships necessary for operation.	Complying with Commercial Register formalities for share deal publicity towards third parties.
2.	Taking over energy and facility related permits and authorisations as well as contractual relationships without any other formalities, except for possible notifications to the relevant authorities or market players.	The purchaser may assume historic corporate liabilities (and associated risks) of the entity.

ASSET DEAL

NO.	BENEFITS	DISADVANTAGES
1.	The purchaser does not necessarily assume historic corporate liabilities (and associated risks) of the entity.	Might incur higher tax burden than a share deal (e.g. asset deals are generally subject to VAT).
2.	Higher flexibility as the purchaser may only wish to obtain specific assets from the vending entity.	If the purchased assets include rights to land, the asset purchase agreement must be notarised by an Austrian notary public, subject to a fee. An additional fee must be paid for registering the transfer of the rights to land with the Land Register as well as land transfer tax may arise.
3.		The transfer of relevant contracts (e.g. grid access agreement) may require the consent of the contracting parties (or in some cases the lack of objection by the other contracting parties) and sometimes the conclusion of new agreements.
4.		The purchaser will likely be required to join the Balancing Group System and go through the respective procedure.

4. KEY CHANGES TO THE RES SUPPORT SCHEME SINCE 2016

The regulatory regime relating to renewable energy has undergone several amendments in recent years. In general, the recent legislative actions have addressed the issue of a more efficient allocation of support funds and have aimed at a quicker approximation of the RES facilities to real market conditions. With #mission2030, the Austrian government even goes one step beyond EU targets and is aiming for one hundred percent (100%) of Austria's total electricity consumption to come from RES.

The most recent Coalition Agreement of the new Austrian Federal Government formed by the People's Party and the Green Party confirmed the goal set by the Austrian climate and energy strategy #mission2030. To that end, the legislator took temporary measures at the end of 2019 to ensure that the expansion of green electricity in Austria is not hindered while awaiting the envisaged Renewable Energies Expansion Act *(Erneuerbaren-Ausbau-Gesetz)* to be agreed by the newly formed Federal Government, presented to and passed by Parliament and finally entering into force.

For example, such temporary measures aim at reducing the existing backlog of applications for subsidies for RES facilities by providing further subsidy funds. Furthermore, it shall allow for extending investment subsidies for photovoltaic systems and electricity storage facilities for a further year. Those amendments entered into force on 23 October and 1 November 2019.

5. SIGNIFICANT AND/OR EXPECTED CHANGES IN 2020

The above-mentioned Renewable Energies Expansion Act is the most significant change to be expected in 2020. The aim of the new law is to make RES fit for the market and the market fit for RES, even more than before. To this end, the redesign of the subsidy system is intended to facilitate the market integration of RES-Electricity generation, especially through market premiums and investment subsidies which shall be made available in greater extent.

At the same time, a positive, legally secure and plannable investment climate shall be ensured and administrative barriers reduced. The Renewable Energies Expansion Act is part of the implementation of #mission2030 announced by the Austrian Government which shall help Austria to play a key role in Europe's future renewable energy scene.

6. OVERVIEW OF THE TECHNICAL INOVATIONS IN ELECTRICITY STORAGE AND APPLICABILITY IN AUSTRIA OF SUCH STORAGE TECHNOLOGIES

RES-Electricity facilities are usually fluctuating generation plants, i.e., they do not generate electricity consistently. As a consequence, Austrian grids must become more flexible, so that more RES-Electricity can flow through them. In this regard, storage facilities for electrical energy are considered to be one of the key technologies for the transformation of the energy system as required by the new EU framework and the Austrian #mission2030.

Storage facilities enable a temporal decoupling of supply and demand and thus contribute to the further integration of RES like wind and solar power. However, the construction of large-scale storage facilities is associated with uncertainties and possible risks. In addition, storage facilities are always associated with conversion losses and therefore, are an expensive option for integrating RES-Electricity facilities. Hence, the economic operation of new storage facilities is currently only possible to a limited extent.

In principle, four technologies are available for electricity storage: mechanical, electrochemical (e.g. batteries), electrical, and chemical storage. The actual demand for (specific types of) storage facilities in the Austrian electricity system is hard to predict and depends on many other factors. However, the greatest demand in the future is expected to be in the area of long-term storage.

Apart from long-term storage, battery storage systems have long been used internationally to stabilise electricity grids and are often used to stabilise electricity systems in individual households. While there are mainly two technologies available for batterie storage (lead and lithium-ion), improved technical properties combined with a sharp drop in manufacturing costs have led to lithium-ion cells being considered for many applications today. For such battery types, analysts forecast a very strong global growth in the coming years. This is expected to be also true for Austria.

On the one hand, the consequences and risks of this technology arise in the various life cycle phases (provision of raw materials, recycling and disposal, etc.). To this end, Austrian research institutions and companies have already built up significant know-how in these fields.

7. SUPPORT SCHEME FOR COGENERATION

The CHP Act *(KWK-Gesetz)* provides for a support scheme specifically for the operation and modernisation of existing CHP-plants. Furthermore, the Green Electricity Act provides for investment allowances granted to the operators of CHP-plants based on waste to energy under certain conditions. The operators of existing and modernised CHP-plants are compensated for the costs arising from the maintenance of on-going operation of CHP-plants.

The generation from CHP plants is an important pillar of bioenergy use in Austria. More than six percent (6%) of Austria’s electricity consumption volume is produced in about 140 power plants and CHP plants based on solid biomass, in about 280 biogas plants as well as in the paper industry's lye combustions CHP plants. Almost half of the biomass district heating generation comes from CHP plants. In total, biomass CHP plants provide around twenty percent (20%) of the district heating generated in Austria.

This chapter was written by Kurt Retter und Dominik Engel.

KURT RETTER
Partner

Wolf Theiss, Austria

+43 1 51510 5240
kurt.retter@wolftheiss.com

DOMINIK ENGEL
Associate

Wolf Theiss, Austria

+43 1 51510 5248
dominik.engel@wolftheiss.com

WOLF THEISS

BOSNIA & HERZEGOVINA

COUNTRY GENERAL INFORMATION

Capital: Sarajevo

Location: Bosnia and Herzegovina (**"BiH"**) is a South-Eastern European country situated on the north-western part of the Balkan peninsula. It borders on the north, west and south with Croatia, and on the east and south with Serbia and Montenegro.

Surface: 51,197 km².

Population: According to the last population census from 2013, BiH has 3,531,159 inhabitants.

Climate: There are three types of climate, i.e. continental and moderate-continental; mountain and mountain-basin; and Mediterranean.

Resources: BiH is rich in water resources, forests (approximately fifty three percent (53%) of the total surface area), various minerals such as zinc, lead, bauxite, and manganese, coal (more than sixty percent (60%) is lignite and the rest is brown coal), metal resources (ore, stone salt, asbestos, gypsum, etc.), and fertile land. BiH rivers have great hydropotential estimated at 18,600 GWh annually, however only forty percent (40%) of the hydropotential is currently used. Considering its surface area, BiH is a country which is one of the richest in Europe when it comes to forests. Furthermore, BiH also has significant wind power potential, especially in the south of the country.

Electricity Grid: The total length of the national electricity transmission grid is 6,442.86 km. The grid is comprised of overhead power lines with a nominal voltage of 400 kV, 220 kV and 110 kV, as well as electrical power stations having a voltage of 400 kV, 220 kV, 110 kV and 35 kV and underground 110 kV cables. The BiH power system comprises 153 high voltage power stations and four (4) middle voltage power stations.

Electricity Transmission, Distribution, and Supply: Electricity transmission is a regulated natural monopoly and is provided by the joint stock company Elektroprijenos BiH (**"Transco"**). Transco performs all activities relating to electricity transmission in BIH, including, inter alia, construction, maintenance and extension of the transmission grid. The electricity distribution in BiH is performed by four (4) public enterprises, i.e. Elektroprivreda of BiH d.d.-Sarajevo and Elektroprivreda Hrvatske zajednice Herceg Bosne d.d. Mostar in the Federation of Bosnia and Herzegovina (**"FBiH"**), Mješoviti holding ERS Trebinje in the Republic of Srpska (**"RS"**) and Komunalno Brčko d.o.o. Brčko in Brčko District. The electricity market is based on bilateral transactions between licensed participants, since the country has not yet established an electricity stock exchange. The supply of electricity within the territory of BiH is performed by twenty (20) licensed companies out of which, four (4) are licensed by the RS Regulatory Commission for Energetics (**"RERS"**), fifteen (15) are licensed by the FBiH Regulatory Commission for Energy (**"FERK"**) and one (1) is licensed by the BiH Regulatory Commission for Electricity (**"DERK"**) for supply within the Brčko District territory. All those companies may freely perform their licensed activities within the territory of BiH regardless of which regulatory commission issued their licences.

Official language(s): Bosnian, Croatian and Serbian.

EU member: No. BiH signed the Stabilisation and Association Agreement with the EU on 16 June 2008 by which it established the framework for implementation of comprehensive legal, administrative and economic reforms that will lead the country to EU membership. BiH submitted its application for EU membership on 15 February 2016.

NATO member: No. BiH was invited to join the Membership Action Plan (MAP) in 2010.

United Nations member: Yes, since 22 May 1992.

Currency: Bosnian convertible mark (BAM). The Central Bank of BiH maintains monetary stability by issuing domestic currency according to the currency board arrangement with full coverage in freely convertible foreign exchange funds under the fixed exchange rate (BAM 1 = EUR 0.51129).

Schengen: Not a member of the Schengen area.

Political system, administrative organisation and economy: BiH is a country consisting of two separate entities: FBiH and RS and one special autonomous district under the direct sovereignty of the state, i.e. Brčko District. In each of the three areas in principle different legal regimes are applicable, however certain matters are regulated by the national laws which are applicable in both entities and Brčko District. FBiH is further divided into ten (10) smaller administrative units called cantons. Besides the cantons in BiH there are also municipalities, of which there are 79 in FBiH and 64 in RS. The political system of BiH is a parliamentary democracy which provides for the Parliament Assembly as the highest legislation authority and which is comprised of two (2) houses, i.e. House of Peoples and House of Representatives. The Presidency of BiH consists of three (3) members, each member representing one of the three (3) constituent ethnic groups in BiH (Bosnian, Croatian and Serbian). The Council of Ministers of BiH is the highest executive authority at the state level. At an entity level, both FBiH and RS have their constitutions and they are rather autonomous. The Constitution of BiH provides that state institutions have jurisdiction over the following matters: foreign affairs, foreign trade, customs, monetary politics, financing of the institutions and international undertakings of BiH, regulation of immigration, refuges and asylum, implementation of the international and inter-entity criminal regulations including relations with Interpol, establishing and functioning of the means of mutual and international communication, regulation of inter-entity transport and air traffic control. All governmental functions and competencies which are not explicitly delegated to the BiH institutions belong to the entities. Entities also have their legislative authorities, i.e. the FBiH Parliament and National Assembly of RS. The entities have presidents and governments which consist of 16 ministers and a prime minister. Brčko District has a Government comprised of mayor, deputy mayor and departments such as the executive authority and the Council of Brčko District as the legislative authority.

The BiH economy is essentially a transitional economy which relies primarily on the export of metals, energy, textiles and furniture. BiH has preferential trade agreements with Member States of the Central European Free Trade Agreement (CEFTA). In the BiH financial system, the banking sector is dominated by foreign banks, especially those from Austria and Italy with the exception of only one domestic state-owned commercial bank. The sector is fairly liquid and well capitalised. BiH has the status of an observer of the WTO since 1999 and negotiations for joining this organisation are still ongoing. The energy sector in BiH is one of the current and future key drivers of the BiH economy, considering that there are plenty of possibilities to invest in RES, since the RES potential is high but still not significantly developed. The energy sector can potentially be a source of national employment in the future by opening up new job opportunities and attracting foreign direct investment in the country. The national currency is pegged to the euro through a currency board arrangement, established by the Law on the Central Bank of BiH in 1998. The currency board established and maintained trust in the national currency and has created strong trade links with the EU partners.

1. DEFINED TERMS FOR THE MAIN PERMITS REQUIRED FOR RES-ELECTRICITY GENERATION FACILITIES

Building Permit	Administrative deed issued by the competent entity, cantonal or municipal body before commencement of the construction of the RES-Electricity facility. The building permit in BiH includes an obligation of the investor to commence with the construction of the RES-Electricity facility within a certain period of time, usually between one (1) and three (3) years from the date of issuance of the construction permit.
Concession right[1]	If the applicable concession law requires, the investor must obtain a concession right in order to exploit a natural resource and/or to produce RES-Electricity. The concession is granted by the decision issued by the concession grantor following the completion of the tender or self-initiative procedure in accordance with the applicable concession law. Upon issuance of the decision granting the concession right, the concessionaire signs a concession agreement with the concession grantor which regulates the rights and responsibilities of the parties in relation to the granted concession and performance of the future concession activity.
Connection Conditions	Technical document issued by Transco if the RES-Electricity facility is to be connected to the transmission grid. The Connection Conditions are issued based upon a technical solution for connection to the transmission grid. Once the Connection Conditions are issued, the investor must submit a statement to Transco, declaring the acceptance of the Connection Conditions.
Environmental Permit	Administrative deed evidencing the compliance of the RES-Electricity facility with the environmental requirements as provided by the law, and which also prescribe all relevant conditions and measures for mitigation and prevention of adverse effects on the environment during construction and operation of the RES-Electricity facility.
Liability and responsibility for grid connection and/or capacity upgrades, improvements or expansion of grid	The applicable statutory regulations provide that electricity producers bear the cost of connection of the RES-Electricity facility to the distribution or transmission grid. One of the advantages defined in the BIH Rulebook on Access is that producers of RES-Electricity pay only fifty percent (50%) of the regular access fee to the transmission grid. Furthermore, the Grid Code of Independent System Operator (**"ISO"**) provides that all electricity producers connected to the transmission grid which change technical parameters of their system must not create a negative influence on the transmission grid. All producers connected and using the transmission grid may be temporarily curtailed with or without prior written notice only for those reasons prescribed in the Grid Code. If a producer is curtailed without justified reason by the operator of the grid it is entitled to damage compensation. All producers connected and using the grid shall be treated in a non-discriminatory manner.

[1] In BiH there are 14 applicable laws on concessions, i.e. one (1) on the state level, two (2) on the entities level, one (1) on the Brčko District level and ten (10) on the cantonal levels. Each law provides the list of the activities and natural resources for which the concession should be obtained in order to perform the certain commercial activity.

Licence for generation of the electricity from the RES-Electricity Facilities	The licence is issued by the competent regulatory commissions (i.e. FERK, RERS or DERK, depending on the location of the facility) enabling the investor to produce electricity from the constructed RES-Electricity facility. In RS, the licence for generation of RES-Electricity is required for facilities with an installed capacity exceeding 1 MW. In FBiH such licence is required for all facilities regardless of their installed capacity.
RES-Electricity	Electricity obtained from RES sources, such as wind, solar, aerothermal, geothermal, hydrothermal and waves, hydraulic, biomass and biogas;
RES Support Scheme	A comprehensive incentivising system established in accordance with the FBiH and RS laws on use of RES and efficient cogeneration. In FBiH, the RES Support Scheme is based on feed-in tariffs, which provide for a guaranteed repurchase of electricity from producers that obtained the status of a privileged producer. In FBiH, the mandatory repurchase of electricity at the price set by the feed-in tariffs may be granted for a maximum period of twelve (12) years. Furthermore, producers of RES-Electricity in FBiH have priority access to the grid, while qualified producers also have priority of dispatch. The RS RES Support Scheme is based on feed-in tariffs and premiums for consumption of electricity for personal use or sale on the market. In RS, the mandatory repurchase of electricity at the feed-in tariff or the right to premiums may be granted for a maximum period of fifteen (15) years. In addition to the monetary aspects of the RES Support Schemes in both FBiH and RS, the RES Support Schemes are financed by the funds paid and collected from all end-consumers of electricity. Currently, there is no RES Support Scheme in place in Brčko District.
Energy permit and permit for construction of the RES-Electricity facility	In FBiH, an energy permit is an administrative act issued by the Federal Ministry for Energy, Mining and Industry by which the investor will obtain the right to construct or reconstruct a RES-Electricity facility. An energy permit must be obtained before submitting a request for a building permit to the competent authority. In RS, the investor is obliged to obtain a permit for construction of the RES-Electricity facility where the installed capacity exceeds 1 MW. Such permit is issued by RERS. As with the energy permit, this permit must also be obtained before submitting the request for a building permit. In the Brčko District, the license for construction of a RES-Electricity facility where the installed capacity exceeds 1 MW is issued by DERK.

2. STRATEGIC PRIORITIES FOR DEVELOPMENT OF THE RES SECTOR UNTIL 2035

The BiH Framework Energy Strategy established the following five (5) strategic priorities for development of the RES sector until 2035:

- Standardisation of cooperation mechanisms with other countries in order to implement measures and programmes for stimulating RES-Electricity production;
- Prescribing the benefits of connecting to the transmission system for power plants that generate RES-Electricity, if it provides a safe system of operation and is based on transparent and non-discriminatory data;
- Increase of the share of RES-Electricity generation (that enters the incentive system) in overall electricity generation, along with adequate system organisation;

- Regulating the utilisation of the minimum levels of energy from RES for construction of new or renovating existing facilities and enactment of regulations to govern the implementation of cogeneration in the heating and cooling sector; and

- Achievement of the goal of ten percent (10%) share of RES in energy generation in transport in 2020, and continued promotion of biofuels by 2035.

3. EXECUTIVE SUMMARY-RES MARKET STATUS AND DEVELOPMENT OF RES-ELECTRICITY FACILITIES

3.1 Market Overview – Factsheets

- The RES-Electricity market in BIH has seen significant development since the enactment of the FBIH Law on Use of RES and Efficient Cogeneration as well as the RS Law on RES and Efficient Cogeneration in 2013, (including various implementation bylaws adopted by the competent regulators);

- On 30 March 2016, the Council of Ministers of BiH adopted the BiH National Renewable Energy Action Plan (**"NREAP"**) until 2020. NREAP was developed based on the action plans for RES in FBiH and RS. By adoption of NREAP, BIH moved a step forward to compliance with the requirements of Directive 2009/28 EC;

- NREAP set the overall goal for BiH of a forty percent (40%) share of RES in the gross final energy consumption by 2020. Such a high share of RES in the gross final energy consumption was determined on the basis of the high RES share in 2009 as the baseline year. According to the Action Plan for Usage of RES in FBiH the goal is to reach a forty one percent (41%) share of RES and according to the Action Plan for Usage of RES in RS the goal is to reach a forty eight percent (48%) share of RES by 2020;

- In November 2017, BiH as a party to the Energy Community Treaty, submitted to the Energy Community Secretariat its First Progress Report under the Directive 2009/28/EC. The obligation of submitting the progress reports on renewable energy to the Secretariat arises from Article 22 (1) of Directive 2009/28 EC;

- The RS Action Plan for Usage of RES was revised in 2018. The dynamic quotas for solar power plants were increased from 8 MW to 12.2 MW and dynamic quotas for biomass were decreased from 14.83 MW to 12.96 MW;

- The FBiH Action Plan for Usage of RES was also revised in 2018. The dynamic quotas for solar power plants were increased from 11 MW to 23 MW and dynamic quotas for biogas were set at the amount of 1.2 MW;

- At the beginning of 2018, a working group was formed in order to develop a concept for the reform of the RES Support Schemes in BiH (**"Working Group"**). The members of the Working Group are the Ministry of Foreign Trade and Economic Relations of BiH, the Federal Ministry of Energy Mining and Industry, the Ministry of Industry, Energetics and Mining of RS, DERK, FERC, RERS, and the RES Operators in FBIH and RS;

- In March 2018, the first large wind power plant (**"WPP"**) in BiH commenced operation. The WPP generates 50 MW of installed capacity and its investor is a public enterprise Elektroprivreda HZ HB d.o.o. Mostar;

- In September 2018, the Working Group made a final report on a new concept for the reform of the RES Support Schemes in BiH, which proposed a feed-in premium for large installations (installed capacity

exceeding 500 kW) and feed-in tariffs for smaller installations. In addition, certain tax relief mechanisms were proposed as part of the new concept for the RES Support Scheme;

- In April 2019, amendments to the RS Law on RES and Efficient Cogeneration were enacted by which generation of electricity from WPPs is excluded from the RES Support Scheme;
- In July 2019, BiH submitted the Third Progress Report under the Directive 2009/28/EC;
- On 29 August 2019, the Council of Ministers of BiH adopted the Framework Energy Strategy for BiH until 2035. The purpose of the Framework Energy Strategy is to identify key priorities required for the development of the energy sector in BiH.

3.2 RES Market Status, Permitting, Grid Connection, Licensing of RES-Electricity facilities in Bosnia and Herzegovina

GENERAL MARKET DATA	
RES Target 2020 provided by NREAP	The overall goal for BiH includes forty percent (40%) target share of RES in the gross energy final consumption until 2020. In 2017 it was reported that twenty two point seven prevent (22.7%) of the target had been achieved.[2]
Overall installed General Capacity including RES (overall production)[3]	In 2018, the installed capacity of all production facilities in BiH was 4,462.23 MW whereas the overall electricity production was 17,872.99 GWh.
Installed capacity by technology[4]	Pumped Hydro – 420 MW Small Hydro – 159 MW Wind power – 51 MW Solar – 18.51 MW Biogas – 0.99 MW Biomass – 0.25 MW
RES SUPPORT SCHEME	
Mandatory repurchase of electricity produced in the RES-Electricity facility at the guaranteed prices	In FBiH, a producer which obtains the status of privileged producer is entitled to a mandatory repurchase of electricity produced in the RES-Electricity facility for a period of twelve (12) years. The privileged producer concludes a standard model power purchase agreement (**"PPA"**) with the RES Operator. In RS, the producer which fulfils the requirements for a mandatory repurchase can conclude a PPA with the Elektroprivreda RS acting as the RES operator for a duration of fifteen (15) years.

2 Source: EUROSTAT and Agency for statistics of Bosnia and Herzegovina

3 Source: DERK's Annual Report for 2018

4 Source: DERK's Annual Report for 2018

RES-Electricity facilities eligible for mandatory repurchase of the electricity at the guaranteed prices	In FBiH the following RES-Electricity facilities are eligible for mandatory repurchase: ▪ hydro power plants (**"HPPs"**) with an installed capacity of up to 10 MW; ▪ WPPs regardless of the installed capacity; ▪ solar power plants (**"PVs"**) up to and including 1 MW of installed capacity; ▪ geothermal power plants up to and including 10 MW of installed capacity; ▪ biomass power plants up to and including 10 MW of installed capacity; ▪ biogas power plants up to and including 1 MW of installed capacity; ▪ waste power plants up to and including 5 MW of installed capacity; ▪ efficient cogeneration facilities up to and including 5 MWe of installed capacity. In RS, the following RES-Electricity facilities are eligible for mandatory repurchase: ▪ HPPs with an installed capacity up to 10 MW; ▪ PVs up to and including 1 MW of installed capacity; ▪ geothermal power plants up to and including 10 MW of installed capacity; ▪ biomass power plants up to and including 10 MW of installed capacity; ▪ biogas power plants up to and including 1 MW of installed capacity; ▪ efficient cogeneration facilities up to and including 10 MWe of installed capacity.
Other incentives	In FBiH RES-Electricity facilities have advantages in terms of supply of electricity, i.e. advantages in dispatch as well as advantage in terms of allocation of rights of facilities with installed capacity of less than 150 kW, without reporting their daily schedule to the RES Operator. In RS, RES-Electricity facilities have benefits when connecting to the grid, in terms of time and in certain cases the cost for analysis of connection to the grid. Preferential access to the network (dispatching) to be mandatorily provided by the system operator to whose grid the generator is connected.

GRID CONNECTION SPECIFICS	
Connection documentation and approvals	▪ Based on the elaboration of the technical solution for connection to the transmission grid, the TSO will issue the Connection Conditions to the investor; ▪ Based on the issued Connection Conditions and building permit, the investor can conclude the connection agreement with Transco in accordance with the Grid Code. The connection agreement regulates all technical, legal and economic conditions for connection of the RES-Electricity facility to the transmission grid. ▪ Once the connection is constructed, Transco issues the approval for connection of the high voltage facility to the transmission grid. ▪ The consent for operational start of the high voltage facility is issued by ISO based upon the approval for connection and request of the owner of the RES-Electricity facility. ▪ The consent for the temporary operation of the facility is issued by ISO in order to conduct all functional and compliance tests in accordance with the Grid Code. ▪ Once the functional and compliance tests are performed, ISO issues the consent for permanent work of the facility. All of the above-mentioned approvals, documents and steps are applicable only if the RES-Electricity facility is to be connected to the high voltage transmission grid. If the RES-Electricity facility is to be connected to the distribution grid, the approvals will be obtained and agreements concluded with the operator of the distribution grid in accordance with the rules and procedures of the operators of distribution grids.
Costs	The producer bears the costs for preparing the elaboration of the technical solution for connection to the transmission grid. Also, the producer bears the costs for construction of the connection to the grid. The costs for the connection consist of a fixed and variable part. The producers from RES-Electricity facilities pay only fifty percent (50%) of the fixed costs for the connection.
LICENSING	
Licences	Once the RES-Electricity facility is constructed and the use permit is obtained, the producer can obtain the licence for generation of the electricity in the RES-Electricity facility. The licence in FBiH is issued by FERK. In RS the licence for generation is issued only for RES-Electricity facilities which have installed capacity in excess of 1 MW. The licence is issued by RERS.
Duration of administrative procedure	Within sixty (60) days from the submission of the full documentation for all above-mentioned licences.
Licence's validity	The licence for generation of RES-Electricity in FBiH and RS is issued for a duration of up to thirty (30) years.

3.3 Designated/preferred legal form of investment vehicle and RES-Electricity project's acquisition

The relevant legislation in BiH does not require or recommend a particular type of investment vehicle in the RES-Electricity sector. Usually investors establish a special purpose vehicle company (SPV) which will perform only the business activities of generation, supply or trade of the RES-Electricity without performing any other business activities which are not related to the said activities.

The Law on Electricity of FBiH stipulates that the activities of the generation, supply, distribution and trade of electricity can be performed by entities which are established in accordance with the FBiH Company Law. This law provides for the following types of commercial entities: (i) limited liability company *(društvo sa ograničenom odgovornošću);* (ii) joint stock company *(dioničko društvo);* (iii) limited partnership *(komanditno društvo);* and (iv) general partnership *(društvo sa neograničenom solidarnom odgovornošću).* On an exceptional basis, natural persons can perform the activity of generation of RES-Electricity with installed capacity up to 150 kW. In such case, the natural person must be registered in accordance with the Law on Crafts and Related Activities of FBiH.

The RS Law on Electricity also provides that the licence for performing activities of generation, distribution, supply and trade of electricity in the domestic market may be issued to natural persons or legal entities. The RS Company Law provides for the following types of commercial entities: (i) limited liability company *(društvo sa ograničenom odgovornošću);* (ii) joint stock company *(akcionarsko društvo);* (iii) limited partnership *(komanditno društvo);* and (iv) partnership company *(ortačko društvo).*

The Brčko District Company Law provides for the same types of commercial entities as the FBiH Company Law.

Considering the low costs and simple procedure for its establishment, the most common and popular form of commercial entity for RES-Electricity projects in BiH is the limited liability company.

An SPV established for implementation of RES-Electricity projects usually contains the following types of assets: (i) concession right and various administrative permits allowing the construction of the RES-Electricity facility; (ii) ownership or superficies rights over the land plot/s on which the RES-Electricity project will be erected; (iii) various technical and project documentation including but not limited to studies, designs, elaborations, etc.; (iv) various contracts which the SPV company concluded in order to construct and operate the RES-Electricity facility; and (v) tangible assets and employees.

The acquisition of a RES-Electricity project can be carried out either by the purchase of shares in the SPV company (share deal) or on an individual asset basis (asset deal).

Below is a comparison of the advantages and disadvantages of each type of acquisition.

SHARE DEAL

NO.	BENEFITS	DISADVANTAGES
1.	The most common way to purchase a RES-Electricity project in BiH.	Complying with commercial register formalities for share deal publicity towards third parties.
2.	Taking over all civil and energy related permits and authorisations without any other formalities, except the notification to the relevant authorities where mandatory by the applicable law in case of change of control over the SPV's shares or change of the project's characteristics.	The purchaser assumes all the historic corporate liabilities (and associated risks) of the SPV.
3.	The transaction can be performed faster, at lower costs and ensures easier transfer of the RES-Electricity project with the necessary elements for construction and operation.	

4.	Flexible transaction structure based on the findings of a proper due diligence on the company, plus the real estate assets, permits and authorisations, movable assets, and employees, as the case may be.	
5.	Transaction in two stages: signing and closing. The transaction usually contemplates conditions precedent to closing: ▪ performing a comprehensive due diligence to the purchaser's satisfaction, not only legal, but also technical, commercial, tax and accounting on the RES-Electricity project and the SPV; ▪ the seller obtaining any outstanding permits and authorisation and securing any relevant rights to land or for access; ▪ the seller terminating any unnecessary or undesired contracts and/or obtaining any relevant consents up to the development stage.	
6.	The transaction might contemplate a holdback on the purchase price or payment in instalments, to ensure that certain agreed milestones are met.	
7.	For the purchaser's protection, the share-purchase agreement may include a comprehensive set of representations and warranties regarding the SPV and the project, as well as indemnities, for any issues which the purchaser may have identified in the due diligence process. It is also recommendable to include as a condition for the transaction to enter into a real estate title insurance and warranty & indemnity insurance covering certain risks under the sale and purchase agreement.	

ASSET DEAL

NO.	BENEFITS	DISADVANTAGES
1.	The purchaser will not take over the historic corporate liabilities (and associated risks) of the SPV.	If the project includes ownership rights over the land, the asset purchase agreement must be notarised by the notary public, subject to a fee.
2.	The purchaser can change the characteristics of the project before applying for various permits and authorisations.	In FBIH, if the holder of the energy permit decides to transfer the energy permit to another entity, it is obliged to continue performing all activities in line with the issued energy permit until the energy permit is officially transferred to that other entity. The procedure for transfer could be lengthy and may last up to ninety (90) days.
3.		Additional fee to be paid for registering the transfer of the rights to land with the Land Register. Also, a new acquirer of the land is obliged to pay real estate tax.
4.		The transfer of the energy-related permits associated with the project requires, in principle, the consent of the issuer and if there are technical changes to the project, the issuance of other permits and authorisations.

5.		The transfer of relevant contracts requires the consent of the contracting parties and sometimes the conclusion of new agreements, renewing the contracting parties and ensuring the undertaking of the assumed obligations.
6.		Under the applicable laws in BiH it is not possible to acquire the business as a whole, so any asset deal requires an asset-by-asset transfer approach.

4. KEY CHANGES TO THE RES SUPPORT SCHEME SINCE 2016

Since 2016, the FBiH Law on Use of RES and Efficient Cogeneration has not been amended. The RS Law on RES and Efficient Cogeneration was amended in 2019. The most significant change is that the WPPs as RES-Electricity facilities, are completely excluded from the mandatory repurchase of the electricity at the feed-in tariffs, i.e. guaranteed price. Although they are no WPPs constructed and operational in RS, the National Assembly of RS decided not to incentivise their construction through the RES Support Scheme. The reasoning behind the abolishment of the feed-in tariffs for WPPs, was stated need by the RS for a limitation on the levy for incentivising RES paid by the end-consumers (since supporting the generation of WPPs proved to be costly and burdensome for end-consumers in RS). The preceding period has been characterised mainly by the enactment of bylaws which introduced certain novelties and changes of the RES Support Schemes in BiH and the RES sector generally. In order to meet the requirements set out in the Energy Community Treaty, BiH as a party to the treaty, is, obliged to adopt both the primary legislation and the secondary legislation necessary to ensure an efficient, adequate and actual implementation of the primary legislation.

However, the most important activity regarding the RES Support Schemes in BiH which characterised the period since 2016 is the work on the concept for reforming the RES Support Schemes in BiH. Although there were no legislative activities in that regard, the Working Group of BiH, formed by the most important authorities from the energy sector in BiH, made a final report on reforms of RES Support Schemes and agreed on directions and mechanisms which should be introduced in the legal frameworks in both entities in order to fulfil the ultimate increase of RES in gross final energy consumption.

4.1 Revision of the maximum capacity which can be accepted by BiH power system

At a session held on 14 March 2019, DERK adopted the Decision on Granting of Maximum Capacity of Acceptance from Unmanageable Electricity Sources, by which the maximum capacity of WPPs which can be accepted by the BiH power system was set at 460 MW (previously 350 MW) and at 400 MW for PVs. Due to the absence of the unique criteria for distribution of the maximum capacity from WPPs and PVs between FBiH and RS, DERK invited the competent authorities in FBiH and RS to agree on the established practice – i.e. that two thirds (2/3rd) of the maximum capacity belongs to FBiH and one third (1/3rd) to RS. Furthermore, according to the respective Decision, ISO is obliged to continuously perform the relevant analysis and to deliver to DERK a new proposal for the maximum capacity for acceptance by the BiH power system from unmanageable electricity sources.

4.2 The Rulebook on Obligatory Share and Offtake of Electricity Generated from RES

In December 2016, FERK adopted the Rulebook on Obligatory Share and Offtake of Electricity Generated from RES by which it determined for all suppliers to end-consumers in FBiH as well as for qualified buyers who import electricity for their own needs, the following: (i) obligations and procedures for offtake of minimum quantities of electricity generated in RES-Electricity facilities at the annual level; (ii) obligations and procedures by which the fulfilment of the conditions set out in the Rulebook will be proven; and (iii) obligations for repurchase of the electricity from qualified producers at the reference price until the establishment of the RES market and fulfilment

of the quotas related to the mandatory goals stipulated by the applicable law.

In accordance with the Rulebook, all suppliers and qualified buyers are obliged to offtake a certain portion of the electricity produced in the RES-Electricity facilities. The percentage of the obligatory offtake is determined in advance so that the suppliers and qualified buyers can allocate funds for purchase of their obligatory offtake. The percentage of this obligatory offtake is determined by FERK's decision to be made until 15 December of the respective year at the latest, for the following year. The RES Operator in FBiH concludes individual contracts with each supplier or qualified buyer by which all mutual rights and responsibilities regarding the offtake, metering and payments of the electricity between the parties will be regulated. The contracts also include the obligation of the RES Operator to issue to the supplier or qualified buyer the confirmation for offtaken electricity generated from a RES-Electricity facility, as well as the obligation of the supplier or qualified buyer to provide a certain payment security.

In RS, the procedure for determining the obligatory share of RES-Electricity which must be offtaken by suppliers and qualified buyers is provided in the Rules on Realisation of Incentive System in RS. The Rules were adopted in January 2012 by the RES Operator.

4.3 Repurchase of the electricity generated from RES at the referent price

Besides the feed-in tariffs as part of RES Support Schemes in both entities, the producers of RES-Electricity are entitled to mandatorily repurchase the electricity at the reference price if their production is included in the obligatory quotas set by the entity's action plans for RES.

Although the producers do not receive the fixed price during a long-term period, the reference price can also be considered as a sort of incentive, since the value of the reference price is approximately twenty percent (20%) higher than the current market price. The producers conclude power purchase agreements with the RES operators by which the RES operators assume the obligation to repurchase the entire quantity of the RES-Electricity at the reference price. Unlike the FiT, the reference price is not fixed and can be revised by the FERC or RERS usually at least once a year or more often if needed.

The mandatory repurchase of electricity at the reference price by the state-owned RES operators in BiH allows investors who intend to develop certain RES-Electricity projects to model these projects, especially for those technologies for which there are no available dynamic quotas, i.e. for which a PPA at the feed-in tariff level cannot be concluded.

One of the main shortcomings of the PPAs at the reference price is the fact that such PPAs may be concluded only once the RES-Electricity facility is fully operational. Hence a producer which intends to conclude a PPA at the reference price is not able to reserve the available quota by signing the pre-agreement until it completes the construction of the RES-Electricity facility. The latter could be problematic if the producer needs a lender to provide financing for the project. This is because lenders typically expect that a PPA is executed before the funds for the project are granted.

4.4 Guarantees of origin for electricity produced from RES

The guarantees of origin for electricity produced from RES in RS have been regulated by the Rulebook on Issuance of Guarantees of Origin for Electricity. The Rulebook was adopted by RERS in 2013 and entered into force in 2014 and since then, it has not been amended. In FBiH, the Rulebook on Procedure for Submitting Requests for Issuance of Guarantees of Origin for Electricity was adopted by the RES Operator in 2015 and entered into force in 2016. According to the FBiH Rulebook, the guarantee of origin can be issued only to a qualified producer whereas privileged producers are not entitled to submit a request for issuance of the guarantee of origin for electricity produced in their RES-Electricity facilities.

The FBiH Rulebook provides that the RES Operator must adopt a special regulation by which it will regulate the automatic transfer of the guarantees of origin for the electricity generated in the RES-Electricity facilities of

privileged producers. Consequently, in 2018 the RES Operator in FBiH adopted the Rulebook on Transfer of Guarantees of Origin for Electricity Generated in a Privileged Producers' RES-Electricity Facility. This became applicable as of 1 January 2019. In accordance with this Rulebook, the guarantees of origin for electricity generated in privileged producers' RES-Electricity facilities will be automatically issued based on the data from the RES Operator database and transferred to the suppliers and qualified buyers which are obliged to repurchase a certain percentage of RES-Electricity. Once the guarantees are transferred to the suppliers and qualified buyers, they will be automatically cancelled since they cannot be further transferred or sold. The further transfer of such guarantee of origin is strictly prohibited. The RES Operator publishes the data on issued, transferred and cancelled guarantees on its website.

5. THE BALANCING OF BIH POWER SYSTEM

Balancing responsibility requires market participants to harmonise their generation, consumption and purchase and sale of electricity during the period of imbalance. The balancing market is part of the wholesale market in BiH and also includes the obligation for electricity market participants to assume financial responsibility for imbalances.

According to the RS Law on RES and Efficient Cogeneration, producers of RES-Electricity from facilities where the installed capacity is less than 500 kW and which have the right to mandatory repurchase of the electricity are not obliged to pay balancing costs. RES-Electricity producers where installed capacity exceeds 500 kW pay only twenty five percent (25%) of their balancing costs. All producers which sell electricity at the market price and have a right to a premium, bear all balancing costs. In cases where the producers are not responsible for balancing and do not bear the costs, the RES operator will assume all balancing responsibility for those producers who have a right to mandatory repurchase of the RES-Electricity. The RES operator pays the balancing costs on behalf of the producers from the funds collected from special levy paid by all end consumers in RS.

The FBiH Law on Using RES and Efficient Cogeneration provides that micro-producers of RES-Electricity (facilities with installed capacity ranges from 2 kW to 23 kW) are not obliged to bear the balancing costs. Privileged and qualified producers of RES-Electricity in facilities where the installed capacity does not exceed 150 kW are not obliged to pay the balancing costs. Otherwise privileged and qualified producers of RES-Electricity in facilities where the installed capacity exceeds 150 kW must pay the balancing costs in accordance with the Rulebook on Methodology for Distribution of the Balancing Costs for Privileged and Qualified Producers. This Rulebook should be adopted by the RES Operator and endorsed by the FERK and Federal Ministry on Energy, Mining and Industry. Although the RES Operator adopted the draft of the Rulebook and conducted public hearings, the Rulebook has not yet been officially adopted as of the date of publishing this guide. Accordingly, the matter of balancing responsibility for privileged and qualified producers in FBIH is still not completely regulated. Hence, the Rulebook should be adopted in the forthcoming period in order to allow potential and existing investors to allocate more precisely the future operating costs of their RES projects in FBiH.

6. SIGNIFICANT AND/OR EXPECTED CHANGES AS OF 2020

6.1 A new support system for RES-Electricity in BiH

In order to continue the development and support for generation of RES-Electricity, it is expected that in 2021 the competent authorities in BiH will adopt a completely new RES Support Scheme for RES-Electricity facilities. In particular, as established targets for the RES share in the electricity mix expire at the end of 2020. The future RES Support Schemes in BiH need to be more economical and due to the complete liberalisation of the power sector in BiH, the future RES Support Scheme should be more market orientated and competitive. The new targets for the RES share of electricity until 2030 have not yet been adopted and it is expected that during 2020 the competent authorities from the energy sector will agree on these.

New RES Support Schemes in BiH need to be introduced due to the following reasons, *inter alia:*

- The incentivising mechanisms for RES have drastically changed since the first RES Support Scheme in BiH was introduced;
- The use of RES-Electricity has significantly increased in the entire world and the prices for technologies for generation of RES-Electricity have decreased over the last decade. Therefore, the costs for RES project investments are lower;
- Many technical challenges appeared regarding the connection of RES-Electricity facilities to the transmission grids;
- The current RES Support Scheme in BiH is considered to be too expensive, so in the long run such a system is not sustainable or effective.

6.2 The characteristics of the new RES Support Scheme in BiH

The Working Group for the final report on the concept for the reform of the RES Support Scheme in BiH proposed separate RES Support Schemes for large and small installations. EU regulations define a large installation as those facilities where the installed capacity exceeds 500 kW. However, the entities in BIH are entitled to establish different criteria for large installations in their legal frameworks.

6.2.1 The RES Support Scheme for large installations

The Working Group for large installations proposed a comprehensive replacement of the feed-in tariffs with feed-in premiums. Instead of the fixed price for electricity produced in RES-Electricity facilities, the producers must sell the electricity at the wholesale market price with an added premium. To determine the level of the incentives for large installations, auctions should be used under the condition that they relate to a limited variety of RES technologies. For certain RES technologies using biomass and biogas, the level of the incentives should be administratively determined.

6.2.2 The RES Support Scheme for small installations

Small installations should still be incentivised by feed-in tariffs. The quotas for feed-in tariffs should be determined in a transparent manner for each RES technology. The feed-in tariff should be granted to producers under a first come – first served principle, i.e. the producer who first submitted an application will be granted the feed-in tariffs. Alternatively, PPAs at the reference price should still be an option for small installations.

For producers of RES-Electricity in facilities that use the produced electricity for their own needs and deliver the surpluses of the electricity to the grid (**"prosumers"**), net price billing should be introduced. The net price billing would provide that any surplus of electricity delivered to the grid can be used later in compensation for electricity costs incurred during the period when the local renewable production was not present or was not sufficient.

Feed-in tariffs, feed-in premiums and certain tax relief which are taken into consideration by the Working Group would entail direct incentives within the meaning of the new RES Support Schemes in BiH. Furthermore, indirect incentives would include the participation of the state authorities in the balancing costs, priority in dispatching, connection grid costs, etc.

All these characteristics of the new RES Support Schemes in BIH are currently just proposals. It is up to the competent authorities in BiH to decide whether they will completely accept the proposal of the Working Group or if they will enact a different concept for the RES Support Schemes than the one proposed.

This chapter was written by Naida Čustović and Amar Močević.

NAIDA ČUSTOVIĆ
Attorney-at-Law
in cooperation with
Wolf Theiss, Bosnia & Herzegovina

+387 33 953 460
naida.custovic@lawoffice-custovic.com

AMAR MOČEVIĆ
Associate

Wolf Theiss, Bosnia & Herzegovina

+387 33 953 463
amar.mocevic@wolftheiss.com

WOLF THEISS

BULGARIA

COUNTRY GENERAL INFORMATION

Capital: Sofia

Location: Bulgaria is situated in the centre of the Balkan Peninsula and is the most south eastern country of the European Union – sharing a border with Romania to the north, Serbia to the west, North Macedonia to the southwest, Greece to the south, Turkey to the southeast and the Black Sea to the east. Bulgaria lies between latitudes 43° and 44° N and longitudes 25° and 28° E.

Surface: 110,993 km².

Population: 7,000,039 inhabitants.

Climate: temperate and continental, with four (4) distinct seasons.

Electricity Grid: The total length of the national electricity transmission network is over 1,500 km, of which 1,446 km are interconnection lines. The electricity distribution grid is over 152,000 km in length. The electricity system is comprised of overhead power lines with a nominal voltage of 400 kV, 220 kV, 110 kV and electrical stations having a higher voltage of 400 kV, 220 kV and 110 kV.

Electricity Transmission, Distribution, and Supply: Electricity transmission is a licensed activity performed by a certified Independent System Operator Electricity System Operator EAD. The electricity distribution activity is divided into four (4) licensed territories operated by four (4) licensed distribution companies. The electricity supply is provided under regulated prices by licensed end-supply companies to low voltage business and household customers and under freely negotiated prices by licensed electricity traders to middle and high voltage business customers. The electricity is traded on the Bulgarian electricity exchange platforms. Full liberalisation of the Bulgarian electricity market is expected to be completed by 2025.

Official EU language(s): Bulgarian.

EU member: since 1 January 2007.

NATO member: since 2004.

United Nations member: since 1955.

Currency: Bulgarian lev (BGN). Bulgaria has a currency board with a fixed exchange rate to the Euro at 1.95583 BG/EUR.

Political system, administrative organisation and economy: Bulgaria is a parliamentarian Republic with separation of the powers – legislative, executive and judicial. The government is headed by a prime minster. The President of the Republic is the head of state and supreme army head. The country is divided into twenty eight (28) counties and 265 municipalities.

1. DEFINED TERMS FOR THE MAIN PERMITS REQUIRED FOR RES-ELECTRICITY GENERATION FACILITIES

Building Permit	Administrative deed issued by the mayor or the municipal council of the local administrative unit where the RES-Electricity facility will be built;
Certificate for Change of land designation	Administrative deed for approval of conversion of a land plot from designated agricultural land to land for construction purposes in accordance with the Bulgarian Act for the Preservation of the Agricultural Lands;
Detailed Zoning Plan / Parcelling Plan	Administrative deed in the form of an order of the mayor of the municipality for approval of a plan for regulation of streets, quarters and land plots assigned for construction or other purposes by prescribing the construction parameters of such land plots. Parcelling plans are developed for the electricity and communication connection infrastructure of a project;
Environmental Permit	Administrative deed in the form of an Ecological Assessment, Environmental Impact Assessment and/or Appropriate Assessment issued by the local Environmental Authority or Ministry of Environment and Waters evidencing the compliance of the RES-Electricity facility with the environmental requirements as provided by law. For hydro power plants, a permit for water abstraction is required;
Grid Connection	Actions performed and commercial contracts concluded between a RES-Electricity generating facility owner and the respective grid operator to connect a new RES-Electricity generating capacity to the electricity transmission or distribution grid;
Guarantees for Origin	Administrative deed issued by the Sustainable Energy Development Agency to guarantee the produced electricity from a RES source from 1 MW of installed capacity;
Investment Design	Design developed for building of a RES project by an eligible designer in accordance with the approved detailed zoning plan or parcelling plan;
Forecasted Market Price	Annually calculated price by EWRC under a methodology considering the weighted average price for the previous twelve (12) month period for electricity generated from solar, wind hydro (up to 10 MW), biomass and other RES-Electricity Producers. The FMP is used to provide a base for calculation of the Premiums due to RES-Electricity Producers by FSES;
Licence for production of electricity	Administrative deed issued by EWRC, for the performance of electricity generation by production facilities with an installed capacity above 5 MW;
Premiums	Fixed mark-up paid by FSES under CfCPs to RES-Electricity Producers to cover the difference between the Feed-in Tariffs applicable prior to 2018 for the respective RES technology and the annually set FMP. Premiums are calculated on an annual basis by EWRC;
Protocols during construction	Administrative deeds issued by competent authorities in the course of the construction of a RES Project under the provisions of the Spatial Development Act and the related secondary legislation;
Property Deed	Administrative deed establishing a right of ownership or superficial right of use for building over a land plot where a RES Project is to be built;
RES-Electricity	Electricity generated by RES sources such as: wind, solar energy, energy in the form of heat in the ambient air – aerothermal energy, energy stored in the form of heat beneath the surface – geothermal energy, hydrothermal energy stored in the form of heat in surface water – hydrothermal energy, ocean energy, hydropower, biomass, gas from renewable sources, landfill gas, and sewage treatment plant gas;

RES-Support scheme	Support schemes provided under the AERS (i) in the form of premiums for RES-Electricity Producers with installed capacity above 1 MW; or (ii) Feed-in Tariffs for RES-Electricity Producers with installed capacity up to 1 MW with PPA concluded prior to 1 January 2016; or (iii) Feed-in Tariffs for solar energy from facilities on rooftops or facades in urban territories or biomass with installed capacity below 30 kW;
Statement of Opinion of Technical Conditions for connection to the grid	Statement of opinion issued by the grid operator providing the technical conditions and parameters under which a RES project can be connected to the respective grid;
Use Permit	Administrative final deed permitting the exploitation of each component of a RES production project issued in compliance with Chapter XI of the Bulgaria Spatial Development Act.

2. ENVISAGED NEED OF INVESTMENTS IN BULGARIA

According to the requirements of the Clean Energy Package,[1] Bulgaria has committed to new targets for RES energy production of twenty seven point zero nine percent (27.09%) by 2030, (the target for 2020 was sixteen percent (16%)) and energy efficiency savings of twenty seven point eighty nine percent (27.89%). Further, as a Member State, Bulgaria is actively involved in ensuring that all available planning tools for the European Green Deal are coherently deployed. In addition, Bulgaria has elaborated and committed to CEP targets with its Integrated Plan for the Energy and Climate 2021-2030 EC with particular general and specific national targets related to Decarbonisation, Energy Efficiency, Energy Security, Internal Market and Research, Innovation and Competitiveness. Therefore, it is expected that Bulgaria will transpose the required legal provisions in its legislative framework for the necessary investments to accelerate the transition to clean energy.

According to the Bulgarian Integrated Plan for Energy and Climate 2021-2030 EC, the RES national targets for energy from renewable sources from the gross end-consumption of energy by 2030 are separated into 3 main areas – namely (i) share of electricity from RES from the gross end-consumption of electricity – thirty point thirty three percent (30.33%); (ii) share of heat energy and energy for cooling RES – forty two point six percent (42.6%); and (iii) share of RES from end-consumption of energy in the transport sector – fourteen point two percent (14.2%).

RES Production is aimed at the following main measures:

- Market principles of investment and sale of produced energy for new projects;
- Tenders after 2025 if necessary;
- National plan for energy from forest biomass 2018-2027;
- Development of energy communities and active consumers;
- Incentivising the production of energy for own consumption (prosumers);
- Development and modernisation of the capacity for energy storage and backup systems;

[1] The Clean Energy Package is comprised of 4 Directives and 4 Regulations: 1. Governance of the energy union and climate action (EU) Regulation 2018/1999; 2. Regulation on the internal market for electricity; 3. Regulation establishing a European Union Agency for the Cooperation of Energy Regulators; 4. Regulation on risk-preparedness in the electricity sector; 5. Energy Performance of Buildings Directive 2018/844; 6. The revised Renewable Energy Directive (EU) 2018/2001; 7. The revised Energy Efficiency Directive (EU) 2018/2002; 8. Directive on common rules for the internal market for electricity.

- Supporting the decentralised distribution, adaptation of the transmission, increase of the electricity network adequacy); and

- usage of RES energy for carbon storage.

As regards the Decarbonisation target, Bulgaria is committed to increasing its energy from RES from the gross end-consumption and to reduce greenhouse gas emissions. Further to the instruction of the EC, Bulgaria has increased the level of its target as regards the share of RES from end-consumption from twenty five percent (25%) to twenty seven point zero nine percent (27.09%) thus envisaging to reach the calculated target as per Annex II to Regulation EC 2018/1999. In support of this target, Bulgaria will implement additional production facilities with emphasis on wind and solar energy. Moreover, in order to achieve the target levels, it may consider opting out of tenders for additional capacities for energy from RES considering the market conditions after 2025.

The use of biomass is envisaged across all sectors: electricity energy, heating energy, cooling energy and transport. The envisaged measures for the transport sector will have significant effect on the development of energy from RES as well as the reduction of greenhouse gas emissions. Specifically, Bulgaria will incentivise the implementation and use of EV and hybrid vehicles in mass and private transport, and in the large cities it is envisaged to create low emission zones.

In all sectors of energy, heat, cooling and transport the Bulgarian integrated plan envisages EUR 2 billion of necessary investments in RES-related developments.

During the period 2020-2030, an increase of 2,645 MW of net installed capacity of electricity production facilities using renewable energy is expected. This increase will be achieved by increasing the net installed capacity of solar power plants by 2,174 MW and of wind power plants by 249 MW. The anticipated increase of these types of power plants is related to the quick development of the technologies and a decrease in the investment costs for their construction. An increase is also expected as regards biomass power plants by 222 MW.

The availability for new electricity production capacities in solar and wind should also replace the current ineffective and intensive carbon emission electricity generating facilities, which should be out of operation by 2025. This will be done in the context of achieving the objectives of energy security, competitiveness and decarbonisation of the energy sector.

Another target which Bulgaria has set in its national energy sector modernisation plan that will enable further opportunity for RES integration, is the level of interconnectivity with other Member States of the national electricity system. Based on its geographical position and its current system connectivity, further interconnectivity for Bulgaria both in terms of the physical grid and also market measures like electricity day-ahead market and intraday market segments of IBEX functioning is also expected. In addition, market coupling with Greece and OPCOM and other European countries under the 4MMC initiative is also anticipated. At the Romanian border, Bulgaria has implemented the SIDC project for the intraday electricity market.

As a logical consequence, these will become national projects with regional impact, which will later transform into projects of common interest. They are supported by the EU and will become clusters with operational impact

- Black Sea Corridor cluster with direct impact on the energy systems in Bulgaria and Romania; and

- The Southern Corridor project with direct impact on the energy systems in Bulgaria, Greece, North Macedonia and Turkey.

- As regards R&D and innovation, Bulgaria is planning to be actively involved in, *inter alia,* the following projects:

- CROSSBOW – transboundary management of RES for storage of energy that will allow better flexibility of the energy system as regards renewable energy; and

- FLEXITRANSTORE – integrated platform for increase of the flexibility of data smart grids with facilities for storage of renewable energy, which will increase the flexibility of the system of the internal energy market.

3. EXECUTIVE SUMMARY-RES MARKET STATUS AND DEVELOPMENT OF RES-ELECTRICITY FACILITIES

3.1 Market Overview – Factsheets

- The Bulgarian RES-Electricity market has developed since 2007 with the adoption of the first Act for the Alternative and Renewable Energy Sources and Biofuels (**"AERSB"**) introducing the RES Support Scheme providing for Feed-in Tariffs, long-term power purchase agreements (**"PPAs"**), preferential connection to the grid and buy-out and merit order off-take;

- Further to the adoption of Directive 2009/28/EC on the promotion of the use of energy from renewable sources, Bulgaria has repealed ARAESB and has adopted the Act for Energy from Renewable Energy Sources (**"AERS"**) which transposed the main provisions of the directive which keep the RES support scheme with a fixed Feed-in tariff, mandatory buy-out, long-term PPAs, preferential connection to the grid and merit order dispatch. The AERS also provided for issuance of guarantees of origin for the RES produced electricity;

- Based on the AERS, Bulgaria also adopted the National RES Plan 2010-2020, outlining the main measures and separation per renewable sources to be introduced in order to reach the threshold of sixteen percent (16%) commitment under Directive 2009/28/EC;

- In 2011, AERS was amended and supplemented to reduce the duration of the mandatory buy-out period under the PPAs from fifteen to twelve (15-12) years for wind power plants and from twenty five to twenty (25-20) years for solar and biomass RES-Electricity Producers. Nevertheless, Bulgaria has experienced a boom in the development, construction and commissioning of approximately 701 MW of wind, 1,047 MW of solar and 2,366 hydro RES projects (including those above 10 MW);

- In December 2013, under its second national RES achievement report, Bulgaria reported to the European Commission that it had reached sixteen percent (16%) of the total energy consumption from RES, which was the country target for 2020. AERS was amended in 2015, considering the Guidelines for State Aid in the area of environment and energy in the period 2014-2020 and Regulation No. 251/2014 EC as of 17 June 2014, announcing some measures as compatible with the internal market. Thus, the RES support scheme incentives related to mandatory buy-out under PPAs on a long-term basis were to be provided only for small energy objects connected to the electricity grid constructed on facades and roof tops in urbanised areas with an installed capacity of not more than 30 kW. Nevertheless, the RES-Electricity Producers with ensured PPAs continued to enjoy the 2011 RES support scheme;

- In 2016 as part of the liberalisation process, the organised electricity power exchange IBEX was introduced with its segments on day-ahead and centralised market on bilateral contracts;

- In 2018 and 2019, Bulgaria introduced amendments to the AERS and the Energy Act, by which it abolished the 2011 RES support scheme for projects with installed capacity above 1 MW and introduced a new support scheme. Under the new regime, all RES-Electricity produced by RES power plants with an installed capacity above 1 MW are subject to sale at the liberalised market through the IBEX segments. For the duration of the terminated PPAs, the RES-Electricity Producers are to be compensated for the difference between the abolished Feed-in tariffs and the achieved power exchange prices via mark-ups (premiums) paid under contracts for compensation with premiums to be concluded with the Fund for Security of the Energy System;

- Under the draft of the Integrated National Plan for Energy and Climate 2021-2030, in February 2020 Bulgaria has committed that by 2030 it will have twenty seven point zero nine percent (27.09%) of RES-Electricity in the final energy consumption;

- Since November 2019, Bulgaria together with Croatia, Czech Republic, Hungary, Poland, Romania and Slovenia have successfully linked intraday markets with fourteen (14) countries active in operational integrated electricity markets.

3.2 RES Market Status, Permitting, Grid Connection, Licensing of RES-Electricity facilities in Bulgaria

GENERAL MARKET DATA	
RES Targets 2020 under AERS (out of final consumption of energy)	Sixteen percent (16%), reported achieved in 2015.[2]
New targets under Clean Energy Package and Integrated National Plan Energy and Climate 2021-2030	Twenty seven point zero nine percent (27.09%)
Overall installed General Capacity including RES (overall production)	In 2019, overall energy production was 12,493 MW (42 TWh).
RES Installed capacity by technology	Hydro including small – 1,399 MW Biomass – 76 MW; Wind power – 701 MW; Solar – 1,046 MW.
RES INCENTIVES	
Beneficiaries of RES Support Scheme	▪ RES-Electricity Facilities with an installed capacity up to 1 MW and connection to the grid prior to 2016 – Feed-in Tariff until the duration of the respective PPA; ▪ RES-Electricity Facilities with an installed capacity of up to 30 kW solar (facilities mounted on roof tops or façades in urban territories) or biomass – Feed-in Tariff determined by EWRC.
Priority dispatch under the Merit Order and off-take	RES-Electricity Facilities receive priority access to the grid and the sale of the amount of energy into the grid, up to the net specific generation amount of energy as set by EWRC in 2015 considering the specific technologies.
Other incentives	▪ RES-Electricity Facilities with installed capacity above 4 MW and connected to the grid prior to 2016 – compensation with premiums under contracts with FSES; ▪ Guarantees for origin of the energy [still no market for trade though].
Other conditions	▪ Licence for commercial exploitation above 5 MW; ▪ No installed capacity limit as long as the technical capacity of the grid allows this; ▪ Sale of RES-Electricity only via the IBEX platforms.

2 Last available official data.

GRID CONNECTION SPECIFICS	
Approvals	▪ Connection to the grid is subject to a reasoned statement of opinion on the connection conditions issued by the respective grid operator and depending on the installed capacity; ▪ Grid operator is responsible for issuing the reasoned statement of opinion and for further conclusion of preliminary and final connection contract with the applicant; ▪ TSO needs to include any new capacity in the ten (10) year grid development plan updated annually and approved by EWRC; ▪ DSOs need to coordinate the required connection capacity by the TSO prior to granting a positive reasoned statement of opinion on the connection conditions; ▪ RES-Electricity Producers need to obtain Guarantees for origin from the Sustainable Energy Development Agency.
Permitting Timing: depending on the installed capacity and connection to the grid, an investor may obtain the necessary approvals in approximately two (2) years.	▪ Ecological Assessment, Environmental Impact Assessment and/or Appropriate Assessment; ▪ Elaboration and approval of detailed zoning plan(s) for those land plots where the RES-Electricity plant will be constructed; and (ii) parcelling plans for the power and communication lines necessary for the connection of the RES-Electricity plant to the respective electricity grid; ▪ Based on the zoning plan, a change of land designation of the land plots where the project is to be constructed should be obtained by the agricultural land commission; ▪ Elaboration of design plan and investment design are required for obtaining a building permit for civil works and connection facilities to the grid; ▪ Preliminary and connection contract with the grid operator; ▪ RES-Electricity capacity and related connection works' testing, commissioning and entry into operation; ▪ Provision of access to the grid by the grid operator and conclusion of access to the grid contract.
LICENSING	
Procedure	Licence issued by EWRC for generation of electricity activity from a RES-Electricity facility, to be granted prior to construction or upon construction for projects above 5 MW.
Duration of administrative procedure	Within four (4) months from the submission of the full documentation.
Licence's validity	Thirty five (35) years with a possibility for extension.

3.3 Designated/preferred legal form of investment vehicle and RES-Electricity project's acquisition

Bulgarian legislation does not require or recommend a particular type of investment vehicle in the RES-Electricity sector. Usually, the limited liability structure (**"OOD"**) is the most popular form of investment vehicle.

A Bulgarian RES-Electricity project under development usually contains, within the structure of the OOD, several types of assets, including (i) environmental permits (EAI, ESIA); (ii) rights over the land associated with the RES-Electricity project (ownership or superficies rights, as well as easements and rights of way for the connection facilities); (iii) building permit for the construction of the RES-Electricity project and the connection facilities; (iv) technical documentation (detailed zoning/ parcelling plans, investment design, detailed design, construction and use permits; (v) reasoned statement of opinion on connection conditions, the connection and access to the grid contracts entered into with the local grid operator; (vi) commercial contracts (loans, various services related to the development and operation of the project, etc.); (vii) potentially tangible assets and employees; and (viii) licence for production of electricity (preliminary (prior to construction) or final (upon construction completion) for projects with installed capacity above 5 MW.

The acquisition of a RES-Electricity project can be performed through the purchase of either the shares in the OOD (share deal) or on an asset (going concern) basis (asset deal).

Below is a comparison of the advantages and disadvantages of each type of acquisition.

SHARE DEAL

NO.	BENEFITS	DISADVANTAGES
1.	The most common way to purchase a RES-Electricity project in Bulgaria.	Complying with Trade Registry formalities for share deal publicity towards third parties.
2.	Taking over all civil and energy related permits and authorisations without any other formalities, except notification to the relevant environmental authority in case of change of control over the OOD's shares or change of the project's characteristics.	The purchaser assumes all the historic corporate liabilities (and associated risks) of the OOD.
3.	The transaction can be performed faster, at lower costs and ensures an easier transfer of the RES-Electricity project with the necessary elements for construction and operation.	
4.	Flexible transaction structure based on the findings of a proper due diligence of the company, plus the real-estate assets, permits and authorisations, movable assets, and employees (as the case may be).	
5.	Transaction in two stages: signing and closing. The transaction usually contemplates conditions precedent to closing: ▪ performing a comprehensive due diligence to the purchaser's satisfaction, not only legal, but also technical, commercial, tax and accounting on the RES-Electricity project and the OOD; ▪ the seller obtaining any outstanding permits and authorisation and securing any relevant rights to land or access; ▪ the seller terminating any unnecessary or undesired contracts and/or obtaining any relevant consents up to the development stage.	

6.	The transaction might contemplate a holdback on the purchase price or payment in instalments, to ensure that certain agreed milestones are met.	
7.	For the purchaser's protection, the share-purchase agreement may include a comprehensive set of representations and warranties regarding the OOD and the project, as well as indemnities, for any issues which the purchaser identified in the due diligence process. It is also recommendable to include as a condition for the transaction entering into a real estate title insurance and warranty & indemnity insurance covering the liability under the sale and purchase agreement.	

ASSET DEAL

NO.	BENEFITS	DISADVANTAGES
1.	The purchaser will not take over the historical corporate liabilities (and associated risks) of the SRL.	In case of a licence (installed capacity above 5 MW) this is conditional upon prior approval by EWRC of the deal. Need to prove that the new owner complies with all the conditions (technical, financial, HR) for performance of the licensed activity.
2.	The purchaser can change the characteristics of the project before applying for various permits and authorisations.	If the project includes rights to land, the asset purchase agreement must be notarised by a Bulgarian notary public, subject to a fee.
3.		Additional fee to be paid for registering the transfer of the rights to land with the Land Register. In principle, an asset deal carries VAT (unless performed as a going concern).
4.		The transfer of the energy-related permits associated with the project requires, in principle, the consent of the issuer and if there are technical changes to the project, the issuance of other permits and authorisations.
5.		The transfer of relevant contracts requires the consent of the contracting parties and sometimes the conclusion of new agreements, renewing the contracting parties and ensuring the undertaking of the assumed obligations.

4. KEY CHANGES TO THE RES SUPPORT SCHEME SINCE 2015

Since 2015 the Bulgaria legal framework and the RES Support Scheme experienced several changes via bills for amendments and supplementations of the AERS and the Energy Act as follows:

4.1 Introduction of the Net Specific Generation of Electricity threshold for mandatory buy-out

Prior to July 2015, the public provider National Electricity Company EAD (**"NEK"**) and the end suppliers (Energo-Pro Sales AD, CEZ Electro AD and EVN Bulgaria Electricity distribution EAD, **"ES"**) were obliged to purchase the entire RES-Electricity generated by RES-Electricity plants (except from hydro power plants with installed capacity above 10 MW). After July 2015, with the Bill for amendment and supplementation to the Energy Act and

the AERS, the obligation for mandatory buy-out was limited to the amount of "net specific generation of electricity" (**"NSGE"**) set out for the specific type of power plant. The NSGE is "the average annual electric power generation by 1 kW of installed capacity" in accordance with the EWRC decision fixing preferential prices after deduction of the RES-Electricity plant's own needs. The NSGE for existing power plants has been set out in Decision SP-1/31.07.2015 of the EWRC and was to apply until the end of the mandatory off-take period for those power plants. Once the NSGE is reached, RES-Electricity Producers may sell the remaining amounts of generated electricity either (i) on the liberalised market at freely negotiated prices; or (ii) respectively to NEK or the ES at the price for "surplus" paid on the balancing market.

4.2 Change in RES Support scheme after November 2018 for RES-Electricity Producers with installed capacity above 4 MW

In 2018, the RES support scheme introduced by AERS in 2011 for mandatory buy-out under preferential prices (Feed-in-Tariffs) was abolished and a new support scheme was substituted for it. Under the new support scheme, the RES-Electricity Producers sell the produced electricity at the Bulgarian power exchange operated by IBEX at free market prices.

For the difference between the abolished, long-term mandatory Feed-in Tariff and the achieved market price at IBEX, the RES-Electricity Producers are compensated by way of premiums. The premiums are paid by the Fund for Security of the Energy System (**"FSES"**) which substitutes for the old off-takers – the incumbent NEK and the licensed end-suppliers. FSES is not obliged to provide premiums if a RES Producer: (i) has failed to conclude contracts for any sale of electricity at IBEX at freely negotiated prices; or (ii) has not transferred the monthly guarantees for origin.

4.3 Conclusion of Contracts for Compensation with Premiums by RES Producers above 4 MW with FSES

Each RES Producer with installed capacity above 4 MW should have signed Contracts for Compensation with Premium (CfCPs) with FSES by 30 June 2018 and the existing PPAs with NEK and end-suppliers were terminated upon their conclusion. The duration of the CfCPs with FSES lasts until the term of the terminated PPAs, e.g. twelve (12) or fifteen (15) years for wind RES Producers or twenty (20) years for solar or biomass RES Producers.

For the electricity sold on the IBEX, the RES Producers have the right to claim from the FSES payment of an additional amount defined as a premium under the CfCPs from FSES. The payment of the premiums by FSES was conditional upon transfer of Guarantees for origin for the produced RES-Electricity issued by the Sustainable Energy Development Agency.

4.4 EWRC determines annually Premiums and Forecast Market Prices

In 2018, EWRC's powers were extended to adopt an Ordinance for determination of annual premiums for the FSES to pay to RES producers ≥4 MW and the Methodology for setting of forecasted market prices (**"FMP"**).

The premiums are a fixed amount set by EWRC each year by 30 June and are calculated as the difference between FMPs for the respective group of RES-Electricity Producers and the applicable FiTs under the abolished 2011 RES scheme.

The FMPs are also set by the EWRC each year by 30 June, based upon its methodology as a weighted average price for the previous twelve (12) month period for electricity generated from solar, wind hydro (up to 10 MW), biomass and other RES-Electricity Producers.

4.5 RES-Electricity Producers above 1 MW sell electricity at IBEX and conclude CfCPs with FSES

In 2019, RES-Electricity Producers with an installed capacity of 1 MW up to 4 MW were also excluded from the

2011 RES support scheme and concluded CfCPs with FSES to be able to receive compensation with premiums for the produced electricity sold at IBEX. Accordingly, with the conclusion of CfCPs, their long-term PPAs were terminated.

4.6 Amendments seeking to promote RES without state financial support

In 2019, amendments to the energy legislation were also introduced to promote RES generation without any form of state financial support. Among others, the amendments concern the following:

- Smaller RES-Electricity Producers (under 30 kW of installed capacity) report to the FSES only once per year instead of each month as the rest of the RES Producers;
- RES-Electricity Producers not connected to the electricity transmission or distribution network, but using the generated electricity for own consumption, do not pay the "obligations towards society price";
- Opportunity for installation of smart metering devices replacing the existing commercial metering devices for clients with capacity of 10 kW and above, aiming to incentivise consumers to invest in their own solar plants, so as to be excluded from the obligation to pay the "obligations towards society price".

5. SIGNIFICANT AND/OR EXPECTED CHANGES IN 2020

5.1 New RES-Electricity share in final consumption of Bulgaria

In order to achieve the new country targets for the RES-Electricity share in total consumption by 2030 as promoted under the Integrated National Plan for Energy and Climate 2021-2030, it is expected that in 2020-2021, the Bulgarian authorities will adopt further changes to the primary and secondary legislation related to transposition of the Clean Energy Package Directives and in particular the Directive on common rules for the internal market for electricity.

5.2 National Energy Strategy 2020-2030

The Bulgarian energy strategy 2010-2020 has expired. Thus, Bulgaria must update its strategy also considering the Clean Energy Package and the commitments under the Integrated National Plan for Energy and Climate 2021-2030.

6. OVERVIEW OF THE TECHNICAL INOVATIONS IN ELECTRICITY STORAGE AND APPLICABILITY IN BULGARIA OF SUCH STORAGE TECHNOLOGIES

As more RES-Electricity will be supplied to the grids, the more the balancing of the system and flexibility to the demand -supply requirements will become a challenge for the grid operators. The use of modern technologies like smart grids, decentralised production, own production, demand response, active consumers, etc. offer practical solutions which will support grid operators. In addition, with the help of energy storage technologies and solutions, it is possible to address and solve many complex challenges related to generation, frequency regulation, grid balancing including secondary and tertiary reserve, optimisation of consumption profiles and portfolio etc. related to RES-Electricity. Thus, energy storage is increasingly seen as a key cornerstone and enabler of the transition to RES-Electricity worldwide.

Bulgaria has set its goal to progressively replace the regulatory and commercial obstacles for consumers to use, store, and sell to the market the energy produced by them and to participate in the market while providing flexibility to the system via energy storage and optimisation of consumption.

Bulgaria has planned to develop several projects for storage of electricity, aiming to (i) ensure balance and flexibility in the system; (ii) improve the Bulgarian status as an energy exporter; and (iii) ensure cross-border flexibility of the system. These projects will facilitate further development of the RES-Electricity projects and their integration into the national electricity system, considering the fluctuating production profiles of these RES sources. Therefore, Bulgaria anticipates the following projects:

- Increase of the operation capacity of PAHPP Chaira by construction of the Yadenica dam to optimise the structure of the generation capacities. Estimated project value is EUR 200 million;
- Investment in batteries for frequency regulation with estimated capacity of approximately 180 MW;
- Incentivising the use of new RES Facilities in combination with local storage facilities of electricity considering the appropriate technological solution for the respective project (in total approximately 200 MW). Estimated project value of EUR 200 million.

Accumulator-based energy storage systems are highly sought in Europe, as they provide utility companies with load balancing services on the power grid with an extremely fast response time.

In Bulgaria, the legal framework for the development of electricity storage is planned to be introduced through the provisions of the Electricity Market Rules to be adopted by EWRC. However, the provisions are sparse, as they only introduce a definition for electricity storage and do not provide further details as to the regulations of such facilities. Hence, further specific regulations are required to complete the regulatory framework for energy storage and to ensure its prompt and adequate implementation into the energy system.

7. SUPPORT SCHEME FOR COGENERATION

High-efficiency cogeneration of heat and power (**"CHP"**) systems which inject electricity into the national grid receive operating support provided that the electricity is produced from high-efficiency cogeneration, as defined in the Energy Act and the Community guidelines on state aid for environmental protection.

In 2018, Bulgaria abolished the support scheme for the promotion of high-efficiency cogeneration with an installed capacity above 1 MW and introduced a new support scheme, similar to that for RES production by way of compensation through premiums by FSES.

The high-efficiency cogeneration capacities that sell their produced electricity at IBEX receive compensation by premiums from FSES upon issuance of certificates of origin issued by EWRC and transferred to FSES. The highly efficient cogeneration capacities installed in Bulgaria amount to 1,690 MW.

The support scheme for compensation with premiums under CfCPs is applicable until the period of expiry of the terminated PPAs.

The level of the bonus received by the producers for each MWh produced from high efficiency cogeneration capacities and delivered in the grid is set annually by EWRC.

This chapter was written by Radoslav Mikov.

RADOSLAV MIKOV
Partner

Wolf Theiss, Bulgaria

+359 2 8613719
radoslav.mikov@wolftheiss.com

WOLF THEISS

CROATIA

COUNTRY GENERAL INFORMATION

Capital: Zagreb

Location: part of both Central and Southeast Europe, bordered by Hungary in the north, Slovenia to the west, Bosnia and Herzegovina and Serbia to the east, Montenegro and the Adriatic Sea to the south, Croatia lies mostly between latitudes 42° and 47° N and longitudes 13° and 20° E.

Surface area: with territory spanning over 56,594 km^2 Croatia is a small but highly geographically diverse crescent-shaped country.

Population: 4,087,843 inhabitants.

Climate: classified as moderately warm and rainy continental but can be divided into three (3) separate climate regions: continental, Alpine and Mediterranean. Croatia has four (4) distinct seasons.

Resources: natural resources found in the country in quantities significant enough for production include oil, coal, bauxite, low-grade iron ore, calcium, gypsum, natural asphalt, silica, mica, clays, salt, and hydropower. Karst topography makes up about half of Croatia and is especially prominent in the Dinaric Alps.

Electricity Grid: the total length of transmission electricity grid is 138,789 km, with 26,421 transformer substations. The system is networked with 4,488 km of lines at 35(30) kV of voltage, 37,243 km of lines at 10(20) kV of voltage, 61,586 km of lines at 0.4 kV of voltage and 35,472 km of household connections.

Electricity Transmission, Distribution, and Supply: Croatia has adopted the ITO market unbundling model, whereby the Croatian Transmission System Operator (HOPS) is separate from the Croatian Electric Power Company (HEP Group). HOPS owns the transmission network and participates in the Regional Initiative for the Coordination of Security of the Energy Community, the Office for Coordinated Auctions in Southeast Europe and the Compensation Mechanism of the ITC Agreement. The distribution of electricity is provided by Croatian Distribution System Operator (HEP-DSO). The electricity supply is provided by twelve (12) private providers.

Official EU language(s): Croatian.

EU member: since 1 July 2013.

NATO member: since 2009.

United Nations member: since 1992.

Currency: Croatian Kuna (HRK). At this point, projections by the Croatian National Bank (CNB), the Croatian Government, the European Commission and the International Monetary Fund (IMF) commonly imply that Croatia could meet all the Maastricht criteria for joining the Eurozone in the next two (2) to three (3) years.

Schengen: Croatia is currently in the process of joining the Schengen area.

Political system, administrative organisation and economy: politics in Croatia are defined by a parliamentary, representative democratic republic framework, where the Prime Minister of Croatia is the head of government in a multi-party system. The Head of State is the President. Below the national level, Croatia is divided into twenty (20) administrative counties called *županije*. Croatia has an economy predominantly based on services, with tourism as one of the pillars of the service industry subsector.

1. DEFINED TERMS FOR THE MAIN PERMITS REQUIRED FOR RES-ELECTRICITY GENERATION FACILITIES

Building Permit

Administrative deed issued by the Ministry of Environmental Protection and Energy (**"MEPE"**) or local authorities, depending on the type of RES Facility.

The construction of a project may begin only after the Building Permit *(građevinska dozvola)* becomes final. As a partial exception, a Building Permit is not required for construction of solar power plants and photovoltaic modules on existing buildings installed solely for the purpose of producing electricity, without the possibility of a transfer to the power grid (**"Simple Power Plants"**).

The Building Permit expires if the construction of the RES Facility does not commence within three (3) years from the date on which it became final. However, the validity may be extended for an additional three (3) year period if conditions for construction defined within the spatial plan and Location Permit remain unchanged.

Decision on the status of an eligible producer

Prior to obtaining the Decision on the status of an eligible producer, the Preliminary decision on the status of an eligible producer should be obtained. Both deeds are issued by the Croatian Energy Regulatory Agency (**"HERA"**). Exceptionally, the Decision on the status of an eligible producer for Simple Power Plants is issued by the distribution system operator and the Preliminary decision is not required. The Decision on the status of an eligible producer is considered as the final step in collecting permits.

Electricity Approval

Administrative deed issued by the Croatian Transmission System Operator (**"HOPS"**)/Croatian Distribution System Operator (**"HEP-DSO"**). Electricity Approval *(elektroenergetska suglasnost)* sets out the technical requirements and financial obligations for the connection to the power grid and for its use. Electricity Approval is issued after the RES Facility is built and is required to enter into a Grid Connection Agreement.

Energy Permit

Administrative deed issued by MEPE, representing the authorisation to build and run facilities using renewable energy or cogeneration. Energy Permit *(energetsko odobrenje)* is required for construction of RES Facilities, except for Simple Power Plants.

Environmental Impact Assessment

Assessment validated by MEPE, seeking to minimise from the earliest phase of a project the negative effects to the environment and maximise the environmental quality.

Either an Environmental Impact Assessment (**"EIA"**) or an Assessment on the Need to conduct the EIA (**"Need Assessment"**) must be carried out in the preparatory phase of an intended project and prior to issuance of the Location Permit.

Performing an EIA is mandatory for facilities capable of generating more than 100 MW of electricity (more than 20 MW for wind power plants). For solar stand-alone and hydro power plants capable of generating up to 100 MW, wind power plants capable of generating up to 20 MW and all other RES Facilities capable of generating between 10 MW and 100 MW, a Need Assessment is performed. A full EIA will then be performed only if the MEPE decides that it is necessary.

Feed-in Tariff

A support mechanism available for RES Facilities under the "old" regulation until the expiry of the originally contracted term. During such term, RES-Electricity Producers are not entitled to participate in the new system incentives under Guaranteed off-take price or Market Premium.

There are two (2) concurrent Feed-in Tariffs (i) the tariff system applying to those power plants with off-take agreements in place on or before 31 December 2013; and (ii) the tariff system applying to those power plants with off-take contracts granted from 1 January 2014.

Grid Connection Agreement	Administrative deed issued by the grid operator to connect a new generating facility or to modify or replace the connection of an already generating facility to the grid.
Guaranteed off-take price	A support mechanism provided to eligible producers of RES-Electricity (**"RES-Electricity Producers"**) with RES Facilities capacity of up to 500 kW and which have been selected as the best bidders in the tender process. The selected candidates are entitled to conclude the agreement at a guaranteed purchase price with the Croatian Energy Market Operator (**"HROTE"**) for electricity produced in their RES Facilities.
Licence to generate RES-Electricity	Administrative deed issued by HERA allowing its beneficiary to perform one of the following activities on the energy market: generation/transmission/distribution of electricity, organising the market of electricity, supply/trade of electricity.
Location Permit	Administrative deed issued by MEPE or the local authorities, depending on the type of RES Facility. To obtain a Location Permit *(lokacijska dozvola),* the applicant must provide to the competent authority a concept design, which should comply with the special requirements prescribed by technical and safety laws and other regulations. If an EIA is required for a power plant, it must be obtained prior to application for the issuance of the Location Permit.
Market Premium	A support mechanism pursuant to which RES-Electricity Producers receive premium support based on the market premium agreement concluded with HROTE. The amount of Market Premium is determined for a specific type of RES Facility, based on the difference between the market prices of electricity and the reference value of electricity offered in the public tender. Market Premium is available to all RES-Electricity Producers, regardless of the size of RES Facility (except those benefiting from the Feed-In Tariff).
RES-Electricity	Electricity obtained from renewable energy sources such as wind, solar, aerothermal, geothermal, hydrothermal and oceanic waves, hydraulic, biomass and biogas.
RES Facility	A generation facility using renewable energy sources such as wind, solar, aerothermal, geothermal, hydrothermal and oceanic waves, hydraulic, biomass and biogas to generate electricity.
RES Support Scheme	State-aid scheme aiming at supporting RES-Electricity based on either (i) Guaranteed off-take price; or (ii) Market Premium. However, (iii) Feed-in Tariff accredited until 31 December 2016 remains eligible for RES Facilities with agreements concluded under Feed-in Tariff until their expiry.
Usage Permit	Administrative deed issued by the Ministry of Construction and Physical Planning (**"MCPP"**) or other authorised authority, depending on the capacity of a RES Facility. After finalising the construction of a RES Facility, the technical inspection will be carried out in order to examine if all the conditions set out in Building Permit are met. MCPP/other competent authority will issue a Usage Permit only if it determines that the RES Facility is compliant with the Building Permit. With the Usage Permit, a RES Facility can legally commence its operations.

2. ENVISAGED NEED OF INVESTMENTS IN CROATIA

Croatia did not fully implement the RES Support Scheme envisaged under the Renewable Energy Sources and High-Efficiency Cogeneration Act (**"RES Act"**). Certain bylaws in the regulation package are still missing. Also, the quotas determining the numbers, types and capacities of RES-Electricity Producers which can apply for incentives still need to be adopted. Therefore, the tender procedure has been put on hold until the establishment of the full legal framework.

For the period until 2030, certain activities aimed at increasing the safety and flexibility of the electricity system are expected. These special efforts are anticipated to focus on the development of reversible hydropower plants and battery storage and on the organisation of market balance. These achievements will allow electricity to be accumulated when it is cheaper and then sold at a better price when needed. The energy storage should establish a better integration of variable and intermittent renewable energy sources into the grid. Also, further improvements in the software tools responsible for precise scheming of the electricity production should mitigate the risk of imbalances in the system caused by intermittency.

Only a few reversible hydropower plants are operational in Croatia. However, further opportunities are anticipated in the investments to the power storage system of small reversible hydropower plants. Improvements in the network of such small power plants will contribute to the higher ratio of adaptability to the unstable RES-Electricity market.

Also, better integration is planned with further investments in the design of the electricity market, in which intraday trading should ultimately be approximated to the real-time trading. Balancing the real-time production and consumption should bring significant stability to the variable nature of renewable energy, in which the levels of supply and demand are often not coherent.

Further steps in the RES system development are expected as the reflection of newly adopted EU directives from the Clean Energy for all Europeans Package. Also, on 31 October 2019 the Croatian Government proposed that the Croatian Parliament adopt the new Energy Development Strategy for the period until 2030, with perspective to 2050 (**"Energy Development Strategy"**). The reference is made specifically to the demands of secure supply, sustainability and competitiveness, and the development of a positive investment environment. Also, further measures are expected in reducing the greenhouse gas emissions. It is anticipated that Croatia will achieve its target of around thirty-seven percent (37%) of RES-Electricity in final gross energy consumption by 2030 and thus fulfil the EU target of thirty-two percent (32%) by 2030.

3. EXECUTIVE SUMMARY-RES MARKET STATUS AND DEVELOPMENT OF RES FACILITIES

3.1 Market Overview – Factsheets

- In 2001, Croatia adopted a set of new energy-related laws and regulations, harmonising its energy market with the EU legislation. Amendments followed in 2004, with the implementation of the common rules for internal market of electricity;
- The Croatian RES-Electricity market developed in 2007, with the Governmental Tariff System for Generation of Electricity from Renewable Energy Sources and Cogeneration entering into force. The regulation provided incentivised prices of electricity paid to the eligible producers by HROTE;
- Feed-in Tariff unit prices were determined according to the type of a power plant (initial distinctive capacity is 1 MW) and the source used for generation, multiplied by the correction factor according to the statutory formula;

- During the last quarter of 2013, the Croatian Government decided to decrease the level of support ensured for solar and wind power projects, while the incentives for electricity received from biogas, biomass and small hydro power plants remained mostly intact. The new power plants entering into off-take agreements received the support determined under the amended Feed-in Tariff, where the distinctive capacity for RES Facility was increased to 5 kW;

- The incentive prices obtained under Feed-in Tariff were granted until the end of the contracted term, which was usually fourteen (14) years;

- On 1 July 2013 Croatia joined the EU as its 28th Member State. Since the accession the investors seem more confident to invest in Croatia;

- In May 2014, HOPS and HROTE founded the Croatian Power Exchange (**"CROPEX"**). The launch of the day-ahead market followed in February 2016, providing for the first time a wholesale price of electricity in a transparent, liberalised and competitive trade environment. The intraday market of electricity was launched in April 2017;

- In 2016, Croatia introduced the new promotion scheme for RES-Electricity (i) Guaranteed off-take price, initially available for RES-Electricity Producers with facilities capacity of up to 30 kW; and (ii) Market Premium, available for all RES-Electricity Producers. The existing power plants continued to receive the incentives based upon the Feed-in Tariff;

- In late 2018, the application of the Guaranteed off-take price was extended up to the capacity of 500 kW;

- According to Eurostat data, in 2018 Croatia achieved the share of renewable energy in gross final energy consumption of twenty-eight point zero two percent (28.02%) and thus exceeded the target of twenty percent (20%) share of RES-Electricity in gross final energy consumption by 2020;

- On 28 December 2018 Croatia notified its draft National Energy and Climate Plan for 2021-2030 (**"NECP"**) to the European Commission. Under the NECP, Croatia committed to achieve the share of thirty six point four percent (36.4%) of RES-Electricity in gross final energy consumption by 2030, which was one of the most ambitious goals among the EU countries;

- Further liberalisation to the RES-Electricity market followed in 2019 with the abandonment of former suppliers' obligations to take over from HROTE the total green electricity delivered by RES-Electricity Producers to the share of seventy percent (70%), while HROTE is allowed to offer the remaining thirty percent (30%) on the open market;

- In 2019, the regulation providing the selection of candidates for the RES-Support Scheme in public tenders entered into force. RES-Electricity Producers with capacity of up to 500 kW that win a tender are awarded a Guaranteed off-take price with HROTE, where the entire output produced in RES Facility is to be purchased at the determined price;

- RES-Electricity Producers of larger capacity (however there is no limitation; small capacity producers may also apply) may compete in a public tender for granting the Market Premium. The participants with the best bids selected in the public tender are entitled to sell electricity on the open market and are awarded with the amount of Market Premium indicated as the difference between the tender price and the market price;

- In the last quarter of 2019, the Register of renewable energy, high-efficiency cogeneration and eligible producers was established.

3.2 RES Market Status, Permitting, Grid Connection, Licensing of RES Facilities in Croatia

GENERAL MARKET DATA	
RES Target 2020	Twenty eight point zero two percent (28.02%), reported achieved in 2018
RES Target 2030	Thirty six point four percent (36.4%)
Overall installed General Capacity including RES (overall production)	In 2018, overall energy production was 12.08 TWh.
Installed capacity by technology	Wind – 1,835.95 MW Hydro – 1,676.35 MW Biomass – 214.32 MW Solar – 95.54 MW Biogas – 65.5 MW
RES SUPPORT SCHEME	
Beneficiaries of RES Support Scheme	Guaranteed off-take price and Market Premium. The beneficiaries are divided in different groups according to the sources, technology used and installed capacity of RES Facilities. The Feed-in Tariff is received by those RES Facilities built prior to 31 December 2015.
Priority and guaranteed off take into the grid	RES-Electricity Producers receive priority access to the grid.
Other incentives	▪ Mandatory share of Net Electricity delivered by RES Facilities to HROTE to be purchased by the energy suppliers; ▪ Guarantees of origin for electricity (**"GOs"**) provided for eligible producers not already participating in the Feed-in Tariff or the Guaranteed off-take price.
Other conditions	▪ Energy Permit is required (except for Simple Power Plants) after EIA has been carried out (if required) and Location Permit has been issued; ▪ Licence to generate RES-Electricity *(dozvola za obavljanje energetske djelatnosti)* is mandatory unless RES Facility (i) is of installed capacity up to 1 MW; (ii) is constructed for solely personal use of an electricity producer; (iii) is in a trial run; ▪ No installed capacity limit as long as the grid allows this from a technical point of view; ▪ For hydropower plants on a public waterway, the developer must obtain additional permits and concessions.
GRID CONNECTION SPECIFICS	
Approvals	▪ A new entrant to the electricity grid must conclude a network use contract with HOPS or HEP-DSO; ▪ Prior to entering the Grid Connection Agreement with the grid operator (HOPS or HEP-DSO), the investor must obtain an Electricity Approval; ▪ The costs of grid connection and/or capacity upgrades, improvements or expansion of the grid are borne by the investor.

Permitting Timing: Depending on the technology, installed capacity and connection to the grid, an investor could obtain the necessary approvals within approximately six (6) months to two (2) years.	▪ Grid Connection Agreement should comply with the optimal technical solution study which is performed after the Location Permit has been issued; ▪ The request for performing the optimal technical solution study is considered at the same time as the request to enter into the Grid Connection Agreement.
LICENSING	
Procedure	After the construction phase of the RES Facility has finished, the following licences must be acquired: ▪ Preliminary decision on the status of an eligible producer; ▪ Licence to generate RES-Electricity; ▪ Decision on the status of an eligible producer.
Duration of administrative procedure	The procedure takes a minimum of two (2) months. The licensing procedures require frequent direct communication with HERA and the competent Ministry. However, it is not possible to provide any precise estimate on the time frame necessary for the issue of licences/ authorisations.
Licence's validity	Up to thirty (30) years. May be extended.

3.3 Designated/preferred legal form of investment vehicle and RES-Electricity project's acquisition

Croatian legislation does not require a particular type of investment vehicle in the RES-Electricity sector. Usually, the limited liability structure (**"LTD"**) is the most popular form of investment vehicle in this field.

A Croatian RES-Electricity project under development usually contains, within the structure of the LTD, several types of assets, including (i) rights to the land associated with the RES-Electricity project (ownership and servitudes rights, as well as real estate liens and building lease rights (superficies); (ii) building and usage permits for the construction of the RES-Electricity project; (iii) technical documentation (optimal technical solution study, as the case may be); (iv) approval for the connection to the grid and the connection agreement entered into with the grid operator; (iv) contracts (loans, various services related to the development of the project, etc.); and (v) potentially tangible assets and employees.

The acquisition of a RES-Electricity project can be performed through the purchase of either the shares in the LTD (**"Share Deal"**) or on an individual asset basis (**"Asset Deal"**).

A Share Deal is a transaction of the acquisition of share rights (shares or stocks) in capital companies. As a result of such transaction, the buyer becomes the owner of the shares, but does not obtain direct rights to the assets (of the enterprise) of the acquired company (except for the right to participate in a possible division of the company's assets in the event of its liquidation). The company's assets still remain the company's property, since the subject of the sales contract in the case of Share Deals are share rights, not assets.

An Asset Deal is the transaction of acquiring a company enterprise or an organised part of an enterprise. Asset Deals are also often referred to as contracts for the sale of individual assets that are part of an enterprise, but mergers and acquisitions are usually associated with the sale of the entire enterprise or an organised part of it, and not just individual assets.

Below is a comparison of the advantages and disadvantages of each type of acquisition:

SHARE DEAL

NO.	BENEFITS	DISADVANTAGES
1.	The most common way to purchase a RES-Electricity project in Croatia.	Complying with Trade Registry formalities for share deal publicity towards third parties.
2.	Taking over all civil and energy related permits and authorisations without any other formalities, except possible notification to the relevant authority in case of change of control over the LTD's shares or change of the project's characteristics.	The purchaser assumes all the historic corporate liabilities (and associated risks) of the LTD.
3.	The transaction can be performed faster, at lower costs and ensures an easier transfer of RES-Electricity project with the necessary elements for construction and operation.	
4.	Flexible transaction structure based on the findings of a proper due-diligence of the company, plus the real-estate assets, permits and authorisations, movable assets and employees, as the case may be.	
5.	Transaction in two stages: signing and closing. The transaction usually considers conditions precedent to closing: ▪ performing a comprehensive due diligence to the purchaser's satisfaction not only legal but also technical, commercial, tax and accounting on the RES-Electricity project and the LTD; ▪ the seller obtaining any outstanding permits and authorisation and securing any relevant rights to land or access; ▪ the seller terminating any unnecessary or undesired contracts and/or obtaining any relevant consents up to the decided development stage.	
6.	The transaction might contemplate a holdback on the purchase price or payment in instalments, to ensure that certain agreed milestones are met.	
7.	For the purchaser's protection, the share-purchase agreement may include a comprehensive set of representations and warranties regarding the LTD and the project, as well as indemnities, for any issues which the purchaser identified in the due diligence process. It is also recommendable to include, as a condition for the transaction, entering into a real estate title insurance and warranty & indemnity insurance covering the liability under the sale and purchase agreement.	

ASSET DEAL

NO.	BENEFITS	DISADVANTAGES
1.	The purchaser will not take over the historical corporate liabilities (and associated risks) of the LTD. The purchaser does not enter the corporate structure of the company.	Complying with various formalities imposed by administrative bodies such as HERA and MEPE to transfer administrative decisions.
2.	The purchaser can change the characteristics of the project before applying for various permits and authorisations.	If the project includes rights to land, the asset purchase agreement must be notarised by a Croatian notary public, subject to a fee.
3.		An additional fee to be paid for registering the transfer of the rights to land with the Land Register. An asset deal may carry VAT obligations.
4.		The transfer of the energy-related permits associated with the project may require the consent of the issuer and, if there are technical changes to the project, the issuance of other permits and authorisations.
5.		The transfer of relevant contracts requires the consent of the contracting parties and sometimes the conclusion of new agreements renewing the contracting parties and ensuring the undertaking of the assumed obligations.

4. KEY CHANGES TO THE RES SUPPORT SCHEME SINCE 2016

A new programme of incentives under Croatian law was introduced on 1 January 2016, with entry into force of the RES Act. Further amendments were made to the RES Act in 2016, 2017 and 2018.

4.1 Introducing the new incentives

The key aspects of the new support system created to replace Feed-in tariff are described below.

4.1.1 Guaranteed off-take price

- Granted to eligible producers with RES Facilities capacity of up to 500 KW;
- The applicant selected as the best bidder in a public tender will conclude the agreement on guaranteed purchase price with HROTE and thus be allowed to sell electricity exclusively to HROTE (i.e. will not participate as an individual trader on electricity market);
- The agreement is concluded for the term of twelve (12) years, starting from the day of obtaining the status of an eligible producer;
- The amount of Guaranteed off-take price is determined in the tendering process. Prior to the tender, by using the methodology for estimating the market conditions, HROTE should announce the amount of maximum guaranteed purchase price for each group of RES Facilities. The amount of purchase price offered by each bidder should not exceed the maximum guaranteed purchase price defined by HROTE for that type of RES Facility;
- The amount of Guaranteed off-take price determined in the agreement will remain unchanged during the entire contractual term, but the variable part of the price should be indexed every year in order to reflect inflation (by applying the indices of consumer prices published by the Croatian Bureau of Statistics).

4.1.2 Market Premium

- Offered to all eligible producers, regardless of the size of RES Facility;
- After concluding the premium market agreement with HROTE, the producers are not obliged to sell the produced electricity exclusively to HROTE. They are authorised to trade electricity on the open market with different producers, traders and suppliers of electricity;
- A Market Premium agreement is concluded for a term of twelve (12) years, starting from the day of obtaining the status of an eligible producer;
- The amount of premium is a variable component and it depends on the market prices of electricity. It is equal to the difference between the reference value of electricity offered by an eligible producer and the current market price of electricity. If the market prices are lower, the amount of premium goes up. In contrast, the premium shall be reduced in case the market price of electricity is increased;
- In a public tender, HROTE will first publish the amount of the maximum reference value for electricity expressed in HRK/kWh for each group of RES Facilities. The maximum reference value is determined once a year pursuant to the statutory formula and is dependent on the current market conditions. For purposes of optimising the support toward a market-price system, it is expected that the applicants will aim to offer a reference value amount which is as close as possible to the actual market price of electricity.

4.2 Selecting candidates in public tender

The regulation arranging the process of granting support to RES-Electricity Producers through a public tender (the Governmental Ordinance on Promotion of Electricity Production from Renewable Energy Sources and Highly Efficient Cogeneration) was introduced in December 2018. However, the bidding process is still not operative since the quota determining the scope of competitors (in each group of RES Facilities) has not been adopted.

After fully implementing the contemplated system, the tender process will be open to participants who acquired the status of an eligible producer by HERA. The candidates will be selected in the public tender conducted by HROTE at least once a year.

4.3 Creating the Register of Renewable Energy Sources, Cogeneration and Eligible Producers

This register was adopted in 2019 with the Ministerial Regulation on Register of Renewable Energy Sources, Cogeneration and Eligible producers.

Led by MEPE's RES department, the register represents a unique and accurate record of ongoing RES-Electricity projects in Croatia. The Register is publicly available via an online application[1] on the Ministry's webpage. The application also provides a graphical allocation[2] of the projects.

4.4 Abandoning the suppliers' obligation to repurchase total net electricity delivered by eligible producers to HROTE

In 2019, with the adoption of the Governmental Ordinance on Share of Net Electricity delivered by Eligible Producers which the Suppliers of Electricity are obliged to take over from the Electricity Market Operator, the

1 https://oie-aplikacije.mzoe.hr/pregledi/PopupIzvjestaj.aspx?ReportId=5b47346e-67aa-4df2-9603-fa83c47061e3.

2 https://oie-aplikacije.mzoe.hr/pregledi/PopupIzvjestaj.aspx?ReportId=17ed7352-2f8d-416b-b2fb-cec912e96428

suppliers are no longer obliged to repurchase the total green electricity delivered from eligible producers to HROTE. Under the new regulation it is mandatory that the suppliers take over from HROTE the share of seventy percent (70%) in total green electricity delivered by RES-Electricity to HROTE. The remaining thirty percent (30%) of net electricity delivered by RES-Electricity Producers to HROTE is offered on the electricity market.

4.5 Developents on the market of GOs

The system of GOs is another support model for RES-Electricity. It is reserved exclusively for eligible producers which are not already participating in a Feed-in Tariff or Guaranteed off-take price.

GO is an electronic deed which provides to the end customer the proportion or amount of RES-Electricity in total electricity mix of a supplier. The basic unit is 1 MWh. In the system of GOs, the eligible producer shall request that GOs be issued for the electricity produced at its RES Facility and then trade them with suppliers of electricity.

The data on issuing, transferring and cancelling of GOs is collected in the Register of GOs operated by HROTE. In 2018, the Register of GOs reported 7 (seven) suppliers and 13 (thirteen) RES-Electricity Producers in total (hydropower plants Lešće, Varaždin, Orlovac, Dubrava, Čakovec, Vinodol, Rijeka, Dubrovnik, Gojak, Senj, Golubić, and windpower plants Trtar-Krtolin and Ravna). The listed records represent a significant increase compared to 2017.

4.6 Launching the day-ahead and intraday market at the Croatian Electricity Exchange (CROPEX)

CROPEX is the central point for trading electricity in Croatia. All interested market participants willing to become CROPEX members shall sign the membership agreement and thus gain access to the training platform. CROPEX is jointly operated by HROTE and HOPS.

On 10 February 2016, CROPEX launched the organised day-ahead market platform. The launch of the intraday market followed on 26 April 2017. The intraday market provides users with a better flexibility, in the system, where they can almost in real-time adjust their positions in accordance with potential deviations on the market.

According to HERA's annual report, in 2018 seventeen (17) registered members bought electricity with a total capacity of 2,381.9 GWh on the single day-ahead market. On the intraday market, nine (9) registered members purchased electricity with a total capacity of 78.9 GWh from CROPEX.

4.7 ECO balance group

By entering the agreement under the Feed-in Tariff or the Guaranteed purchase price with HROTE, eligible producers of RES-Electricity automatically become the members of the ECO balance group. The ECO balance group started its operation as of 1 January 2019.

In order to provide accurate production plans, producers should submit to HROTE precise information on the intended production at their RES-Facilities. The intention of the ECO balance group is to ensure the stability of the electricity system, by keeping the production and consumption of electricity always in balance. HROTE is financially responsible for any imbalances in the ECO balance group which may arise due to the deviations in the realised hourly delivery of electricity compared to that preliminary estimated in the production plans.

Members of the ECO balance group with a connected capacity above 50 kW pay the monthly balancing compensation determined under the electricity balancing assessment. The compensation is calculated depending on the supplied power of electricity. Members of the ECO balance group shall submit to HROTE a non-transferable, irrevocable and unconditional bank guarantees in order to secure that the compensation is paid.

5. SIGNIFICANT AND/OR EXPECTED CHANGES IN 2020

5.1 New RES-Electricity share in final consumption promoted by Croatia

Under the draft NECP for 2021-2030, Croatia has committed that by 2030 it will have thirty six point four percent (36.4%) of RES-Electricity in final energy consumption. On 28 December 2018, Croatia introduced the draft programme to the European Commission.

On 18 June 2019, the European Commission addressed the level of ambitions set under the programme and brought recommendations to meet the objectives and targets introduced at EU level. Croatia has most notably been invited to (i) underpin the ambitious level of thirty six point four percent (36.4%) share of renewable energy by 2030 with detailed and quantified policies and measures and to enable a timely and cost-effective achievement of this contribution; (ii) increase the level of ambition in the heating and cooling sector and transport; (iii) increase its ambition towards reducing both final and primary energy consumption in view of the need to reach the energy efficiency target level; (iv) define forward-looking objectives and measurable targets concerning market integration, in particular measures to develop liquid and competitive wholesale and retail markets; (v) further elaborate national objectives and funding targets for research, innovation and competitiveness; and (vi) continue its regional cooperation efforts on the national energy and climate plan in the context of the Central and South-Eastern Europe Energy Connectivity (CESEC) High-Level Group.

Achieving these objectives is strongly dependent on the realisation of scenarios considered under the groundwork documents for delivering the Energy Development Strategy until 2030 (see below in Section 5.2).

5.2 National Energy Development Strategy for period until 2030 with perspective to 2050

Under the Energy Development Strategy, the key indicators recognised for development by 2030 are the greenhouse gas reduction, increase of energy efficiency (including production, transmission, distribution and direct consumption of electricity), further investments in RES-Electricity, developments in the self-supply and to the security of energy supply.

Under the Energy Development Strategy, two scenarios of energy transition have been made – the Moderate and the Accelerated. Under the scenarios which have been analysed, it is assumed that the share of RES-Electricity in final gross energy consumption by 2030 will be around thirty six point six percent (36.6%).

The reduction of total greenhouse gas emissions by 2030 is projected to be at thirty five point four percent (35.4%) to thirty seven point five percent (37.5%) compared to 1990.

5.3 Adopting the implementing bylaws

As explained under Section 4.2, granting incentives under the systems of Guaranteed purchase price and Market Premium is still not operative and additional bylaws implementing the RES Act are still expected.

The bidding procedure will start once the quotas for each type and capacity of RES Facilities (technology baskets) are adopted.

5.4 Reducing the share of mandatory off-take

The suppliers of electricity are currently obliged to take over seventy percent (70%) of net delivered electricity from HROTE, while HROTE may trade the remaining thirty percent (30%) in CROPEX (see above in Section 4.4). Further developments which will lead to market liberalisation are expected with the entering into force of the new Ordinance on Share of Net Electricity delivered by Eligible Producers which the Suppliers of Electricity are obliged to take over from the Electricity Market Operator as of 1 January 2020.

Under the new regulation, a further reduction of a mandatory take-off is announced so that suppliers of electricity will be obliged to take over forty percent (40%) of net delivered electricity from HROTE, while HROTE will trade the remaining sixty percent (60%) in CROPEX.

5.5 Storage

Croatia is looking for possibilities to expand its capacity for RES-Electricity storage. In the coming years, strong activities are anticipated in order to increase the flexibility and ensure the balance of the system. Such activities are likely to be conducted by investments in both existing and planned reservoir hydropower plants and pumped storage hydropower plants. Also, the construction of new battery storage systems is planned.

Along the way, sophisticated forecasting tools are expected, which will better estimate the production for wind and solar power plants of an intermittent nature and which should significantly contribute to reducing the need of interference and of further regulation.

6. SUPPORT SCHEME FOR COGENERATION

In Croatia there is no specific legislation governing the system of high-efficiency cogeneration of combined heat and power (**"CHP"**). The RES Act applies to both RES-Electricity and CHP, likewise the additional regulatory framework.

This means that CHP is subject to the RES Support Scheme provided for facilities generating electricity, i.e. Guaranteed off-take price or Market Premium and until the expiry of already concluded agreements to Feed-in Tariff (the "old" system of incentives).

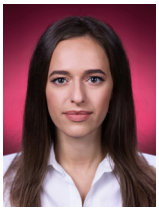
According to the latest available data, as of 31 December 2018 the total installed capacity of CHP was 113,293 kW, with 6 (six) agreements in force.

This chapter was written by Saša Jovičić and Ana Slovenec.

SAŠA JOVIČIĆ
Counsel

Wolf Theiss, Croatia

+385 1 4925 464
sasa.jovicic@wolftheiss.com



ANA SLOVENEC
Associate

Wolf Theiss, Croatia

+385 1 4925 445
ana.slovenec@wolftheiss.com

WOLF THEISS

CZECH REPUBLIC

GENERAL COUNTRY INFORMATION

Capital: Prague

Location: Situated right in the heart of Europe, the Czech Republic is bordered by Slovakia, Austria, Germany and Poland. It lies mostly between latitudes 48° N and 51° N and longitudes 12° E and 19° E.

Surface area: 78,866 km².

Population: 10,649,800.

Climate: Temperate continental-oceanic climate with four distinct seasons.

Resources: The Czech Republic has abundant natural resources, thanks to its geographical diversity – from mountains surrounding the country, streams and rivers, to its geothermal areas, basins, forests, glacier lakes, ponds, etc. Natural resources include large reserves of coal, some natural gas and petroleum reserves, limestone, kaolin, limited deposits of metallic ores (lead, zinc, uranium, tin and graphite). Forestland covers a third of the country's surface area, making wood an important export. Large reserves of lithium were discovered in 2016 but uncertainty remains as to its extraction.

Electricity Grid: The Czech electrical grid is divided into two parts according to voltage: the transmission grid (400 kV and 220 kV) and the distribution grid (110 kV, 22 kV and 400 V). The transmission grid has a total length of 5,419 km and is part of the continental European grid system.

Electricity Transmission, Distribution, and Supply: The Czech high-voltage transmission system (400 kV and 220 kV) is operated by ČEPS, a.s., a company whose sole shareholder is the Czech Ministry of Industry and Trade. The distribution system (110 kV and lower) is operated by three companies: PREdistribuce, a.s., E.ON Distribuce, a.s. and ČEZ Distribuce, a.s.

Official EU language(s): Czech

EU Member: since 1 May 2004.

NATO Member: since 1999.

United Nations Member: Czechoslovakia, the predecessor of the Czech Republic and Slovakia, was one of the 51 founding countries. After the division of Czechoslovakia on 31 December 1992, the Czech Republic became a member of the UN on 19 January 1993.

Currency: Czech crown (CZK). The Czech Republic is committed to joining the euro once it meets all necessary conditions.

Schengen: The Czech Republic is part of the Schengen area.

Political System, Administrative Organisation and Economy: The Czech Republic is a parliamentary republic with the prime minister as head of government and the president as head of state. The country is divided into 14 regions, one of which is the capital city of Prague. The Czech Republic has a developed, service-based economy with a focus also on industry, mainly in the area of transportation.

1. DEFINED TERMS FOR THE MAIN PERMITS REQUIRED FOR RES-ELECTRICITY GENERATION FACILITIES

Building Permit	An administrative document permitting the construction of a RES-Project, which is issued by the building authority of the administrative unit where the RES-Project is to be built;
Connection Agreement	An agreement between the grid operator and the electricity producer, which states that all technical parameters have been met and connection to the public electrical grid will be granted;
Environmental Approval	An administrative document issued by the local Environmental Authority evidencing the compliance of the RES-Facility with the environmental requirements as provided by law. If an environmental approval is needed, it must be issued prior to the Building Permit;
Grid Connection	Actions performed by the grid operator to connect a new generating facility or to modify or replace the connection of a generating facility (i.e. RES-Facility) to the grid;
Priority access to the electric grid given to the RES-Electricity	A rule stipulated by law whereby grid operators must provide priority access for RES-Electricity in connection to the grid;
Liability and responsibility for grid connection and/or capacity upgrades, improvements or expansion of grid	An amount the producer/operator must pay as its share of the "costs associated with grid connection and ensuring the reserved capacity";
Licence of RES-Electricity Facilities	An administrative document issued by the ERO (**"Energy Regulatory Office"**) that is needed by any person or legal entity who wishes to conduct business by trading electricity;
RES-Electricity	Electricity obtained from RES sources such as wind, solar, aerothermal, geothermal, hydrothermal and oceanic waves, hydraulic, biomass and biogas;
RES Support Scheme	State aid provided to producers of RES-Electricity. In the Czech Republic the support is provided to eligible producers in the form of green bonuses or feed-in tariffs;
Setting Up Authorisation	An authorisation granted by the Czech Ministry of Industry and Trade. Any RES-Facility with a total installed capacity over 1 MW must obtain this authorisation prior to the Building Permit.
Zoning Permit	An administrative document permitting the placement of a RES-Project, which is issued by the building authority of the administrative unit where the RES-Project is to be placed.

2. ENVISAGED NEED OF INVESTMENTS IN THE CZECH REPUBLIC

As the Czech Republic is a Member State of the European Union, it must work to ensure that the goals set by the EU are met. The Clean Energy for All Europeans package, passed in 2016, contains three (3) regulations and four (4) directives which adjust the EU electricity market for the future and introduce the EU's commitment for renewable energy to make up thirty two percent (32%) of total EU energy consumption by 2030 at the latest.

Member States of the EU are required to modify their legislation so that it reflects the decision-making of the European Commission regarding energy gains from renewable sources. The Czech Republic is required to enact specific provisions to meet the EU's thirty two percent (32%) goal. The Czech contributions to meeting this goal are adjusted based on the geographical, climatic and economic conditions of the country. The Czech authorities have proposed to set a national goal of twenty point eight percent (20.8%) of total energy production to be met by RES-Energy. This goal was deemed reasonable and corresponded to the other V4 countries (the Czech Republic, Poland, Slovakia and Hungary). However, the EU proposed a higher threshold of twenty three percent (23%) and, later, a compromise was made for RES-Energy to make up twenty two percent (22%) of the total. The issue of renewable energy has been consistently taken seriously by the Czech authorities, which was evidenced when the goal for 2020 was met seven (7) years before the deadline set by the EU.

In order to meet the new goal under the Clean Energy for all Europeans package and to help the EU to reach its goal under the European Green Deal, investment is primarily needed in the following areas:

- investment to keep existing RES-Facilities, mostly biomass and biogas facilities, in operation (after their promotion period ends), provided they are more effective than building a new RES-Facility;
- investment in promoting development and research in energy storage;
- investment in promoting the hybridisation of energy systems;
- decentralisation of energy production;
- investment in the development of alternative green fuels;
- investment in promoting research into heating and cooling systems using RES-Energy;
- investment in lowering energy consumption by implementing energy efficient technologies;
- investment into promoting green transportation (infrastructure, research and development);
- investment in strengthening the distribution grid in order to connect more low-voltage facilities;
- investment in research into the efficiency of the RES-Facilities;
- investment into the research and development of facilities that utilise geothermal energy.

3. EXECUTIVE SUMMARY-RES MARKET STATUS AND DEVELOPMENT OF RES FACILITIES

3.1 Market Overview – Factsheets

- The Czech Republic currently produces enough energy for self-sufficiency and in fact around one third (1/3) of the total energy is produced for export.

- The Czech RES-Electricity market has developed since 2005, when the Czech Republic introduced the first Promotion Act and started to promote RES-Electricity. It later pledged to the EU that it would meet thirteen percent (13%) of its energy output from RES-Electricity. This thirteen percent (13%) goal for 2020 was actually met by the Czech Republic already in 2013.

- In 2008-2010, a so-called "solar boom" took place because the amount of subsidy support (in the form of feed-in tariffs) was disproportionate and extremely beneficial for RES-Electricity producers. Numerous photovoltaic power plants were put into operation under these conditions and still benefit from the promotion today, as the feed-in tariffs were granted for twenty (20) years.

- The solar boom led to the implementation of a "solar tax", which requires solar power plants commissioned during the period from 1 January 2010 to 31 December 2010 to pay a monthly fee out of the state subsidy provided. The solar tax was challenged in the Constitutional Court, but was found not to breach the constitutional rights of the relevant producers. The Promotion Act was then amended accordingly, to make the promotion of RES-Electricity proportional. Additionally, the Energy Act established an obligation for RES-Facilities with a total installed capacity of over 1 MW to obtain a set-up authorisation from the Ministry of Industry and Trade.

- However, this "solar boom" significantly hurt the Czech RES-Market, as it undermined confidence in renewable energy sources (in particular in relation to its financing and state subsidies). The installation of new solar power plants reached its peak in 2011 and the increase has slowed down since then.

- This loss of trust has in turn led to a halt in the promotion of new RES-Facilities commissioned after 31 December 2013. Only wind, geothermal and biomass power plants were granted promotions until 31 December 2015. An exception exists for new hydropower plants with total installed capacity up to 10 MW and new cogeneration plants, which are still eligible for promotion under the Promotion Act.

- In 2010, the total percentage of RES-Electricity within the supply mix was ten point fifty two percent (10.52%), while in 2013 that number increased to almost fifteen percent (15%). Since 2013, when the promotion of new RES-Facilities stopped, this percentage has stagnated.

- In 2012, the Czech Republic became a part of the so-called "trilateral coupling" mechanism between the Czech Republic, Hungary and Slovakia, which was considered as an intermediate step towards the single European day-ahead market. In 2014, Romania joined the system, now known as 4M MC.

- To date, most of the promotion has gone towards solar power plants, with biogas and biomass facilities coming in second and third as the most promoted energy sources (and despite all three of these sources generating around the same amount of electricity).

- In 2017, the Czech Republic passed an amendment to the Act on Fuel and Fuel Stations, which introduced the concept of alternative green fuel.

- In 2018, the Czech government handed out promotion grants of almost EUR 2 billion.

- Eligible RES-Facilities receive promotion for twenty (20) years (i.e. most will end in around 2030-2033).

- A significant amount of state subsidies is being distributed among private persons wishing to reduce their electricity consumption. Subsidies are provided for energy efficient renovation of buildings, the construction of new energy efficient family houses, for construction of energy efficient apartment buildings and for personal RES-Facilities. This subsidy programme is called "New Green Light for Savings".

- A new type of promotion is now going through the legislative process to amend the Promotion Act. This new benefit should be realised in the form of auctions and should help in promotions being handed out

on a market-oriented basis. All large new photovoltaic power plants will be excluded from this promotion scheme if the bill remains unchanged to its wording of January 2020, while "small" photovoltaic power plants should still be eligible for promotion in the form of auctions. The intention to exclude large solar power plants is deemed to be a problem in the amendment to the Promotion Act.

- The Czech energy market still relies heavily on coal and nuclear energy. Coal consumption should be lowered and replaced by nuclear and RES-Energy. More promotion should be focused on the initial investment, rather than the operation of RES-Facilities. The focus should also be on the research and development of energy storage, which is a vital prerequisite for efficient and long-term use of RES-Energy.

3.2 RES Market Status, Permitting, Grid Connection, Licensing of RES Electricity Facilities in the Czech Republic

GENERAL MARKET DATA	
RES Target for 2020 (out of final consumption)	Thirteen percent (13%); in 2018 an achievement of fourteen point seventy six percent (14.76%) was reported.
RES Target for 2030	Twenty two percent (22%)
Overall installed General Capacity including RES (overall production of electricity)	In 2019, the overall installed general capacity was 21,965 MW, with total overall energy production at 61,881 GWh.
Installed capacity by technology	Steam-electric: 10,729.9 MW Solar: 2,044.3 MW Steam-gas: 1,363.5 MW Pumped-storage hydro: 1,171.5 MW Hydro: 1,091.8 MW Wind: 339.4 MW Nuclear: 4,290 MW Gas: 935.5 MW
RES SUPPORT SCHEME	
Beneficiaries of RES Support Scheme	The support scheme promotes: ▪ any RES-Projects put into operation before 31 December 2013, ▪ hydroelectric power plants with installed capacity up to 10 MW and ▪ cogeneration plants. The beneficiaries may usually choose between a feed-in tariff and green bonuses.
Priority and guaranteed off take into the grid	The Promotion Act adheres to the principle that operators of the distribution grid, within the area covered by their licence, must give preference to RES-Electricity generating facilities in connecting to the distribution grid.
Other incentives	▪ The planned Amended Promotion Act lays out a new type of promotion in the form of auctions; ▪ Guarantees of origin of RES-Electricity; ▪ Various investment subsidies.

Other conditions	▪ Licence granted by ERO for anyone who wishes to conduct business by trading with electricity; ▪ Set-up authorisation for RES-Facilities with total installed capacity over 1 MW; ▪ No installed capacity limit as long as the grid allows this from a technical point of view.
GRID CONNECTION SPECIFICS	
Approvals	▪ Connection to the grid is based upon approval given by the grid operator, depending on the location and installed capacity of the RES-Project; ▪ The grid operator may require a connection feasibility study from an energy producer, if it is clear that the connection of the project will have an impact on the operation of the grid, or if the applicant applies for connection to a high-voltage grid.
Permitting Timing: depending on the installed capacity and connection to the grid, an investor could obtain the necessary approvals in approx. six (6) months to two (2) years.	▪ environmental approval; ▪ Zoning Permit for placement of the project; ▪ set-up authorisation (above 1 MW); ▪ Building Permit followed by an approval for occupancy; ▪ licence; ▪ connection agreement with the grid operator.
LICENSING	
Procedure	A licence to trade with electricity is granted once the RES-Project is built and functioning. Licences are granted by the ERO.
Duration of administrative procedure	Within sixty (60) days from the submission of the full documentation.
Licence's validity	Maximum of twenty five (25) years.

3.3 Designated/preferred legal form of investment vehicle and RES-electricity project's acquisition

The Czech legislation does not require or recommend a particular type of investment vehicle in the RES-Electricity sector. Usually, a limited liability structure (**"SRO"**) is the most popular form of investment vehicle in this field.

A Czech RES-Electricity project under development usually involves several types of issues, including (i) securing rights to the real estate property associated with the RES-Electricity project (ownership or superficies rights, as well as potentially leasing rights or easements and rights of way); (ii) permitting, in particular obtaining, amongst others, the Zoning and Building Permits for the construction of the RES-Electricity project; (iii) securing technical documentation; (iv) obtaining technical connection approval for the connection to the grid and the connection agreement entered into with the local grid operator; (v) entering into different types of relationships via contracts (loans, various services related to the development of the Project, etc.); and (vi) securing potentially tangible assets and employees or contracted freelancers.

The acquisition of a RES-Electricity project can be performed through the purchase of either the shares in the SRO (share deal) or on an individual asset basis (asset deal).

Below is a side-by-side comparison of the advantages and disadvantages of each type of acquisition:

SHARE DEAL

NO.	BENEFITS	DISADVANTAGES
1.	The most common way to purchase a RES-Electricity project in the Czech Republic.	Complying with the Commercial Registry's formalities for share deal publicity towards third parties.
2.	All civil and energy related permits and authorisations stay with the SRO.	The purchaser assumes all the historical corporate liabilities including criminal liability (and associated risks) of the SRO.
3.	The transaction can be performed faster, at lower costs and ensures an easier transfer of the RES-Electricity project.	Since there is no mandatory transfer of employees in the case of an asset purchase, this type of transaction provides a possibility for the purchaser to decide which and how many employees to acquire as part of the asset purchase.
4.	Flexible transaction structure based on a proper due diligence of a company, real-estate assets, permits and authorisations, movable assets, employees/ freelancers (if the case).	Employment relationships within the target company, in a share purchase, generally remain intact.
5.	Transaction in two stages: signing and closing. The transaction usually contemplates conditions precedent to closing: ▪ performing a comprehensive due diligence on the RES-Electricity project and the SRO to the purchaser's satisfaction, not only legal, but also technical, commercial, tax and accounting; ▪ the seller obtaining any outstanding permits and authorisation and securing any relevant rights in land or access; ▪ the seller terminating any unnecessary or undesired contracts and/or obtaining any relevant consents up the decided development stage.	
6.	The transaction might contemplate a holdback on the purchase price or payment in instalments, in order to ensure that certain agreed milestones are met.	
7.	For the purchaser's protection, the share purchase agreement may include a comprehensive set of representations and warranties regarding the SRO and the project, as well as indemnities, for issues which the purchaser may identify in the due diligence process. As a condition for the transaction it is also recommendable to include the entering into of a real estate title insurance; namely a warranty & indemnity insurance covering the liability under the sale and purchase agreement (however, this is not very common on the market yet).	

ASSET DEAL

NO.	BENEFITS	DISADVANTAGES
1.	The purchaser will not take over the historical corporate liabilities (and associated risks) of the SRO.	The purchaser will have to obtain all necessary civil and energy related permits and authorisations.

2.	The purchaser may change the characteristics of the project before applying for various permits and authorisations.	In this case it is not guaranteed that after issuance of a new licence, subsidies will be granted to the same amount as under the old licence.
3.		Additional fee to be paid for registering the transfer of the rights in land with the Land Register. In principle, an asset deal carries VAT obligations (unless performed as a going concern)
4.		The transfer of relevant contracts requires the consent of the contracting parties and sometimes the conclusion of new agreements renewing the contracting parties and ensuring the undertaking of the assumed obligations (unless performed as a going concern).

4. KEY CHANGES TO THE RES SUPPORT SCHEME SINCE 2016

The RES Support Scheme has not experienced major changes since 2016. The biggest changes are expected to be implemented by the Amended Promotion Act in 2020.

As of January 2020, promotion is given to eligible producers who put their RES-Facilities into operation before 31 December 2013. Only wind, geothermal and biomass power plants were granted promotion until 31 December 2015. There is an exception for new hydropower plants with total installed capacity up to 10 MW and new cogeneration plants, which are still granted promotion under the Promotion Act. Promotion is provided for twenty (20) years after the RES-Facility is put into operation. RES-Producers eligible for promotion may choose between a feed-in tariff and green bonuses, with the option to change once a year. Feed-in tariffs may be chosen only by smaller producers, with the limits being 10 MW for hydropower plants and 100 kW for generating facilities from other RES. The minor changes to the support scheme since 2016 are mentioned below.

4.1 Changes regarding RES-Producers whose principal activity is agricultural production

To be eligible for promotion in the Czech Republic, there is a requirement that producers of RES-Electricity existing in the form of a joint stock company (in Czech: *a.s.*) must have their shares in the form of book entry shares (in Czech: *zaknihované akcie)*. Since 2014, RES-Electricity produced by joint stock companies with other than book entry shares have not been eligible for promotion. The same applies to promotion of electricity produced in cogeneration plants and electricity produced from secondary energy sources. However, since 2016, RES-producers whose principal activity is agricultural production, are not included in this obligation.

4.2 Change of statute of limitation

In 2017, there was a change in the legal regulation regarding the statute of limitation for administrative offenses, along with some minor changes in the wording of administrative law.

The statute of limitations changed from a subjective term of two (2) years and objective term of three (3) years, to a subjective term of five (5) years and an objective term of eight (8) years. This means that a legal entity or natural person conducting business with electricity that commits an administrative offense may be prosecuted within five (5) years from the date when the authorities first found out about the offense but no later than eight (8) years from the date of the offense.

4.3 Change in support for RES-Facilities that are connected to the grid via another facility

Since 2018, there has been a change for RES-Facilities that are connected to the grid via another electricity generating facility or for situations when more RES-facilities are connected to the grid via one supply point. These RES-Facilities may only get promotion in the form of green bonuses.

4.4 Overcompensation

In 2019, the Czech Republic started to carry out an overcompensation sector investigation for facilities put into operation between 2006 and 2008. The outcome of this preliminary screening is that no overcompensation is currently being handed out to relevant RES-Producers. However, RES-Producers who also obtained investment subsidies will be investigated individually under the Amended Promotion Act. The whole outcome of the investigation will be published once the Amended Promotion Act is in force, because the concept of overcompensation will be implemented into Czech law by the planned amendment.

5. SIGNIFICANT AND/OR EXPECTED CHANGES IN 2020

5.1 A new support system for RES-Electricity

Because of the goals that the Czech Republic has pledged to meet, it is now in the process of amending the Promotion Act. This amendment should help ensure meeting, and ideally exceeding, the goal of twenty two percent (22%) of energy from RES-Facilities by 2030.

This planned amendment was introduced in 2018 and is still in the legislative process. The most important planned change to the support scheme is the introduction of a new type of promotion in the form of auctions. This should work based on the idea that the state will decide which new specific types of RES-Facilities should be built and will publish an auction. Whomever is able to build the RES-Facility and operate it with the lowest promotion, will win the auction and obtain the promotion. This system has been successfully tested in Germany and Poland, where the auctions brought RES-Electricity prices down to the price of electricity from other sources, since it ensures that promotion is awarded on a market-oriented basis. This proposal contains the exclusion of large solar power plants from promotion, which is still a consequence of the solar boom of 2009. The priority in solar energy lies with smaller rooftop solar facilities.

Another new concept the amendment introduces is promotion in the form of paying the difference between the price of used fuel (applies only to fuel powered RES-Facilities), operation costs and the market price of electricity and heat.

The amendment will also regulate the reconstruction and modernisation of older RES-Facilities, which will secure these RES-Facilities new promotion, while the old promotion will end.

5.2 Overcompensation

Overcompensation in the Czech Republic will be regulated by the Amended Promotion Act. Overcompensation checks are used to monitor the adverse accumulation of financial support that disproportionately increases the profits of RES producers. The checks will be conducted by the Ministry of Industry and Trade ten (10) years after each RES-Project enters operation and will be carried out as sector-by-sector investigations. If a risk of overcompensation is found and the operator does not implement a solution, then an additional investigation will be conducted by the State Energy Inspection. The authority will be able to stop the promotion for the producer and order the producer to return any excess resources.

5.3 National Energy Strategy 2015-2040

The Czech National Energy Strategy was passed in 2015 and contains major strategies up until 2040. The main goal of the document is to ensure a reliable, safe and environmentally friendly energy supply for the needs of the Czech population and economy, at competitive and affordable prices. It promotes lowering emissions, increasing energy efficiency, promoting private energy sources, diversification of energy sources, exporting energy and a downward trend of electricity consumption in private homes.

5.4 National Plan of Energy and Climate 2020-2030

This document stems from the Czech National Energy Strategy. It sets out the most important measures to be taken by the Czech Republic in order to meet the goal for 2030, which is set by this document at twenty two percent (22%) of energy from RES sources.

In the area of decarbonisation, the Czech Republic pledges to decrease carbon emissions by thirty percent (30%) (from 2005 until 2030). RES plays a large role in achieving this goal. The most important tool will be the amended Promotion Act, bringing a new type of promotion for newly built RES-Facilities and keeping old RES-Facilities in operation.

Within the area of energy efficiency, the Czech Republic will set indicative goals for total consumption of energy, a binding goal for efficiency of public buildings and a binding goal of gradual decrease of total consumption of electricity. The goal of the Czech Republic is to decrease total annual consumption by half.

The interconnectivity of the Czech system has reached thirty percent (30%), which well exceeds the goal established by the EU, which is set at fifteen percent (15%).

The last area the National Plan elaborates, is the area of research, innovation and competition. There are no specific goals set in the document; however, there are other strategies and plans in place to ensure the development and public financing of research. The research of smart grids, infrastructure and storage technologies has been a focus of the Czech Republic.

6. OVERVIEW OF THE TECHNICAL INOVATIONS IN ELECTRICITY STORAGE AND APPLICABILITY IN THE CZECH REPUBLIC OF SUCH STORAGE TECHNOLOGIES

Efficient energy storage is one of the key prerequisites for successful use of RES-Energy. As renewable energy is dependent on the weather and/or time of day, the electricity grids need to become more flexible in order to manage the changes in the amount of supplied electricity. Energy storage is a major component of the functionality of RES-Systems. For times when there is energy surplus, there is a need for technology and space to retain and store this excess energy.

The most common energy-storage system in the Czech Republic remains pumped-storage hydroelectricity. The Czech environment is ideal for these systems because of the abundance of water sources in mountainous areas. The Czech Republic disposes of large water storage facilities that use cheap energy to transport water uphill and let the water stream downhill to make energy in peak hours, when the demand for electricity is the highest.

Another common way of energy storage in the Czech Republic is used in rooftop solar panels, where the solar panel is connected to a lithium-ion battery that stores the excess energy. This stored energy may be used when sunlight is scarce.

However, in order to balance the entire grid, larger batteries with storage capacities of tens of MWh are needed. These can stabilise systems powered by RES-Electricity, protect the grid against blackouts, ease the transition

to electromobility and ultimately save money for expensive electricity in peak hours. Some large-scale batteries have been installed but the area of energy storage is still underdeveloped, and legislature is lacking.

The concept of air compression systems is being researched but is not currently widely used in the Czech Republic.

7. SUPPORT SCHEME FOR COGENERATION

Cogeneration has been a common tool to produce energy and heat for many years in the Czech Republic. The heat produced by cogeneration covers more than half of the total heat produced, and electricity produced by cogeneration currently makes up fifteen percent (15%) of all electricity in the Czech Republic. Additionally, the number of small cogeneration units has been growing rapidly in the last decade.

The promotion of cogeneration of energy and heat is regulated by the Promotion Act. The operation of cogeneration units has been supported by the state in the form of green bonuses, while new cogeneration units are still included in the support scheme. The ERO determines the value of "annual green bonuses for electricity generated in cogeneration plants" in its price decisions. A certificate of origin of electricity from cogeneration issued by the Ministry of Industry and Trade is required in order to be eligible for the payment of the cogeneration green bonus. The Promotion Act includes cogeneration in the right to preferential connection to the grid system, provided that the technical access conditions are met.

This chapter was written by Radka Nenickova.

RADKA NENICKOVA
Counsel

Wolf Theiss, Czech Republik

+420 234 765 229
radka.nenickova@wolftheiss.com

WOLF THEISS

HUNGARY

COUNTRY GENERAL INFORMATION

Capital: Budapest

Location: Hungary is situated in Central Europe in the Carpathian Basin and shares border with Slovakia to the north, Ukraine to the north-east, Romania to the east and south-east, Serbia to the south, Croatia and Slovenia to the south-west, and Austria to the west.

Surface area: Hungary is a mid-sized country with 93,030 km².

Population: Hungary has about 10 million inhabitants.

Climate: Hungary has a temperate seasonal climate with four (4) distinct seasons.

Resources: Hungary's geography has traditionally been defined by its two main waterways, the Danube and Tisza rivers. The main natural resource of the country is the black soil of its farmlands. The alluvial soils of the Great Hungarian Plain are highly fertile. Soils in the northern highland river basins are also generally fertile. The main mineral resources are bauxite, coal, oil, natural gas, manganese, uranium, lignite and iron ore.

Electricity grid: The total length of the transmission system network is 4,861 km, which is comprised of 750 kV overhead lines, 400 kV overhead lines, 220 kV overhead lines, 132 kV overhead lines and 132 kV high voltage cables. The total route length of the network is 165,391 km.

Electricity transmission, distribution and supply: The current structure of the Hungarian electricity market began to take shape around 1995, when the majority of the large power plants, the public utility suppliers and the distribution networks were privatised. Currently, domestic power plants sell the majority of their generated power through agreements with MVM Ltd., framework contracts with universal service providers and bilateral agreements with traders. A significant part of the purchases take place on the secondary trade market. The Hungarian transmission system operator (**"TSO"**), MAVIR Zrt. – an entity of the state-owned MVM Group – has the exclusive right to operate and maintain the Hungarian transmission system network. The distribution systems are operated by six (6) regional distribution system operators (**"DSO"**): E.ON Dél-dunántúli Áramhálózati Zrt., E.ON Észak-dunántúli Áramhálózati Zrt., E.ON Tiszántúli Áramhálózati Zrt., ELMŰ Hálózati Kft., ÉMÁSZ Hálózati Kft. and NKM Áramhálózati Kft. Five (5) of the DSOs are private companies, while one (1) of them has recently been acquired by the Hungarian State.

Official EU language(s): Hungarian

EU membership: Since 2004

NATO membership: Since 1999

United Nations membership: Since 1955

Currency: Hungarian Forint (HUF)

Membership in the Schengen Area: Since 2007

Political system, administrative organisation and economy: Hungary is a parliamentary republic with a government, led by the prime minister, exercising executive power and a head of state (the president of the republic) whose primary responsibilities are related to the security of the constitutional democracy, the representation of the country and the special orders of state. The country is divided into nineteen (19) counties plus the capital (Budapest) as an independent entity.

1. DEFINED TERMS FOR THE MAIN PERMITS REQUIRED FOR THE RES-ELECTRICITY GENERATION FACILITIES

Building Permit	means the permit of the Local Government Office for the construction of a power plant;
Combined Small Power Plant Licence or CSPP Licence	means the licence for the establishment and operation of a power plant with a nominal capacity of 0.5-50 MW, granted by the HEPURA;
Environmental Permit or IPPC licence	means the environmental permit or the integrated pollution prevention and control permit (as the case may be), granted by the Local Government Office;
HEPURA	means the Hungarian Energy and Public Utility Regulatory Authority;
Feed-in Tariff (FiT)	means the support mechanism under the FiT Decree whereby the RES-Electricity is sold for a mandatory off-take price;
FiT Decree	means Government Decree No. 389/2007. (XII.23.) on the obligatory dispatch and purchase of electricity generated from waste or from RES;
METAR	means the support mechanism under the METAR Decree whereby the RES-Electricity is sold for either a mandatory off-take price (in case of smaller projects below 0.5 MW) or a market price with price correction (i.e. projects above 0.5 MW);
METAR Decree	means Government Decree No. 299/2017. (X.17.) on the feed-in tariff for renewable electricity and the premium tariff;
RES	means renewable energy sources in general, such as wind, solar, aerothermal, geothermal, hydrothermal and oceanic waves, hydraulic, biomass and biogas;
RES-Electricity	means the electricity generated from RES.

2. ENVISAGED INVESTMENTS IN HUNGARY

According to the requirements of the EU, Hungary as a Member State must work to ensure that all available plans under the European Green Deal are coherently deployed. Therefore, Hungary must adopt a national energy plan and put in place the legal framework to attract the necessary investments to accelerate the transition to clean energy, such as:

(a) investments promoting the use of RES-Electricity for industrial purposes;

(b) investments in biogas and biomass power plants and other forms of geothermal energy;

(c) investments in the development of alternative green fuels;

(d) high value-added investments and investments in low energy consumption, energy storage or carbon capture and use;

(e) investments in the promotion of geothermal pumps for the heating and cooling of buildings;

(f) investments in the establishment of decentralised, gradually connected district heating islands;

(g) investments in appropriate agricultural techniques and organic (bio) farming, such as greenhouse cultivation based on sustainable geothermal energy use;

(h) investments in the "greening" of transportation including the establishment of electric charging stations; and

(i) investments in energy storage facilities.

The most effective and efficient way to rapidly increase the security of supply is to reduce consumption by the improvement of energy saving and energy efficiency. Therefore, there is a need for energy saving measures covering the whole use and consumption value chain, that affects both the producer and the consumer. Such measures include the building of energy developments, the renovation of low-efficiency power plants and the reduction of network losses.

The digitisation of the Hungarian energy system, including the transmission and distribution networks (**"smart grids"**) also plays an important role in increasing the production of RES-Electricity and transforming the Hungarian energy market into a "fit-for-RES" market. An intelligent measuring system (**"smart metering"**) is a possible tool for the digitisation of the Hungarian energy system.

Increasing solar energy use with solar collectors is also a promising renewable energy option for Hungary. Therefore, it is estimated that solar capacities will be developed in the coming years in the form of medium-capacity solar parks built on degraded or non-productive lands, and in the form of small capacities developed by energy consumers who can make the transition to prosumer status. The solar capacity is projected to increase from 680 MW (in 2016) to nearly 6,500 MW in 2030, and by 2040 it may well exceed 10,000 MW.

It will also be necessary to replace the electricity generating facilities that will be out of operation by 2030 with new, efficient, low-emission and innovative investments leading to new capacities for electricity generation. This should be done in the context of achieving the objectives of energy security, and the competitiveness and decarbonisation of the energy sector.

The revitalisation of high-quality energy education is urgently needed, with particular emphasis on the training of professionals in the mapping of energy saving opportunities and implementing RES.

The level of interdependence with other EU Member States as regards the electricity system is expected to increase rapidly, since the electricity day-ahead market and the intraday market function in a coupling mode with other European countries (e.g. within the Visegrád Group, which is a regional organisation of the Czech Republic, Poland, Hungary and Slovakia). This involves both domestic capacity-building investments and specific investments for transmission interconnections. As a logical consequence, these investments will most probably become national projects with regional impact, which will later transform into projects of national interest.

3. EXECUTIVE SUMMARY – RES MARKET STATUS AND DEVELOPMENT OF THE RES-ELECTRICITY FACILITIES

3.1 Market Overview – Factsheets

Given its strong potential, Hungary has already reached its 2020 RES target. In 2018, biomass represented the greatest share in the primary RES consumption (including RES-Electricity, RES-heating and cooling and RES-transportation) with 90,560 TJ, followed by biofuels (8,085 TJ) and geothermal energy (5,566 TJ). Despite its rapid recent deployment, the share of solar power in the overall primary RES consumption has not yet reached 3,000 TJ. The share of wind reached around 2,000 TJ in 2018 and due to regulatory constraints, no significant increase is expected.

On a larger scale, available yearly data shows a continuous decrease in biomass production and consumption

(nine percent (9%) from 2017 to 2018) and a dynamic increase in the use of biofuels (thirty percent (30%)) and solar energy (fifty percent (50%)).

The majority of RES-Electricity projects are supported under the FiT system that applies to installations with an installed capacity of 50-500 kW. The FiT system was replaced by the so-called METAR system as of 1 January 2017 (i.e. applications can no longer be submitted, but the already granted FiT entitlements remain in force), which includes a new feed-in tariff system (METAR-FiT) up to 0.5 MW installed capacity, a "green premium without tendering" system for installed capacity between 0.5-1 MW and a "green premium granted through tendering" system for installed capacity over 1 MW. Under the FiT system, the generated electricity is sold to the TSO at a fixed price, whereas under the new METAR system the electricity is sold directly to traders or on the stock market with price correction. The HEPURA is the central agency for the FiT and METAR systems. The FiT price, the supported quantity and the support period, as well as the margin of METAR price correction are all defined by the HEPURA. The results of the solar boom in 2016, generated by the highly favourable and easily accessible FiT system, became visible in 2018, as the electricity generated by solar power plants increased by seventy five percent (75%) compared to the previous year. Until the end of 2018, approximately 726 MW of solar power plants were put into operation.

By 2030, the Hungarian Government is aiming to reach 7,000 MW installed capacity of solar power.

3.2 RES Market Status, Permitting, Grid Connection, Licensing of RES-Electricity facilities in Hungary

GENERAL MARKET DATA	
RES Target 2020	Thirteen percent (13%) – reported to have achieved ten point six percent (10.6%) in 2018
RES Target 2033	Twenty percent (20%)
Overall installed General Capacity including RES (overall production)	▪ Overall installed capacity: 8,878.5 MW ▪ Overall production: 31.6 TWh
Installed capacity by technology	Solar: 726 MW Biomass: 379.3 MW Wind: 324 MW Hydro: 56.2 MW
RES SUPPORT SCHEME	
Beneficiaries of the RES support scheme	METAR FiT: ▪ Biogas: twenty five (25) years ▪ Waste to gas: five (5) years six (6) months ▪ Solar: fourteen (14) years four (4) months METAR green premium: ▪ Biogas: twenty five (25) years ▪ Waste to gas: four (4) years one (1) month ▪ Solar: fifteen (15) years five (5) months ▪ Solid biomass: twenty five (25) years METAR tender: ▪ Fifteen (15) years maximum for all RES

Priority and guaranteed off take into the grid	Renewable energy generators shall be given priority access to the grid and to the sale of the entire amount of energy on the condition that they have to respect the market rules.
Other incentives	▪ Preferential dispatch in the merit order ▪ Guarantees of origin ▪ Preferential electricity storage
GRID CONNECTION SPECIFICS	
Approvals	▪ In order to get access to the grid, power plant operators have to file a request for grid connection to the TSO/DSO (whichever is competent) for review. ▪ If the relevant conditions are met, the TSO/DSO provides the power plant with a grid connection approval and following this, it concludes an agreement with the project owner.
Permitting	▪ Environmental permit: environmental aspects of the grid establishments are evaluated during the building permitting. ▪ Environmental impact assessment: overhead lines over 220 kV and 15 km are subject to environmental impact assessment. ▪ Cable line permit: in order to reach the connection point from the project site the establishment of a producer line might be needed and for that purpose a cable line permit is necessary.
LICENSING	
Procedure	▪ land registry procedures (if necessary) e.g. reclassification of the project land as "land out of cultivation", separation of the project land into multiple plots; ▪ filing of a statement of claim to the local DSO (e.g. to secure the grid connection of the power plant); ▪ preparation of a preliminary feasibility study; ▪ building permitting procedure and receipt of a final and binding building permit; ▪ preparation of a grid connection plan and approval of the grid connection plan by the TSO/DSO (if necessary); ▪ signing of the grid connection agreement with the TSO/DSO (if necessary); ▪ construction of the electric energy facility and the grid connection (if necessary); ▪ permitting procedures with the HEPURA; ▪ trial operation of the electric energy facility and application for membership in a balancing circle (if necessary); ▪ application for commissioning approval from the HEPURA; ▪ signing of an operation and maintenance (O&M) agreement, grid use agreement and balancing circle membership agreement (if necessary).

Duration of administrative procedure	The METAR permit is granted approximately six to twelve (6-12) months from the submission of the full documentation, whereas the permitting of the entire project can easily be more than one and a half (1.5) years (depending on the specifics of the project).
Licence validity	The FiT/METAR permits last until the end of the support period, whereas the validity of other licences depends on the type of licence in question.

3.3 Designated/preferred legal form of investment vehicle and RES-Electricity project's acquisition

The most popular form of investment vehicle, regardless of the inbuilt capacity of the power plant, is a limited liability company ("LLC"). However, in case of power plants with an inbuilt capacity of 50 MW or more the selected form can only be a limited liability company or a company limited by shares.

The acquisition of a RES-Electricity project can be (i) the purchase of the shares in the LLC (share deal) or (ii) on an individual asset basis (asset deal).

SHARE DEAL

NO.	BENEFITS	DISADVANTAGES
1.	The most common way to purchase a RES-Electricity project in Hungary.	It has to comply with the rules and formalities of company registry procedures.
2.	It is possible to take over all civil and energy related permits and authorisations without any formalities, except the notification to the relevant authorities and the HEPURA in case of change of control over the LLC.	It has to comply with the requirements regarding the notification of the HEPURA about the transaction in order to obtain the HEPURA's acknowledgement. Save for the CSPP licences, the HEPURA's prior written consent is also necessary for the transaction.
3.	The transaction can be faster, cheaper and it can ensure an easier transfer of the RES-Electricity project with the necessary assets for construction and operation.	The purchaser has to take over the corporate liabilities (and associated risks) of the LLC accrued until to the transaction.
4.	It provides a flexible transaction structure based on the findings of the due diligence of the company, including the permits and authorisations for the real property, the movable assets and the employees, as the case may be.	
5.	The transaction consists of two main stages: the signing and the closing. The transaction usually contemplates conditions precedents to closing: ▪ to perform a comprehensive due diligence and issue a findings' report to the purchaser's satisfaction, including the legal, technical, commercial, tax and accounting related aspects of the LLC; ▪ to obtain the necessary permits and authorisations by the seller and to secure the right of access to the project land(s); ▪ to terminate any unnecessary or undesired contract by the seller and/or to obtain any relevant consent up to the decided development stage.	

6.	The transaction might contemplate a holdback of the purchase price or a payment schedule in instalments to ensure that certain agreed milestones are met.	
7.	The share purchase agreement might include a comprehensive set of representations and warranties for the purchaser's protection regarding the LLC and the project, as well as indemnities for any issue that was identified by the purchaser in the due diligence report.	

ASSET DEAL

NO.	BENEFITS	DISADVANTAGES
1.	The purchaser does not have to take over the corporate liabilities (and associated risks) of the LLC accrued until to the transaction.	Save for the CSPP licence, the HEPURA's prior written consent is necessary for the transfer of fundamental rights and assets of a property value.
2.	The purchaser can change the characteristics of the project before applying for the various permits and authorisations.	The transfer of certain registered assets and the registration of the title in the relevant registry requires signing formalities.
3.		An additional fee has to be paid for registering the title to the land in the land registry.
4.		The transfer of energy-related permits associated with the project is not possible under Hungarian law.
5.		The transfer of the relevant contracts requires the consent of the contracting parties and sometimes the conclusion of new agreements is also necessary to ensure the assumed obligations.

4. KEY CHANGES TO THE RES SUPPORT SCHEME SINCE 2016

4.1 End of the FiT system

In the second half of 2016, nearly 3,000 applications were submitted to the HEPURA for the support of micro projects (i.e. below 0.5 MW). These have been awarded by the HEPURA, leading to a "solar boom" at the end of the year. However, it was questionable whether the projects with an aggregate capacity of approximately 1,500 MW would actually all be implemented. Although the support was attractive and offered compelling business opportunities, the twenty to twenty five (20-25) year reference period had potential risks as well. In addition, developers faced unexpected legal uncertainties and problems, such as many of the projects were based on land classified as agricultural land in the land registry, therefore a reclassification as "lands out of cultivation" was required, or the projects had to take into consideration the environmental protection rules (e.g. Natura 2000 limitations).

In order to support the implementation of the projects, the Hungarian Parliament adopted certain laws and decrees e.g. on the extension of the mandatory deadline to implement the project, the establishment of the gird connection point and the producer line of the power plant on the cost of the DSO, or easier reclassification of the land.

4.2 Introduction of the METAR system

The FiT system was replaced by the METAR system at the beginning of 2017. The METAR system did not affect the already issued FiT resolutions and the granted rights. The METAR includes the following support schemes:

(a) a new feed-in-tariff system (METAR-FiT) up to 0.5 MW installed capacity, which is different from the previous FiT system (currently not available);

(b) a "green premium without tendering" system for installed capacity between 0.5-1 MW (currently not available); and

(c) a "green premium granted through tendering" system for installed capacity over 1 MW (currently available).

The METAR system is designed for new projects, i.e. whose implementation has not yet started at the time of submitting the application for the support. However, already existing solar plants may also apply for support if they go through significant reconstruction or development (exceeding fifty percent (50%) of the original investment costs).

Under the old FiT system, the generated electricity is sold to the TSO at a fixed price, whereas under the new METAR system, the electricity is sold directly to traders or on the stock market with price correction. The "green premium" is the difference between the "support price" (set by the Government in the METAR Decree) and the "reference market price" (based on the prices of the Hungarian Power Exchange, HUPX).

5. SIGNIFICANT AND/OR EXPECTED CHANGES IN 2020

5.1 National Energy Strategy 2020-2030

The Government has recently published the new national energy strategy addressing the strategic goals to be achieved until 2030 in the energy sector. It envisages "clean, smart and affordable energy" for the future no later than 2040. The aims of the strategy are the security of energy supply, energy independence and the decarbonisation through nuclear power and RES. The strategy aims to achieve these goals through the so-called "solar scenario", expecting that solar capacities will represent more than fifty percent (50%) (approximately 12,000 MW) of the total inbuilt capacities by 2040.

According to the strategy, solar capacities will reach 6,000 MW by 2030 and the use of RES within the gross final energy consumption will increase to twenty one percent (21%).

5.2 Amendments to the rules of scheduling

Renewable energy producers subject to the FiT Decree and the METAR Decree shall expect stricter balancing obligations as regards scheduling. As of March 2020, the FiT Decree and the METAR Decree will gradually cease the renewable energy producers' "preferential" scheduling obligations (i.e. the possibility to deviate from the daily schedule with the payment of a preferential balancing fee) until 2026.

5.3 Energy Efficiency

The improvement of the energy efficiency of household buildings and the modernisation of their heating and cooling systems will be essential for stimulating the construction industry.

While maintaining dynamic economic growth, the final energy consumption is projected not to exceed its 2005 level of 785 PJ. If the final energy use will increase after 2030, it will have to be covered by a carbon neutral source only.

6. OVERVIEW OF THE TECHNICAL INNOVATIONS IN ELECTRICITY STORAGE AND THE APPLICATION IN HUNGARY OF SUCH STORAGE TECHNOLOGIES

Because the current Hungarian electricity system has not yet adjusted to the growing need to integrate the large quantity of RES, the National Energy Strategy envisages the development of the DSO's response capacity and flexibility mechanisms as crucial in parallel with the smartening and development of the transmission and distribution networks.

The strategy aims to encourage innovative technologies and modes of operation in order to improve the electricity systems while minimising the need for network development investments and maximising the integration of renewable, decentralised power generation.

The proposed programme focuses on the stimulation of energy storage, the strengthening of the capabilities/ obligations of weather-dependent producers for system balancing, the fostering of adjustments by the demand side, and the rethinking of the competences of TSOs and DSOs.

Market-based solutions for energy storage are desirable, but there is no significant domestic experience in the use of energy storage as a technology.

The development of energy storage as a stand-alone service will require the development of a market model that includes additional products (e.g. fast frequency response, inertia) and services (distribution level network voltage regulation) in line with the changes to the EU electricity market regulation.

Partial support must be considered for the storage facilities of power plants that are no longer subsidised under the FiT system. In order to support the regulation, larger solar plants with auxiliary storage capacity submitting applications in the METAR system are likely to be preferred in the upcoming tenders.

7. SUPPORT SCHEME FOR COGENERATION

Since the end of 2010, cogeneration power plants, other than those that generate electricity from RES or waste, are no longer eligible under the support schemes.

Natural gas-based cogeneration facilities are ineligible for support under the METAR system, as well as the biomass or biogas-based power plants, if the electricity is produced in a high efficiency cogeneration power plant.

This chapter was written by László Kenyeres, Kinga Máté, Ádám Lukonits and Mátyás Pálosi.

LÁSZLÓ KENYERES
Partner

Wolf Theiss, Hungary

+36 1 4848807
laszlo.kenyeres@wolftheiss.com

KINGA MÁTÉ
Associate

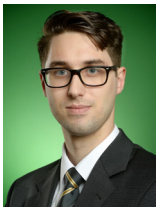
Wolf Theiss, Hungary

+36 1 4848818
kinga.mate@wolftheiss.com

ÁDÁM LUKONITS
Associate

Wolf Theiss, Hungary

+36 1 4848841
adam.lukonits@wolftheiss.com



MÁTYÁS PÁLOSI
Associate

Wolf Theiss, Hungary

+36 1 4848843
matyas.palosi@wolftheiss.com

WOLF THEISS

POLAND

COUNTRY GENERAL INFORMATION

Capital: Warsaw

Location: situated in Central Europe, Poland's territory extends across several geographical regions, between latitudes 49° and 55° N, and longitudes 14° and 25° E. Poland is bordered to the north by the Baltic Sea, to the northeast by Russia and Lithuania, and to the east by Belarus and Ukraine. To the south the border follows the watershed of the Beskid (Beskidy), Carpathian (Karpaty), and Sudeten (Sudety) mountains, which separate Poland from Slovakia and the Czech Republic, while to the west the Neisse (Nysa Łużycka) and Oder (Odra) rivers define the border with Germany.

Surface: 312,696 km².

Population: 37,846,611 inhabitants.

Climate: continental, with four (4) distinct seasons.

Resources: Poland has substantial agricultural and mineral resources. It has the world's fifth (5th) largest proven reserves of hard and brown coal, in addition to deposits of copper, sulphur, zinc, lead, silver, magnesium, and rock salt. There is natural gas and also potentially useful deposits of chalk, kaolin, clays, and potash.

Electricity Grid: Poland has over 260 lines with a voltage of 400 and 220 kV and a length of almost 15,000 km, as well as several hundred kms of undersea cable connecting the Polish and Swedish power systems.

Electricity Transmission, Distribution, and Supply: within the territory of the Republic of Poland there is one (1) transmission system operator for electricity – PSE S.A. with its seat in Konstancin-Jeziorna; one hundred percent (100%) of whose shares belong to the State Treasury. There are five (5) major distribution system operators: innogy Stoen Operator Sp. z o.o., ENERGA-Operator S.A., ENEA Operator Sp. z o.o., TAURON Dystrybucja S.A. and PGE Dystrybucja S.A. The electricity supply is provided by more than forty (40) providers.

Official EU language(s): Polish.

EU member country: since 1 May 2004.

NATO member: since 12 March 1999.

United Nations member: since 24 October 1945.

Currency: Polish złoty (PLN). Poland does not use the euro as its currency. However, under the terms of the Treaty of Accession with the European Union, all new Member States "shall participate in the Economic and Monetary Union from the date of accession as a Member State with a derogation", which means that Poland is obliged to eventually replace its currency, the złoty, with the euro.

Schengen: Poland is a member of the Schengen area.

Political system, administrative organisation and economy: Poland is a country with a well-founded system of democratic government. The republic is a multi-party democracy with a two (2) chamber parliament. The Head of State is the President, elected by a majority of votes for a five (5) year term. The upper parliamentary chamber is the Senate, with one hundred (100) senators; whereas the lower chamber is the Sejm, which has four hundred and sixty (460) seats. Parliament is chosen by a majority of the electorate for a four (4) year term. The state's internal and foreign policy is decided by the government, i.e. the Council of Ministers, whose activities are directed by the president of the Council of Ministers, i.e. the premier. The premier is chosen by the President. The executive officer for government administration and the government's representative in the voivodships is the voivod. Since 1 January 1999, the law of 24 July 1998 has been in place, which specifies a three (3) level

division of the country's territory. The entities of the three (3) level division of the state's territory are separated into: gminas (municipalities), powiats (districts) (both local authorities) and voivodships (regional authorities). Since 1 January 1999, the country has been divided into sixteen (16) voivodships. Poland has an economy predominantly based upon agriculture but also has a few important centres of manufacturing and mining.

1. DEFINED TERMS FOR THE MAIN PERMITS REQUIRED FOR RES-ELECTRICITY GENERATION FACILITIES

Building Permit	Administrative deed issued by the head of the powiat (district) where the RES-Electricity facility will be built;
Feed-in Premium	A support mechanism under the Auction Based Scheme where the RES Facility receives an addition payment; being the difference between the auction price and the market price for electricity;
Feed-in Tariff	A support mechanism under the Auction Based Scheme where the RES Facility sells electricity for the auction price to a utility;
Grid Connection	Actions performed and administrative deeds issued by the grid operator to connect a new generating facility or to modify or replace the connection of a generating facility to the grid;
Licence	Administrative deed issued by the President of the URE, allowing for the generation of electricity in RES-Electricity facilities, which gives the right to operate the RES-Electricity facility and to sell RES-Electricity on the market;
Feed-in Tariff	A support mechanism available for RES Facilities under the "old" regulation until the expiry of the originally contracted term. During such term, RES-Electricity Producers are not entitled to participate in the new system incentives under Guaranteed off-take price or Market Premium. There are two (2) concurrent Feed-in Tariffs (i) the tariff system applying to those power plants with off-take agreements in place on or before 31 December 2013; and (ii) the tariff system applying to those power plants with off-take contracts granted from 1 January 2014.
President of URE	President of the Energy Regulatory Office – the regulatory authority for the energy market in Poland;
RES Act	Renewable energy sources act setting out the RES Support Scheme in Poland;
RES-Electricity	Electricity obtained from renewable sources such as wind, solar, aerothermal, geothermal, hydrothermal, hydraulic, biomass and biogas;
RES Facility	A generation facility using renewables sources such as wind, solar, aerothermal, geothermal, hydrothermal, hydraulic, biomass and biogas to generate electricity;
RES Support Scheme	State-aid scheme notified and approved by the European Commission based either on (i) green certificates (**"GCs"**) or (ii) auctions (**"Auction Based Support Scheme"**) aiming at supporting RES-Electricity capacities.

2. ENVISAGED NEED OF INVESTMENTS IN POLAND

Poland is currently undergoing a very intensive phase of investment in RES Facilities. There are several reasons for this. Firstly, the price of electricity has risen rapidly in the last two (2) years, making investment in RES Facilities much easier to finance. This rise in prices is largely but not only ascribed to the rise of emission allowances' prices. Secondly, the government has fully implemented the Auction Based Support Scheme providing additional stability to investors and banks. The largest auctions were organised in 2018 and 2019.

In 2019 the auction for RES Facilities below 1 MW was dominated by solar projects. As part of the auction, a maximum of 11.45 TWh was anticipated to be allocated for no more than PLN 4.2 billion. As many as 260 producers entered the auction, and 1,044 offers were submitted (out of which 759 won). The lowest accepted bid amounted to PLN 269/MWh (approximately EUR 63/MWh), while the highest was PLN 327/MWh (approximately EUR 76/MWh).

The total amount of energy that will be subsidised was 11.43 TWh at the aggregate value of PLN 3.6 billion (approximately EUR 847 million). The entire auction volume was exhausted, while the prices offered were below the average reference (maximum) prices.

By way of a comparison, 2018 auction prices ranged from PLN 289.99/MWh (approximately EUR 68/MWh) to PLN 364/MWh (approximately EUR 86/MWh). The energy volume that was awarded in the auction should translate into construction of approximately 800 MW of new solar capacity.

Additionally, in 2019, large-scale photovoltaic farms with a capacity above 1 MW won in the auction for the first time. These will be about 50 MW at a price close to PLN 233/MWh.

The auctions for onshore wind farms and solar projects above 1 MW were the largest in terms of the value of allocated support. As many as 80 producers entered the auction, and 101 offers won; offering 78 TWh (sixty eight percent (68%) of the maximum volume) for the aggregate value of PLN 16.2 billion (approximately EUR 3.6 billion), which constituted fifty percent (50%) of the funds anticipated for this purpose.

The lowest accepted bid amounted to PLN 162.83/MWh (approximately EUR 38/MWh), while the highest was PLN 233.29/MWh (approximately EUR 55/MWh). This is a continuation of the trend observed for many years – i.e. the costs of this technology are systematically falling. According to the rules, twenty percent (20%) of the most expensive offers were automatically rejected.

It should be noted that the most expensive offers were higher than the previous 2018 auction prices, however they were still lower than the current average energy prices on the commodity exchange in Poland. Industry analysts anticipate that the energy volume offered at the auction will translate into construction of wind farm and solar projects above 1 MW with a total capacity of 2.2 GW. Together with the 2018 auction pool there is well above 3 GW of wind farm and solar projects above 1 MW with awarded Feed-in Premiums that will be constructed in the coming months.

The photovoltaic market is enjoying a boom in Poland, which is also confirmed by the auction results. About 800 MW have been contracted for projects no larger than 1 MW, with prices ranging from PLN 269 to 327/MWh, while exhausting the entire volume planned by the government.

Still, there are also other technologies which did very well in the 2019 auctions. In aggregate, the 2019 auctions will result in the development of about 3.1 GW of new capacities. The biggest winners are onshore wind and photovoltaics. However, the auction system is also attractive for biogas, biomass and hydropower generators. Although in 2018, the total volume of new capacity contracted by these technologies in the auction was marginal compared to wind and solar sources (less than 20 MW). The parallel support system in the form of Feed-In Premium is more favoured by small hydropower plants and biogas plants. This mechanism has recently been extended to projects with an installed capacity of up to 2.5 MW (not less than 0.5 MW).

Poland has become a vast construction site for RES Facilities. As a result of the auctions held in 2018 and 2019, 4.8 GW of additional RES Facilities capacity will be created in the coming years. Another 1.6 GW of capacity is initially planned for the auction in 2020, but the final version of a regulation is still being worked on.

The system of green certificates is still considered to be beneficial by many owners of RES Facilities. Despite offering a record high budget in migration auctions (PLN 25 billion), it has been used only to a relatively small extent (one point twenty five percent (1.25%)). This can be explained by the recent stabilisation of certificate prices and greater flexibility for generators compared to the auction system. In the case of hydropower as well as non-agricultural biomass and biogas sources, there was a shortage of applicants and the auctions remained unresolved.

The Polish energy sector is increasingly open to renewable sources and, as the 2018 and 2019 auctions confirm, it is less and less reliant on the need for subsidies. In the case of large solar and wind projects, financial support is no longer even necessary. As a result, these two technologies will be the largest sources of new power in the Polish system in the coming decades. In addition to the 4.8 GW of winning projects from auctions, we will see further growth in the market for prosumer solar installations in the coming years and the start of construction of the first offshore wind farms. This dynamic development of RES Facilities will take place within the discussion on the European Green Deal, which will further emphasise the need for a transition of the Polish energy sector.

The steady rise of electricity prices in Poland, especially in 2017 and 2018, as well as the reduction of capital expenditures, incentivises investors to no longer rely upon the support system. Instead, the construction of wind and solar sources should be based on a projection of the revenues likely to be generated from the production and sale of RES-Electricity in the market. There are opportunities with corporate PPAs as well as trading companies offering innovative structures aimed at mitigating long-term risks through the use of PPAs. Banks are also contemplating offering financing based on such conditions. Polenergia's wind farm Szymankowo was the first project to be financed purely on merchant risk.

Despite these efforts the RES goals for 2020 (i.e. fifteen percent (15%)) seem far from being achievable since the current levels were still around eleven percent (11%) in 2018. The investments fuelled by the 2018 and 2019 auctions and the high prices are already in progress and will continue for the next two to three (2-3) years. There are also more auctions to come in 2020. This will also strengthen the need to improve distribution and transmission capacities as well as interconnections with other neighbouring systems.

In November 2019 the Ministry of Energy presented an updated and extended draft of the document "Poland's Energy Policy until 2040 – Strategy for the Development of the Fuel and Energy Sector" (**"PEP2040"**). This updated strategy assumes (among others) that there will be only a fifty to sixty percent (50-60%) share of coal in electricity generation in 2030 as well as twenty one to twenty three percent (21-23%) renewable energy in final gross energy consumption by 2033. To achieve these goals, the currently existing and built capacity of RES Facilities will need to be at least doubled. A key factor in achieving this will be the unlocking of the off-shore potential in Poland, but nevertheless, the most significant contributor will remain onshore wind and solar.

3. EXECUTIVE SUMMARY-RES MARKET STATUS AND DEVELOPMENT OF RES FACILITIES

3.1 Market Overview – Factsheets

- The Polish RES market has developed since 2005 with the implementation of the first provisions in the Energy Law introducing a RES Support Scheme based on GCs, available connection to the grid and guaranteed off-take by utilities;

- RES Facilities built until 31 July 2016 can enjoy the RES Support Scheme based on GCs, all those that were constructed after this date are no longer eligible to participate in it as it will be slowly phased out;

- GCs will only be issued fifteen (15) years after the beginning of commissioning of a RES Facility;
- Under this RES Support Scheme, all RES Facilities receive GCs in the same amount per generated MWh. The demand for GCs is closely connected with the quota obligations, i.e. obligations to source a certain percentage of electricity from renewable energy;
- Another element of the RES Support Scheme based on GCs is the mandatory off-take of electricity by state utilities (suppliers of last resort);
- In 2015, a new RES Support Scheme was introduced – the Auction Based Scheme. But it did not fully emerge (at least on a large scale) until 2018;
- In November 2015, Polish authorities notified both support systems to the European Commission;
- After being amended, the Auction Based Support Scheme as well as the old RES Support Scheme were both accepted by the Commission on 31 December 2017;
- The main aim of the Auction Based Support Scheme was to make the support of RES more effective. It makes RES Facilities compete for support and it allows for the promotion of sources depending on technology and capacity by creating different technology baskets, imposing maximum prices and total maximum support value per auction;
- The bidder determines the price and the planned annual output. To determine the winning bids, the offers are sorted by price from the lowest to the highest until the planned auction volume is exhausted;
- Sources that won the auction with a capacity of 500 kW or lower are awarded a Feed-in Tariff, where the entire output is purchased by the obliged utility for the auction price;
- Sources of larger capacity are awarded a Feed-in Premium, which is similar to a contract for difference. Electricity is sold on the market (e.g. to a trading company under a PPA, to an end-customer under a corporate PPA, or on the power exchange) and the operator of the RES Facility receives a monthly payment covering the difference between the auction price and the market price (as determined by the power exchange);
- The European Commission accepted on 31 October 2019 changes to the Auction Based Support Scheme introduced by the Act of 19 July 2019 amending the Act on Renewable Energy Sources, which, inter alia, extended the period of support and extended the deadline for the sale of electricity for the first time after winning the auction;
- In November 2019 the Ministry of Energy presented an updated and extended draft of the PEP2040. The updated strategy assumes (i) fifty to sixty percent (50-60%) share of coal in electricity generation in 2030; (ii) twenty one to twenty three percent (21-23%) renewable energy in final gross energy consumption in 2033; (iii) implementation of nuclear energy in 2033; (iv) reduction of CO_2 emissions by thirty percent (30%) compared to 1990; and (v) energy efficiency increased by twenty three percent (23%) by 2030 (compared to forecasts of primary energy consumption from 2007);
- Since November 2019, Poland together with Bulgaria, Croatia, Czech Republic, Hungary, Romania and Slovenia have successfully linked intraday markets with fourteen countries active in operational work since June 2018.

▪ RES Market Status, Permitting, Grid Connection, Licensing of RES Facilities in Poland

GENERAL MARKET DATA	
RES Target 2020	Fifteen percent (15%) – eleven point twenty eight percent (11.28%) achieved in 2018.
RES Target 2030	Twenty one to twenty three percent (21-23%).
Overall installed General Capacity including RES (overall production)	In 2018, overall energy production was 157 TWh.
Installed capacity by technology	Wind – 5.8 GW Biomass – 1.4 GW Hydro – 1 GW Solar – 1 GW Biogas – 240 MW
RES SUPPORT SCHEME	
Beneficiaries of RES Support Scheme	Auction Based Support Scheme is addressed to a number of technologies divided into baskets by technology and size. GCs are received by RES Facilities built prior to 31 July 2016.
Priority and guaranteed off take into the grid	The RES-Electricity Producers receive priority access to the grid.
Other incentives	Mandatory annual GC quotas to be purchased by the energy suppliers.
Other conditions	Licence for generation above 500 kW. No installed capacity limit as long as the grid allows it from a technical point of view.
GRID CONNECTION SPECIFICS	
Approvals	Connection conditions issued by the grid operator based on (i) a grid study; and (ii) the advance payment for the connection payment. A zoning plan or decision must also be in place. Connection agreement setting out the schedule of the connection as well as other rights and obligations of the parties.
Permitting Timing: depending on the technology, installed capacity and connection to the grid, an investor could obtain the necessary approvals in approximately six (6) months to two (2) years.	▪ Zoning plan or in its absence a zoning decision; ▪ Environmental decision setting out the environmental conditions of the RES Facility following an Environmental Impact Assessment (if necessary); ▪ Building permit for construction works and connection to the grid.
LICENSING	
Procedure	The licence for generation is issued after the construction and commissioning phases are finished.
Duration of administrative procedure	Within ten to sixty (10-60) days from the submission of the full documentation. It can be coordinated with the end of the commissioning phase.
Licence's validity	Up to fifty (50) years. Can be extended.

3.2 Designated/preferred legal form of investment vehicle and RES-Electricity project's acquisition

Polish legislation does not require or recommend a particular type of investment vehicle in the RES-Electricity sector. Usually, the form of the limited liability structure (**"LLS"**) is the most popular form of investment vehicle in this field.

The acquisition of a RES-Electricity project can be performed through the purchase of either the shares in the LLS (**"Share Deal"**) or on an individual asset basis (**"Asset Deal"**).

A Share Deal is a transaction of the acquisition of share rights (shares or stocks) in capital companies. As a result of such transaction, the buyer becomes the owner of the shares, but does not obtain direct rights to the assets (of the enterprise) of the acquired company (except for the right to participate in a possible division of the company's assets in the event of its liquidation). The company's assets still remain the company's property, since the subject of the sales contract in the case of Share Deals are share rights, not assets.

An Asset Deal is the transaction of acquiring a company enterprise or an organised part of an enterprise. Asset Deals are also often referred to as contracts for the sale of individual assets that are part of an enterprise, but mergers and acquisitions are usually associated with the sale of the entire enterprise or an organised part of it, and not just individual assets.

Below is a side-by-side comparison of the advantages and disadvantages of each type of acquisition:

SHARE DEAL

NO.	BENEFITS	DISADVANTAGES
1.	The most common way to purchase a RES-Electricity project in Poland.	Complying with Trade Registry formalities for share deal publicity towards third parties.
2.	Taking over all civil and energy related permits and authorisations without any other formalities, except the notification to the relevant environmental authority in case of change of control over the LLS' shares or change of the project's characteristics.	The purchaser assumes all the historic corporate liabilities (and associated risks) of the LLS.
3.	The transaction can be performed faster, at lower costs and ensures an easier transfer of the RES-Electricity project with the necessary elements for construction and operation.	
4.	Flexible transaction structure based on the findings of a proper due diligence of the company, plus the real-estate assets, permits and authorisations, movable assets and employees, as the case may be.	
5.	▪ Transaction in two stages: signing and closing. ▪ The transaction usually considers conditions precedent to closing: ▪ performing a comprehensive due diligence to the purchaser's satisfaction not only legal but also technical, commercial, tax and accounting on the RES-Electricity project and the LLS; ▪ the seller obtaining any outstanding permits and authorisation and securing any relevant rights to land or access; ▪ the seller terminating any unnecessary or undesired contracts and/or obtaining any relevant consents up to the decided development stage.	

6.	The transaction might contemplate a holdback on the purchase price or payment in instalments, to ensure that certain agreed milestones are met.	
7.	For the purchaser's protection, the share-purchase agreement may include a comprehensive set of representations and warranties regarding the LLS and the project, as well as indemnities, for any issues which the purchaser identified in the due diligence process. It is also recommendable to include, as a condition for the transaction, entering into a real estate title insurance and warranty & indemnity insurance covering the liability under the sale and purchase agreement.	

ASSET DEAL

NO.	BENEFITS	DISADVANTAGES
1.	The purchaser will not take over the historical corporate liabilities (and associated risks) of the LLS. The purchaser does not enter the corporate structure of the company.	Complying with various formalities imposed by administrative bodies such as the President of URE to transfer administrative decisions.
2.	The purchaser can change the characteristics of the project before applying for various permits and authorisations.	If the project includes rights to land, the asset purchase agreement must be notarised by a Polish notary public, subject to a fee.
3.		An additional fee to be paid for registering the transfer of the rights to land with the Land Register. In principle, an asset deal carries VAT (unless performed as a going concern).
4.		The transfer of the energy-related permits associated with the project requires, in principle, the consent of the issuer and, if there are technical changes to the project, the issuance of other permits and authorisations.
5.		The transfer of relevant contracts requires the consent of the contracting parties and sometimes the conclusion of new agreements renewing the contracting parties and ensuring the undertaking of the assumed obligations.

4. KEY CHANGES TO THE RES SUPPORT SCHEME SINCE 2016 – FULL IMPLEMENTATION OF THE AUCTION SCHEME

In February 2015 a new Renewables Act (**"RES Act"**) was passed and a new RES Support Scheme created – the Auction Based Support Scheme. But it did not fully emerge (at least on a large scale) until 2018. In November 2015, Polish authorities notified both the Auction Based Support Scheme as well as the RES Support Scheme based on GCs to the European Commission. After being amended, the Auction Based Support Scheme as well as the old RES Support Scheme were both accepted by the Commission on 31 December 2017.

The new Auction Based Support Scheme is based on the concept of contracts for difference granted in auctions. Support is awarded in auctions organised by the President of URE for entities that will supply a given amount of RES-Electricity at the lowest price. Auctions are held electronically, via an internet platform. There is no minimum bidding price, but there is a maximum price for which 1 MWh can be offered in a given year, a so-called "reference price".

The reference price is determined, published by the Minister of Energy (currently: the Minister of State Assets) and the volume of generated RES-Electricity that will be subject to that auction is also established. There are separate reference prices and volumes set for different renewable energy sources and also for different capacities of installations (technology baskets).

Currently, there are the following baskets:

- biogas installations and biomass sewage treatment plants;
- hydro installations, geothermal installations, bio-liquid fuel installations and offshore wind farms;
- agricultural biogas installations;
- solar installations and onshore wind installations; and
- hybrid RES Facilities.

Each of these baskets are subdivided into sub-baskets for (i) existing installations (i.e. commissioned before 1 July 2016); and (ii) new installations (to be commissioned under the Auction Based Support Scheme). And then each of these baskets is again subdivided into RES Facilities with a total capacity (i) lower than or equal to 1 MW; or (ii) exceeding 1 MW.

In order to participate in the auction, RES installations must prequalify. In order to pass prequalification, the RES project must achieve the ready-to-build stage (i.e. have obtained a final building permit) and have secured Grid Connection. The certificate of qualification is valid for twelve (12) months.

Bidders have a deadline to commence RES-Electricity generation. The RES-Electricity needs to be fed to the grid for the first time within a certain period. In 2019, there was an amendment to the RES Act and the deadlines have been extended from eighteen (18) months to twenty four (24) months for solar installations, from thirty (30) months to thirty three (33) months for onshore wind installations and from thirty six (36) months to forty two (42) months for other generation technologies; a seventy two (72) month period has been kept for offshore wind installations; these changes will be also applicable to winners of past RES auctions.

Installations of less than 500 kW capacity will sell the RES-Electricity to the suppliers of last resort at the price indicated in the bid (**"Feed-in Tariff"**).

Those RES Facilities above 500 kW will sell the RES-Electricity on the market. They will be entitled to apply for a refund of the difference between the amount of RES-Electricity sold by them in the preceding month multiplied by the stock market price and the same amount of RES-Electricity multiplied by the price offered in the auction (**"Feed-in Premium"**). The authority responsible for settlements and support payments is a fully state-owned calculation agent Zarządca Rozliczeń.

Settlements will take place on a monthly basis. Zarządca Rozliczeń is obliged to pay out the support amount within thirty (30) days from receiving the relevant data from the RES-Electricity producer. If the value of the RES-Electricity that is sold based on the market price is higher than its value based on the price offered at auction, no support will be paid, and the difference will be deducted from the amount of the support payment in the next settlement period. If, at the end of the entire support period, such difference is not yet settled, the outstanding amount will be paid by the RES-Electricity producer to Zarządca Rozliczeń. The price of the selected bidders offered in the auction will be annually adjusted by the inflation rate.

The overall term of support for installations in the auction system is fifteen (15) years. However, the support may in no case last longer than until 30 June 2039.

The meeting of the obligation to produce the declared volume of RES-Electricity by a given producer must be

verified by the President of URE at three (3) year intervals. Within this three (3) year settlement period, the producer is obliged to produce at least eighty five percent (85%) of the RES-Electricity volume declared at auction. Otherwise, it will be obliged to pay a fine, the amount of which will depend on the volume of the shortfall.

5. SIGNIFICANT AND/OR EXPECTED CHANGES IN 2020

5.1 New auctions

The government intended that the 2018 and 2019 auctions would help Poland to achieve its 2020 target of fifteen percent (15%) RES; the implementation of which is seriously threatened. However, the vast majority of the RES installations will not be built before the end of 2020. Nevertheless, they will be an important argument in discussions with the European Commission. According to the "Clean Energy for All Europeans" package, Poland will have an additional twelve (12) months to take effective measures if the target is not met.

On 22 January 2020, the Council of Ministers published the regulation on the maximum amount and value of electricity from renewable energy sources that may be sold at auctions in 2020, which entered into force on 23 January 2020. The budget will allow for the launch of about – 2.46 GW in total, including: onshore wind energy (>1 MW) – 800 MW, solar energy (>1 MW) – 700 MW, solar energy (<1 MW) – 800 MW, hydropower (>1 MW) – 20 MW, hydropower (<1 MW) – 10 MW, agricultural biogas (>1 MW) – 20 MW, biogas obtained from landfills and biogas obtained from sewage treatment plants (<1 MW) – 10 MW, biomass in a dedicated biomass combustion plant (>1 MW) – 100 MW. For 2020, a volume of 46,290,000 MWh and a value of PLN 14,015,850,000 is foreseen for a basket dedicated to onshore wind and solar energy with a capacity more than 1 MW, whereas a volume of 11,760,000 MWh and a value of PLN 4,527,600,000 is foreseen for a basket dedicated to onshore wind and solar energy with capacity less than 1 MW.

On 4 May 2020, the regulation of the Minister of Climate setting the maximum energy prices to be offered in the RES auctions planned for this year was published. Its announcement may allow the auctions to be held in the coming months. These reference prices are the basis for the calculation of a fixed purchase price at which energy can be purchased. They are also used to calculate the negative balance for producers.

In the case of almost 1/3 of the technologies listed in the regulation, prices have been raised in relation to those included in the draft regulation, which was previously subject to consultation (draft from January 2020).

Of all the reference prices included in the regulation, the highest price – PLN 760/MWh (approximately EUR 167/MWh) – applies to installations below 500 kW, using exclusively agricultural biogas to generate electricity from high-efficiency cogeneration. The lowest price of all those listed in the regulation is for installations with a capacity of more than 1 MW using only onshore wind for electricity generation. In this case, the reference price is PLN 250/MWh (approximately EUR 55/MWh, PLN 285/MWh in 2019, approximately EUR 63/MWh). For photovoltaic power plants up to 1 MW, the reference price is PLN 360/MWh (approximately EUR 79/MWh, PLN 385/MWh in 2019, approximately EUR 84/MWh), and for photovoltaic power plants with a capacity of more than 1 MW, the price is PLN 340/MWh (approximately EUR 75/MWh, PLN 365/MWh in 2019, approximately EUR 80/MWh). In relation to the reference prices for 2019, higher prices were established for, among others, agricultural biogas, sewage sludge and hydropower.

As part of the anti-crisis shield, the RES Act has been amended so that the winners of the RES auctions who, (as a result of the COVID-19 situation), would not meet the statutory deadlines for the first sale of electricity from installations under the support scheme will not be subject to sanctions. Under the rules already in force, the winners of the auctions may apply for a 12-month individual extension of the deadline for meeting the requirements for entry into the support scheme.

According to the current regulations, the last auction for the sale of electricity from RES may take place no later than June 2021. The wind and photovoltaic industry estimates that the auctioned RES support system

implemented in 2016 has proven to be an effective mechanism to stimulate the development of those RES technologies which have achieved or are close to achieving so-called “grid parity”, i.e. are able to produce energy at a cost no higher than that of conventional power generation and contribute to a significant reduction of CO2 emissions in the energy sector. Therefore, the wind and photovoltaic organisations propose to extend the auction support system for RES for the following years. The President of URE is also in favour of the extension of the existing auction system.

5.2 Changes to the proximity rule

The onshore wind energy market has been largely "wiped out" of projects with the necessary permits to start construction. The proximity rule (which forbids the construction of new wind farms that are closer to residential buildings than ten times the height of the turbine) in principle makes it impossible to develop any new projects. This has led to a shift in development and more and more solar projects (especially large scale) are now being developed instead of onshore wind projects. Nevertheless, according to government officials the proximity rule should be liberalised this year, which will allow Poland's onshore wind potential to be unlocked once again.

5.3 Offshore

On 15 January 2020, the Ministry of State Assets published the draft Offshore Wind Act. The Baltic Sea potential for offshore wind has been estimated at approximately 10 GW and the draft Offshore Wind Act provides for a twenty five (25) year bilateral support mechanism (compared to only fifteen (15) years for other renewable technologies) with a fixed price set by the government. Similar to onshore technologies, it can be compared to a contract for difference. The support is to be awarded in more than 9 GW by 2028 in two phases.

The first phase (planned for 2020-2022) will grant support to projects at the most advanced stage of the investment process (i.e. those which, amongst other criteria, have a connection condition issued by the transmission grid operator). Support will be granted by the President of URE in the form of an administrative decision. Due to the non-competitive nature of the process, all support decisions will be notified to the European Commission and will be implemented only upon its approval, should the amount of capacity procured be less than 4.6 GW.

The second phase is similar to the onshore Auction Based Support Scheme. A further 5 GW capacity (increased by the remaining unutilised capacity from Phase I above) will be competitively auctioned across at least three auctions between 2023 and 2028.

5.4 Storage

Poland is also looking to expand its capacity for RES-Electricity storage. Except for pumped storage power plants there is basically no storage capacity in Poland. It is expected that in March 2020 a bill will be proposed to establish a support system for storage. Details are unknown at this stage.

5.5 Corporate PPA

The Polish energy market is beginning to open up to corporate PPAs. There is already a great interest in long-term contracts for the purchase of renewable energy in Poland. The first corporate PPA in the Polish renewable energy market was signed in 2018 between a wind power plant operator and an engine factory. The year 2019 brought the conclusion of further agreements of this type, mainly in the form of a virtual corporate PPA. The development prospects are promising, therefore in 2020, the government is expected to adopt the draft act amending the Energy Law and certain other acts, which will provide for the legal basis for the operation of closed distribution systems and comprehensive solutions for the operation and development of energy storage facilities.

According to the draft, a distribution system may be considered a closed distribution system if the following conditions are met in respect of the entire scope of the business of distributing electricity or gaseous fuels: (i) the number of household customers connected to the network of that operator is no more than one hundred (100), and (ii) for specific technical or safety reasons, the operating or generation processes of the users of that

system are integrated, or (iii) the supply of electricity and/or gaseous fuels is mainly carried out to the owner or operator of the distribution system or to affiliated undertakings, in a geographically limited area of an industrial plant, commercial establishment or shared services site, provided that at least eighty percent (80%) of the volume of electricity and/or gaseous fuels distributed annually is consumed by the owner or operator of the system or its affiliated undertakings. Recognition of a given distribution system as such will be made by the President of URE by way of a decision at the request of the distribution system operator. This will have a huge impact on the development of private wire corporate PPAs in Poland.

5.6 Further outlook

The Ministry of Energy presented an updated draft of PEP2040 in November 2019.
The updated strategy assumes:

- fifty to sixty percent (50-60%) share of coal in electricity generation in 2030;
- twenty one to twenty three percent (21-23%) renewable energy in final gross energy consumption in 2033;
- implementation of nuclear energy in 2033;
- reduction of CO_2 emissions by thirty percent (30%) compared to 1990;
- energy efficiency increased by twenty three percent (23%) by 2030 (compared to forecasts of primary energy consumption from 2007).

6. SUPPORT SCHEME FOR COGENERATION

On 14 December 2018, Poland adopted a scheme to support high-efficiency cogeneration. The scheme will support combined heat and power (**"CHP"**) installations connected to district heating networks in Poland. On 15 April 2019 the European Commission has approved this scheme under EU State Aid rules.

The scheme, with an annual budget of EUR 500 million, will run until 31 December 2028. The support will be granted to new and refurbished highly efficient CHP installations, as well as to existing gas-fired highly efficient CHP installations. It will also be open to generators in other Member States.

The highly efficient CHP installations benefitting from the scheme will receive support through a premium on top of the market price (cogeneration premium). The level of the cogeneration premium will be set either in a competitive bidding process or (in exceptional and clearly defined cases), determined administratively at a level covering the difference between the generation costs and the market price of electricity. The cogeneration premium will be granted until the full depreciation of the installations it supports, for a maximum period of fifteen (15) years.

The aim of the Polish cogeneration scheme is to contribute to energy efficiency and lower levels of CO_2 emissions, in line with the EU environmental objectives and the EU climate change goals.

7. SUPPORT SCHEME FOR BIOCOMPONENTS / BIOFUELS

There is a growing interest in using alternative fuels in Poland. An amendment to the Act on Biocomponents and Liquid Biofuels came into force on 1 January 2020, which is to help achieve the National Indicative Target (**"NIT"**), i.e. the obligation to introduce transport fuels from renewable sources (biocomponents / biofuels) to the market.

New types of fuels e.g. compressed natural gas, products from the so-called co-hydrogenation process and liquid fuels containing biohydrogen - produced with the use of biomethane, i.e. purified biogas from a biogas plant - have been included in the NIT. From 2021 onwards, the nominal NIT is to be eight point seven percent (8.7%), eight point eight percent (8.8%), eight point nine percent (8.9%) and nine point one percent (9.1%). According to the amendment, the minimum share of bio-components in motor gasoline between 2020 and 2022 is to be three point two percent (3.2%). In diesel, this share is to be four point nine percent (4.9%) in 2020, four point ninety five percent (4.95%) in 2021 and five percent (5%) in 2022.

Due to the expansion of projects related to the development of electromobility and transport based on alternative fuels, the Low Carbon Transport Fund was established in 2018. The Fund's task is to finance projects related to the development of electromobility and transport based on alternative fuels. Until 2027, the Fund's account may be credited with the amount of PLN 6.7 billion and will have the amount of PLN 3.9 billion to co-finance low emission projects. Three forms of support are envisaged: grants, loans, taking up shares and stocks. The aim of the Fund is primarily to support investments in the production of bio-components, liquid biofuels or other renewable fuels; support for the construction / expansion of infrastructure for the distribution or sale of compressed natural gas, hydrogen and liquefied natural gas (including from biomethane), financial support for producers of means of transport using electricity, compressed natural gas, liquefied natural gas (including from biomethane) or hydrogen for propulsion.

This chapter was written by Konrad Kosicki and Sylwia Zwolan.

KONRAD KOSICKI
Counsel

Wolf Theiss, Poland

+48 22 3788 966
konrad.kosicki@wolftheiss.com

SYLWIA ZWOLAN
Associate

Wolf Theiss, Poland

+48 22 3788 950
sylwia.zwolan@wolftheiss.com

WOLF THEISS

ROMANIA

COUNTRY GENERAL INFORMATION

Capital: Bucharest

Location: situated in the south-eastern part of Central Europe and sharing a border with Hungary to the northwest, Serbia to the southwest, Bulgaria to the south, the Black Sea to the southeast, Ukraine to the east and to the north and the Republic of Moldova to the east. Romania lies between latitudes 43° and 49° N and longitudes 20° and 30° E.

Surface: with 238,397 km² Romania is the largest country in South-eastern Europe and the twelfth (12th) largest in Europe.

Population: 19,307,038 inhabitants.

Climate: temperate and continental, with four (4) distinct seasons.

Resources: Romania is blessed with an abundance of various natural resources, including rich farmland, water, wind, sun, biomass, geothermal potential, Black Sea access, Danube Delta, forests, fossil fuels, and deposits of a wide range of metallic ores, including iron, manganese, chrome, nickel, molybdenum, aluminium, zinc, copper, tin, titanium, vanadium, lead, gold, and silver, large deposits of pure salt, minerals, domestic raw materials to produce caustic soda, soda ash, chlorine, sulfuric and hydrochloric acid, and phosphate fertilisers, etc.

Electricity Grid: The total length of the national electricity grid is 8,834.4 km, of which 426.9 km are interconnection lines. The grid comprises overhead power lines with a nominal voltage of 750 kV, 400 kV, 220 kV, 110 kV and electrical stations having a higher voltage of 750 kV, 400 kV and 220 kV.

Electricity Transmission, Distribution, and Supply: Electricity transmission is a regulated natural monopoly and is provided by Transelectrica S.A. The electricity distribution market is divided into eight (8) regions controlled by four (4) distribution companies. The electricity supply is provided by more than forty (40) private providers. Electricity is traded on the Romanian electricity and gas exchange market platforms.

Official EU language(s): Romanian.

EU member: since 1 January 2007.

NATO member: since 2004.

United Nations member: since 1955.

Currency: Romanian leu (RON). Romania has committed to the euro once it fulfils the necessary conditions.

Schengen: Romania is currently in the process of joining the Schengen area.

Political system, administrative organisation and economy: Romania is a semi-presidential republic with a head of government – the prime minster – and a head of state – the president of the republic. The country is divided into forty one (41) counties and the municipality of Bucharest. Romania has an economy predominantly based on services and is a producer and net exporter of machines and electricity.

1. DEFINED TERMS FOR THE MAIN PERMITS REQUIRED FOR RES-ELECTRICITY GENERATION FACILITIES

Accreditation	Administrative deed (decision) issued by ANRE, stating the right to benefit from the renewable energy sources (**"RES"**) Support Scheme based on complying with all the legal requirements;
Building Permit	Administrative deed issued by the mayor of the local administrative unit where the RES-Electricity facility will be built, or by the president of the county council if the premises are located outside the city limits;
Connection Certificate	Administrative deed issued by the grid operator certifying that all technical parameters have been met and connection to the public electricity grid has been performed;
Environmental Approval	Administrative deed issued by the local Environmental Authority evidencing the compliance of the RES-Electricity facility with the environmental requirements as provided by law;
Grid Connection	Actions performed and administrative deeds issued by the grid operator to connect a new generating facility or to modify or replace the connection of a generating facility to the grid;
Guaranteed access to the electric grid given to the RES-Electricity	Set of rules and technical and commercial conditions based on which RES-Electricity contracted on the electricity market shall be taken into the grid;
Liability and responsibility for grid connection and/or capacity upgrades, improvements or expansion of grid	The RES-Electricity Producers benefit from regulated access to the electricity grid of public interest. Access to the electricity grid of public interest is a regulated, obligatory service to be managed by the transport and system operator, grid operator and licence holders, as well as any person who owns an electrical distribution network located on the public domain. These entities must provide their services to all users of the electricity grid, in a non-discriminatory manner, ensuring access to the electricity grid in accordance with the law and with the grid capacity to take over the output. The expenses for modifying any grid installations are borne, according to legal requirements, based upon objective criteria. Certain categories of reinforcement works to the grid may be required (depending on the size of the RES-Electricity generating facilities) from the RES-Electricity Producers. The grid operator will refund to the RES-Electricity Producers the value of the expenses incurred for the reinforcement works upstream of the connection point, the method of compensation being agreed between the parties;
Licence of RES-Electricity Facilities	Administrative deed issued by ANRE, for the commercial exploitation of such RES-Electricity facilities, which gives a RES-Electricity Producer the right to operate the RES-Electricity facility and to sell the generated RES-Electricity on the market;
Priority access to the electricity grid given to RES-Electricity	Set of rules and technical and commercial conditions, to have the possibility of taking over and selling the entire RES-Electricity output produced at a certain moment in time, depending on the capacity of the grid connection and the availability of the eligible units / resources (and as long as the national grid is not affected);
RES-Electricity	Electricity obtained from RES sources such as wind, solar, aerothermal, geothermal, hydrothermal and oceanic waves, hydraulic, biomass and biogas;

RES Support Scheme	State-aid measure notified and approved by the European Commission based on the green certificates (**"GCs"**) support system applicable for all RES-Electricity capacities accredited until 31 December 2016. Under this support scheme, eligible producers of RES-Electricity (**"RES-Electricity Producers"**) received a specific number of GCs, depending on the technology used, for each MW produced and delivered to the grid together with an obligation imposed on the electricity suppliers and certain producers (**"Entities"**[1]) to purchase a mandatory quota of GCs. GCs can be traded on the GCs and RES-Electricity markets organised and administrated by OPCOM S.A. (**"OPCOM"**), the market's administrator and operator;
Setting Up Permit	Establishment authorisation issued by the Romanian Energy Regulatory Body (**"ANRE"**) required for creating a new RES-Electricity generation facility.

2. ENVISAGED NEED OF INVESTMENTS IN ROMANIA

According to the new European requirements, as a Member State, Romania should work to ensure that all available planning tools for the European Green Deal are coherently deployed. Therefore, it is expected that Romania adopts a legal framework for the necessary investments to accelerate the transition to clean energy such as:

- Investments promoting the use of RES-Electricity for industrial purposes;
- Investments in development of alternative green fuels;
- High value-added investments and investments in low energy consumption, energy storage or carbon capture and use;
- Investments in the rehabilitation of the energy transportation system;
- Investments in promoting geothermal pumps for heating and cooling buildings;
- Investments in the technical configuration of gas transportation in infrastructure for transportation of biogas and green hydrogen;
- Investments in "greening" of transport fleets and equipping them with electrical charging stations;
- Investments to upgrade municipality heating systems;
- Investments in energy storage facilities;
- Investments in competitive electrolysis installations to obtain green hydrogen.

As per the provisions of Romania's National Plan in the field of Energy and Climate Change (currently under public debate in Romania), pursuant to the requirements of the Aarhus Convention, Romania proposes a clear plan to support further investments in RES-Electricity; mostly in wind and photovoltaic energy.

[1] Electricity suppliers and producers of (i) electricity purchased and used by suppliers for their final consumption as well as the electricity invoiced to end consumers; (ii) electricity used by a producer for their final end consumption, other than the electricity used for their technological consumption; and (iii) electricity used by a producer to power consumers connected through direct lines to the production facility.

The Plan addresses the net capacities that should be installed in:

SUPPLEMENTARY INSTALLED CAPACITY BY	WIND ENERGY	PHOTOVOLTAIC ENERGY
2022 as compared to 2020	+822 MW	+994 MW
2025 as compared to 2022	+559 MW	+1,037 MW
2027 as compared to 2025	+556 MW	+528 MW
2030 as compared to 2027	+365 MW	+1,133 MW

Investments in the flexibility of the energy system are also necessary, in the form of operational and investment state aid. As part of these necessary investments into the flexibility of the energy system, the implementation of storage capacities for all RES-Electricity investments will also need another state aid support scheme.

The digitisation of the Romanian energy system, including the transport and distribution networks (**"smart grids"**) also plays an important role in increasing the production of RES-Electricity and in transforming the Romanian energy market into a "fit-for-RES" market and increasing integration of RES.

In Romania, it is estimated that in the coming years, photovoltaic capacities will be developed both in the form of medium-capacity solar parks, built on degraded or non-productive lands, and in the form of small capacities dispersed by the energy consumers who can make the transition to prosumer status.

It will also be necessary to replace electricity generating facilities that will be out of operation by 2030 with new, efficient and low emission and innovative investments in new capacities for electricity generation. To this end, the capacities anticipated from the repowering activity considered in the above-mentioned National Plan are:

a) Wind energy – 3 GW installed capacity;

b) Photovoltaic energy – 1.35 GW installed capacity.

This should be done in the context of achieving the objectives of energy security, competitiveness and decarbonisation of the energy sector.

The level of interconnectivity with other Member States of the national electricity system is expected to increase rapidly due to both the electricity day-ahead market and intraday market functioning in coupling modus with other European countries. This involves both domestic capacity-building investments and specific investments for transport interconnections. As a logical consequence, these will become national projects with regional impact, which will later transform into projects of common interest. They are supported by the EU and will become clusters with operational impact on energy security and commercial impact related to the single energy market:

- Black Sea Corridor cluster with direct impact on the energy system in Bulgaria and Romania; and
- The Mid Continental East Corridor cluster with direct impact on the energy system in Montenegro, Romania, Serbia and Italy.

3. EXECUTIVE SUMMARY-RES MARKET STATUS AND DEVELOPMENT OF RES-ELECTRICITY FACILITIES

3.1 Market Overview – Factsheets

- The Romanian RES-Electricity market has developed since 2008 with the adoption of the first Renewable Energy Act (**"Law 220"**) introducing the RES Support Scheme providing for GCs, long-term power purchase agreements (**"PPAs"**), available connection to the grid and merit order off-take;
- In 2011, the RES Support Scheme was approved by the European Commission and this led to a dynamic development of solar and wind projects resulting in 1,375.91 MW of solar and 3,015.93 MW of wind projects installed by 2019;
- The RES Support Scheme is applicable for those RES-Electricity Producers commissioned prior to 31 December 2016;
- RES-Electricity certified by a guarantee of origin is traded on the markets organised and administrated by OPCOM and sold to energy suppliers and/or to large intensive consumers and therefore consumed in the energy mix by both economic operators and residential consumers;
- In 2013, the government introduced measures such as support of RES annual quotas, obligation for energy agreements and GC agreements to be concluded on OPCOM, mandatory annual GC quotas to be purchased by the energy suppliers on the market and deferral from trading on the market of a number of GCs related to each RES technology. After 2014, few new projects were therefore developed on the local Romanian market;
- The development of electricity storage has developed since 2014, through the construction and operation of hydroelectric power stations with accumulation by pumping with installed power of more than 15 MW;
- Since 19 November 2014, the day-ahead market in Romania has been operating in a coupled way with the markets in the Czech Republic, Hungary and Slovakia through the price coupling mechanism, known as 4M MC;
- Since 2014, based on a state aid measure approved by the European Commission, energy intensive users are exempted from fully supporting RES-Electricity and are paying at least fifteen percent (15%) of the number of GCs related to the mandatory GCs quota;
- In 2015, the RES Support Scheme was amended and reapproved by the European Commission;
- In 2016, Romania reported to the European Commission that it had reached twenty five percent (25%) of the total energy consumption from RES, exceeding the twenty four percent (24%) RES quota established as a country target for 2020 and provided no additional support scheme for new projects, except the sale of RES-Electricity on the specialised market;
- Since 2018, the Romanian government has regulated the use of RES-Electricity by prosumers, who own RES-Electricity facilities of at least 27 kW/consumption location and has given a strong signal that Romania encourages RES-Electricity consumption and energy efficiency;
- In November 2018, the Energy Minister drafted Romania's Energy Strategy 2019-2030 with perspectives set for 2050;
- In 2018 and 2019, the first electricity storage capacities were installed, which helps wind park and photovoltaic capacities to minimise energy losses during the charging process and adds new

functionalities, including levelling of energy forecasts, recovery from power failures, as well as, capturing energy at law voltages or on cloudy days;

- Since November 2019, Romania together with Bulgaria, Croatia, Czech Republic, Hungary, Poland and Slovenia have successfully linked intraday markets with fourteen (14) countries active in operational work since June 2018.

- Under the draft of the National Plan for Energy and Climate Change for 2021-2030 with perspective 2050, at the beginning of 2020 Romania has committed that by 2030 it will have thirty point seven percent (30.7%) of RES-Electricity in the final energy consumption.

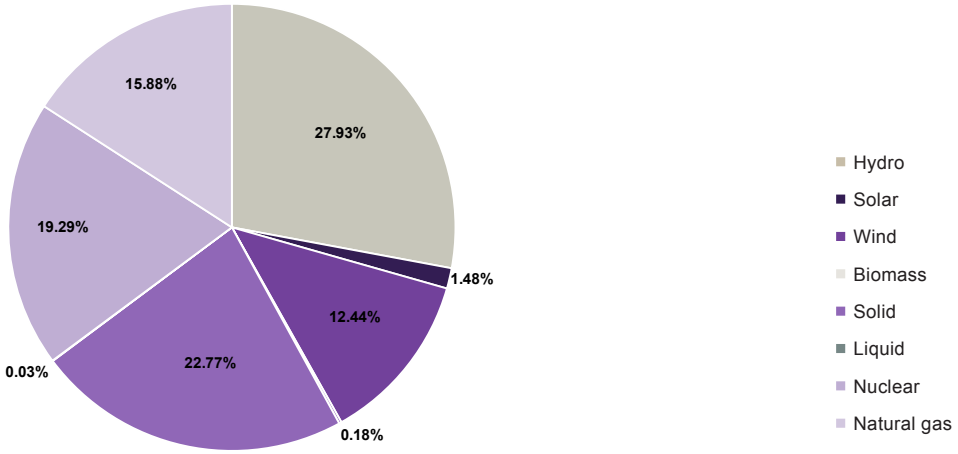
3.2 RES Market Status, Permitting, Grid Connection, Licensing of RES-Electricity facilities in Romania

GENERAL MARKET DATA	
RES Target 2020 provided by Law 220 (out of final consumption)	Thirty eight percent (38%). Reported to have been achieved by Romania forty three point six percent (43.6%) in 2018
RES Target 2030	Thirty point seven percent (30.7%)
Overall production	In 2018, overall energy production was 61.97 TWh, in 2019 57.02 TWh.
Installed capacity by RES technology	Biogas – 10 MW; Biomass – 109 MW; Wind power – 3,015.93 MW; Solar – 1,375.91MW; Small Hydro – 550.21 MW.
RES SUPPORT SCHEME	
Beneficiaries of RES Support Scheme	GCs are received by those RES-Electricity facilities accredited prior to 31 December 2016.
Priority and guaranteed off-take into the grid	The RES-Electricity Producers receive priority access to the grid and the sale of the entire amount of energy with the observance of the market rules.
Other incentives	▪ Mandatory annual GC quotas to be purchased by the energy suppliers; ▪ National annual RES quotas supported.
Other conditions	▪ Licence for commercial exploitation above 1 MW; ▪ No installed capacity limit as long as the grid allows this from a technical point of view; ▪ Sale of RES-Electricity and GCs only on the OPCOM market, excepting 3 MW installed projects.
GRID CONNECTION SPECIFICS	
Approvals	▪ connection to the grid is based on a solution study or solution sheet, depending on the installed capacity; ▪ grid operator is responsible for drafting the solution study / sheet and for issuing the connection approval

Permitting Timing: depending on the installed capacity and connection to the grid, an investor may obtain the necessary approvals in approximately six (6) months to two (2) years.	▪ building permit for civil works and connection works to the grid; ▪ technical connection approval and connection agreement with the grid operator; ▪ RES-Electricity capacity and related connection works' commissioning; ▪ Environmental approval and environmental authorisation; ▪ Connection Certificate.
LICENSING	
Procedure	▪ Setting-up permit; ▪ Accreditation; ▪ Licence for commercial exploitation of the RES-Electricity facility.
Duration of administrative procedure	Within sixty (60) days from the submission of the full documentation.
Licence's validity	Twenty five (25) years.

Electricity structure by primary sources (delivered by generators with dispatchable units) 2019

Source: Monthly reports of producers – Electricity Market Monitoring Unit assessment



3.3 Designated/preferred legal form of investment vehicle and RES-Electricity project's acquisition

Romanian legislation does not require or recommend a particular type of investment vehicle in the RES-Electricity sector. Usually, the limited liability structure (**"SRL"**) is the most popular form of investment vehicle in this field.

A Romanian RES-Electricity project under development usually contains, within the structure of the SRL, several types of assets, including (i) rights to the land associated with the RES-Electricity project (ownership or superficies rights, as well as easements and rights of way); (ii) building permit for the construction of the RES-Electricity project; (iii) technical documentation (solution sheet or solution study, as the case may be; (iv) technical connection approval for the connection to the grid and sometimes, if the developer secured the financing for

the RES-Electricity project, the connection agreement entered into with the local grid operator; (iv) contracts (loans, various services related to the development of the project, etc.); and (v) potentially tangible assets and employees.

The acquisition of a RES-Electricity project can be performed through the purchase of either the shares in the SRL (share deal) or on an individual asset basis (asset deal).

Below is a comparison of the advantages and disadvantages of each type of acquisition.

SHARE DEAL

NO.	BENEFITS	DISADVANTAGES
1.	The most common way to purchase a RES-Electricity project in Romania.	Complying with Trade Registry formalities for share deal publicity towards third parties.
2.	Taking over all civil and energy related permits and authorisations without any other formalities, except the notification to the relevant environmental authority in case of change of control over the SRL's shares or change of the project's characteristics.	The purchaser assumes all the historic corporate liabilities (and associated risks) of the SRL.
3.	The transaction can be performed faster, at lower costs and ensures an easier transfer of the RES-Electricity project with the necessary elements for construction and operation.	
4.	Flexible transaction structure based on the findings of a proper due diligence of the company, plus the real-estate assets, permits and authorisations, movable assets, and employees, as the case may be.	
5.	Transaction in two stages: signing and closing. The transaction usually contemplates conditions precedent to closing: ▪ performing a comprehensive due diligence to the purchaser's satisfaction, not only legal, but also technical, commercial, tax and accounting on the RES-Electricity project and the SRL; ▪ the seller obtaining any outstanding permits and authorisation and securing any relevant rights to land or access; ▪ the seller terminating any unnecessary or undesired contracts and/or obtaining any relevant consents up to the decided development stage.	
6.	The transaction might contemplate a holdback on the purchase price or payment in instalments, to ensure that certain agreed milestones are met.	
7.	For the purchaser's protection, the share-purchase agreement may include a comprehensive set of representations and warranties regarding the SRL and the project, as well as indemnities, for any issues which the purchaser identified in the due diligence process. It is also recommendable to include as a condition for the transaction entering into a real estate title insurance and warranty & indemnity insurance covering the liability under the sale and purchase agreement.	

ASSET DEAL

NO.	BENEFITS	DISADVANTAGES
1.	The purchaser will not take over the historical corporate liabilities (and associated risks) of the SRL.	Complying with ANRE's formalities for notification of the transaction at least one hundred and twenty (120) days before the transaction date.
2.	The purchaser can change the characteristics of the project before applying for various permits and authorisations.	If the project includes rights to land, the asset purchase agreement must be notarised by a Romanian notary public, subject to a fee.
3.		Additional fee to be paid for registering the transfer of the rights to land with the Land Register. In principle, an asset deal carries VAT (unless performed as a going concern).
4.		The transfer of the energy-related permits associated with the project requires, in principle, the consent of the issuer and if there are technical changes to the project the issuance of other permits and authorisations.
5.		The transfer of relevant contracts requires the consent of the contracting parties and sometimes the conclusion of new agreements renewing the contracting parties and ensuring the undertaking of the assumed obligations.

4. KEY CHANGES TO THE RES SUPPORT SCHEME SINCE 2016

In 2018 the RES Support Scheme experienced several amendments as per the provisions of Emergency Ordinance No. 24/2017, as approved by Law 184/2018, Emergency Ordinance No. 88/2011 and Law 360/2018:

4.1 Introduction of the concept of prosumer

A prosumer is a natural or legal person which not only consumes energy from the grid but is also a RES-Electricity Producer.

The prosumer can sell to the grid operator the RES-Electricity produced and delivered, based on a Connection Certificate obtained from the grid operator at the weighted average price recorded on the day-ahead market in the previous year, published on the OPCOM website.

4.2 Deferral of GCs generated by photovoltaic facilities

Two (2) GCs of photovoltaic facilities accredited prior to 31 December 2013 shall be deferred from being traded as of 1 April 2017 until 31 December 2020.

The above-mentioned GCs and the GCs deferred until 31 March 2017 shall be recovered starting from 1 January 2021, in equal monthly instalments until 31 December 2030.

4.3 Trade of the deferred GCs after the expiration date of the Accreditation and Licence of RES-Electricity Facilities

RES-Electricity Producers have the possibility to receive those GCs deferred from trading and to trade them after the Accreditation and Licence of RES-Electricity Facility will expire.
In all cases when the Accreditation or the Licence of a RES-Electricity Facility will expire, the RES-Electricity Producers are entitled:

- to obtain the GCs deferred from trading; and
- to trade until 31 March 2032 those GCs issued for their own production within the period of the Accreditation's validity.

4.4 GCs and electricity transactions between small RES-Electricity Producers and electricity suppliers

There is the possibility of concluding bilateral GC agreements and/or electricity agreements between small producers with an installed capacity of 3 MW and the electricity suppliers of the final consumers outside OPCOM markets.

4.5 All the GCs issued between 1 April 2017 and 31 March 2031, including all the deferred GCs will be guaranteed to be taken over on the market

This would eliminate the risk that RES-Electricity Producers will not make use of their GCs due to their expiration. The only condition is for the annual electricity consumption to not fall under the average value registered between 2017-2022.

4.6 The GCs may be traded only once between the RES-Electricity Producer and the electricity supplier

There is only one exception when the RES-Electricity Producer faces a shortfall of promised GCs for GC sale and in this case may buy the GC difference on the centralised markets.

4.7 Payment of EUR 70 by the electricity suppliers for non-fulfilment of annual mandatory GCs quota

Since 2018, RES-Electricity Producers and suppliers who do not fulfil the annual mandatory GC quota shall be required to pay the equivalent value of the non-purchased GCs to the Environmental Fund Administration at EUR 70 for each non-purchased GC, calculated in lei at the average exchange rate set by the National Bank of Romania for the previous year.

4.8 GCs will receive value in the account at the trading time

The GCs shall be registered in the RES-Electricity Producers' accounts only at the time of their trading on the markets and not at the issuing time. The change in registration will have direct impact on the profit tax related to GCs.

The measure is applicable only for GCs issued after 31 March 2017.

4.9 Limited financial impact of RES Support Scheme on the end-consumer's electricity invoice

By law, the economic impact of the RES Support Scheme on electricity invoices of end-consumers is limited through:

- a new calculation of the value of GCs to be used by electricity suppliers in the electricity invoice of end-consumers;
- the maximum trading value for a GC is reduced to EUR 35/GC compared to EUR 55/GC;
- the financial support of end-consumers will not exceed more than EUR 13/MWh in 2020.

Electricity suppliers shall need to calculate separately the GC value in the electricity invoice.
The value shall be calculated as the product of the GC mandatory quota, invoiced electricity quantity and the GC price.

The GCs price will be calculated as the weighted average price of the transactions on the spot GC market and, subsequently, at the time of the electricity invoice's settlement, at the weighted average price of GCs used by the electricity supplier to meet the mandatory GC quota for the previous year, which may not be higher than the weighted average price of GCs traded on the GC spot market in the previous year.

4.10 Electricity suppliers required to purchase fifty percent (50%) of the number of the GCs necessary for fulfilment of the GC quota

Companies with an obligation to purchase GCs on the market should purchase at least fifty percent (50%) of the GCs necessary for fulfilment of the GC quota from the GC centralised spot market.

5. SIGNIFICANT AND/OR EXPECTED CHANGES IN 2020

5.1 A new support system for RES-Electricity and envisaged mechanism of contracts for difference

In order to achieve the new country targets for the RES-Electricity share in total consumption by 2030, it is expected that in 2020-2021 the Romanian authorities will adopt a different type of support scheme for new RES-Electricity facilities. Specifically, these will most probably be in the form of a feed-in-premium system, which could include, *inter alia,* sliding or fixed price plus the average electricity price resulting from centralised electricity market transactions.

In Romania, there is an initiative to develop a support mechanism such as Contracts for Difference (**"CFDs"**) to encourage investments in low-carbon technologies necessary for the Romanian energy sector. The Romanian authorities organised public debates in this respect in March 2019 and has collected views and position papers from the industry and non-governmental organisations.

The implementation of a CFD mechanism can provide additional benefits and an attractive and predictable environment for investors because it guarantees an agreement for a determined period, provides a reasonable degree of flexibility for project developers and protection against unforeseen changes and brings greater security and stability to revenues by eliminating exposure to volatile wholesale prices.

It is a mechanism that could be supported by the Romanian state because it also protects end-consumers from the payment of support when the price in the electricity market increases.

5.2 New RES-Electricity share in final consumption promoted by Romania

Under the draft of the National Plan for Energy and Climate Change for 2021-2030, Romania has committed that by 2030, it will have thirty point seven percent (30.7%) of RES-Electricity in its final energy consumption, however the European Commission requested in June 2019 a higher RES-Electricity quota of thirty four percent (34%). Any other policies/methodologies for implementing this plan will be drawn up in the course of 2020.

Other measures proposed to be adopted by Romania to reach the assumed RES-Electricity target and energy efficiency target as recommended by the European Union are (i) to include RES-Electricity in public transportation; (ii) to develop policies and measures that would lead to further energy savings by 2030; (iii) to specify measures to support the achievement of the objectives in the field of energy security, regarding the diversification of energy sources and the reduction of the energy dependency; (iv) to develop liquid and competitive wholesale and retail markets, both by stimulating competition within the country and by removing barriers to cross-border trade, (including export restrictions); and (v) to enhance regional cooperation with neighbouring Member States with regard to natural gas and electricity infrastructure, RES-Electricity, energy efficiency and research, innovation and competitiveness.

5.3 National Energy Strategy 2020-2030

Given the pressure of the new targets imposed by the Green Deal Act, it is expected that the new national energy strategy will preserve and improve in terms of real measures: the generation of RES-Electricity based on low-carbon technologies, large scale energy storage, energy efficiency in buildings, the use of electric vehicles in public transportation, an increased share of RES-Electricity in heating and cooling, and necessary investments in the EU electricity interconnection infrastructure.

5.4 Amendments to the energy and gas law 123/2012 ("Law 123/2012")

A new draft law to amend and complete some of the most important provisions of Law 123/2012 is under review in the Romanian Parliament, awaiting approval from the speciality commissions of the Deputies Chamber.

Relevant for the promotion of RES-Electricity is one important amendment regarding long-term PPAs. As provided by the draft law, specific products may be designed for market participants which will be characterised by (i) an hourly power range over the quantity offered in the PPA within a maximum percentage set by ANRE; and (ii) updating the award price for a PPA based on a formula which contains clear terms and factors on the basis of updated public indicators.

6. OVERVIEW OF THE TECHNICAL INOVATIONS IN ELECTRICITY STORAGE AND APPLICABILITY IN ROMANIA OF SUCH STORAGE TECHNOLOGIES

The national electricity system (**"NES"**) should maintain a balance between generation of electricity and demand uncertainty. As more RES-Electricity will flow through grids, the more flexible these grids must become. This will be achievable only with the help of storage technologies. Energy storage is increasingly being seen as a key cornerstone and enabler of the transition to RES-Electricity worldwide. The advanced energy storage market is dominated by lithium-ion batteries but ultra-capacitor technology is also available and very interesting for the grid, especially for blackouts, RES-Electricity management and frequency regulation.

Presently, researchers are exploring the enormous potential of chemical storage solutions. The synthesis of ammonia as an easily stored and environmentally friendly energy source is one example. Moreover, the deviations resulting from solar and wind energy must be balanced permanently through proper consumption, and smart meters are considered an important tool for successful integration of RES-Electricity into the grid. Accumulator-based energy storage systems are highly sought in Europe as they provide utility companies with load balancing

services on the power grid with an extremely fast response.

In Romania, the legal framework for the development of the electricity storage and balancing infrastructure has been in place since 2014. Specifically, the legislation contemplates electricity storage through the construction and operation of hydroelectric power stations with accumulation by pumping with installed power more than 15 MW. The investors in these types of projects are exempted from paying certain taxes and contributions related to the construction and operation of such eligible facilities, for example:

- taxes for the temporary or definitive removal of land from its agricultural designation, or from the national forest fund, or for the temporary use of some forest lands;
- the transport service fee, respectively the component of electricity extraction/insertion from/into the grid and the system services' tariff;
- for the energy consumed under the pumping regime, as provided by the legal regulations in force;
- monthly contributions to the RES-Electricity or high efficiency energy cogeneration support schemes, correspondent to the primary energy utilised.

Such economic operators own the right of use over the existing water accumulation and the right to use the water for the installed capacity's activity. After commissioning and obtaining the licence, these operators are qualified as dispatchable consumer service providers for the national electricity system restoration. The system transmission operator purchases the dispatchable customer services for the NES restoration within the limits established by ANRE's approval, at the tariffs set by ANRE, and the cost of these services is recovered according to ANRE's regulations.

The first battery energy storage station in Romania was inaugurated in 2018 in Constanta by EDP Renewables S.A. The Cobadin 1 wind energy storage system with an installed capacity of 1 MW will help the wind park to level the energy forecast, and therefore the power generation fluctuations. The second energy storage capacity in Romania was installed by the same company in December 2019. The battery energy storage system is connected to the solar photovoltaic installation near Băilești in Dolj county.

EDP Renewables S.A. has installed an innovative energy conversion system that connects photovoltaic panels and uninterrupted current batteries with an alternative current transformer and a lithium-ion battery, as well as a system that monitors the entire process. The storage system is remarkable mainly because of its direct connection installation, which minimises energy losses during the charging process and adds new functionalities, including recovery from power failures, as well as capturing energy at low voltages or on cloudy days.

It is expected that an increasing number of RES-Electricity Producers in Romania will adopt the solution of batteries in order to improve energy forecasts and to reduce load imbalances that could occur during operation of the RES-Electricity facilities.

7. SUPPORT SCHEME FOR COGENERATION

Romania implemented a support scheme for the promotion of high-efficiency cogeneration, which was approved by the European Commission through Decision No. 437/2009. The high-efficiency cogeneration capacities installed in Romania totalise 1,474.95 MW. The high-efficiency cogeneration of heat and power (**"CHP"**) systems injecting electricity into the national grid receive operating support provided that the electricity is produced from high-efficiency cogeneration, as defined in the Community guidelines on state aid for environmental protection.

The support scheme is applicable for the period 2010-2023 without exceeding eleven (11) consecutive years of support for each beneficiary. The level of the bonus received by the producers for each MWh produced in

high efficiency cogeneration capacities and delivered in the grid is set annually by ANRE. The bonus value, the electricity and thermal energy prices are adjusted annually based on average annual fuel prices, the annual average CO_2 certificate price, the average annual electricity trading price on the day-ahead market and inflation coefficient of variation, and if they lead to a variation of the bonus level, the prices of thermal or electrical energy by more than two point five percent (2.5%).

This chapter was written by Bryan Jardine and Adina Aurel

BRYAN JARDINE
Partner

Wolf Theiss, Romania

+40 21 3088 102
bryan.jardine@wolftheiss.com

ADINA AUREL
Senior Associate

Wolf Theiss, Romania

+40 21 3088 164
adina.aurel@wolftheiss.com

WOLF THEISS

SERBIA

COUNTRY GENERAL INFORMATION

Capital: Belgrade

Location: Serbia is a land-locked country situated at the crossroads of Central and Southeast Europe in the southern Pannonian Plain and in the central part of the Balkan Peninsula, linking Western and Central Europe, on the one side, and the Middle East, Asia and Africa, on the other. Serbia shares a border with Hungary to the north, Romania to the northeast, Bulgaria to the east, Croatia and Bosnia and Herzegovina to the west, Montenegro to the southwest, while to the south, Serbia borders North Macedonia and Albania (through the disputed territory of Kosovo). It lies between latitudes 41° and 46° N and longitudes 18° and 23° E.

Surface: with 88,499 km² (77,589 km² excluding Kosovo), Serbia is a mid-sized country in Europe. Belgrade, the capital of Serbia, is one of the largest cities in Southeast Europe.

Population: 6,963,764 inhabitants (excluding Kosovo)

Climate: temperate continental, with a gradual transition between the four seasons of the year

Resources: Serbia is blessed with an abundance of natural resources, including rich and arable farmland, water (the river Danube, a variety of other rivers, lakes, underground natural and thermo-mineral water sources), wind, sun, forests, oil, gas, coal, iron ore, copper, zinc, antimony, chromite, gold, silver, magnesium, pyrite, limestone, marble, salt, etc. The countryside in Serbia is characterised by a high diversity of flora and fauna and represents a significant part of the richness and diversity of Europe's natural heritage. Serbia has an exceptionally varied terrain: rich fertile plains to the north, limestone ranges and basins to the east, and ancient mountains and hills to the southeast.

Electricity Grid: The total length of the national electricity grid made up of overhead lines is 9,765 km. The transmission system in Serbia consists of overhead power lines, cables, substations and switching stations with a nominal voltage of 400 kV, 220 kV and 110 kV, except 110 /x kV substations which are part of the distribution system. The transmission system is, on the one hand, connected to production facilities, and on the other, to distribution system and customer facilities (industrial complexes and railway transformer stations), and is interconnected with all neighbouring countries.

Electricity Transmission, Distribution, and Supply: Electricity transmission is operated by the state-owned company Akcionarsko društvo Elektromreža Srbije Beograd. The operator of the electricity distribution system is EPS Distribucija d.o.o. Beograd, a wholly owned subsidiary of the state-owned company Javno preduzeće Elektroprivreda Srbije (**"EPS"**), while the actual activity of electric energy distribution is carried out by its branches. EPS acts as a public electricity supplier for households and small buyers, as a supplier of commercial users, as a wholesaler of electricity, alongside other suppliers (as of 13 March 2020, 68 domestic and foreign licensed companies), and as a wholesale supplier of electricity (as of 13 March 2020, 57 domestic and foreign licensed companies).

Official EU language(s): Serbian

EU member country: Serbia is currently a candidate country for joining the EU.

NATO member: Serbia is not a NATO member country.

United Nations member: Since 2000 (only formally, following the final dissolution of Yugoslavia as one of the founding members of the United Nations)

Currency: Serbian Dinar (RSD)

Schengen: Serbia is not part of the Schengen zone but has, since 30 October 2014, allowed foreigners to

enter, transit and stay in its territory under specified conditions without holding a Serbian visa if they have a valid Schengen visa.

Political system, administrative organisation and economy: Serbia is a parliamentary republic with a political system divided into legislative, executive and judiciary branches. A unicameral national assembly represents the legislative body, the prime minister is the head of government, while the president of the republic is the head of state. Serbia is a unitary state, with two autonomous provinces (Vojvodina in the north and the disputed Kosovo and Metohija in the south), 29 administrative districts and 198 municipalities, cities and city municipalities. Serbia has an economy predominantly based on services and is an exporter of raspberries, steel, refined copper, automobiles, etc. Its strongest sectors are energy, manufacturing, automotive and mining.

1. DEFINED TERMS FOR THE MAIN PERMITS REQUIRED FOR RES-ELECTRICITY GENERATION FACILITIES

Environmental Impact Assessment (EIA)	An Environmental Impact Assessment may be required in some cases. Such an assessment is mandatory for the construction of an electrical energy or heat energy plant exceeding 50 MW.
Water Approval	If the energy plant involves the use of water from rivers, lakes or underground rivers, or the release of water or other material into these, the construction permit will be issued only after the granting of a Water Conditions and Water Approval, as the first and second step, while the building use permit will be issued only after the granting of the Water Permit, as the third step.
Energy Permit	An energy permit is required for the construction of industrial plants that exploit natural resources or to conduct energy activities, except in PPP projects. When applicable, obtaining an energy permit is a precondition for receiving a construction permit.
Construction permit	Depending on the capacity of the power plant, a construction permit is issued by the local municipality, or the Ministry of Construction, Transportation and Infrastructure, or the Autonomous Province of Vojvodina. After the completion of construction, a building use permit must be obtained.
Building Use Permit	The building use permit *(upotrebna dozvola)* certifies that the plant, as constructed, is in full conformity with the construction permit and other technical requirements (issued by the same authority that issued the construction permit, within five (5) days of receipt of the Technical Inspection Commission's Report).
Energy Licence	The generation of electricity is subject to obtaining an Energy Licence from the Energy Agency. An Energy Licence for the generation of electricity can only be issued to a Serbian legal entity.

2. RES POTENTIALS IN SERBIA

The Serbian National plan for RES envisages a twenty seven percent (27%) share of RES in the final energy consumption by 2020, reflecting a commitment that Serbia made on joining the Energy Community Treaty. According to the 2019 Report for Serbia of the European Commission (**"Report"**), the latest data for 2017 show that renewable sources accounted for a share of twenty point six percent (20.6%) of energy produced, which is well below the twenty three point one percent (23.1%) trajectory of Serbia's national renewable energy action plan.

The Report further states that Serbia needs to intensify its efforts to switch from feed-in tariffs to feed-in premium support schemes, as well as to ensure transparent procedures for the connection of renewable energy producers to the grid in the framework of an auction-based programme. The Report emphasises that any further development of hydropower should be in line with EU environmental legislation. Considering the percentages and other statements in the Report, it appears that there is a significant need for investment in RES projects in Serbia and that an intensification of investments in RES facilities can be expected in the forthcoming period.

The RES potential in Serbia is considerable, with biomass amounting to sixty percent (60%) of RES potential and thirty percent (30%) consisting of hydropower potential. The Energy Strategy of the Republic of Serbia (Official Gazette of the Republic of Serbia No. 101/2015; **"Energy Strategy"**) states that the available potential of RES in Serbia is estimated to be 5.65 million tons of oil equivalent (**"toe"**). The Energy Strategy envisages a broad scope of measures to promote RES, including usage of RES in thermal plants, shifting away from fossil fuels in heating, introducing RES into public buildings and the transportation sector, developing a distribution grid to connect small electrical energy producers, and applying the best available technologies in using RES.

According to the Energy Strategy, it is estimated that approximately EUR 200 million of investment is needed to reconstruct and modernise the district heating system. Namely, in the heating sector the Energy Strategy envisages a shift from fossil fuels (coal and oil) to RES (biomass and natural gas). In this respect, the share of oil in comparison to 2010 (baseline year) should decrease from twenty eight point seven percent (28.7%) to fourteen point six percent (14.6%) by 2030, the share of coal should decrease from twenty three percent (23%) to sixteen point five percent (16.5%), while the share of natural gas should increase from forty eight point three percent (48.3%) to fifty six point four percent (56.4%), as well as biomass from three point two percent (3.2%) to twelve point five percent (12.5%) by 2030.

On a separate note, wind power projects of 475 MW are currently in the construction phase or were recently constructed in Serbia. Currently, there are four small wind farms and two larger wind farms in Čibuk and Kovačica that are fully operational and produce electricity.

Also, large and small hydro projects are in various phases of development around the country. There has been an increase of interest for wind, hydro, biomass and solar projects in Serbia from investors and companies from all over the world.

With respect to solar power, around 100 solar power plants with installed capacity ranging from 2.1 kW to 440 kW are in operation in Serbia. Meanwhile, biomass is an emerging sector too, with a large number of projects that are currently in the preparation phase. The same is true for cogeneration from waste-to energy projects, where the facilities are expected to produce both electricity and heat from waste treatment operations.

Some larger ongoing or expected RES projects in Serbia are the following:

- **Vinca EfW Project –** one of the most important projects currently underway, a Public Private Partnership which will rehabilitate the Vinca landfill and commission a waste-to-energy facility which will convert waste into electricity and heat to be fed into the district electricity and heating systems.

- **Wind Park Project Kostolac –** the project includes construction of a wind farm of installed capacity of 66 MW in Kostolac, on the Danube River. It is expected that generation will commence in 2020.

- **Wind Park Project Plandiste –** MET Renewables AG and NIS (National Oil Industry of Serbia) have launched a joint project to build a 102 MW wind farm in Plandiste, which will consist of 34 wind turbines. It is expected that the plant will be fully operational by 2021.

Regarding the trans-European energy networks, administrative capacities for transposition implementation and enforcement of the acquis remain insufficient and need to be improved and the energy networks need to be upgraded in line with EU legislation on trans-European networks. Preparations continue for upgrading the Trans-Balkan electricity corridor, the most advanced part being section 2 between the cities of Kragujevac and Kraljevo.

3. EXECUTIVE SUMMARY-RES MARKET STATUS AND DEVELOPMENT OF RES-ELECTRICITY FACILITIES

3.1 Market Overview – Factsheet

- The first Energy law in Serbia was adopted in 2004 with the goal of reforming the energy sector and harmonising regulations with EU legislation. Subsequently, a new law was adopted in 2011, promoting electricity generation from renewable energy sources, and moving forward the development of the Serbian energy market in harmonisation with the EU market.

- In 2009, Serbia initially introduced incentive measures in the form of feed-in tariffs for RES production and generation. Starting from 2010, there has been a continuous increase in the capacities for power generation from RES.

- In 2012, by a decision of the Ministerial Council of the Energy Community, Serbia assumed an obligation to reach a twenty seven percent (27%) share of renewable energy in gross final consumption of energy, as well as a ten percent (10%) share of energy from RES in transport by 2020.

- In 2014, a completely new Energy Law was adopted and became enforceable. The latest minor amendments of the Energy Law were in 2018. The new Energy Law is largely in line with Directive 2003/54/EC concerning common rules for the internal market in electricity and Directive 2001/77/EC on the promotion of electricity produced from RES.

- This law provided for the implementation of all measures envisioned under the European Union's Third Energy Package (which is also Serbia's commitment under the Energy Community Treaty). With respect to RES, the new Energy Law introduced several novelties such as:

  (i) the possibility to acquire temporary status as a privileged power producer for all RES producers who meet the required conditions, and not only for RES producers who use wind or solar power;

  (ii) temporary privileged producer status may be granted for a period of one (1) year for RES producers using solar power and for a period of three (3) years for RES producers using other RES sources (under the old Energy Law, temporary privileged producer status could only be granted for a maximum period of two (2) years to wind power producers, and for a maximum period of one (1) year to solar power producers);

  (iii) natural persons can obtain temporary and final privileged producer status as well as RES producer status, but only for a power plant with an installed capacity of up to 30 kW;

  (iv) a force majeure clause has been added to model contracts, whereby if unpredictable circumstances occur during the term of temporary privileged producer status, this term may be extended for a period necessary to remedy such unpredictable circumstance;

  (v) the RES producer can approach the guaranteed supplier (i.e. a public supplier) to enter into the power purchase agreement (**"PPA"**) at the moment when it obtains the temporary status of privileged producer (under the previous Energy Law, the RES producer could only enter into a preliminary PPA, upon obtaining the temporary status of privileged producer);

  (vi) a RES producer, who obtains the status of privileged producer, is obliged to sell the electricity exclusively to a guaranteed supplier; and

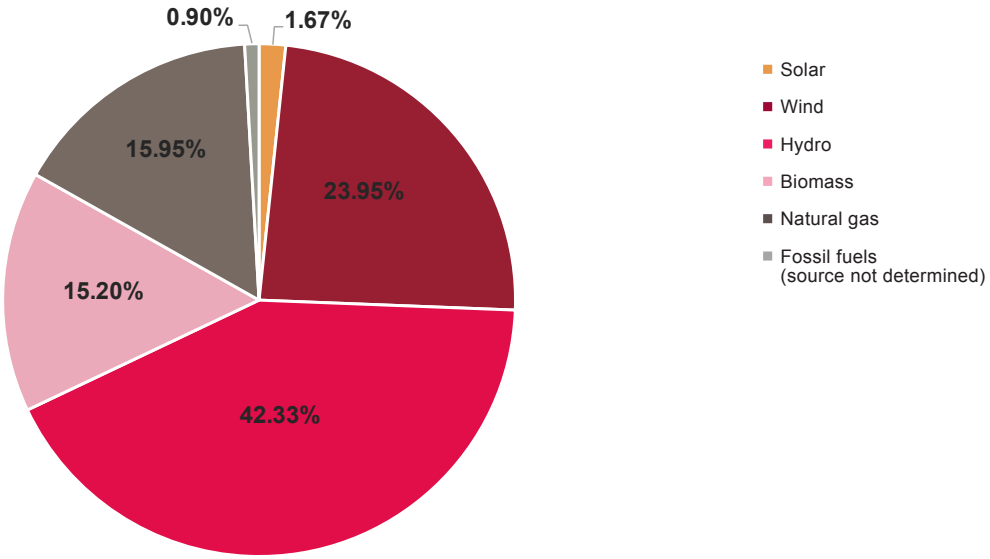
  (vii) RES producers are entitled to build the grid connection point themselves at their expense and on behalf of the transmission system operator, which is considered to be the investor of such connection point construction.

- Serbia adopted its Energy Strategy that sets out objectives to be met and areas of special interest or intervention until 2025, with projections until 2030. In addition, the Republic of Serbia adopted a National Action Plan for Using Renewable Energy Sources as a framework for promotion of RES, which sets a national goal of twenty seven percent (27%) share for renewable energy in gross final consumption of energy by 2020.

- During 2016 and 2017, an additional 92.3 MW of RES plants were connected to the grid. Until December 2018 another 222 facilities for generation of RES were built. In addition, in 2018, the Ministry of Mining and Energy initiated a process to replace fuel oil and coal with biomass in the heating sector. This change will affect at least 10 local municipalities.

- The allocation of electricity generated in the incentives system during 2018 looks as follows[1]:

Structure of electricity generated in the incentives system in 2018 (a total of 628,164.61 MWh generated in 2018 in the incentives system)



- According to the Serbian Register of privileged producers, the current capacity of hydro power plants equals approximately 69 MW with an additional 26 MW capacities held by temporary privileged producers. The solar power plants' capacities equal approximately 9 MW, total capacity of biogas amounts to 53.6 MW, while biomass equals 4.8 MW, with highly efficient combined plants with a total capacity of 20.9 MW and 4 MW held by temporary privileged producers.

- Currently, according to the Register of privileged producers, the total capacity of wind power plants equals 330 MW, while the total capacity of temporary privileged producers equals 236 MW, which

1 Source: Elektroprivreda Srbije (http://www.eps.rs/cir/snabdevanje/Pages/izvestaji-oie.aspx)

in total is 566 MW. Regarding landfill gas and waste, the total capacity that is currently held by the temporary privileged producers equals 33.2 MW.

- Biomass represents a significant energy potential for Serbia, estimated at 3.448 million tons or approximately sixty percent (60%) of the total renewable energy potential . Biomass is available in the entire territory of Serbia, while mostly located in central Serbia and in Vojvodina.

- Serbia has a huge hydropower potential. The total hydro energy potential is about 25,000 GWh/year. Over seventy percent (70%) of this potential is concentrated on several rivers, with the potential of over 100 GWh/year: Danube, Drina, Velika Morava, Lim and Ibar. However, residents and NGOs have strongly resisted new hydro power developments due to the failure of hydro power developers to follow the set procedures or rules. This mainly relates to the construction of small-scale hydro power plants.

3.2 RES Market Status, Permitting, Grid Connection, Licensing of RES-Electricity facilities in Serbia

On a general note, it is critical that investors efficiently navigate permitting procedures. Although Serbia is continuously improving its regulatory framework and instituting more and more e-government processes, permitting generally still requires a substantial amount of time and can result in prolonged procedures, despite the prescribed deadlines. This is mostly due to formal requirements for documents, as well as the discretion of authorities, which often ask for additional documents and information.

In particular, in wind and solar projects, ensuring that the required real property rights are in place may be problematic due to unresolved ownership issues or numerous private individuals as real property owners, which is usually the case in rural areas where such projects are generally developed. Often, negotiations with the respective owners are unpredictable and require a tailored approach on a case-by-case basis.

With regards to connection infrastructure, it should also be considered that permits and real property rights required for the construction of this infrastructure must be obtained in the name of the grid operator (i.e. transmission or distribution system operator), although the construction of the connection infrastructure can be performed by the respective grid operator or the investor/power producer. Therefore, coordination of activities with the grid operator in this process is of considerable importance.

Contracts with grid operators are concluded based on standard template contracts of the grid operator and are generally not negotiable.

GENERAL MARKET DATA	
RES Target 2020	Twenty seven percent (27%) – in 2017 only twenty point six percent (20.6%)[2] was achieved.
Overall installed General Capacity including RES (overall production)	In 2019 overall production of electricity was equal to 34.52 TWh
Installed capacity by technology	Wind – 566 MW Small Hydro – 95 MW Biogas – 53.6 MW Waste and landfill gas – 33.2 MW Solar – 9 MW Biomass – 4.8 MW

2 Latest officially published data

RES SUPPORT SCHEME	
Feed-in Tariffs (were effective until end of 2019)	Received for: ▪ hydro ▪ biomass ▪ biogas ▪ landfill gas and gas from communal wastewater treatment plants ▪ solar *(currently fully distributed)* ▪ wind *(currently fully distributed)* ▪ geothermal ▪ combined electric and heat from natural gas ▪ waste Switching to a new support scheme is under consideration by the competent authorities.
Twelve (12) year PPA	A power producer must hold the status either of temporary privileged producer or privileged producer in order to enter into the prescribed model PPA to sell power under FiT.
Assumption of balancing responsibility	Assumption of balancing responsibility and balancing charges by the public supplier during the twelve (12) year incentivised period.
Other incentives	Guarantees of origin for power produced from RES issued by the transmission system operator at the request of the producer of electricity from RES for the standardised quantity of 1 MWh of produced energy.
Other conditions	Licence for power generation above 1 MW
GRID CONNECTION SPECIFICS	
Specifics	The grid (distribution or transmission) operator is the owner of the connection infrastructure, and all permits and licences for the connection infrastructure are issued in the respective grid operator's name. Access to the grid is granted by the grid operator EMS – *Elektromreža Srbije,* which acts as the transmission system operator.
Stages of grid connection process	▪ Opinion by the (distribution or transmission) grid operator on the conditions and possibilities for connection; ▪ Connection study for the power plant; ▪ Contracts on preparation of planning and technical documents and obtaining of permits; ▪ Contract on monitoring interconnection construction; ▪ Contract on exploitation of the power plant; ▪ Approval for connection of the power plant (can be obtained only after the construction permit for the power plant is acquired). **Duration of grid connection process** varies in practice and is closely linked with the permitting and construction procedures.

CONSTRUCTION OF A RES-ELECTRICITY PLANT – DOCUMENTS AND APPROVALS	
EIA	▪ required for issuance of both the energy permit and the location conditions. ▪ whether an EIA is required depends on whether the project meets certain minimum technical thresholds (please see next row).
Minimum technical thresholds for conduct of the Assessment	▪ an EIA must be carried out (and approved) prior to the construction of an electrical energy or heat energy plant exceeding 50 MW; ▪ for a plant between 1 MW and 50 MW, the competent authority may request an EIA, except in the case of a hydroelectric plant, where the lower limit is 2 MW, and a wind energy project, where the lower limit is 10 MW (total capacity of the wind farm); and ▪ for a plant below 1 MW and the above-mentioned limits for wind and hydroelectric plants no EIA may be requested, regardless of the source of energy (with the exception of nuclear energy).
Construction permit	This permit is issued by: ▪ the local municipality – for energy plants below 10 MW capacity; ▪ the Ministry of Construction, Transportation and Infrastructure – for energy plants of 10 MW capacity or more; or ▪ the Autonomous Province of Vojvodina – energy plants of 10 MW or more, located entirely in the territory of the Autonomous Province. ▪ A construction permit should be formally issued within five (5) days. In order to enable such efficiency in the issuance of a construction permit, in March 2015 the Government introduced the so-called "one-stop shop" system, and as of 1 January 2016 construction-related permits are issued electronically. When an energy permit is required, the obtaining thereof is a precondition for receiving a construction permit. To obtain a construction permit for the construction of a wind power plant, the approval of the Agency for Flight Control, confirming that the wind power plant does not endanger flight safety, is also required.
Water Approval	If the energy plant involves the use of water from rivers, lakes, underground rivers or the release of water or other material into them, the construction permit will be issued only after water conditions and water approval has been granted, while the building use permit will be issued only after a water permit has been granted. Water conditions and Water approval concern the construction and/or reconstruction of an energy plant, while a water permit determines the terms and conditions for the use and disposal of water and other material.
Building use permit	The building use permit *(upotrebna dozvola)* certifies that the plant, as constructed, is in full conformity with the construction permit and other technical requirements (issued by the same authority that issued the construction permit, within five (5) days of receipt of the Technical Inspection Commission's Report).

Energy Permit	An energy permit is required for the construction of industrial plants that conduct energy activities. However, if an energy plant is constructed in accordance with the law regulating Public Private Partnerships and concessions, no energy permit is required. An energy permit is issued by the Ministry of Mining and Energy in accordance with the Energy Law. The energy permit may be issued to both domestic and foreign legal entities, natural persons and entrepreneurs, and should be issued within thirty (30) days of the date of application. An energy permit is issued for a period of three (3) years and may be renewed for a further maximum one (1) year period. An energy permit is not transferrable.
The right (concession) to exploit natural resources	A concession is granted for the purpose of enabling a concessionaire to use natural resources or public goods, or to conduct any activity of general interest and may be granted in the field of energy. Serbian legislation foresees a tender procedure for granting the right (concession) to exploit natural resources. The procedure may be initiated by (i) the Government; (ii) an autonomous province or a municipality, if the subject of the concession is located within the territory of the autonomous province or municipality; (iii) a public company, if so allowed under a special law; or (iv) an unsolicited proposal of an interested private entity.
LICENSING	
Licence for power generation above 1 MW	In order to engage in energy activities, including energy generation, one must obtain the relevant Energy Licence. An Energy Licence may only be issued to a Serbian legal entity or entrepreneur. Exceptionally, a licence for the energy activity of wholesale trade with electricity, may be issued to a foreign legal entity. The authority in charge of issuing Energy Licences is the Energy Agency. An Energy Licence is issued within thirty (30) days of the date on which it was requested (subject to fulfilment of all legal and technical requirements). The general term of validity of an Energy Licence is ten (10) years[3], whereby the term of Energy Licences granted for electricity generation, combined generation of electric and heat energy or production of heat energy is thirty (30) years. The term of the Energy Licence may be extended upon the request of the holder. An Energy Licence is, *inter alia,* not required for electricity plants or heating plants with a capacity of up to 1 MW and for electricity generation for personal needs. In order to start generating energy, the holder of an Energy Licence must be connected to the grid upon approval by the grid operator.

[3] The ten (10) year Energy Licence is issued for performance of the following energy activities provided under the Energy Law: transmission of electricity and management of the transmission system; distribution of electricity and management of the distribution system; distribution of electricity and management of the closed distribution system; supply of electricity; wholesale supply of electricity; management of the organised electricity market; natural gas transport and transport system management; natural gas storage and storage management; natural gas distribution and distribution system management; natural gas supply; public supply with natural gas; oil derivatives production; oil transport via oil pipelines; oil derivatives transport via oil derivatives pipelines; oil, oil derivatives and biofuel storage; trade of oil, oil derivatives, biofuels and compressed natural gas; sale of fuel for vehicles by supply stations; filling containers for compressed liquefied petroleum gas and liquefied natural gas; motor and other oil sale at supply stations for vehicles; sale of fuels for boats; distribution of heating energy; supply of heating energy; production of biofuels; production of bio liquids; mixing of biofuels with fuels of petrol origin.

3.3 Designated/preferred legal form of investment vehicle and RES-Electricity project's acquisition

For obtaining an Energy Licence and performing the energy activity of electricity generation, including RES generated electricity, it is necessary to incorporate an entity in Serbia.

Serbian law does not require a particular type of investment vehicle in the RES sector. However, one of the main issues to consider in the process of acquisition of any project in Serbia is the transferability of permits and licences. The Energy Licence for electricity generation is not transferable (as well as a number of other permits required under Serbian law). Therefore, acquiring a share in a project company is often the most practical solution to acquiring a project.

However, on this point we will also analyse the asset deal model of acquiring a project, as the second possibility for structuring the acquisition process. In this regard, please find below a comparison of the advantages and disadvantages of the share and asset deal acquisition:

SHARE DEAL

NO.	BENEFITS	DISADVANTAGES
1.	Acquisition of share(s) results in direct acquisition of a target company and indirect acquisition of its business, assets, rights and licences. The acquisition is completed on the date of the share transfer registration with the Serbian commercial registry, based on a share sale agreement with the notarised signatures of the seller and the purchaser.	The purchaser assumes all the historic corporate liabilities (and associated risks) of the target company.
2.	Share purchase is not subject to a transfer tax or VAT, whereby transfer of real estate property may be subject to either transfer tax (at a two point five percent (2.5%) rate) or VAT (at a twenty percent (20%) rate) in Serbia. Transfer of other assets may also be subject to VAT (at a twenty percent (20%) rate) in Serbia.	Transfer of shares is subject to capital gains tax in Serbia at the rate of fifteen percent (15%) (applied to capital gains earned by a Serbian resident company) or twenty percent (20%) (applied to capital gains earned by a non-resident company, if there is no applicable Double Taxation Treaty in place). Capital gains resulting from the sale of shares by an individual shareholder (natural persons, both Serbian resident and non-resident) would be taxed at a fifteen percent (15%) rate. On the other hand, in an asset purchase deal, only transfers of real estate assets and intellectual property rights are subject to capital gains tax in Serbia.
3.	The transaction might contemplate a holdback on the purchase price or payment in instalments, to ensure that certain agreed milestones are met.	Since there is no mandatory transfer of employees in the case of an asset purchase, this type of transaction provides a possibility for the purchaser to decide which and how many employees to acquire as part of the asset purchase.
4.	Permits, licences and agreements in a share purchase are transferred together with the transferred shares (unless they are subject to indirect change of control provisions). An asset deal generally does not result in an automatic transfer of permits, licences and contracts	Employment relationships within the target company, in a share purchase, generally remain intact.

ASSET DEAL

NO.	BENEFITS	DISADVANTAGES
1.	In an asset purchase, the purchaser may "cherry pick" the assets it acquires.	In an asset deal, the acquisition of assets requires their detailed identification, whereby the transfer of different assets often requires the execution of separate agreements, with different notarisation and registration requirements, e.g. transfer of real estate requires transfer though a solemnised transfer deed and individual registration of each asset transferred (the registration of which may be lengthy).
2.	If a transfer of assets qualifies as the transfer of business, such transfer may, as involving a going concern, under certain conditions, be exempted from VAT.	In an asset purchase, the subject of which is a "pool of assets", there is joint and several liability of the transferor and the transferee for the obligations related to the transferred assets, up to the value of the same. Such liability cannot be limited or waived by means of a contract.
3.	The effects of an asset deal may usually be accomplished by way of restructuring through demerger.	In an asset deal, all permits, licences and authorisations issued by Serbian authorities that are not issued with respect to physical objects (*"in rem"* permits) must be newly obtained. Public permits relating to certain assets rather than to the owner of the respective asset (e.g. building permits), will generally remain unaffected in the case of transfer of ownership. However, it should be noted that, in the event of change of investor (i.e. if the holder of the final building permit sells the relevant building under construction or the relevant land, if construction has not started yet), the new investor (i.e. purchaser) shall request from the competent authority a change in the respective building permit (this change actually relates only to the change of name of the investor) within fifteen (15) days after the change of investor occurred.
4.		The transfer of the relevant contracts requires the consent of the contracting parties and sometimes the conclusion of new agreements renewing the contracting parties and ensuring the undertaking of the assumed obligations.
5.		In case of an asset deal, under Serbian Labour Law, employees would not be automatically transferred to the purchaser and there is no obligation for the purchaser to take over the affected employees. However, if the purchaser intends to take over the employees, this should be done as a two-step process, as follows: ▪ 1st step: employees' employment with the seller is terminated (by way of mutual agreement or employee's resignation), and ▪ 2nd step: employees enter into new employment agreements with the purchaser.[4]

[4] If the employees do not consent to the above steps, they cannot be dismissed by the seller simply because they refused to be transferred to the purchaser. Namely, the seller would then need to apply the general Labour Law provisions regarding dismissal of employees, including but not limited to dismissal due to redundancy (subject to severance payment).

4. KEY CHANGES TO THE RES SUPPORT SCHEME SINCE 2016

4.1 Expired promotion scheme and distributed quota

There were insignificant changes to the RES support scheme since 2016, with the exception of the amounts of the feed-in tariffs that apply. However, the current Incentives Decree **expired at the end of 2019.**

Switching to a new support scheme is under consideration by the Serbian Ministry of Mining and Energy and the Serbian Government, but there is no indication as to when and what kind of new RES support scheme can be expected.

Also, it should be noted that since 2016, **the entire incentives quota for wind and solar has already been distributed.** However, if the construction of a wind or solar power plant is financed from an international loan, donations or similar means of international financing and represents the fulfilment of obligations of the Republic of Serbia assumed based on international treaties, its installed capacity is not included in the distributed capacity and the capacity of such power plant shall be deemed lower than the available capacity.

4.2 Authorised applicants and general conditions

Generally, in order to benefit from the RES incentive scheme, power producers must obtain either (i) the status of temporary privileged power producer (4P status); or (ii) the status of (permanent) privileged power producer (3P status). Pursuant to the Energy Law and Privileged Producers Decree, the following commercial entities and entrepreneurs may acquire the status of privileged producer if they produce energy in the following types of electricity plants:

- hydropower plants of installed power up to 30 MW;
- hydropower plants on existing infrastructure with installed power up to 30 MW;
- power plant using biomass;
- power plant using biogas;
- power plant using biogas of animal origin;
- power plant using gas from municipal waste and sewage gas;
- power plants using wind power;
- solar power plants;
- geothermal power plants;
- power plants using waste;
- cogeneration power plants using coal, if they meet a certain percentage of efficiency per annum; and
- cogeneration power plants using natural gas or waste technological gases with organic fractions, if they have a total annual percentage of efficiency above eighty five percent (85%).

Privileged producer status cannot be granted for a pumped storage hydropower plant (reverzibilna hidroelektrana).

An electricity producer (legal entity, entrepreneur, as well as natural persons but for the latter only for one power plant with an installed capacity up to 30 KW) can obtain the temporary status of a privileged producer if (i) it has

obtained a construction permit; (ii) it has obtained a financial security instrument for power plants with an installed capacity greater than 100 KW; and (iii) based on the technical documentation, it is clear that the temporary status of a privileged producer can be granted for the respective power plant. According to the Energy Law, the temporary status of a privileged producer can be granted for a maximum period of three (3) years and for a maximum period of one (1) year to those producers that use solar power.

If an electricity producer who obtained the temporary status of a privileged producer does not obtain the privileged producer status within the period for which the temporary status of privileged producer has been granted, the temporary status can be extended for a maximum period of one (1) year under the condition that proof that the power plant has been built is submitted.

If a producer produces electricity in a power plant that contains different units, privileged producer status will only apply to those units that fulfil the criteria of the Privileged Producers Decree. Likewise, if a producer has several power plants, it must apply for privileged status for each plant separately.

The status of privileged producer is granted by the Ministry of Mining and Energy upon application by the interested party containing all the required documents and proofs as specified in the Privileged Producers Decree. A producer who obtains the status of privileged producer is obligated to sell the electricity exclusively to a guaranteed supplier.

In addition, RES producers can obtain the "status of a RES producer" which is granted by the Ministry of Mining and Energy. However, a producer cannot have RES producer status and privileged producer status at the same time for the same power plant.

The Ministry of Mining and Energy maintains the public Registry that includes information on electricity producers who have privileged producer status, temporary privileged producer status, RES producer status, and producers who no longer have one of the mentioned statuses.

4.3 General description of promotion scheme

The applicable Serbian promotion scheme consists of certain incentives that are provided for in the Energy Law and in the applicable by-laws.

The Incentives Decree, which was in force until the end of 2019, provided for the following incentives to privileged producers:

(i) a twelve (12) year incentivised period, beginning on the day of the first power measurement on the respective plant, the day after the status of privileged producer was obtained, unless the incentivised period is differently defined by the decree or the PPA;

(ii) the feed-in tariffs as set below in Section 4.4;

(iii) the right of an energy producer who has previously acquired the status of temporary privileged producer to sell the total amount of produced energy to public suppliers, during the incentivised period, at the feed-in tariff that was valid at the time when the producer acquired the status of temporary privileged producer;

(iv) free access to the distribution and transmission system of the power grid;

(v) assumption of balancing responsibility and balancing charges by the public supplier during the incentivised period;

(vi) free monthly notification to the public supplier and to the privileged producer by the competent system operator of the amount of energy produced in the facility of the privileged producer during the incentivised period; and

(vii) the right of the privileged producer to conclude a PPA with the public supplier, after the expiry of the incentivised period, for the sale of the total amount of produced energy under market conditions on the electricity market in Serbia.

Pursuant to the Energy Law, a producer who acquired the status of temporary privileged producer is entitled to incentive measures by entering into a PPA with a guaranteed supplier under the condition subsequent that the producer obtains the privileged producer status in accordance with the prescribed rules. The guaranteed supplier is obliged to enter into a PPA upon the request of a producer who acquired the status of temporary privileged producer, and within thirty (30) days from such request.

Additionally, a producer who acquired the status of temporary privileged producer and afterwards obtained the privileged producer status, is entitled only to incentive measures that were in force on the day when the producer applied to obtain the status of temporary privileged producer.

The right to use the above incentives under point (vi) is also provided to a privileged producer that entered into a PPA for the total energy produced even after the incentivised period has expired.

In 2016, the Ministry of Mining and Energy adopted (and subsequently slightly amended in 2017) a new Decree on Standard Model of the Agreement on the Purchase of the Total Amount of the Produced Electricity. While the former decree provided for separate templates for the agreement with temporary privileged producers and privileged producers and three models that depended on the capacity of the plant (up to 5 MW, from 5 MW to 50 MW and above 50 MW), **the 2016 decree introduced a single template agreement,** with some additional provisions if the capacity of the plant exceed 30 MW.

4.4 Procedure for determining feed-in-tariff

The below table represents the 2019 feed-in tariffs provided for by the expired Incentives Decree. These significantly vary compared to the 2016 feed-in tariffs. The tariffs are in euro cents per kilowatt hour and relate to privileged producers who sell their electricity to the public supplier[5] (i.e. the guaranteed supplier as per the terminology used in the Energy Law):

TYPE OF PLANT/ENERGY SOURCE	INSTALLED POWER (MW)	FEED-IN TARIFF (EURO CENTS/KWH)[6]
Hydroelectric	up to 0.2 MW 0.2 MW to 0.5 MW 0.5 MW to 1 MW 1 MW to 10 MW 10 MW to 30 MW	12.60 13.933-6.667*P(MW) 10.60 10.944-0.344*P(MW) 7.5
Hydroelectric using existing infrastructure	up to 30 MW	6
Biomass	up to 1 MW 1 MW to 10 MW over 10 MW	13.26 (same as 2016) 13.82-0,56*P(MW) 8.22 (same as 2016)

5 In June 2013, the state-owned company EPS Snabdevanje d.o.o. was selected to act as the public supplier. Pursuant to the new Energy Law adopted at the end of 2014, the current public supplier (i.e. EPS Snabdevanje d.o.o.) must continue supplying households and small buyers with electricity at regulated prices, entering into PPAs and performing obligations towards electricity producers with the status of Privileged Producer or with temporary status of a privileged producer, with all the rights and obligations of a guaranteed supplier until a guaranteed supplier is appointed in accordance with the Energy Law. Thus, EPS Snabdevanje d.o.o. acts as a general supplier.

6 The figures in italic indicate that there is a variable deduction from the feed-in tariff that is adjusted in accordance with the price of fossil fuels.

Biogas	up to 2 MW 2 MW to 5 MW over 5 MW	18.333-1.111*P(MW) 16.85-0.370*P(MW) 15
Gas from municipal waste and gas from facilities for treatment of communal waste waters		8.44
Wind energy		9.2 (same as 2016)
Solar energy	on objects up to 0.03 MW on objects from 0.03 to 0.5 MW on the ground	14.60-80*P(MW) 12.4040-6.809*P(MW) 9
Geothermal		8.2
Waste		8.57 (same as 2016)
Combined gas plants with highly efficient production of electricity and heat power	up to 0.5 MW from 0.5 MW to 2 MW from 2 MW to 10 MW	8.2 8.447-0.493*P(MW) 7.46

If the criteria for privileged status and feed-in tariffs are met, the guaranteed supplier is obliged to conclude a PPA with the privileged producer, if the privileged producer so requests.

4.5 Other financial incentives for RES-Electricity

Under the Energy Law, privileged producers also have the right of priority on the organised electricity market over other producers, and enjoy certain subsidies, tax, customs and other privileges.

4.6 Support scheme for cogeneration

Currently, there is no support scheme aimed specifically at cogeneration. Cogeneration is covered by the general Privileged Producers Decree and was also covered by the Incentives Decree, with a guaranteed feed-in tariff for coal fire cogeneration plants and natural gas fired cogeneration plants (see the table in Section 4.4).

4.7 Guarantees of origin for RES-Electricity

The system of guarantees of origin in Serbia was already introduced in the 2011 Energy Law. However, due to technical issues, this system was not implemented in practice for a long period of time. In 2017, the Decree on the Guarantee of Origin was adopted. In addition, the operator of the transmission system issued a Rulebook on the issuance of guarantees of origin for Serbia and the guarantees of origin system was finally established along with the register of guarantees of origin.[7]

A guarantee of origin is issued by the operator of a transmission system (i.e. currently EMS) upon the request of a producer of electricity from RES for the standardised quantity of produced energy of 1 MWh. The guarantee of origin is not issued more than once in the given period for the same quantity of produced energy. The validity period of the guarantee of origin is one (1) year from the last day of the production period for which it was issued and it ceases to be in effect after being used, withdrawn or after the lapse of one (1) year calculated from the last day of the production period for which the guarantee of origin was issued. The guarantee of origin is transferable.

Although the Energy Law provides that guarantees of origin issued in a foreign country are valid in Serbia under condition of reciprocity, it is still unclear how such reciprocity would be proven or enforced.

7 The publicly available data of the registry can be accessed on the following link: https://cmo.grexel.com/Lists/PublicPages/Statistics.aspx

It is important to consider that the guarantees of origin in Serbia cannot be issued to a plant that receives the incentives through the feed-in tariff model.

5. SIGNIFICANT AND/OR EXPECTED CHANGES IN 2020

5.1 A new support system for RES projects

Given the fact that the current support scheme expired at the end of 2019 and the target of twenty seven percent (27%) share of RES in the final energy consumption by 2020 that Serbia has set, it is expected that the Serbian authorities will adopt a new support scheme for new RES facilities in 2020. Considering that the Report emphasised that Serbia needs to intensify its efforts to switch from feed-in tariffs to a feed-in premium support scheme, as well as to ensure transparent procedures for the connection of renewable energy producers to the grid in the framework of an auction-based programme, it may be anticipated that a substantially different new scheme for RES incentives will be introduced.

5.2 Increase of the capacities for solar and wind generation of the electricity

Considering the significant RES potential of Serbia in relation to solar and wind power and the fact that the current incentives quota for wind and solar power plants has been distributed, it may be expected that the Serbian authorities will increase the respective quota in the following year.

5.3 New regulation for the hydropower plants

The Report states that any further development of hydropower should be in line with EU environmental legislation. Also, in 2019 there was significant resistance by local residents and NGOs to construction projects for (small capacity) hydropower plants. Considering the above, it is likely that the Serbian authorities may adopt additional regulations in this respect, given the significant potential of Serbian hydropower.

5.4 Promoting RES in heating sector

As the Energy Strategy of the Republic of Serbia envisages a shift from fossil fuels (coal and oil) to RES (biomass and natural gas), especially in the heating of public buildings and in the transportation sectors, significant investments may be expected in this field. It should be noted that some projects for reconstruction and modernisation of the district heating system have already been initiated, which further supports this expectation.

6. NECESSITY OF SOME TECHNICAL INNOVATIONS IN SERBIAN ENERGY SECTOR

6.1 Environmental Protection Innovations

Serbia has undertaken certain obligations regarding environmental protection on its path to the EU, which has a tremendous impact on the energy sector as well. This is more evident, if it is considered that almost seventy percent (70%) of the generated electricity in Serbia comes from coal fired power plants.

According to the Report, Serbia must intensify implementation and enforcement efforts, such as, *inter alia,* closing non-compliant landfills, investing in waste reduction and reinforcing air quality. With respect to the latter, it should be emphasised that in the last quarter of 2019, Serbia was faced with a problem of extremely low air quality, one of the lowest in Europe. For this reason, the energy sector was also subject to public criticism, especially coal fired power plants and given the availability of technologies related to the reduction of air pollution.

In the public energy sector (i.e. power plants operated by public companies or State-owned companies), during the period 2016-2019 investments of EUR 320 million were made to improve environmental protection, out of which EUR 65 million focused on equipment to reduce air pollution. According to the statements of public officials, EUR 1.1 billion in investments for environmental protection in the Serbian energy sector may be expected in the forthcoming period.

Therefore, Serbia represents an attractive market for the installation of sophisticated environmental protection-related equipment, especially in the energy sector, which is still deemed "dirty".

6.2 Electricity Storage

Currently, apart from a few pumped storage hydro power plants and minor projects in the area of energy efficiency, electricity storage projects have not attracted much attention in Serbia. However, with a vast increase of the installed capacities, especially from wind power plants, it is to be expected that electricity storage will start to attract the attention of investors.

The first projects will likely relate to battery storage technologies, but other technologies may also be implemented on the Serbian market. Developments in this area cannot be fully predicted, but it seems that electricity storage projects will certainly gain a foothold in the Serbian energy market, with continuous expansion of its capacities, especially from RES facilities.

This chapter was written by Miroslav Stojanovic, Andjelka Todorovic and associate Petar Miskovic.

MIROSLAV STOJANOVIC
Partner

Wolf Theiss, Serbia

+381 11 3302 910
miroslav.stojanovic@wolftheiss.com

ANDJELKA TODOROVIC
Counsel

Wolf Theiss, Serbia

+381 11 3302 962
andjelka.todorovic@wolftheiss.com

WOLF THEISS

SLOVAK REPUBLIC

COUNTRY GENERAL INFORMATION

Capital: Bratislava

Location: the Slovak Republic is a landlocked country in the eastern part of Central Europe. It is bordered by Poland to the north, Ukraine to the east, Hungary to the south, Austria to the southwest, and the Czech Republic to the northwest.

Surface area: the Slovak Republic's territory covers about 49,000 km^2 and is mostly mountainous.

Population: 5,450,421 inhabitants.

Climate: the Slovak climate falls within the temperate and continental climate zones with relatively warm summers and cold, cloudy and humid winters with four distinct seasons.

Resources: the Slovak Republic has been blessed with a wide variety of natural resources such as arable land, forests, and minerals. One of the Slovak Republic's most important natural resources is its arable land which make up roughly twenty eight point seventy five percent (28.75%) of the country's territory. In 2015, forests covered roughly forty point thirty five percent (40.35%) of the Slovak Republic's territory. The Slovak Republic has several essential minerals such as iron, coal, and gold. One of the most critical minerals is coal. The coal mined in the Slovak Republic is mainly used locally to produce energy. The most common types of coal are lignite and brown coal. There are numerous mineral springs; according to estimates approximately two thousand (2,000) mineral water resources in the Slovak Republic. Furthermore, there are deposits of limestone, dolomite, cement, bentonite, basalt, travertine, salt, magnesite, perlite and zeolite.

Electricity Grid: the total length of the national electricity grid is 3,007.729 km. The grid comprises overhead power lines with a nominal voltage of 400 kW, 220 kW, 110 kW and electrical stations having a voltage of 400 kW, 220 kW and 110 kW.

Electricity Transmission, Distribution, and Supply: electricity transmission is a regulated natural monopoly and is provided by SEPS, a.s. The electricity distribution market is controlled by three (3) major distribution companies (ZSE, SSE and VSE), their total market share is more than eighty percent (80%). The electricity supply is provided by more than thirty (30) private providers. Electricity is traded, for example on the PXE (POWER EXCHANGE CENTRAL EUROPE) stock exchange, which was established in 2007 and allows trading in electricity with a place of delivery in the Czech Republic, Slovak Republic, Hungary, Poland and Romania.

Official EU language(s): Slovak.

EU member: since 1 May 2004.

NATO member: since 2004.

United Nations member: since 1993.

Currency: euro.

Schengen: since 2007.

Political system, administrative organisation and economy: the Slovak Republic is a parliamentary democratic republic with a multi-party system. The country is divided into eight (8) regions, each of which is named after its principal city. Regions have enjoyed a certain degree of autonomy since 2002. Their self-governing bodies are referred to as Self-governing (or autonomous) Regions or Upper-Tier Territorial Units. The regions are subdivided into many counties. The Slovak Republic currently has seventy nine (79) counties. The Slovak government encourages foreign investment, since it is one of the driving forces of the economy. The

Slovak Republic is an attractive country for foreign investors mainly because of its low wages, low tax rates, well-educated labour force, favourable geographic location in the heart of Central Europe, strong political stability and good international relations reinforced by the country's accession to the European Union. The main industry sectors are car manufacturing and electrical engineering.

RES-Electricity target in the next ten (10) years: the Slovak National Climate and Energy Plan for 2021-2030 set a target nineteen point two percent (19.2%) share of RES from the total consumption of energy no later than 2030.

1. DEFINED TERMS FOR THE MAIN PERMITS REQUIRED FOR RES-ELECTRICITY GENERATION FACILITIES

Accreditation	Licence to generate renewable energy sources (**"RES"**) issued by the Regulatory Office for Network Industries (**"RONI"**) on the basis of a written application in which the applicant states (i) the activity; (ii) the territory or part thereof in which the requested activity is to be performed; and (iii) the period for which the licence is requested;
Building Permit	The zoning permit approves the localisation of the building on the designated plot of land and confirms its compliance with the zoning requirements under urban plans. To obtain a zoning permit, the developer must submit several statements of approval from different authorities, bodies and public utilities, such as telecommunications and energy suppliers; The construction permit will be issued following the construction proceedings, within which the respective authorities issue their statements concerning the building. The participants in the construction proceedings may also submit their objections concerning the building. The construction permit is valid for two (2) years, during which period construction must be commenced; After completion of construction, but prior to occupation of the building, the applicant must receive an occupancy permit, which certifies that the building complies with the planning and construction permits and approves its use/ operation for the designated purposes;
Connection Certificate	The connection of a new offtake or electricity generation facility shall be made based on a connection agreement to the system concluded with the owner of the offtake electricity or electricity facility after fulfilment of the technical conditions and business conditions of the system operator;
Environmental Approval	Administrative deed issued by the local Environmental Authority evidencing the compliance of the RES-Electricity facility with the environmental requirements as provided by law;
Grid Connection	Actions performed and administrative deeds issued by the grid operator to connect a new generating facility or to modify or replace the connection of a generating facility to the grid;
Liability and responsibility for grid connection and/or capacity upgrades, improvements or expansion of grid	The electricity producer's facility shall be connected to the distribution system if the distribution system is technically capable of being connected, is closest to where the electricity generating facility is located and the other system does not show a technically and economically better connection point. The costs of connection and the costs of extension of the distribution system shall be borne by the electricity producer and the grid operator. The operation order of the grid operator shall include the conditions for the extension of the distribution system.

Licence of RES-Electricity Facilities	Authorisation for construction of an energy facility granted by the Ministry of Economy. A power generating facility may only be built in the Slovak Republic with the prior approval of the Ministry of Economy, which examines the compliance of the applicant's investment plan with the nation's long-term energy policy. If the project complies with the energy policy, the Ministry issues a certificate approving the construction of the power plant. Approval is not required for a facility to produce solar power with a capacity which does not exceed 500 kW;
Priority access to the electricity grid given to RES-Electricity	Priority access shall be granted to any RES-Electricity producer, regardless of the installed capacity, (subject only to the preservation of the security, reliability and stability of the grid connection);
NEURC	The National Energy and Utilities Regulatory Commission of Ukraine is the single authority for regulating gas and electricity in Ukraine. One of NEURC's main functions is to issue licences to business entities operating in the fields of energy and public utilities and to exercise control over their licensed operations;
RES-Electricity	Electricity obtained from RES sources such as wind, solar, aerothermal, geothermal, hydrothermal, biomass and biogas, biomethane;
RES Support Scheme	**State aid scheme** to promote production of RES-Electricity, approved by the European Commission. This support is provided as an investment support for SMEs and major enterprises. The beneficiary shall be reimbursed for eligible expenses, to a maximum limit of EUR 15 million, based on a received payment request and upon submission of accounting documents. This scheme is prepared in accordance with the Operational Programme Quality of Environment, which is financed by the European Regional Development Fund (ERDF) and the Ministry of the Environment; **Feed-in premium** (Green Bonus) – this support applies to electricity produced at the electricity producer's facilities with a total installed capacity of between 10 kW and 50 MW, including those selected by auctions; **Right to supplement –** high efficiency cogeneration installations with a total capacity not exceeding 1 MW (inclusive), of which at least sixty percent (60%) of the heat produced is used to supply heat by centralised heat supply and the primary energy saving is at least ten percent (10%); **The right to the off-take (Feed-in tariff)** of the electricity generated at a price equal to the sum of the off-take price and the supplement pertains to those installations the capacity of which is up to 250 kW. The off-take price is set by the RONI (Decree No. 18/2017 Coll.);
Setting Up Permit	Authorisation for construction of an energy facility granted by the Ministry of Economy. A power generating facility may only be built in the Slovak Republic with the prior approval of the Ministry of Economy, which examines the compliance of the applicant's investment plan with the nation's long-term energy policy. If the project complies with the energy policy, the Ministry issues a certificate approving the construction of the power plant. The undertaking must fulfil the following criteria: ▪ compliance with the targets set in documents approved by the Government of the Slovak Republic; ▪ compliance with the priorities of the long-term energy policy concept; ▪ compliance with the priorities of the Slovak Republic's energy security strategy.

2. ENVISAGED NEED OF INVESTMENTS IN THE SLOVAK REPUBLIC

Member States of the EU are required to modify their legislation so that it reflects the decision-making of the European Commission regarding energy gains from renewables. The Slovak National Climate and Energy Plan for 2021-2030 set a target nineteen point two percent (19.2%) share of RES for the total consumption of energy, to be achieved no later than 2030.

The total investment cost for achieving the RES targets is estimated at EUR 4.3 billion. These investment costs include the electricity and heating sectors.

The Slovak Republic will strive to maximise the use of existing infrastructure in accordance with the rules adopted in the new and amended EU documents included in the "Clean Energy for All Europeans" package. In this context, the deployment of intelligent energy and electricity storage systems is particularly important.

- The principle stated in the Energy Policy of the Slovak Republic, which considered the principle of cost minimisation through an integrated approach to the use of RES and the reduction of greenhouse gas emissions, remains valid for the upcoming period. Maintaining this principle will mean that setting up support for RES will ensure that the objectives set are achieved in a cost-effective way and avoid significant negative effects on electricity prices. In order to achieve the RES objectives, it is essential to exploit all available options, one of the greatest potentials being in the development of waste recovery in the production of biomethane and energy recovery of waste that cannot be recycled and thus end up in landfill. In district heating systems, the energy potential of geothermal and solar energy, biomass and biomethane will be used.

- Investments promoting low-power equipment to produce electricity and heat in detached houses and apartments;

- Investments in development of biofuels II. generation;

- Investments promoting the production of RES-electricity;

- Investments into creating a promotion mechanism for increasing the share of RES in the heating sector and in district heating systems, also through the production from RES in high-efficiency cogeneration;

- Investments in promoting the production of biomethane and hydrogen;

- Investments in promoting RES facilities, energy distribution and storage facilities;

- Investments for exploitation of geothermal energy and promotion for the development of local heat supply systems;

- Investments in promotion of the transport infrastructure for charging electric vehicles and for refilling hydrogen into vehicles, as well as for the electrification of public transport.

- In view of the high share of nuclear sources in electricity production and the high share of natural gas in the heating industry, the Slovak Republic has one of the lowest energy emission levels in the EU. Some possibilities for the decarbonisation of energy include the replacement of coal by low-emission sources, as well as sources for alternative fuel sources, energy efficiency measures and transport decarbonisation.

3. EXECUTIVE SUMMARY-RES MARKET STATUS AND DEVELOPMENT OF RES FACILITIES

3.1 Market Overview – Factsheets

- The Slovak RES-Electricity market has developed since 2009 and is constantly developing; the Act on Promotion of RES (Act No. 309/2009 Coll., **"RES Act"**) adopted in 2009 introduced FiT, long-term PPAs with mandatory purchase and preferential connection to the grid;

- In May 2012, the Slovak government adopted two main legislative acts governing energy law in the Slovak Republic (i) the Energy Act; and (ii) the Act on Regulation of Network Industries. Their principal aim was the implementation of the latest EU directives and regulations, above all the Third Energy Package (**"TEP"**). In relation to the RES regulatory framework, (particularly the RES Promotion Act), the implementation of the TEP did not result in significant changes. The only change was the mandatory installation of flow metering devices for electricity metering to solar energy generators. In January 2013, the RES Promotion Act was amended with effect from 1 March 2013 – only those solar energy generators operating facilities up to 30 kW (instead of the former 100 kW) of capacity, which are located on roof tops or facades of buildings, were eligible for the promotion in the form of a supplement. Promotion in the form of a supplement and off-take of the electricity does not apply to the equipment of energy producers using hydro power, with overall capacity above 5 MW, as an energy source;

- In November 2013, the RES Promotion Act was amended by Act No. 382/2013 Coll. The purported rationale behind this legislation was to ensure more effective functioning of support of RES-Electricity;

- In 2013, the Regulator adopted regulation No. 221/2013 Coll. which set out price regulation in the electro-energy sector. Currently, regulation No. 221/2013 Coll. has been replaced by regulation No. 18/2017 Coll which sets out price regulation;

- In October 2014, the National Council approved an act on energetic effectiveness, No. 321/2014 Coll. (**"Act on Energy Efficiency"**), which replaced the former Act No. 476/2008 Coll. This latter act represents a partial transposition of EU Directive No. 2012/2007/EU on energy efficiency;

- In 2014, Act No. 326/2005 Coll. on forests, that defined the establishment of energy stands and forest plantations and created conditions for the cultivation of reproductive material for these purposes, was amended. The energy stand is defined as a forest stand with a maximum production function, generally during the first fifteen (15) years, the benefits of which are mainly used for energy production;

- In 2015, the total percentage of RES-Electricity within the supply mix was above twelve percent (12%). Since 2015 the share of RES-Electricity has stagnated, the current status being eleven point nine percent (11.9%);

- Since 1 January 2019 a system of green bonuses was adopted, which refers to electricity produced in an electricity generating plant with a total installed capacity of between 10 kW and 50 MW. The applicants may ask for green bonuses in auctions;

- In February 2019, the Slovak government adopted the Strategy of the Environmental Policy of the Slovak Republic until 2030 (**"Greener Slovakia"**) setting out the state policy in the field of environmental protection;

- Under the National Plan for Energy and Climate Change for 2021-2030 (with perspective until 2050), the Slovak Republic has committed to a target nineteen point two percent (19.2%) share of RES from total consumption of energy, by no later than 2030;

- Since 1 January 2020, the Slovak Republic has been a member of the Association of Issuing Bodies.

The Issuing Body of the Slovak Republic is OKTE, a short-term electricity market operator based in Bratislava. The guarantees of origin issued after 1 January 2020 must be in accordance with AIB rules. OKTE is responsible for carrying out activities related to the issue, transfer, recognition, application and cancellation of guarantees of origin of electricity from RES (EECS® certificate).

3.2 RES Market Status, Permitting, Grid Connection, Licensing of RES-Electricity facilities in the Slovak Republic

GENERAL MARKET DATA	
RES Target 2020 provided by (out of final consumption)	Fourteen percent (14%), in 2018 an achievement of eleven point nine percent (11.9%) was reported
RES Target 2030	Nineteen point two percent (19.2%)
RES Target 2035	In 2018, overall energy production was 7,728 MW (27,149 GWh).
Overall installed General Capacity including RES (overall production)	51,184 MW (generating capacity excluding the currently occupied territory of Crimea) 3,114 MW (RES capacity excluding the currently occupied territory of Crimea)
Installed capacity by technology	Hydro – 2,542 MW Solar – 530 MW Biomass – 234 MW Biogas – 100 MW Wind power – 3.14 MW Fossil – 2,352 MW Nuclear – 1,940 MW
RES SUPPORT SCHEME	
Beneficiaries of RES Support Scheme	Feed in tariff (FiT): ▪ promotion applies to the electricity generated in the electricity facility of a producer at a price equal to the sum of the off-take price and the supplement pertaining to those installations, the capacity of which is up to 250 kW. Surcharge: ▪ in the facility of electricity producers with total installed capacity of up to 500 kW included for hydropower, geothermal, biogas, landfill gas or sewage treatment plant gas; ▪ high-efficiency cogeneration in a cogeneration plant with a total installed capacity up to and including 1 MW, of which at least sixty percent (60%) of the heat produced is used to supply heat by centralised heat supply and energy saving reaches at least ten percent (10%). Feed in premium (Green Bonus): ▪ applies to the electricity generated in the electricity facility of producers with a total installed capacity of between 10 kW and 50 MW, ▪ by auctions.
Priority and guaranteed off take into the grid	RES-Electricity is not granted priority connection.

Other incentives	▪ Guaranteed purchase of RES-Electricity; ▪ Premium green tariff for the use of equipment manufactured in Ukraine (up to ten percent (10%)); ▪ Exemption from VAT for imported RES equipment ; ▪ Cancelation of the designated purpose land requirement; ▪ Exemption from zoning requirements; ▪ Exemption from the requirement for a construction permit for wind plants .
Priority and guaranteed off take into the grid	Priority access shall be granted to any RES-Electricity producer, regardless of the installed capacity, subject only to the preservation of the security, reliability and stability of the grid connection.
Other incentives	▪ Guarantees of origin; ▪ Special loans (one percent (1%) interest) available from the Environmental Fund; ▪ Deviation Assumption by the regional distributor for deviations from the injection schedules submitted by the producer.
Other conditions	▪ Authorisation for construction of an energy facility above 1 MW granted by the Ministry of Economy except for facilities for the production of solar power which may not exceed 500 kW; ▪ No installed capacity limit as long as the grid allows this from a technical point of view; ▪ Licence granted by RONI for anyone who wishes to conduct business by trading with electricity.
GRID CONNECTION SPECIFICS	
Approvals	▪ Access to the grid is allowed by the transmission system operator or by the distribution system operator upon conclusion of a contract on connection to the system, provided that the technical and business conditions for access and connection to the system are met, and after the payment of the price for connection to the distribution system. The distribution system operator is obliged to ensure priority connection of the facility of the electricity producer to the distribution system; ▪ RES-Electricity producers are, under the RES Promotion Act, entitled to priority connection to the regional distribution network; ▪ **The grid operator may refuse access to the transmission system due to lack of capacity of the grid;** ▪ The grid operator is responsible for a connectivity study (functional test) within the period of thirty (30) days from the date of delivery of the request to the electricity producer and for issuing the connection approval.
Permitting Timing: depending on the installed capacity and connection to the grid, an investor could obtain the necessary approvals in approximately six (6) months to two (2) years.	▪ environmental approval; ▪ zoning permit for location of the building; ▪ set-up authorisation (above 1 MW); ▪ building permit; ▪ licence; ▪ connection agreement with the grid operator

LICENSING	
Procedure	▪ Authorisation for construction of an energy facility granted by the Ministry of Economy; ▪ Licence for energy business granted by RONI; ▪ Registration of the authorised activity into the Commercial Register within a period of thirty (30) days.
Duration of administrative procedure	Within sixty (60) days from the submission of the full documentation; this period may be extended by thirty (30) days.
Licence's validity	Fixed period or unlimited.

3.3 Designated/preferred legal form of investment vehicle and RES-Electricity project's acquisition

There is no legally designated form of investment vehicle.

A licence to generate RES-Electricity may be issued to a natural person and to a legal person (including incorporated legal persons prior to their registration with the Commercial Register).

The most common and often recommended legal form is a limited liability company (**"LLC"**). The minimum registered capital is EUR 5,000 and the maximum number of shareholders is limited to fifty (50). Another option, although more complicated and more costly, is a joint stock company, having a minimum capital of EUR 25,000 and an unlimited number of shareholders. Below is a side-by-side comparison of the advantages and disadvantages of each type of acquisition:

SHARE DEAL

NO.	BENEFITS	DISADVANTAGES
1.	The most common way to purchase a RES-Electricity project in the Slovak Republic.	Complying with the Commercial Registry's formalities for share deal publicity towards third parties.
2.	All civil and energy related permits and authorisations stay with the LLC.	The purchaser assumes all the historical corporate liabilities (and associated risks) of the LLC.
3.	The transaction can be performed faster, at lower costs and ensures an easier transfer of the RES-Electricity project.	
4.	Flexible transaction structure based on the findings of a proper due-diligence of the company, real-estate assets, permits and authorisations, movable assets, employees, if the case.	
5.	Transaction in two stages: signing and closing. The transaction usually contemplates conditions precedent to closing: ▪ performing a comprehensive due diligence of the RES-Electricity project and the LLC to the purchaser's satisfaction, not only legal, but also technical, commercial, tax and accounting; ▪ the seller obtaining any outstanding permits and authorisation and securing any relevant rights in land or access; ▪ the seller terminating any unnecessary or undesired contracts and/or obtaining any relevant consents up the decided development stage.	

6.	The transaction might contemplate a holdback on the purchase price or payment in instalments, in order to ensure that certain agreed milestones are met.	
7.	For the purchaser's protection, the share-purchase agreement could include a comprehensive set of representations and warranties regarding the LLC and the project, as well as indemnities, for issues which the purchaser might have identified in the due diligence process. It is also recommendable to include as a condition for the transaction the entering into a real estate title insurance and warranty & indemnity insurance covering the liability under the sale and purchase agreement.	

ASSET DEAL

NO.	BENEFITS	DISADVANTAGES
1.	The purchaser will not take over the historical corporate liabilities (and associated risks) of the LLC.	The purchaser will have to obtain all necessary civil and energy related permits and authorisations.
2.	The purchaser could change the characteristics of the project before applying for various permits and authorisations.	In this case it is not guaranteed that after issuance of a new licence, the subsidy will be granted in the same amount as under the old licence.
3.		Additional fee to be paid for registering the transfer of the rights to land with the Land Registry. In principle, an asset deal carries VAT obligations (unless performed as a going concern).
4.		The transfer of relevant contracts requires the consent of the contracting parties and sometimes the conclusion of new agreements renewing the contracting parties and ensuring the undertaking of the assumed obligations (unless performed as a going concern).

4. KEY CHANGES TO THE RES SUPPORT SCHEME SINCE 2016

On 17 October 2018, the Slovak parliament adopted Act No. 309/2018 Coll. amending the **RES Act.** This amendment introduced some significant changes into the promotion of RES-Electricity:

4.1 Central administration of the system of promotion

The amendment responded to decentralisation between the three regional distribution system operators, which increases administrative costs as well as the costs of forecasting and subsequent management of imbalances. Due to this fact, the competence for administration of the system for promotion of RES-Electricity and high-efficiency cogeneration, namely support administration, data management and support financing, has been entrusted to short-term electricity market operator, OKTE, a.s.

4.2 Modification of the promotion system to a more market-oriented type of promotion (Green Bonus)

The basic form of promotion for all new installations with an installed capacity exceeding 500 kW is by means of the so-called green bonus, granted by the operator of the short-term electricity market, whereby the producer

is solely responsible for the sale of electricity to the trader on the basis of a voluntary bilateral agreement. The producer will also be responsible for the deviation itself, having the right to delegate the deviation responsibility to another electricity market participant, wh is the subject of the settlement by contract. The success of the tender is a prerequisite for the provision of promotion in the form of a green bonus for all new installations with an installed capacity exceeding 500 kW.

4.3 New legal framework for provision of State aid to enterprises

State aid will be granted in the form of compensation, i.e. by reimbursing part of the fees related to the financing of promotion to produce electricity from renewable sources. The aid should be limited to sectors where the competitive position is at risk in relation to the costs arising from the financing of renewable energy promotion.

4.4 New definitions requiring the transition to a new system of promotion

Tariff for operating the system – this is a fixed price per unit of electricity linked to a technical unit, taking into account the proportion of the costs of producing electricity from renewable energy sources, including the correction of costs incurred in accounting promotion for the production of electricity from renewable energy sources.

Tariff for the production of electricity from renewable energy sources – this is a fixed price per unit of electricity linked to a technical unit, which takes into account the proportion of the costs of producing electricity from renewable energy sources and constitutes a component of the tariff for operating the system.

Tariff for system services – this is a fixed price per unit of electricity linked to a technical unit, considering the TSO's "eligible costs for the purchase of ancillary services and the TSO's other" allowed system services.

4.5 Access to system for electricity generating producers

In order to avoid double payment, the price regulation of access for the electricity-generating producer will only apply to one of them.

5. SIGNIFICANT AND/OR EXPECTED CHANGES IN 2020

5.1 Strategy of the Environmental Policy of the Slovak Republic until 2030

According to the Greener Slovakia strategy, in the next ten (10) years renewable energy production will be preferred, which by its nature does not burden the environment and contributes to the long-term sustainable development of the Slovak Republic.

This means that the impact of hydropower plants on the hydrology of river ecosystems will be mitigated by the removal of barriers on water courses, for example, by modifying release schedules with the release of appropriate flow rates and with regard to impacted habitats. Solar power stations will be, in the implementation of mitigating measures, mainly located on the roofs of buildings, car parks, brownfields or lower quality soil and not on high quality soil or habitats of national and European importance. Regarding geothermal energy, it is necessary to focus on the reinjection of water into the rock environment and to minimise outlets into surface streams. The setting of protection zones of geothermal sources, and subsequently their compliance with conditions of use by geothermal users will be determined by law. Sustainability criteria will not apply to projects that have already commenced.

5.2 The Slovak National Climate and Energy Plan for 2021-2030

Under the Slovak National Climate and Energy Plan, the Slovak Republic has committed that by 2030, it will have nineteen point two percent (19.2%) of RES-Electricity in its final energy consumption.

Other measures set by this document are:

- Increase the share of RES in the area of heating and cooling – under this obligation it will be necessary to transpose the Directives EU Nos. 2018/2001 and 2018/2002, as well as certain regulatory measures. The aim will be to introduce incentive mechanisms for district heating and cooling system operators aimed at increasing the share of RES in the fuel mix. Moreover, centralised heat systems (**"CHS"**) will be promoted also in the form of biomethane derived mainly from waste from plant and animal production, from the biodegradable fraction of municipal waste, biodegradable kitchen and restaurant waste and wastewater treatment plant waste. The development of geothermal energy will also be supported;

- Mandatory amount of RES in centralised heating systems;

- Mandatory connection to efficient CHS using RES;

- Promotion of prosumers – RES prosumers and RES energy producing communities will be entitled to install their own RES heating production facility, which will ensure the production of heat for their own consumption, enable the storage of heat produced from RES and the sale of overproduction. The intentions and form of national legislation with regard to ensuring the participation of consumers in the energy system and the benefits of their own electricity production and new technologies, including smart measures, arises, inter alia, from the transposition of EP and Council Directive (EU) No. 2019/944 into the Slovak Republic, by the transposition period until the end of 2020;

- Waste and waste heat recovery;

- Promotion of Clean mobility – fifteen (15) measures, which have the character of direct support for the use of low-emission vehicles and the possibilities of a financial mechanism to support the development of charging infrastructure, as well as incentive promotion. The current incentive to purchase vehicles is promoted by benefits such as distinctive vehicle identification, the possibility of using lanes reserved for public transport, allowing entry into low-emission zones or using parking lots for a restricted group of users;

- Promoting the energy efficiency of buildings.

- It is assumed that after the construction of a new cross-border transmission line between the Slovak Republic and Hungary in 2021 there will be **no reasons for limited connection of sources in terms of safety and reliability of electricity system operation** and the Ministry of Economy will be able to determine higher outputs for local outputs and auctions.

6. OVERVIEW OF THE TECHNICAL INOVATIONS IN ELECTRICITY STORAGE AND APPLICABILITY IN THE SLOVAK REPUBLIC OF SUCH STORAGE TECHNOLOGIES

Under the Slovak National Climate and Energy Plan (**"NCEP"**) for 2021-2030 the Slovak Republic considers the introduction of intelligent energy and electricity storage systems as being particularly important.

As noted, the Slovak Republic will transpose the EP and Council Directive (EU) No. 2019/944 into Slovakian

legislation by the end of 2020. This should increase the flexibility of the Slovak electricity grid, including energy storage solutions.

Moreover, the Slovak Republic has the intention to set rules and create conditions for providing ancillary services, such as electricity storage services. Their target will be to enable providers of electricity storage systems to become regulatory service providers. The target is to ensure full and equal access to balancing markets for all technologies and providers, including RES.

The NCEP states that the integration of local energy storage in storage appliances, energy storage and electric vehicles or gas distribution networks with their storage capacities is therefore an important element of the smart grid. First, to maintain and promote the existing capacity and operation of pumped-storage power plants and, second if necessary, to assess the possible increase in storage capacity by building a new pumped-storage power plant.

In order to develop the electricity storage systems, one of the main cornerstones is for further research and innovation in the area of RES, the development of energy storage and energy conversion technologies (POWER to X) to interconnect sectors.

The most common energy-storage system in the Slovak Republic is still pumped-storage hydroelectricity.

Presently, the Slovak accelerator InoBat and the Czech energy company CEZ have agreed to jointly develop the technology for the saltwater and iron flow battery. They want to adapt its application to European conditions. The project will also be promoted by the Ministry of Economy of the Slovak Republic.

The Slovak company NAFTA, a.s., the main storer of gas in the Slovak Republic, is anticipated to be a universal energy storer in the future and sees the future in energy storage in the form of gas. They became a partner of the Underground Sun Storage project, created in accordance with the Power to Gas concept. Underground Sun Storage was a unique project to verify the possibility of storing energy from renewables in underground geological structures in the form of a natural gas and hydrogen mixture.

7. SUPPORT SCHEME FOR COGENERATION

The support scheme for cogeneration is regulated by the RES Act. Specifics of cogeneration promotion are set in the Decree of RONI No. 490/2009 Coll. In 2017, the total installed capacity for high-efficiency cogeneration was 1,241.85 MW, representing nine percent (9%) of total electricity production in the Slovak Republic.

The incentive scheme is identical with the promotion of RES-Electricity and consists of:

- Priority access – shall be granted to any RES-Electricity producer, regardless of the installed capacity, subject only to the preservation of the security, reliability and stability of the grid connection;
- The right to the off-take of the electricity generated – at a price equal to the sum of the off-take price and the supplement pertain to those installations whose capacity is up to 250 kW;
- Right to supplement – high efficiency cogeneration installations with a total capacity not exceeding 1 W, of which at least sixty percent (60%) of the heat produced is used to supply heat by centralised heat supply and the primary energy saving is at least ten percent (10%);
- Feed-in premium (Green Bonus) – the support applies to electricity produced at the electricity producer's facilities with a total installed capacity of between 10 kW and 50 MW, selected by tendering.

This chapter was written by Katarina Bielikova, Zuzana Hodonova and Dalibor Palaticky.

KATARINA BIELIKOVA
Partner

Wolf Theiss, Slovakia

+421 2 591 012 50
katarina.bielikova@wolftheiss.com

ZUZANA HODONOVA
Counsel

Wolf Theiss, Slovakia

+421 2 591 012 36
zuzana.hodonova@wolftheiss.com

DALIBOR PALATICKY
Associate

Wolf Theiss, Slovakia

+421 2 591 012 47
dalibor.palaticky@wolftheiss.com

WOLF THEISS

SLOVENIA

COUNTRY GENERAL INFORMATION

Capital: Ljubljana

Location: situated in the southern part of Central Europe and sharing a border with Italy to the west, Austria to the north, Hungary to the northeast, Croatia to the southeast, and the Adriatic Sea to the southwest. Slovenia lies on the geographic coordinates 46 07 N and 19 49 E.

Surface: with 20,273 km², Slovenia is the thirty ninth largest country in Europe.

Population: 2,094,060 inhabitants (2020 estimate).

Climate: Mediterranean climate on the coast, continental climate with mild to hot summers and cold winters in the plateaus and valleys to the east. Short coastal strip on the Adriatic, an alpine mountain region adjacent to Italy and Austria, mixed mountains and valleys with numerous rivers to the east.

Resources: Water (hydropower) and forests (about sixty six percent (66%) of the total land area is forested) represent the predominant natural resources of Slovenia, with some deposits of lignite, lead, zinc and building stone.

Electricity Grid: The total length of the national electricity grid is 2,573 (3,720) km. The grid is comprised of overhead power lines with a nominal voltage of 400 kV (508 km), 220 kV (328 km), 110 kV (1,736 km). The Slovenian electricity grid system is connected to Austria (two 400 kV and one 220 kV power line), Italy (one 400 kV and one 220 kV power line), Croatia (three 400 kV, two 220 kV and three 110 kV power lines), while the connection to Hungary (two 400 kV power line) is still under preparation.

Electricity Transmission, Distribution, and Supply: The key market players in Slovenia are Elektro – Slovenija, d.o.o. (**"ELES, d.o.o."**) – transmission system operator, SODO, d.o.o. – distribution system operator, Borzen, d.o.o. – electricity market organiser, several owners of distribution networks, i.e. Elektro Ljubljana d.d., Elektro Primorska d.d., Elektro Maribor d.d., Elektro Celje d.d. and Elektro Gorenjska d.d. and several supply companies, i.e. Elektro Maribor Energija Plus d.o.o., Elektro Gorenjska Prodaja d.o.o, E 3 d.o.o., Elektro Celje Energija d.o.o., GEN-I, Petrol d.d., Petrol Energetika d.o.o., Elektro Energija d.o.o. (most of these are directly or indirectly state-controlled). However, there are also some newcomers such as SONCE energija d.o.o., a "new age" company which has a renewable energy trading platform based on blockchain technology and NGEN, energetske rešitve d.o.o., an energy system solutions provider, which uses the technology of pooling production, storage and consumption units used for auxiliary services.

The first pillar of the Slovenian wholesale electricity market consists of the holding company Holding Slovenske elektrarne, d.o.o., which operates the Drava Hydroelectric Power Plant, the Soča Hydroelectric Power Plant, the Lower Sava Hydroelectric Power Plant, the Šoštanj Thermoelectric Power Plant, and the Trbovlje Thermoelectric Power Plant. The second energy pillar is the group GEN energija, d. o. o., operating the Sava Hydroelectric Power Plant, Brestanica Thermoelectric Power Plant and Krško Nuclear Power plant.

Official EU language(s): Slovenian. In addition, Italian and Hungarian are official languages in municipalities where Italian/Hungarian national communities reside.

EU member: since 1 May 2004.

NATO member: since 2004.

United Nations member: since 1991.

Currency: EUR (since 2007).

Schengen: since 2007.

Political System, Administrative Organisation and Economy: The Republic of Slovenia is a parliamentary democracy with a multi-party system. The head of state is the president, who is elected by popular vote. The executive and administrative authority in Slovenia is held by the Government of Slovenia *(Vlada Republike Slovenije),* headed by the prime minister and the council of ministers or cabinet, who are elected by the National Assembly *(Državni zbor Republike Slovenije).* The legislative authority is held by the bicameral Parliament of Slovenia. The country is subdivided into 212 municipalities (11 of which have the status of urban municipalities). The municipalities are the only bodies of local autonomy in Slovenia. Slovenia has a developed economy and is per capita the richest of the Slavic countries by nominal GDP and the second richest by GDP (PPP) behind the Czech Republic. Almost two-thirds of the working population is employed in the services sector, and over one-third in industry and construction. Slovenia benefits from a well-educated workforce, well-developed infrastructure, and its location at the crossroads of major trade routes.

1. DEFINED TERMS FOR THE MAIN PERMITS REQUIRED FOR RES-ELECTRICITY GENERATION FACILITIES

Centre for RES/CHP	Centre organised within the company Borzen d.o.o., (which is the operator of the organised electrical power market).
CHP	Cogeneration or combined heat and power (CHP – *Soproizvodnja toplote in elektrike* (SPTE)) is the simultaneous conversion of fuel energy into heat and electricity. The main energy sources of such cogeneration are natural gas and wood biomass.
Energy Act	Slovenian Energy Act *(Energetski zakon – EZ-1, Official Gazette of the Republic of Slovenia No. 17/14, as subsequently amended);* adopted in 2014 and last amended in 2019, which transposes several EC Directives into the Slovenian legal system, including Directive 2001/77/EC on the promotion of electricity produced from RES on the internal electricity market (now replaced by Directive 2009/28/EC).
Energy Agency	Slovenian Energy Agency *(Agencija za energijo)*
Slovenian Environment Agency	Slovenian Environment Agency *(ARSO – Agencija Republike Slovenije za okolje in proctor*
Environmental impact assessment	Assessment of the long-term, short-term, direct or indirect impacts of the planned construction on human beings, land, water, air, biological diversity and valuable natural features, climate and landscape, as well as on buildings and cultural heritage, and their interrelationships.
Environmental protection consent	Consent issued by the Ministry of Environment and Spatial Planning pursuant to an Environmental impact assessment of the project.
Environmental protection permit	Permit issued for a period of ten (10) years, by the Ministry of Environment and Spatial Planning for the operation of any installation where an activity that might cause large-scale environmental pollution will be carried out. Additionally, the investor must obtain an environmental protection permit for the operation of any other installation if so prescribed by the regulations on (i) emissions of pollutants into the air, water or soil; (ii) activities that have a negative impact on the environment; or (iii) waste management.

Building permit	Permit issued by the competent administrative unit (depending on the location of the facility) allowing the construction of a facility and which is generally needed in order to build an industrial plant (however a small plant within an existing installation may not require a Building permit).
Use permit	Permit issued by the same administrative body which issues a facility`s Building permit and showing that the building work has been conducted in compliance with the Building permit and that the project has been completed.
Energy permit	An energy permit issued by the Ministry of infrastructure must be obtained for the construction of electricity-generating installations with a capacity greater than 1 MW. It must be obtained before the Building permit can be issued.
Water permit	Pursuant to Article 125 of the Water Act *(Zakon o vodah - Official gazette of the Republic of Slovenia, No. 67/02, as subsequently amended),* a water permit must be obtained for the operation of hydroelectric power plants with an installed capacity of less than 10 MW. Pursuant to regulations on spatial planning and building construction, a water permit must be obtained before an Environmental protection permit may be granted. A water permit is issued by the Slovenian Environment Agency for a definite period of time.
Authorisation under Energy law/ permit (concession) to exploit natural resources	A mandatory tender procedure for granting the concession to exploit natural resources in cases of hydro power plants with an installed capacity of 10 MW or more (if less than 10 MW, a concession is not required and only a Water permit must be obtained).
Guarantees of Origin	Guarantees of Origin issued by the Energy Agency constitute proof that a certain amount of electricity was produced in a certain power plant in a specified time period.
RES-Electricity	Electricity obtained from RES such as wind, solar, aerothermal, geothermal, hydrothermal and oceanic waves, hydraulic, biomass and biogas.
RES Support Scheme	A scheme providing funds for RES and cogeneration of electricity and heat production units, with two types of support: (i) guaranteed purchase of electricity by the Centre for RES/CHP support at regulated feed-in tariffs (generally applicable to facilities with less than 500 kW rated capacity); and (ii) financial support for operation, i.e. the difference between the reference costs of electricity production and the reference market price (this support is applicable to facilities with more than 500 kW rated capacity). RES-Electricity installations can benefit from one of these schemes for up to fifteen (15) years. The guaranteed purchase price is calculated on a case-by-case basis.
Rules on Support	Regulation on support for electricity generated from RES and from high-efficiency cogeneration, *(Uredba o podporah elektriki, proizvedeni iz obnovljivih virov energije in v soproizvodnji toplote in elektrike z visokim izkoristkom* – Official Gazette of the Republic of Slovenia, No. 74/16).
Priority access to the electricity grid given to RES-Electricity	Set of rules pursuant to which the network operator must not reject the connection of the RES-Electricity installation to the electricity grid due to the fact that the connection would cause the network operator disproportionate costs.
Water Act	*Zakon o vodah* – Official gazette of the Republic of Slovenia, No. 67/02, as subsequently amended.
Environmental Protection Act	*Zakon o varstvu okolja* – Official gazette of the Republic of Slovenia, No. 39/06, as subsequently amended.

2. ENVISAGED NEED OF RES INVESTMENTS IN SLOVENIA

2.1 Solar Energy

Electricity production in solar power plants represents the largest environmentally acceptable potential for increasing RES-Electricity production in Slovenia. With respect to sustainable use of space, future development should prioritise integration of solar power plants into existing buildings. The technical potential for production of RES-Electricity from integrated solar power plants is estimated at more than 20 TWh (total power of existing solar power plants was 267.1 MW in 2018). A key limitation, however, is the available land and the ability to integrate newly built solar power plants into the existing network systems. Specifically, upgrades of the existing electricity distribution network will be required.

To achieve RES-Electricity goals envisioned in the National Energy and Climate Plan *(Nacionalni energetski in podnebni načrt),* solar powered units with estimated capacity of up to 125 MW will have to be constructed annually. About eighty percent (80%) of these would be medium and large facilities (i.e. 100 kW and 600 kW units and a smaller proportion of free-standing units of 1,000 kW build mostly in degraded or industrial sites), with the remaining twenty percent (20%) representing smaller household units.

In accordance with the National Energy and Climate Plan, the various scenarios for solar energy production provide for different levels of solar energy development, which would increase electricity production between 0.6 and 1.9 TWh (492-1,650 MW) by 2030 and between 0.9 and 5.4 TWh (742-4,000 MW) by 2040. This would require an annual average installation of 20-125 MW of solar energy capacity, of which about eighty percent (80%) would be medium and large solar power plants and the remaining would be solar power plants for domestic self-supply.

2.2 Wind energy

There is currently some uncertainty regarding projects in Slovenia utilising wind energy, especially with respect to the placement of wind turbines. The placement of wind turbines is usually postponed due to concerns regarding the protection of the environment. The primary concerns are the protection of endangered animal species and also the perceived "social unacceptability" of these projects. In general, there is only a limited number of locations with suitable wind conditions where the placement of wind turbines is allowed according to regulations.

The foreseen power potential of wind farms in Slovenia is therefore estimated at 415 MW. So far, no large projects have been realised and only a small number of individual wind turbines have been built. For the potential of this technology to be fully realised in Slovenia, new and advanced technologies with lower noise emissions and impact avoidance systems for birds and bats are required.

Moreover, further amendment of the regulations on noise pollution with respect to wind farms is contemplated by the new National Energy and Climate Plan. Limit values or the distance of wind farms to the closest protected buildings will also be amended in order to better determine those conditions and restrictions that should be considered when placing wind turbines.

2.3 Hydro energy

In order to minimise negative impacts on nature, the development of hydro power plants should be considered by maximising the production of existing hydro power plants, by use of new and more efficient technologies, and revitalisation of inactive smaller hydro power plants. For the construction of new hydro power plants, the locations should be limited to existing structures such as dams and bridges and no new barriers should be built on the waterways. It is therefore envisioned that existing capacities (155 MWe) may increase up to 159 MWe by 2030 and up to 177 MWe, by 2040.

2.4 Biomass and Biogases

Utilisation of sustainable wood biomass (preferably residues from the wood processing industry, logging residues, etc.) should focus primarily on the production of synthetic gas and hydrogen. The produced gas will then be sold back to the electricity network in order to minimise energy conversion and the potential energy loss of wood biomass, with electricity produced only as a by-product of excess heat. The potential to generate energy from forest biomass in Slovenia is estimated at 6,598 GWh of heat and 326 GWh of electricity (currently there is only 190 GWh heat and up to 50 GWh electricity produced by these means).

Due to the relatively well-developed livestock farming, livestock manure also has considerable potential for biogas production in Slovenia. The theoretical calculations show that up to 315 GWh by 2030 and 245 GWh of electricity by 2040 could be produced from the manure of cattle, pigs and poultry (in 2017, 127 GWh was produced from such biogas). Some feedstock is also used for the production of biogas, which can then substitute for natural gas. Furthermore, there is also potential for the production of bioethanol. The total biogas production potential is around 480 GWh by 2030 and up to 700 GWh by 2040 and includes biogas production from sewage treatment plants, waste treatment and landfill gas capture, as well as the production of agricultural gas.

2.5 Transport

Transport is a sector that has significant influence on energy consumption in Slovenia and thereby on efforts to achieve the goals of energy and environmental policy, especially in achieving the goal of the share of RES in gross final energy use. Key investments in this sector should target electromobility, improving public transport, car-sharing opportunities, increasing freight traffic, developing rail transport, and adapting people's behaviour to new social and business models with respect to transport. Currently only two point nine percent (2.9%) of the total energy consumption in the transport sector comes from RES; two percent (2%) from biofuels and zero point nine percent (0.9%) from electricity obtained from RES.

3. EXECUTIVE SUMMARY-RES MARKET STATUS AND DEVELOPMENT OF RES ELECTRICITY FACILITIES

3.1 Market Overview-Factsheet

- In 2009 a feed-in tariff support scheme providing funds for RES and cogeneration of electricity and of heat production units (**"CHP"**) projects was established in Slovenia (**"RES Support Scheme"**). Under the RES Support Scheme, state aid is granted to producers of electricity produced from RES and in CHP units by offsetting the difference between the cost of generating electricity from RES and CHP units and the proceeds from the sale of the produced electricity on the market.

- In March 2014, the new Energy Act came into force. The new Energy Act substantially amended the previous law, as more than 100 provisions were amended. There were also changes to the RES Support Scheme, most notably, support can now only be granted in a public tender procedure. In this way, the RES Support Scheme has been harmonised with EU Guidelines on State aid for environmental protection and energy 2014-2020.

- Most of the principal EC Directives relating to RES have been implemented into the Slovenian legal system via the Slovenian Energy Act.

- Since 2014, and the adoption of the new Energy Act, a licence to generate RES-Electricity is no longer required.

- In 2016, new Rules on Support were adopted. Only units with rated power less than 10 MW are eligible for the RES Support Scheme, with the exception of wind energy production units for which a limit of 50 MW or less was set.

- At the end of 2018, more than 2,500 producers with a total of 3,859 installations were included in the RES Support Scheme. Most of the included installations are solar power plants (3,301 of the mentioned 3,859 in total).
- In 2018, a total of 617,424 MWh of RES-Electricity was produced from RES units included in the RES Support Scheme, which represents thirty four point five percent (34.5%) of all electricity produced in Slovenia.
- With public tenders published by the Energy Agency, a total of EUR 135.12 million has been paid out to investors pursuant to the RES Support Scheme.
- Apart from the production in large power plants, the Slovenian electricity system also includes some small-scale production units, mainly small hydroelectric power plants and industrial facilities for the cogeneration of heat and electricity. Since 2009, the number of small solar power plants has increased significantly, mainly due to lower prices of photovoltaic modules, relatively favourable purchase prices, and operating support for electricity produced from small solar power plants. Also, the number of facilities, producing RES-Electricity from other renewable sources (biomass, landfill gas), has increased.
- A goal of twenty five percent (25%) share of RES-Electricity by 2020 as set out in the 2009 Action plan on RES will most likely not be reached by 2020 (the official report is currently pending).
- Under the Integrated National Energy and Climate Plan, Slovenia has committed that by 2030, it will have a twenty seven percent (27%) share of RES-Electricity in the final energy consumption, with climate neutrality achieved by 2050.
- Since November 2019, Slovenia together with Romania, Bulgaria, Croatia, Czech Republic, Hungary and Poland have successfully linked their intraday markets with fourteen (14) countries active in operational work since June 2018.

3.2 RES Market Status, Permitting, Grid Connection, Licensing of RES Electricity facilities in Slovenia

GENERAL MARKET DATA	
RES Target 2020 (out of final consumption)	Twenty five percent (25%), (as of 2018, twenty one point fourteen percent (21.14%) was achieved)
RES Target 2030 (out of final consumption)	at least twenty seven percent (27%) of RES
Overall installed General Capacity including RES	▪ Overall installed capacity: 8,878.5 MW ▪ Overall production: 31.6 TWh
Installed capacity by technology	Nuclear – 735 MW Hydro – 562 MW Thermo – 560 MW Biomass – 74 MW Solar – 29 MW Wind – 0.69 MW

RES SUPPORT SCHEME	
General overview	There are two types of support: (i) guaranteed purchase of electricity pursuant to the agreement concluded with the Centre for RES/CHP support at regulated feed-in tariffs (generally applicable to facilities with less than 500 kW rated capacity); and (ii) financial support for operation, i.e. the difference between the reference costs of electricity production and the reference market price (this support is applicable to facilities with more than 500 kW rated capacity which are new or refurbished). RES-Electricity installations can benefit from one of these schemes for up to fifteen (15) years. The guaranteed purchase price is calculated on a case-by-case basis. The support is intended for RES generating installations that utilise the following sources: ▪ energy potential of watercourses (hydropower); ▪ wind energy used in onshore generating installations; ▪ solar energy used in photovoltaic production plants; ▪ geothermal energy; ▪ energy from biogas derived from biomass and biodegradable waste; ▪ energy generated from landfill gas; ▪ energy derived from gas from the sludge of wastewater treatment plants; ▪ energy derived from biodegradable waste; and ▪ RES production units which are based on the CHP technologies and achieve the prescribed efficiency for high efficiency cogeneration (excluding biofuel units).
Beneficiaries of RES Support Scheme	Beneficiaries are chosen via a public tender procedure, whereas only units with a rated power of less than 10 MW are eligible for the RES Support Scheme, (except for wind energy production units for which a limit of 50 MW or less is set).
Priority and guaranteed off take into the grid	▪ Under the new Energy Act, the electricity network operators (i.e. operators of the distribution and transmission grid; the company ELES, d.o.o. as the operator of the transmission grid, and the company SODO d.o.o., as the operator of the distribution grid) may not reject a request for connection of a facility that produces RES-Electricity or a high utilisation cogeneration facility for the reason that the connection would cause the electricity network operator disproportionate costs.
Other conditions	In the case of RES-Electricity, the owner or the investor bears the cost of connection to the grid. The costs of upgrades and network adjustments are borne by the network operators.
Special allowance/tolerance for intermittent generation in relation to balancing charges	No special allowance/tolerance.

PERMITTING	
Environmental impact assessment and Environmental protection consent	Before an activity that is likely to have a significant impact on the environment may commence, an Environmental impact assessment of such activity must be carried out in most instances. Pursuant to the Environmental impact assessment, an environmental protection consent is issued by the Ministry of Environment and Spatial. The Ministry must render its decision on the environmental protection consent within three (3) months of receiving the completed application. The deadline for the issuance of the decision is suspended during the period of public consultation (thirty (30) days) and during any period agreed with any other EU Member State for which the planned activity could have a substantial environmental impact.
Environmental protection permit (if required)	▪ Generally, an investor must obtain an Environmental protection permit for the operation of an installation where an activity which could cause large-scale environmental pollution will be carried out prior to the commencement of such construction. Additionally, the investor must obtain an Environmental protection permit for the operation of any other installation if so prescribed by the regulations on: (i) emissions of pollutants into the air, water or soil; (ii) activities that have a negative impact on the environment; or (iii) waste management. ▪ The Ministry of Environment and Spatial Planning must issue the Environmental protection permit within six (6) months from receiving the complete application. ▪ The application for the permit and draft decision on the Environmental protection permit must be made available to the public, and the public must be given an opportunity to express its opinion and comments thereon for a period of thirty (30) days. ▪ A Building permit may be issued only after the Environmental protection permit becomes final.
Building permit	A Building permit is issued by the administrative unit competent for the area where the plant will be built. If the Building permit is issued pursuant to a short procedure, the Building permit must be issued within thirty (30) days from submission of a complete application. Otherwise, it must be issued within sixty (60) days. The administrative fee depends on the value of the investment. In the process of obtaining a Building permit, several approvals and authorisations are required, depending on the exact type and location of the installation. A Building permit may not be required for smaller/simpler projects.
Detailed design (Projekt za izvedbo – PZI)	More detailed project of works based on the issued Building permit.

Use permit	The investor must apply for a Use permit with the administrative body that issued the Building permit and must show that the building works have been conducted in compliance with the Building permit and that the project has been completed. Once the competent administrative body establishes that the application for the Use permit fulfils all the set conditions, it authorises the commission for technical inspection *(Komisija za tehnični pregled)* to examine the compliance of the construction with the Building permit, the building regulations, and other applicable regulations. After the inspection, a Use permit for the facility is issued.
Energy permit	An Energy permit for production capacities must be obtained for facilities with rated capacity exceeding 1 MW that are connected to the public electricity power network. The Energy permit must be obtained before the Building permit can be issued or before the spatial plan can be prepared (if required). An Energy permit must also be obtained for any reconstruction of the above-mentioned facilities if the reconstruction changes energy parameters of the facility to the extent that it requires a subsequent Building permit. The Energy permit is issued by the Ministry of infrastructure within one (1) month of the receipt of the complete application.
Permit (concession) to exploit natural resources (or alternatively a Water permit) if required	According to the Water Act, the concession to exploit water assets for the production of electricity in a hydro power plant with an installed capacity of 10 MW or more shall be awarded only on the basis of a prior tender procedure. A concession is not required for hydro power plants with installed capacity of less than 10 MW – for these, a Water permit must be obtained. Furthermore, no tender procedure is required for the extension of the concession period or for the increase of scope of already awarded concessions. According to the Environmental Protection Act, the state or a municipality shall award a concession for the management, use or exploitation of a natural asset on the basis of a public tender provided that the conditions for environmental protection have been met. The competence of the state or a municipality depends on whether the natural asset is owned or managed by the state or the respective municipality. The basis for granting the concession is a deed of concession in the form of a Government or municipality regulation. Pursuant to the Water Act, the tender procedure may also be triggered by an unsolicited proposal of an interested private entity. In this respect, the unsolicited proposal shall contain all elements required for defining the content of the deed of concession, and in particular: its subject, scope, type and the concession term. Consequently, the Government shall notify the applicant within three (3) months upon receipt of the unsolicited proposal, as to whether it will initiate a procedure to adopt the deed of concession, which shall (if adopted) serve as a basis for the public tender for granting the concession.

GRID CONNECTION SPECIFICS	
Approvals	▪ Approval issued by the owner of the distribution network for connection to the grid based on previously obtained documentation (needed for construction of the project). ▪ Declaration for the individual unit issued by the Energy Agency. The issued declaration is mandatory for receiving support from the RES Support Scheme.
Other	Registration of the production unit in the Energy Agency register. Guarantee of Origin obtained from the Energy Agency. Agreements on connection to the grid, on the supply of the electricity, and access to the distribution network concluded with the respective network distribution operator.
LICENSING	
No Licence is required	

3.3 Designated/preferred legal form of investment vehicle and RES-Electricity project's acquisition

Slovenian legislation does not require or recommend a particular type of investment vehicle in the RES-Electricity sector. Usually, the form of a limited liability company *(družba z omejeno odgovornostjo)* (**"d.o.o."**) is the most popular form of an investment vehicle in Slovenia.

A Slovenian RES-Electricity project under development is usually structured as a d.o.o. and usually contains several types of assets: (i) rights to the land associated with the RES-Electricity project (ownership or superficies rights, as well as easements and rights of way); (ii) building permit for the construction of the RES-Electricity project; (iii) technical documentation (solution sheet or solution study (iv) technical connection approval for the connection to the grid or other applicable approvals; (iv) contracts (loans, various services related to the development of the project, etc.) and (v) potentially tangible assets and employees.

The acquisition of a RES-Electricity project can be performed through the purchase of either the shares in the d.o.o. (share deal) or on an individual asset basis (asset deal).

Below is a side-by-side comparison of the advantages and disadvantages of each type of acquisition:

SHARE DEAL

NO.	BENEFITS	DISADVANTAGES
1.	The most common way to invest in a project in Slovenia.	Share purchase agreement has to be made public in accordance with the court register publicity requirements.
2.	Taking over all the civil and energy related permits and authorisations.	The purchaser assumes all the historical corporate liabilities (and associated risks) of the d.o.o.

3.	The transaction can be performed faster, at a lower cost and ensures an easier transfer of the RES-Electricity project with the necessary elements for construction and operation.	
4.	Flexible transaction structure based on the findings of a proper due-diligence of the company, real-estate assets, permits and authorisations, movable assets, employees, if the case.	
5.	▪ Transaction in two stages: signing and closing. ▪ The transaction usually contemplates conditions precedent to closing: ▪ performing a comprehensive due diligence to the purchaser's satisfaction, not only legal, but also technical, commercial, tax and accounting on the RES-Electricity project and the d.o.o.; ▪ the seller obtaining any outstanding permits and authorisations and securing any relevant rights in rem or access; ▪ the seller terminating any unnecessary or undesired contracts and/or obtaining any relevant consents up the decided development stage.	
6.	The transaction might contemplate a holdback of the purchase price or payment in instalments, in order to ensure that certain agreed milestones are met.	
7.	For the purchaser's protection, the share-purchase agreement may include a comprehensive set of representations and warranties regarding the d.o.o. and the project, as well as indemnities, for those issues which the purchaser may have identified in the due diligence process.	

ASSET DEAL

NO.	BENEFITS	DISADVANTAGES
1.	The purchaser will not take over the historical corporate liabilities (and associated risks) of the d.o.o.	Considering that the Project includes rights in rem the asset purchase agreement must be notarised by a Slovenian notary public, subject to a fee;
2.	The purchaser can change the characteristics of the project before applying for various permits and authorisations.	The System operator and Energy agency have to be notified in writing within eight (8) days from the transaction.
3.		Additional fee to be paid for registering the transfer of the rights in rem with the Land Register.
4.		An asset deal may carry certain additional tax obliThe transfer of the energy-related permits associated with the project requires, in principle, the consent of the issuer and if there are technical changes to the project, the issuance of other permits and authorisations.
5.		The transfer of the relevant contracts requires the consent of the contracting parties and sometimes the conclusion of new agreements and ensuring the undertaking of the assumed obligations.

4. KEY CHANGES TO THE RES SUPPORT SCHEME SINCE 2016

4.1 Newly adopted Rules on Support

In late 2016, new Rules on support for RES-Electricity and from high-efficiency cogeneration were adopted in Slovenia. These rules provide for a more detailed legal framework for the RES Support Scheme, pursuant to which state aid is provided. A key change also included newly introduced rules for obligatory public tender procedures.

4.2 Reduced unit's power limit for guaranteed purchase of electricity from RES unit

The power limit for the guaranteed purchase of RES-Electricity was reduced from 1 MW to 500 kW or less of the rated capacity.

4.3 Obligatory RES Contribution

From 2017 onward, the end-customers of electricity, solid, liquid, gaseous fossil fuels, and district heat, are required to pay a contribution from which RES projects are financed.

4.4 Compensation for users of real property on which the energy infrastructure is under construction

Specific procedures have been developed with respect to compensation for users of real property on which the energy infrastructure is already under construction, but a decision on expropriation and easements in favour of public or other rights to build, has not yet been issued. The compensation is assessed by a court-certified appraiser and determined at the market value of the lease of such or comparable real property, taking into account the extent to which its actual use is for construction. This requirement was issued on the basis of a decision of the Constitutional Court of the Republic of Slovenia.

4.5 Higher fines for violation of mandatory share of RES fuels in sales

A higher fine has been set for fuel distributors if they violate rules with respect to mandatory shares of biofuels and RES in their sales. The fines are now set from EUR 50,000 up to two percent (2%) of annual sales from the sale of fuel to end-customers (for small size companies) or from EUR 150,000 up to two percent (2%) of annual sales from the sale of fuel to end-customers (for medium or large size companies).

5. SIGNIFICANT AND/OR EXPECTED CHANGES IN 2020

5.1 Amendments to the Energy Act

Even though recently amended, the Ministry for Infrastructure on 21 November 2019 proposed certain further amendments to the Energy Act. The proposed changes will transpose the Directive EU 2019/692 amending and supplementing Directive 2009/73/EC on common rules for the internal market in natural gas, into the Slovenian legal system. The Directive 2019/692/EU was published in May 2019 and the implementation deadline was 24 February 2020, however the changes were not implemented on time. On 30 January 2020, the Slovenian Government submitted the proposed amendment of the Energy Act to the National Assembly. Before the amendment enters into force it must first be adopted by the National Assembly and then confirmed by the National Council. Currently, there is no publicly available information on when the proposed changes may be implemented.

The proposed amendment also adds a new provision with respect to the promotion of measures for the use of alternative fuels in transport; e.g. the allocation of subsidies for the purchase of alternative fuel vehicles. The proposed amendment does not impose any obligation on the Republic of Slovenia but only provides a legal basis and possibility for the Republic of Slovenia to implement these measures in the future, if financial resources are available.

5.2 Important changes intoduced by the New National Energy and Climate Plan

The New National Energy and Climate Plan was confirmed by the Government on 27 February 2020 and provides for the following regulatory changes in favour of RES projects:

- **Improvement of the feasibility of already notified projects** (mainly wind energy, SHPP and large SE above 1 MWe) by removing administrative and regulative hurdles for realisation of approved / selected projects;
- **Preparation of a new RES Support Scheme** (foreseen for the period 2021-2023), with:
  - new forms of incentives,
  - simplified procedure for smaller production facilities,
  - transition to non-refundable grant funds for RES technologies which are close to competitiveness at the end-customer price level,
  - introduction of concession schemes for the revitalisation of degraded areas and their use for energy purposes;
- **Investment subsidies to encourage energy production from RES** in order to promote investments in promising but not yet economically viable RES projects – such as wind, solar, geothermal or water energy projects;
- **Promoting self-supply of RES-Electricity,** mainly by removing administrative obstacles and providing fiscal incentives for investments;
- **Promoting construction and reconstruction of large hydropower plants** by supplementing the regulations for more efficient (less burdensome) administrative procedures and procedures with respect to placement of facilities, accelerating the preparation of spatial plans for energy infrastructure of national importance, providing the possibility of further utilisation of hydropower in Slovenia in water management plans and harmonising the rules governing the prevailing public interest in protected areas;
- **Change of regulations on noise pollution with respect to wind farms,** by regulating the limit values or the distance of wind farms to the closest protected buildings and to better determine conditions and restrictions to be taken into account when placing wind turbines;
- **Update of technical criteria, procedures and tariffs for connection of RES units to the grid,** in particular:
  - distribution operator should establish routing of potential investors to locations that do not require major investments in the networks (i.e. mapping of locations),
  - simplification of procedures and shortening of the time required to complete the connection to the grid, and

– promoting appropriate integration of RES into the existing buildings, into space and into the energy system.

6. OVERVIEW OF THE TECHNICAL INOVATIONS IN ELECTRICITY STORAGE AND APPLICABILITY IN SLOVENIA OF SUCH STORAGE TECHNOLOGIES

One of the goals set out in the National Energy and Climate Plan is the development of energy storage technologies, infrastructure and services, which will improve the efficiency and safety of the electricity production and supply. New technologies are particularly important with respect to the available natural sources (i.e. wind and solar power).

It is envisioned that the demonstration and pilot projects for the centralised and decentralised electricity storage will be implemented by 2030. Those projects will include installation of battery storage solutions and other technologies for storing RES-Electricity, such as storing it in a solid state. In order to maximise the share of RES in gross final energy consumption, a sufficient number of energy storage facilities will have to be constructed by 2030.

There are currently no large electricity storage solutions implemented in Slovenia, the exception being only smaller (households) battery packs used for the needs of individual owners of household solar power plants.

New technical innovations in electricity storage solutions will be needed when the number of RES production units increases. The development and implementation of such solutions is foreseen in the National Energy and Climate Plan. Considering this, there are good opportunities for investors to enter the Slovenian energy market in this respect.

7. SUPPORT SCHEME FOR COGENERATION

A support scheme – feed-in tariff (preferential prices) – is available for CHP units that do not exceed 20 MW of rated power per facility. This support can be given for up to ten (10) years.

The following CHP units are eligible for the RES Support Scheme:

- combined cycle gas turbines with heat recovery;
- counter pressure steam turbines;
- extraction condensation steam turbines;
- gas turbines with heat recovery;
- internal combustion engines;
- microturbines;
- Stirling engines;
- fuel cells;

- steam engines;
- organic Rankin cycle turbines; and
- other types of technology or combinations thereof, used for the cogeneration of heat and electricity with high efficiency.

The Support scheme for cogeneration in Slovenia is the same as for other RES technologies. Therefore, investors investing in CHP units / facilities may apply for support in the form of either (i) guaranteed purchase of electricity by the Centre for RES/CHP support at regulated feed-in tariffs (generally applicable to facilities with less than 500 kW rated capacity); or (ii) financial support for the operation of the unit, i.e. the difference between the reference costs of electricity production and the reference market price (this support is applicable to facilities with more than 500 kW rated capacity).

This chapter was written by Klemen Radosavljevic, Nejc Goršič and legal trainees Sara Ermenc and Iva Šturm.

KLEMEN RADOSAVLJEVIC
Partner

Wolf Theiss, Slovenia

+386 1 438 00 23
klemen.radosavljevic@wolftheiss.com

NEJC GORŠIČ
Associate

Wolf Theiss, Slovenia

+386 1 438 00 14
nejc.gorsic@wolftheiss.com

WOLF THEISS

UKRAINE

COUNTRY GENERAL INFORMATION

Capital: Kyiv

Location: situated in the central part of Eastern Europe, Ukraine is the second largest country in the territory of Europe, with an area totalling 603,550 km². Ukraine borders the Russian Federation, Belarus, Poland, Slovakia, Hungary, Romania and Moldova.

Surface: 603,550 km².

Population: 41,902 inhabitants.

Climate: continental, with four distinct seasons.

Resources: As of 2016, seventy point eight percent (70.8%) of the territory of Ukraine was classified as agricultural land and seventeen point six percent (17.6%) of the area was covered by forests. Ukraine has limited fossil-fuel energy reserves. The country is reliant on imports of oil, gas and coal. Nevertheless, the country has high potential for (i) wind power; (ii) expanded biomass use for energy purposes; and (iii) solar PV equipment that can be efficiently operated throughout the year (northern and southern regions).

Electricity Grid: In 2018, Ukraine generated 159,351 GWh of electricity, with state-owned enterprises accounting for most of that production. Currently, Ukrenergo has eight regional power systems covering Ukraine: It operates high voltage equipment and manages more than 21,300 km of trunk and cross-border high voltage transmission lines. Each year, Ukrenergo transmits over 110,000 GWh of electricity.

Electricity Transmission, Distribution, and Supply: Supply and distribution is managed by either regional electricity supply and distribution companies, known as oblenergos (public and private ownership, including foreign-owned entities, with significant shares belonging to 5-7 individuals) or Distribution System Operators and Suppliers.

Official EU language(s): Ukrainian.

EU member country: N/A.

NATO member: N/A.

United Nations member: since 1945.

Currency: Ukrainian Hryvnia (UAH).

Schengen: No – but has joined the Deep and Comprehensive Free Trade Area (DCFTA).

Political system, administrative organisation and economy: Ukraine is a unitary state. State power in Ukraine is exercised on the principles of its division into legislative, executive and judicial power. The President of Ukraine is the Head of State and a guarantor of national sovereignty, territorial integrity and adherence to the Constitution. The only legislative body of Ukraine is the Parliament. Ukraine undertook decentralisation reforms in 2014 in order to create a capable institute in the form of local Governments. This reform created the basic level – communities - and the middle (sub-regional) level – districts - and thereby moved more power to these created institutes. The Ukrainian economy has started to show signs of stabilisation after years of political and economic tension. Certain reforms have been adopted to promote household consumption and to consolidate public finances with prudent fiscal and monetary policies. A flexible exchange rate regime has also helped to reduce budget and current account deficits.

1. DEFINED TERMS FOR THE MAIN PERMITS REQUIRED FOR RES-ELECTRICITY GENERATION FACILITIES

Balancing Group Entry	Legal requirement for RES producers to enter into the balancing group of the SE "Guaranteed Buyer" in order to sell electricity on the new electricity market under a feed-in tariff or at auction price;
Construction permit	Administrative deed issued by the local body of the State Architectural and Construction Inspection of Ukraine (**"SACIU"**) (applicable to facilities qualified as SS2 or SS3 classes of harmful consequence facility);
Commissioning Certificate	Administrative deed issued by the local body of SACIU in order to authorise the commissioning of the relevant RES Facility (applicable to facilities qualified as SS2 or SS3 classes of harmful consequence facility);
Construction Project Examination	Mandatory examination conducted by authorised expert organisations in case the relevant RES Facility qualifies as SS2 or SS3 classes of harmful consequence facility;
Environmental Approval	Administrative deed issued by the local Environmental Authority evidencing the compliance of the RES-Electricity facility with the environmental requirements as provided by law;
Grid Connection	Actions performed and administrative deeds issued by the grid operator to connect a new generating facility or to modify or replace the connection of an existing generating facility to the grid;
Guaranteed purchase of electricity produced from RES Facilities	Set of rules and conditions based on which the State Enterprise "Guaranteed Buyer" is obliged to purchase all RES-Electricity within quotas acquired by the Producers at RES auctions;
Licence for electricity production	Administrative deed issued by the National Regulatory Commission on Energy and Utilities (**"NEURC"**) for electricity production according to the licensing conditions for commercial electricity production, approved by Resolution of NEURC No. 1467 dated 27 December 2017. Under this Licence, the producer has the right to operate a RES-Electricity facility and to sell the generated RES-Electricity on the market;
NEURC	The National Energy and Utilities Regulatory Commission of Ukraine is the single authority for regulating gas and electricity in Ukraine. One of NEURC's main functions is to issue licences to business entities operating in the fields of energy and public utilities and to exercise control over their licensed operations;
RES-Electricity	Electricity obtained from RES sources such as solar, wind, aerothermal, geothermal, hydrothermal, wave, tidal, hydropower, biomass, landfill gas, sewage treatment gas and biogas;
RES Support Scheme	State-aid measures in two forms (i) feed-in-tariff (in other words green tariff) that was in force until 31 December 2019, however RES Procedures that concluded pre-PPA's with the SE "Guaranteed Buyer" until that date can still finish construction projects and fall within the green tariff regime until the end of 2029; (ii) RES auction mechanism introduced in 2019, aiming to replace the green tariff scheme. State support will be provided by means of guaranteed purchase through the SE "Guaranteed Buyer" of all electricity produced from RES Facilities within the quota acquired at the auction.

2. ENVISAGED NEED OF INVESTMENTS IN UKRAINE

Ukraine has demonstrated significant commitment to reforming its energy sector in order to reach the sustainable growth targets set by numerous international obligations. The country joined the European Energy Community in February 2011 and in October 2014 set the goal of increasing its renewable energy share in the national power mix to eleven percent (11%) by 2020, while the Energy Strategy of Ukraine adopted in 2017 increased the target to twenty five percent (25%) of renewable energy share by 2035. Therefore, renewable energy is expected to be the fastest growing source in terms of power generation in Ukraine in the foreseeable future.

Ukrainian cities are among the key players that are poised for changes in the sustainable growth of the country in the renewable energy field. The city of Zhytomyr (located in the northwest of Ukraine) approved a plan in 2018 to achieve one hundred percent (100%) renewable energy by 2050. This ambitious goal was also followed by the cities of Kamianets-Podilskyi, Chortkiv and Lviv. The State Agency of Ukraine on Exclusion Zone Management, that manages the Chernobyl zone, agreed that within the implementation of Ukraine's commitment under the Kyoto Protocol, a photovoltaic power station will be constructed in Chernobyl. Moreover, in 2018 the Government allocated seven (7) hectares of land for the construction of wind energy facilities within the zone's territory.

The official start of investments into RES Facilities was in 2008, when numerous (including foreign) players entered the market. Since then, RES projects (mostly solar and wind) have been mushrooming around the country. Such rapid development of the RES sector during 2008-2019 can be explained by the adoption of the green tariff in 2008, which essentially guaranteed prices until the end of 2029 and was the highest in Europe.

By 2019, a total of 4.7 GW of RES capacity had been officially installed. The average price for RES-Electricity production under the green tariff 2020 is 13.7 euro cents per kWh[1]. According to the data provided by the State Agency on Energy Efficiency and Energy Saving of Ukraine, about EUR 3.7 billion was invested in RES capacities in Ukraine in 2019.

The Government has made significant efforts to stimulate and encourage the flow of foreign investments in RES projects (e.g. granted VAT exemptions on the import of certain RES equipment, simplified the process of land allocation, cancelled the requirement for construction permits for wind plants, etc.).

Despite the development of the RES market over the years, Ukraine has faced problems regarding the attractiveness of RES incentives and the support scheme. In the last year alone, over 2.5 GW of green capacity has been put into operation at an increased tariff (mostly solar), at the highest tariff in Europe – 15 euro cents. According to the Ministry of Ecology and Natural Resources of Ukraine, the energy system can no longer balance green generation capacities and there is risk of a possible default on payments to investors in the RES sector.

Therefore, it appears inevitable that the legislation and regulations on the RES market are due to change significantly in the near future. The Government and the Parliament are in close communication with industry players in an effort to work out a solution that is acceptable to all parties and appear to appreciate that RES investments make up a large proportion of the total investments that have been made in Ukraine in recent years. The Government's priority is to not allow any unjustified increase in tariffs for end-customers, with the corresponding negative consequences for the economy of Ukraine and the inability to fulfil its obligations to investors in the RES sector.

Starting from 1 January 2020, investors or future RES producers may enter the Ukrainian renewable market in two ways: (i) by investing into existing RES projects that are entitled to operate under the green tariff regime; (ii) investing into RES projects operating under the new Auction Law.

1 https://menr.gov.ua/news/34704.html

3. EXECUTIVE SUMMARY-RES MARKET STATUS AND DEVELOPMENT OF RES FACILITIES

3.1 Market Overview-Factsheets

- After the introduction of a special green tariff, tax and customs relief, as well as incentives for purchasing locally made equipment in 2008, the RES sector in Ukraine started to grow rapidly on an average of thirty one percent (31%) annually;
- The Energy Strategy of Ukraine has been looking to increase the overall share of renewables to twelve percent (12%) by 2025, and to twenty five percent (25%) by 2035, including for RES-Electricity generation;
- RES producers exploiting equipment of Ukrainian origin enjoy a higher green tariff (by up to ten percent (10%)), provided the respective equipment is produced between 1 July 2015 and 31 December 2024;
- Certain RES-related equipment and materials imported into Ukraine are exempted from VAT until December 2022;
- In 2018, after a sharp fall in the cost of equipment for the construction of RES projects, the Government insisted on an urgent reduction of the green tariff from 1 July 2019;
- Ukraine's new electricity market model was introduced by the Law of Ukraine "On the Electricity Market" No. 2019-VIII, dated 13 April 2017, and was put into operation on 1 July 2019;
- In 2018, Ukraine became a member of IRENA. In 2019, Ukrainian law was amended to introduce state support auctions (instead of the green tariff) for RES-Electricity facilities commissioned after 1 January 2020;
- With these recent changes in the electricity market, Ukrenergo has become responsible for compensating the SE "Guaranteed Buyer" for the green tariff. Considering the difficulties with payments, the SE "Guaranteed Buyer" faced challenges in meeting its obligations to green energy producers and investors. In an attempt to recover payments, the SE "Guaranteed Buyer" filed a lawsuit against Ukrenergo, as the estimate of debt for the billing period amounted to UAH 1.58 billion (approximately EUR 56.43 million);
- Ukraine plans to increase the share of RES-Electricity to twenty five percent (25%) by 2035. Thus, it will require significant, and sustained investment into new RES capacity, storage and transmission networks. During 2018, installed solar power capacity increased by eighty seven percent (87%), wind power by fifteen percent (15%) and biofuel by thirty three percent (33%) driven mainly by the "last chance" to fall within the green tariff regime until 2020;
- As of today, solar and wind projects constitute the vast majority of the RES projects in Ukraine;
- In the 2nd quarter of 2019, 656 MW of renewables were commissioned in Ukraine. This figure is 6 times higher than in the same period of the previous year (109.6 MW were commissioned in the 2nd quarter of 2018). Thus, at the end of the 2nd quarter, the RES sector capacity in Ukraine reached 3,114 MW.

4. RES MARKET STATUS, PERMITTING, GRID CONNECTION, LICENSING OF RES FACILITIES IN UKRAINE

GENERAL MARKET DATA	
RES Target 2020	Eleven percent (11%) – (reported to have achieved seven percent (7%) in 2018, ten percent (10%) to date
RES Target 2030	Seventeen percent (17%)
RES Target 2035	Twenty five percent (25%)
Overall installed General Capacity including RES (overall production)	51,184 MW (generating capacity excluding the currently occupied territory of Crimea) 3,114 MW (RES capacity excluding the currently occupied territory of Crimea) In 2018, overall energy production was 159 TWh (2.8 TWh from RES sources)
Installed capacity by technology	Solar – 2,371 MW Hydro – 1,474 MW Wind – 637 MW Biomass – 107 MW
RES SUPPORT SCHEME	
Beneficiaries of RES Support Scheme	Business entities intending to generate RES-Electricity, regardless of the facility's installed capacity and the RES source (except for blast furnace and coke-oven gas, and in case of hydropower use with only micro, mini and small hydro plants).
Priority and guaranteed off take into the grid	RES-Electricity is not granted priority connection.
Other incentives	▪ Guaranteed purchase of RES-Electricity; ▪ Premium green tariff for the use of equipment manufactured in Ukraine (up to ten percent (10%)); ▪ Exemption from VAT for imported RES equipment[2]; ▪ Cancelation of the designated purpose land requirement; ▪ Exemption from zoning requirements; ▪ Exemption from the requirement for a construction permit for wind plants[3].
Other conditions	▪ Green tariff decrease for solar: by twenty five percent (25%) with a further decrease of two point five percent (2.5%) each year for three (3) years; for wind: by ten percent (10%) in 2020 and by ten percent (10%) in 2025.

2 On 16 January 2020, the Ukrainian Parliament adopted draft law No. 1210 abolishing these VAT exemptions. The law must still be signed by the President of Ukraine in order to become effective.

3 Construction of wind plants has been given SS1 class of harmful consequence facility, thus construction works may be undertaken without a specific construction permit.

GRID CONNECTION SPECIFICS	
Approvals	Electricity distribution and transmission system operators cannot deny access to their grids provided that the applicant meets the technical requirements.
Permitting	Construction permits for construction works and connection to the grid.
LICENSING	
Procedure	The Licence for electricity production is issued after the construction and commissioning phases (i.e. after obtaining the Commissioning Certificate) are finished. The RES producer applies for a Licence for electricity production by submitting a standard form application to NEURC and the supporting documents.
Duration of administrative procedure	Ten (10) working days following the submission of the application.
Licence's validity	N/A

5. DESIGNATED/PREFERRED LEGAL FORM OF INVESTMENT VEHICLE AND RES-ELECTRICITY PROJECT'S ACQUISITION

No specific restrictions for foreign investors apply to the purchase of RES projects. General national and international restrictions on currency control, anti-money laundering and crime control may apply.

Foreign investors have a variety of options of foreign jurisdictions for the location of their investment vehicle into Ukraine. The factors to be considered in this regard is the ability for the investor to receive protection under the bilateral investment treaty of the relevant country with Ukraine, and the ability to receive a favourable taxation regime under the double tax treaty with the country where the investment vehicle will be located.

Furthermore, some projects have been structured as joint ventures, involving multiple investor and shareholder arrangements such as shareholders' agreements. Thus, the jurisdiction where the holding company will be located should be suitable from the point of view of enforceability of shareholders' agreements.

In addition to investment protection, a favourable taxation regime and enforceability of joint venture arrangements, investors should bear in mind the costs that are necessary to establish and maintain the corporate structure. Furthermore, the ability for the companies to open bank accounts at international banks should also be considered. Due to the changes in banking regulations, it has become more difficult for companies that do not have a substantial presence or nexus in certain countries (which will be the case for holding and sub-holding companies) to open bank accounts with the banks in those countries.

When it comes to Ukrainian companies, the two most popular corporate forms of companies are (i) joint stock companies (**"JSC"**); and (ii) limited liability companies (**"LLC"**). Out of these two forms, the LLC is used more often for business purposes since it is a more flexible and less regulated type of company.

The stock (shares) in the JSC as well as the shares (corporate rights) in LLCs can be used as security under pledge agreements. From the point of view of an investor, an LLC would typically be the more preferable type of company to use as a project company, and such choice is also usually acceptable for banks and financiers.

The acquisition of a RES-Electricity project can be performed through the purchase of either the shares in the LLC (share deal) or on an individual asset basis (asset deal).

A Share deal is a transaction for the acquisition of share rights (shares or stocks) in capital companies. As a result of such transaction, the buyer becomes the owner of the shares, but does not obtain direct rights to the assets (of the enterprise) of the acquired company (except for the right to participate in a possible division of the company's assets in the event of its liquidation). The company's assets remain the company's property, since the subject of the sales contract in the case of share deals are share rights and not assets.

An Asset deal is a transaction to acquire a company enterprise or an organised part of an enterprise. Asset deals are also often referred to as contracts for the sale of individual assets that are part of an enterprise, whereas mergers and acquisitions are usually associated with the sale of the entire enterprise or an organised part thereof, and not just individual assets.

Please note that most RES M&A projects in Ukraine are structured as share deals, not as asset deals.

NO.	SHARE DEAL	ASSET DEAL
1.	In case of a share deal the target is the company holding title to and operating the RES Facility, and which also holds all the permits/licences/approvals necessary for RES-Electricity production.	A purchaser of the RES Facility will have to work with the authorities to amend the relevant documents (permits, approvals, etc.) relating to the RES Facility which were issued to the previous owner, in order to commence operation of the facility. This can be a time-consuming process.
2.	No need to interrupt operations of the RES Facility for the time needed to amend the necessary approvals/ permits. This option allows the investor to generate return on investment immediately.	The new owner of the RES Facility (i.e. a Ukrainian company) should hold (or obtain) a Licence for electricity production in order to operate the facility.
3.	The transaction can be performed faster, at lower costs and ensures an easier transfer of the RES-Electricity project with the necessary elements for construction and operation.	Can be excessively burdensome for foreign investors seeking to enter the Ukrainian market.

6. KEY CHANGES TO THE RES SUPPORT SCHEME SINCE 2016 – IMPLEMENTATION OF THE AUCTION SCHEME

6.1 New electricity market model

Ukraine's new electricity market model was introduced by the Law of Ukraine "On the Electricity Market" No. 2019-VIII (**"Law No. 2019-VIII"**), dated 13 April 2017, and was put into operation on 1 July 2019. The new model provides for direct (without intermediaries) and diversified electricity purchase arrangements between producers and power supply companies. It also contains such elements as intra-day, day-ahead and balancing markets.

Under Law No. 2019-VIII, the SE "Guaranteed Buyer" has been registered as an independent entity responsible for increasing the share of RES-Electricity by purchasing the produced electricity from RES Producers eligible for the green tariff or within the quota acquired at a RES auction. Additionally, Law No. 2019-VIII sets requirements for unbundling the functions of the distribution system operator. Law No. 2019-VIII also introduced responsibility for imbalances.

6.2 Introduction of RES auctions

In 2019, Ukrainian law was amended to introduce state support auctions for RES-Electricity facilities commissioned after 1 January 2020 instead of the green tariff (however, certain planned projects where pre-PPAs were signed before 31 December 2019 will enjoy green tariffs also after 2020). Under the auction scheme, the Ukrainian state will purchase all electricity produced by the RES project within the limits of the quota purchased at auction at the established fixed tariff. The auctions will be mandatory for entities operating RES Facilities with a capacity of at

least 1 MW if such facilities are commissioned into operation on or after 1 January 2020. Operators of facilities under 1 MW may voluntarily participate in the auctions.

The RES auctions will be conducted transparently through the Prozorro.Sales platform (Ukraine's public e-procurement system) and the first mandatory auctions are scheduled for April 2020. Auctions will be held twice a year (not later than 1 April and 1 October) and end on December 2029 according to the Law of Ukraine No. 555-IV "On Renewable Energy Sources". In order to establish contractual relations with the SE "Guaranteed Buyer" after the auction, RES Producers will have to provide evidence of title or lease rights to land, grid connection and construction permits.

6.3 Changes by NEURC

In June 2019, the Cabinet of Ministers of Ukraine determined by resolution that up to ninety percent (90%) of the electricity generated through nuclear plants would be sold at a fixed rate, while only ten percent (10%) of nuclear power would be sold on the electricity market (in August 2019, the Cabinet of Ministers of Ukraine amended the resolution and slightly altered the amount of nuclear power subject to the public service obligations).

On 13 December 2019, NEURC adopted changes to its Resolution No. 641 dated 26 April 2019, which amended the Procedure for purchase of renewable energy by the SE "Guaranteed Buyer". NEURC has also amended the model pre-PPA. These amendments concern requirements for documents submitted for establishing the feed-in tariff, NEURC's right to refuse to grant a feed-in tariff, as well as NEURC's right to suspend consideration of an application to establish a feed-in tariff. Importantly, the procedure for obtaining pre-PPAs has also been amended.

7. SIGNIFICANT AND/OR EXPECTED CHANGES IN 2020

7.1 Cancelation of zero VAT for import of RES equipment

On 16 January 2020 the Ukrainian Parliament adopted draft law No. 1210 abolishing the VAT exemptions for the import of certain equipment used in RES Facilities construction. The law must still be signed by the President of Ukraine in order to become effective. Therefore, imports of such equipment made after the law's entry into force will be subject to the regular twenty percent (20%) VAT rate. VAT will be included in the import price of the equipment.

7.2 Innovations in Electricity Storage and Applicability in Ukraine of such Storage Technologies

It is expected that the Ukrainian Parliament will soon adopt a special Law regulating energy storage systems. At the end of 2019, there were two draft laws registered concerning electricity storage systems, however their future remains unclear. Currently, Ukraine does not have effective legislation for electricity storage. However, the rapid development of RES-Electricity is a major stimulus for the development of a storage system, since such a system would contribute to the technical balancing of RES-Electricity loads and dispatch.

7.3 Possible changes in the green tariff regime

In December 2019, the Parliament of Ukraine registered the draft Law "On Amendments of Certain Laws of Ukraine, Improving Investment Climate in the Renewable Energy Sector" No. 2543.

The draft Law envisages the possible voluntary reduction of the green tariff under certain conditions (i.e. in exchange for certain benefits). RES producers which opted to voluntarily reduce the green tariff had to conclude a supplementary "restructuring agreement" with the SE "Guaranteed Buyer", which basically means that the RES producer should conclude a new PPA. The draft Law also provides for a much shorter time period for introduction of full liability for imbalances.

The above-mentioned draft law was withdrawn from the Parliament and has thus not been finally adopted.

However, considering the general intentions of the Ukrainian Government and the Ministry of Energy and Environment Protection of Ukraine (since the significant increase in installed capacity of RES Facilities under the RES Support Scheme in 2019 created a number of economic and technical challenges), it is expected that similar legislative changes may be contemplated and adopted in Ukraine in the foreseeable future.

This chapter was written by Sergii Zheka and Iryna Fedorovych.

SERGII ZHEKA
Senior Associate

Wolf Theiss, Ukraine

+38 044 3 777 559
sergii.zheka@wolftheiss.com

IRYNA FEDOROVYCH
Associate

Wolf Theiss, Ukraine

+38 044 3 777 554
iryna.fedorovych@wolftheiss.com

CONTACT INFORMATION

For further information about Wolf Theiss or this *Wolf Theiss Guide to: Generating Electricity from Renewable Sources in Central, Eastern & Southeastern Europe,* please contact:

BRYAN W. JARDINE
Partner, Regional Coordinator of the Renewable Energy Practice

WOLF THEISS
4 Vasile Alecsandri, The Landmark, Building A
010639 Bucharest

T. +40 21 3088 102
bryan.jardine@wolftheiss.com

OUR OFFICES

AUSTRIA
Schubertring 6
1010 Vienna
T. +43 1 515 10
E. **wien@wolftheiss.com**

BOSNIA AND HERZEGOVINA
Zmaja od Bosne 7
71 000 Sarajevo
T. + 387 33 953 444
E. **sarajevo@wolftheiss.com**

BULGARIA
Expo 2000, Phase IV, 55 Nikola Vaptsarov Blvd.
1407 Sofia
T. +359 2 8613 700
E. **sofia@wolftheiss.com**

CROATIA
Ivana Lučića 2a/19
10 000 Zagreb
T. +385 1 4925 400
E. **zagreb@wolftheiss.com**

CZECH REPUBLIC
Pobřežni 12
186 00 Praha 8
T. +420 234 765 111
E. **praha@wolftheiss.com**

HUNGARY
Kálvin tér 12–13
1085 Budapest
T. +36 1 4848 800
E. **budapest@wolftheiss.com**

POLAND
ul. Mokotowska 49
00-542 Warszawa
T. +48 22 378 8900
E. **warszawa@wolftheiss.com**

ROMANIA
4 Vasile Alecsandri, The Landmark, Building A
010639 Bucharest
T. +40 21 308 8100
E. **bucuresti@wolftheiss.com**

SERBIA
Bulevar Mihajla Pupina 6/18
11000 Novi Beograd
T. +381 11 330 2900
E. **beograd@wolftheiss.com**

SLOVAK REPUBLIC
Aupark Tower, Einsteinova 24
851 01 Bratislava
T. +421 2 591 012 40
E. **bratislava@wolftheiss.com**

SLOVENIA
Bleiweisova cesta 30
1000 Ljubljana
T. +386 1 438 00 00
E. **ljubljana@wolftheiss.com**

UKRAINE
9, Khoryva Str.
04071 Kyiv
T. +38 044 377 75 00
E. **kiev@wolftheiss.com**

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