

# THE WOLF THEISS GUIDE TO:

Waste to Energy  
in Central, Eastern  
& Southeastern Europe

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## Waste to Energy in Central, Eastern & Southeastern Europe

This 2016 Wolf Theiss Guide to Waste to Energy 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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## Foreword

Wolf Theiss is pleased to publish this first edition (2016) of the Wolf Theiss Waste to Energy Guide in Central, Eastern and Southeastern Europe (“**WtE Guide**”).

Coupled with the successful Wolf Theiss Guide to: Generating Electricity from Renewable Sources in Central, Eastern & Southeastern Europe (“**RES Guide**” – now in its seventh edition for 2016), the WtE Guide underscores Wolf Theiss’ commitment as a leading energy law firm in CEE/SEE to identify and assess for its clients those innovative areas that we believe will shape the fundamental energy profile of Europe in the years ahead.

With the increased emphasis on waste management in the EU, especially following the adoption of Directive 2008/98/EC on Waste (the so-called “**Waste Framework Directive**”), the Member States of the EU and those aspiring to accede thereto must tackle the issue of proper waste management and disposal.

In light of recent technological advances, the ability to safely and cleanly incinerate solid waste or to capture gases produced through the decomposition of landfill waste in order to produce energy offers a compelling approach for those countries in our region to convert landfill and other waste products to energy – thereby essentially addressing two potential problems with one solution.

As we have seen over the years, the legislative framework supporting renewable energy generally in our region has changed quite significantly since 2010, when we launched our first edition of the RES Guide. In particular, we have seen a movement away from generous feed-in tariffs or other schemes to support the development of RES-Electricity facilities. Still, it is clear that RES will be an important component in the energy mix for our region, particularly as the countries here strive for energy independence while limiting harmful carbon emissions.

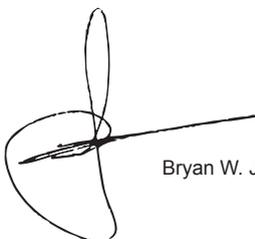
Similarly, we believe that the future of waste to energy (“**WtE**”) projects will largely depend upon whether the legislative and regulatory framework within the EU and the Member States will generally support and encourage the economic viability of these projects.

Accordingly, in the WtE Guide we have attempted to focus our analysis on the legislative and commercial environment within each of the surveyed countries, to identify those impediments or opportunities which may exist for the future development of WtE in these particular countries.

Since WtE is a fairly “new” area, the reader will note that in some instances there are significant differences between the countries in terms of the support offered for WtE – in some countries the framework and subsidy mechanisms for WtE are virtually non-existent, while in others they are fairly developed and robust.

Because the WtE Guide is intended as a high level overview of the relevant WtE regimes in the various surveyed countries and given that the legislation is less developed than for RES generally, we have organized the WtE Guide by topic chapters rather than country chapters (which is the approach used in the RES Guide). We believe this makes the WtE Guide a more “user friendly” product.

However, we certainly welcome the readers’ feedback and input as we anticipate that future WtE Guides will also be published by Wolf Theiss and we are always looking to provide our readers with the most up-to-date and effective work product possible.



Bryan W. Jardine • Partner, Wolf Theiss • March 2016



# GENERAL

## **1. GENERAL**

### **1.1 What is the nature and importance of waste to energy projects in your country?**

#### **ALBANIA**

In general, waste management in Albania is at a very low level. Albania is not fully addressing environmental issues and unfortunately it is in the very early stages of treating and managing waste. Since there is no definition for WtE projects under Albanian law, for the purpose of this report, WtE projects involve the generation of energy from plants which use waste or biomass as the fuel to power the plant. The management of waste and the treatment of biomass are governed by two different laws in Albania (see Section 1.2 below for more information).

According to official data and information gathered from the press, currently there are certain plants which use -RES, such as biomass, for production of electricity in Albania. There is also a new WtE project, namely the "Landfill of Elbasan" project, which will utilise various types of waste for the production of electricity. Such project involves the construction of a landfill and an incinerator which will serve as a plant for the production of electricity. The project has already entered the construction phase and has an investment value of EUR 22 million. The construction of the project should be completed in 2016 and the incineration plant is expected to have an installed capacity of 2.5 MW.

At present, WtE projects have generated a high level of interest in the Albanian government, although (as noted above) their development and implementation is still in the very initial stages. This is likely due to various reasons, such as a low rate of public support or the relatively expensive cost for this kind of technology.

#### **AUSTRIA**

In Austria, approximately 2,400 plants treat various types of waste. About eight percent (8%) of the total waste volume is thermally treated or incinerated every year. Currently, ten (10) waste incineration plants and forty-nine (49) thermal treatment plants are in operation in Austria. Thermal waste treatment contributes to a reduction of CO<sub>2</sub> emissions in Austria. Moreover, compared to landfill disposal of waste, WtE offers significant advantages.

#### **BOSNIA AND HERZEGOVINA<sup>1</sup>**

Waste management in BiH is regulated by laws on waste management adopted at the entity level (i.e. FBiH and RS), as well as partially at the cantonal level in FBiH. In general, laws regulating waste management provide that waste management should be conducted in a manner that ensures and incentivises the use of waste for the production of energy.

#### **BULGARIA**

In Bulgaria, WtE projects have not yet been widely developed. Though the number of operational WtE projects and their respective total of installed capacity have increased in recent years, their impact upon the energy market does not yet qualify as "significant".

The current operational projects in Bulgaria use industrial waste or agriculture waste as their energy sources. There are also several installations using energy sources produced from household waste, as well as gas from purifying installations for waste water and landfill gas.

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1 Bosnia and Herzegovina ("BiH") consists of two (2) separate entities, i.e. the Federation of BiH ("FBiH") (FBiH is divided into ten (10) separate cantons) and the Republic of Srpska ("RS"), and one (1) special autonomous district under direct sovereignty of the state, the Brčko District ("BD"), where different legal regimes apply. Some legal matters are regulated by the national laws applicable in both entities and in the Brčko District.

## CROATIA

Pursuant to the Sustainable Waste Management Act, the following waste hierarchy applies as a priority order in waste prevention and management legislation and policy in Croatia: (i) prevention; (ii) preparing for reuse; (iii) recycling; (iv) other recovery (e.g. energy recovery); and (v) disposal.

Therefore, WtE projects in Croatia are given priority as a method of waste management, after reuse and recycling.

## CZECH REPUBLIC

There has been a significant increase in waste to electricity production in recent years in the Czech Republic. The production rose from 36 GWh in 2010 to 87 GWh in 2014.

In 2013, three point four percent (3.4%) of waste in the Czech Republic was used to produce energy (both electricity and heat).

The importance of WtE projects is expected to increase even more in the Czech Republic. The Czech government plans to double the charge for disposing waste in landfills (although no specific bill has yet been proposed). Therefore, it will become more economical to incinerate waste instead of disposing it in landfills, which should lead to a positive development in the area of WtE projects. However, the timing of this anticipated change is not yet certain.

There are currently three (3) waste incinerators in the Czech Republic that use waste as a source to produce electricity as well as heat (Prague, Brno and Liberec).

There are three (3) other waste incinerators planned in the Czech Republic in the cities of Chotíkov, Karviná and Vřesová, with an annual capacity of (respectively) 95,000, 200,000 and 60,000 tonnes of waste. The waste incinerator in Chotíkov should be completed by early 2016, while no further information is available on the anticipated completion of the remaining two (2) waste incinerators.

## HUNGARY

Hungary has fully incorporated the Waste Framework Directive into its domestic law meaning that the principles and terms of the Waste Framework Directive have also become an integral part of Hungarian regulation. It derives from this that the greatest possible efforts should be made to aim towards the use of the material as well as energy potentially present in waste in line with the Waste Framework Directive. This results in the achievement of the re-use of waste, replacement of raw materials by waste, or, should these not be feasible, the use of waste as a source of energy. Hence, according to these principles, WtE projects are prioritized as a method of waste management and have to be supported by various incentives, but only secondary to re-use and replacement.

The Hungarian Energy Strategy 2030 and Hungary's National Renewable Energy Plan aim to increase energy efficiency, the use of renewable energy and energy with low CO<sub>2</sub> emissions. According to these documents, with a view towards sustainable energy supply, it is expected that the share of renewable energy in primary energy use will rise from the current nine percent (9%) to the vicinity of twenty percent (20%) by 2030. In terms of RES, combined heat and power biogas and biomass power plants as well as geothermal energy being used primarily (but not necessarily exclusively) for heat generation purposes will be treated as priorities.

As far as the utilisation of bioenergy is concerned, decentralised energy-producing units (e.g. biogas plants) processing feedstock originating from biomass and agricultural and industrial (e.g. food industry) by-products will be given priority. Another important question is the energy use of communal and industrial waste in which the material cannot be used and of waste waters.

Since municipal organic waste qualifies as biomass, its energy use is added to the share of RES. Similar to many other countries, where it accounts for up to fifteen to twenty percent (15-20%) of biomass-to-energy use, it could

also increase the share of renewables in Hungary. In highly industrialised countries worldwide, the energy use of combustible municipal waste in incineration plants (with strict adherence to technological environmental standards) is considered a resolved issue. According to the Hungarian Energy Strategy 2030 and the National Renewable Energy Plan, the use of up to sixty percent (60%) of such waste would be feasible in this manner, even at the current technical level. Hungary must also move in this direction, as landfill deposit without recycling is not sustainable, occupies an increasing area of valuable arable land and endangers drinking water supplies.

According to Act LXXXVI of 2007 on electric energy ("**Electricity Act**"), with a view towards: (i) the protection of the natural environment; (ii) the supply of users, (iii) saving primary energy; and (iv) the expansion of the range of available energy sources, the use of RES and waste is endorsed as an energy source. To promote the use of RES and waste as an energy source, the Electricity Act and the relevant government decrees issued under authorization by the Electricity Act establish a system for a differentiated purchasing obligation regime in consideration of energy sources, generation procedures, nominal generating capacity, the efficiency and cost-effectiveness of energy conversion processes, and the time of construction of power plants.

### **KOSOVO**

Waste and waste management in Kosovo are governed by the Law on Waste No 2012/04-L-060. Although the law contains provisions regarding the thermal treatment of waste for gaining energy power, no active projects are known to exist in Kosovo according to available information.

### **POLAND**

Most of the municipal waste collected in Poland is still deposited in landfills. As a result, the energy and material potential of this waste is lost. Poland has only two (2) operating installations for thermal treatment of municipal waste, one (1) in Gdańsk and the other one (1) located in the Targówek district of Warsaw. With regard to the WtE process, only one percent (1%) of municipal waste is currently thermally treated in Poland (the vast majority of waste is land-filled). Six (6) other installations for thermal treatment of waste are planned to start operating in 2016 in the cities of Białystok, Bydgoszcz, Konin, Kraków, Szczecin and Poznań. However, there is still a significant demand for modern infrastructure, such as thermal treatment plants, gasification plants and mechanical biological treatment installations. Tapping waste water sludge in Poland continues to be a huge problem, but at the same time creates a large opportunity for investors. Less than five percent (5%) of sewage sludge is currently thermally treated in Poland.

### **ROMANIA**

According to official data and information gathered from the press, Romania is one of the least active countries in the EU with regard to waste management and recycling. Thus, without the required infrastructure in place and given the low development rate for supporting this type of technology, WtE projects have not yet generated high interest from the Romanian authorities and investors.

However, we expect that this situation is about to change soon. The Energy Department under the Romanian Ministry of Economy issued the draft of The National Energy Strategy for the 2015-2035 period and perspectives for 2050 ("**Draft Strategy**"). The Energy Department intends for the Draft Strategy to present an accurate image of the current situation of the Romanian energy sector and to identify preliminary action plans for Romania. The Draft Strategy was under public debate until 25 February 2016.

According to Draft Strategy, of all the renewable energy resources in Romania, biomass has more than fifty percent (50%) growth potential (for thermal energy). In this statistic, biomass is defined as either solid biomass, biogas or urban waste. Furthermore, Draft Strategy states that through the efficient use of biomass, a superior capitalisation of renewable energy can be achieved.

The Energy Department has already identified biomass as being a primary source for renewable energy with ample potential for future development.

## SERBIA

The relevant authorities are aware of the importance of WtE projects, and according to the latest press releases, there are several projects in the pipeline in Serbia.

Serbia's potential to generate electricity from waste is about 0.04 million tons of oil equivalents, but this potential is not fully realised in Serbia. Development of WtE projects would reduce communal waste quantities and have a positive impact on environmental protection.

## SLOVAK REPUBLIC

Due to Slovakia being a member of the EU, its environmental policy gives high importance to the separation of waste. There are several directives focused on the separation and recycling of waste that are implemented in Slovak legislation. Slovakia has implemented the Waste Framework Directive as well as Directive No. 2012/19/EU on waste electrical and electronic equipment through Act No. 79/2015 Coll. on Waste as amended ("**Waste Act**"), which came into force on 1 January 2016.

## SLOVENIA

In Slovenia the importance of WtE projects has been discussed among experts in the sector and economists quite extensively. In the hierarchy of waste treatment, this is considered to be the fourth most important topic (after waste prevention, preparation for re-use and recycling). In Slovenia waste treatment is managed and administrated through regional centres for waste treatment ("**RCERO**"), including WtE projects. Most RCEROs are still developing their WtE projects, for example in Ljubljana the regional RCERO just recently upgraded the infrastructure to fully comply with best standards in producing hard (solid) fuels from waste and is currently operating on a trial basis for a period of one (1) year. Alternatively there are companies in the private sector which manage WtE activities (e.g. Gorenje Surovina).

There is currently only one (1) energy facility in operation in Slovenia, Toplarna Celje (The Celje Heating Plant) in the Municipality Celje, which began operating in September 2008. Each year, some 20,000 tons of pre-processed waste and 5,000 tons of mud from the waste treatment plant enter the thermal processing procedure, with the average calorific value reaching up to 16 MJ/kg. The thermal power of the combustion plant is 15 MW, yielding 2 MW of electrical power. The electrical power is routed into the distribution network, while the heating power is used in the remote heating system. There were plans to develop similar plants in Ljubljana and Maribor, however there has been no progress in this regard in recent years. The project in Ljubljana was abandoned mostly due to the fact that Ljubljana was the first capital in Europe to declare its Zero Waste goal, i.e. no waste for incineration (and landfills), which means it focuses mainly on the first three waste treatment priorities.

## UKRAINE

Currently, Ukraine is seeking to diversify its energy and fuel sources. Moreover, utilisation and recycling of waste is a pressing issue in the country. Around ninety-five percent (95%) of the solid waste is disposed of at landfills, while only five percent (5%) is recycled. About 35 billion tons of solid waste has been accumulated at landfills having a total area of 160 thousand hectares. Ukraine lacks waste sorting, utilisation and recycling facilities.

However, private sector companies have recently been especially active in the area of waste processing. For example, new utilisation and recycling facilities have been constructed by private businesses in order to increase the energy efficiency of their existing operations (e.g. agricultural or coal mining).

At the state level, the waste problem is recognised and the intention to correct the situation has been clearly declared. By way of illustration, in its Energy Strategy of Ukraine for the Period until 2030 ("**Energy Strategy**"), the Ukrainian government stresses the importance of and its support for: (i) the development and use in Ukraine of advanced WtE processing technologies; as well as (ii) the implementation of projects employing such technologies. The government has also declared that the overall approach to the topic of generating energy from waste should comply with the EU strategy in this respect.

The Energy Strategy also emphasises that production and consumption of biofuels (solid as well as liquid) as well as generation of heat energy therefrom (including by incinerating biomass and other agricultural waste) are among the most important avenues for development in the WtE field. Ukraine's strategy on biofuels should be brought into conformity with "An EU Strategy for Biofuels" dated 8 February 2008.

## **1.2 What is the definition and coverage of WtE projects under the relevant legislation in your country?**

### **ALBANIA**

Although the definition of WtE projects is not expressly provided for under Albanian legislation, WtE projects are covered under law No. 10463 dated 22 September 2011 "On Integrated Waste Management", as amended ("**Waste Management Law**"). Under this law, the production of energy from waste is considered as waste recovery activity and should comply with the requirements of the Waste Management Law.

Under the Waste Management Law, a co-incineration plant is a stationary or portable plant the main purpose of which is to generate energy or produce material products and which (i) uses waste as a base or additional fuel; and (ii) where the remains are subject to thermal treatment, in order to destroy them.

If the main purpose of co-incineration is not the generation of energy or production of material products, but the thermal treatment of waste, the plant shall be regarded as an incineration plant. Such definition covers the location of the plant and the entire plant activity including all co-incineration lines, place of receipt of waste, storage, pre-treatment facilities in site, the supply with fuel and air, boilers, facilities for the treatment of gases, handling or storage facilities (except excess waste and wastewater), stack devices and control systems of incineration operations, recording and monitoring incineration conditions (Article 3 point 13, Waste Management Law).

Production of energy from waste is also partially regulated by law No. 138/2013 dated 2 May 2013 "On Renewable Energy Sources", as amended ("**RES law**"). According to the RES law, the generation of energy from certain types of waste – specifically biomass, is considered as generation from renewable sources and as such may benefit from certain incentives. Because the use of biomass is regulated through the RES law, the treatment of biomass is expressly excluded by the Waste Management Law; therefore it is not subject to the Waste Management Law (Article 4(dh), Waste Management Law).

The RES law recognises biomass as the biodegradable part of products, waste and residues from agriculture (including vegetable and animal substances), forestry and related industries, as well as the biodegradable part of industrial, urban and rural waste (Article 3 point 1 (d), Waste Management Law).

### **AUSTRIA**

There is no specific definition of WtE or incineration under the Austrian Waste Management Act 2002 (*Abfallwirtschaftsgesetz*, "**AWG**"). WtE can be subsumed under recovery (Verwertung), i.e. waste is used as a fuel or other means to generate energy as described in category R1 of Annex II of the AWG as well as the Waste Framework Directive. Category R1 determines threshold values for recovery techniques and a specific energy efficiency formula which must be applied. Incineration plants as well as co-incineration plants are defined under Directive 2000/76/EC<sup>2</sup>.

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2 An incineration plant is "a stationary or mobile technical unit and equipment dedicated to the thermal treatment of wastes with or without recovery of the combustion heat generated. This includes the incineration by oxidation of waste as well as other thermal treatment processes such as pyrolysis, gasification or plasma processes in so far as the substances resulting from the treatment are subsequently incinerated" (Article 3 Paragraph 4).

A co-incineration plant is "any stationary or mobile plant whose main purpose is the generation of energy or production of material products and (i) which uses wastes as a regular or additional fuel; or (ii) in which waste is thermally treated for the purpose of disposal" (Article 3 Paragraph 5).

The Waste Incineration Ordinance (*Abfallverbrennungsverordnung*, “**AVV**”) transposes Directive 2000/76/EC into Austrian law. The AVV also defines incineration plants as well as co-incineration plants.

Although, WtE is not explicitly defined in the Austrian Green Electricity Act 2012 (*Ökostromgesetz 2012*, “**Green Electricity Act**”), it is primarily regulated as biomass, which means the biodegradable fraction of agricultural products or residues of biological origin (including vegetable and animal substances), forestry and related industries including fisheries and aquaculture, as well as specific biodegradable fractions of wastes. The Green Electricity Act defines electricity produced from RES as electricity generated in green power plants, as well as the share of electricity generated in hybrid or co-firing plants that corresponds to the share of RES in their fuel mix. Electricity that results from the pumping and generation process at pumped-storage plants does not qualify as electricity produced from RES. Moreover, RES mean renewable non-fossil energy sources (wind, solar, geothermal wave, tidal, hydropower, biomass, waste with high biogenic shares, landfill gas, sewage treatment plant gas and biogases), including animal meal, black liquor and sewage sludge. Accordingly, WtE projects can be classified as facilities producing RES-Electricity.

### **BOSNIA AND HERZEGOVINA**

Both FBiH and RS laws on RES and cogeneration define, in principle, methods for the generation of RES-Electricity and incentives for the production of such electricity. Although the mentioned laws do not explicitly define WtE projects, they do recognise biomass as a source that can be used for the production of RES-Electricity. Accordingly, biomass is defined as bio-decomposable parts of products, waste and agricultural remains out of which one can produce biogas or liquid bio fuel. A biomass power plant is defined as a power plant using biomass for the production of electricity.

In line with what is stated above, it can be concluded that WtE projects in BiH encompass all projects concerning the usage of biomass for the production of electricity.

### **BULGARIA**

WtE projects are currently regulated primarily by the provisions of the Waste Management Act (“**WMA**”)<sup>3</sup>; the main statutory act in Bulgarian legislation which regulates the measures and control for protection of environment and human health through prevention or reduction of the harmful effect of waste management activities.

The WMA transposes into Bulgarian law the requirements of the European Union legislation on waste treatment, including those arising under: (i) the Waste Framework Directive (and of the Council of 19 November 2008 on waste); and (ii) Directive 2000/76/EC on the incineration of waste.

The WMA regulates household waste, industrial waste, construction and hazardous waste. The classification of the separate types of waste is provided in an ordinance adopted by the Minister of Environment and Waters and the Minister of Health<sup>4</sup>.

Pursuant to the provisions of the WMA, each municipality council is obliged to adopt a local ordinance regulating the conditions and procedure for the collection (including separate collection), transportation, reloading, recovery and disposal of household and construction waste, including bio-waste, hazardous household waste and widespread waste, on its territory. Such an ordinance should also establish the requirements of the respective local landfills for the acceptance of paper, cardboard, plastic and glass waste, including the conditions for registration of these landfills, as well as for the acceptance of the waste.

3 Promulgated in State Gazette issue No. 53/13.07.2012, as amended from time to time, last amended State Gazette issue No. 14/20.02.2015.

4 Ordinance No. 2/23.07.2014 on the classification of waste, promulgated in State Gazette issue No. 66/08.08.2014.

Under the WMA, the production of energy from waste is considered a waste recovery operation<sup>5</sup>, whereby waste is principally used as a fuel or as other means to generate energy. As such, WtE projects should comply with the relevant requirements of the WMA.

The production of energy from waste is also partially regulated by the provisions of the Act on Energy from Renewable Sources (“AERS”). According to the AERS, the generation of energy from certain types of waste is considered as generation from renewable sources and as such may benefit from a number of incentives. Generally, in order for a WtE project to be considered as a RES-Energy plant, it should utilise any of the following energy sources: biomass<sup>6</sup>, gas from renewable sources, landfill gas or gas from purifying installations for waste water.

Within the meaning of the WMA<sup>7</sup>, a project where biomass is used as a fuel to generate energy is defined as a waste recovery operation (denoted as operation type “R1” according to the specific nomenclature under the WMA<sup>8</sup>). The execution of such an operation requires prior registration of the respective operator with the local Regional Environmental and Waters Inspectorate, on the territory where the operation will be performed. The validity of the registration is not time limited.

It should be noted that besides projects related to the generation of energy from renewable sources, the WMA also covers other types of WtE projects. For example, the WMA regulates incineration facilities dedicated to the processing of municipal solid waste, provided that the particular facilities have certain energy efficiency characteristics. Thus, in order for a WtE project to qualify as a renewable project, it should also fall within the scope of the AERS.

Furthermore, the generation of energy from waste should comply with the requirements under the Environment Protection Act and the Energy Act, as well as with the requirements on zoning regulations and construction work under the Spatial Development Act.

The incineration of waste is also addressed by the Ordinance on the conditions and requirements for the construction and operation of waste incineration plants<sup>9</sup>. This Ordinance transposes into Bulgarian legislation the requirements of Directives 2000/76/EC and 2010/75/EU and provides the definition of a “Co-incineration” plant.

### CROATIA

WtE projects form part of the “co-incineration of waste” definition, covered by the Sustainable Waste Management Act. “Co-incineration of waste” means a waste recovery or disposal operation, the main purpose of which is the generation of energy or production of material products and which uses waste as a regular or additional fuel or in which waste is thermally treated for the purpose of disposal. This includes incineration by oxidation of waste as well as other thermal treatment processes such as pyrolysis, gasification or plasma processes in so far as the substances resulting from the treatment are subsequently incinerated.

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- 5 Under § 1, point 13 of the WMA, “recovery” means any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy. Appendix 2 to the WMA sets out a non-exhaustive list of recovery operations.
  - 6 According to the definition provided in AERS, “biomass” includes the biologically degradable fractions of products, waste and residuals of a biological nature, obtained as a result of agriculture and forestry work, as well as the biologically degradable fractions of industrial and/or municipal waste. In addition, “gas from renewable sources” is defined as gaseous fuel, generated from biomass and/or biodegradable waste fractions, which could be purified to the level of natural gas, and could be used for energy purposes, including electricity generation. Thus, the generation of energy from any of the aforementioned sources is considered a “renewable” project pursuant to the provisions of the AERS.
  - 7 In particular, Article 35, Paragraph 2, point 5 of the WMA.
  - 8 Pursuant to Annex 2 to the WMA. Further to the annex, “R1” type of operations are not limited only to biomass and may also include incineration facilities for the processing of municipal solid waste, provided that the facilities have certain energy efficiency characteristics.
  - 9 Ordinance No. 4/05.04.2013 on the conditions and requirements for construction and operation of installations for incineration and installations for joint incineration of waste, promulgated in State Gazette issue No. 36/16.04.2013.

This matter is also encompassed by the regulation on RES in general. Two types of power plants connected to the distribution grid which use RES for electricity generation are covered under the relevant regulation, namely: (i) biogas power plants from organic remnants, waste from the agricultural and food-processing industry, landfill gas power plants and waste water treatment gas power plants; and (ii) biomass power plants, including biodegradable fractions of industrial and communal waste.

## CZECH REPUBLIC

There is no special law regulating only WtE projects. The regulation is contained in several Acts:

- (a) Under Act No. 458/2000 Coll., on energy (“**Energy Act**”):
- the cogeneration of heat and electricity is promoted by way of a bonus paid on top of the price of the generated electricity; and
  - the bonus can be combined with promotion schemes for the generation of RES-Electricity.
- (b) Under Act. No. 165/2012 Coll. on promoted sources of energy (“**Promotion Act**”), which replaces the Old Promotion Act (Act. No. 458/2000 Coll.) and provisions of the Energy Act described under (a) above:
- the Promotion Act includes energy from biomass;
  - “biomass” includes the biologically decomposable part of municipal waste;
  - the generation of electricity from municipal waste is eligible for promotion in the form of an annual green bonus. However, the level of this annual green bonus (CZK 45/MWh) is minimal in comparison to a bonus of up to CZK 1,580 in facilities cogenerating heat and electricity;
  - under the promotion scheme for green bonuses, the operators of the generating facilities have to either sell the electricity at market price to end customers/traders, or consume the electricity themselves;
  - for electricity that is sold/consumed, the operators of the generating facilities receive a green bonus, which is paid by the market operator OTE, a.s., a joint stock company with the Czech Republic as its sole shareholder;
  - the ERO annually determines green bonuses for the following year; and
  - the cogeneration of heat and electricity is subject to a promotion.

In addition, the Energy Act provides for two (2) types of licence/authorisation necessary for the construction and operation of electricity generating facilities:

- authorisation – needs to be obtained before commencing any construction of an electricity generating facility if the total installed capacity exceeds or equals 1 MW. The competent body to issue the authorisation is the Ministry of Industry and Trade; and
- a licence – for the generation of electricity, to be issued by the Energy Regulatory Office.

## HUNGARY

According to the Electricity Act, energy from waste is energy generated by using waste as fuel in compliance with the relevant environmental protection and waste management regulations.

The Electricity Act also defines biomass, a term that is also relevant for WtE projects, as follows: biomass is the degradable fraction of products, waste and residues from agriculture (including vegetal and animal substances), forestry and related industries, as well as the biodegradable fraction of industrial and municipal waste. This is important as energy sources produced directly or indirectly from biomass shall be deemed as RES.

### KOSOVO

WtE projects are not separately defined in Kosovo legislation. However, the generation of energy based on solid biomass is recognised as a renewable energy source in the Law on Energy No 2010/03-L-184.

### POLAND

Under Polish law, there is no legal definition of WtE projects or one act specifically regulating WtE projects.

### ROMANIA

Under the relevant legislation in Romania, WtE projects are not specifically defined and regulated. Provisions applicable to WtE projects can be identified in several laws and regulations, as indicated in Section 2.1.

### SERBIA

Under the relevant legislation in Serbia, WtE projects are not separately defined and regulated, but are an integral part of the regulations related to waste and energy.

### SLOVAK REPUBLIC

There is no specific definition for energy produced by waste in Slovak legislation, however the purpose of using waste as a source of energy is mentioned in the Waste Act and the term biomass is defined as a the biodegradable fraction of a product, residue from vegetal and animal substances from agriculture, forestry, and the biodegradable fraction of municipal and industrial waste, including black liquor from wood processing.

### SLOVENIA

National legislation on waste fully transposed EU legislation on waste, according to Framework Waste Directive (2008/98/EC), Waste Incineration Directive (2000/76/EC), Landfill Directive (1999/31/ES) and Decision on Criteria for acceptance of waste at landfills (2003/§§/ES), IPPC Directive (2008/1/EC) and EU Thematic strategies. There is no specific statutory definition of "WtE" neither in the new Energy Act 2014, as amended, nor in the Environmental Protection Act 2004, as amended. The Waste Regulation defines waste recovery as a process the main result of which is for waste to be put to good use either in the plant where processed or in other economic activities. In this way the waste replaces other materials which would otherwise have been used to fulfil a particular function, or which are capable of meeting these features. In addition, Schedule 2 to the Regulation lists process No. R1 "*Used principally as a fuel or other means to generate energy*" among the possible waste recovery processes.

Slovenia promotes using "energy from renewable sources". The definition of the term follows the definition in the Renewable Energy Directive (2009/28/EC). Slovenia has a Regulation on support for electricity generated from RES, where the term "biomass" as a renewable source of energy which may benefit from special state aid is further defined.

### UKRAINE

There is no definition for WtE projects as such under Ukrainian legislation. However, Ukrainian law stipulates that waste, as an unconventional raw material (e.g. biomass) for energy generation, may serve as or be transformed into an alternative source of energy (i.e. so-called "alternative fuel"). The law provides for the types of alternative fuels which may either be in liquid, solid or gaseous form. "Biomass" is defined as a biologically renewable organic substance comprising: (i) products, waste and remnants of forestry, fish or conventional farming and certain branches of industry technically related thereto; as well as (ii) bio-degradable components of waste of all types. Biomass may be a source of biogas. All entities producing biomass as their by-product should take stock thereof.

Alternative fuels may be produced by any Ukrainian legal entity holding the necessary permits/licences and possessing the relevant equipment. Producers may confirm the nature of fuel they produce by the relevant certificate issued by the State Agency on Energy Efficiency and Energy Saving of Ukraine.

At the legislative level, the Ukrainian state has pledged support for the development and implementation of WtE technologies in order to: (i) cut nation-wide consumption of conventional sources of energy; (ii) decrease dependence on imported fuels; (iii) improve the environmental situation in the country; and (iv) foster business activity in this area. Ukrainian law also contains a list of equipment, which may be used to produce alternative fuels.

The relevant Ukrainian legislation places a particular emphasis on biofuels (fuels derived from biomass). Bioethanol (production of which is a licensed activity), for instance, must be added to gasoline produced and/or sold in Ukraine. Any discrimination between producers of biofuels is prohibited.

### **1.3 Is there a preferred structure for WtE projects in your country?**

#### **ALBANIA**

Given that to date there are very few WtE projects in Albania, there appear to be no preferred structures for WtE projects. Generally, they are awarded through a competitive procedure either under the concessions and public private partnerships law or under public procurement rules. After being selected as the winning bidder, the operator shall negotiate with the contracting authority – generally the Ministry of Energy or the Ministry of Environment, depending on the specific project - and then enter into a concession agreement as the concessionaire of the project.

Usually the concessionaire is obliged to establish a special purpose vehicle (“SPV”) and operate the project through such entity. The SPV can be established in the form of a limited liability company or a joint stock company. Normally for this type of project, the concessionaire is the sole shareholder of the SPV. In cases where the concessionaire officially submitted the bid in the form of a consortium (i.e. a group of companies which have entered into a consortium agreement for the purpose of winning the tender procedures) then each member of the consortium shall be a shareholder of the new SPV. Each member shall own the portion of the shares corresponding to the amount of works or services they shall provide or carry out for the implementation of the project, as indicated and agreed in the consortium agreement.

There are no mandatory requirements as to the legal form of an SPV engaging in WtE projects in Albania.

A company may, under the Albanian law on companies (Law 9901/2008), be organised in the form of a: (i) general partnership; (ii) limited partnership; (iii) limited liability company (sh.p.k.); or (iv) joint stock company (Sh.A.) – which may be set up either as a joint stock company without a public offering (non-public) or with a public offering (public). A foreign company may choose to conduct business in Albania by establishing a subsidiary or a branch.

Investors generally prefer to set up their investment vehicle as a limited liability company (sh.p.k.). This is because sh.p.k.s are less regulated, offering among other things limitation of liability of its shareholders to the share capital of the sh.p.k., and a higher degree of flexibility for its management.

#### **AUSTRIA**

Public operators, private operators as well as public private partnerships are possible. In Austria, WtE projects are often limited liability companies.

#### **BOSNIA AND HERZEGOVINA**

No, there is no specific preferred structure for WtE projects in BiH. Such projects can be conducted by public enterprises, private companies, public private partnerships, concessions, etc. However, due to a lack of such projects, it is difficult to identify the preferred structure.

### **BULGARIA**

The corporate structure of a limited liability company or a joint stock company is the usual vehicle to be considered for such projects.

### **CROATIA**

No, there is no preferred structure for WtE projects in Croatia.

### **CZECH REPUBLIC**

It is generally recommended (but not required) to use a form of legal entity that provides for limited liability of the investor (i.e. joint stock company or limited liability company).

### **HUNGARY**

WtE projects might be preferred first of all by the so-called “mandatory off-take system” of electricity in Hungary that is a feed-in tariff system for promoting RES-Electricity. Electricity generated from RES (such as biomass) is subject to mandatory off-take, including electricity produced by using non-biodegradable municipal solid waste though with different off-take prices applicable. Electricity generated from waste is also subject to this mandatory off-take system, albeit with different off-take prices. Thus, through the mandatory off-take system all types of WtE investment projects (either falling under the definition of biomass or just under the general definition of energy from waste) fulfilling certain eligibility criteria not discussed here may have a fixed return on their investments.

Under the subsidy schemes co-financed by the EU, one of the main priorities is the promotion of decentralised small and medium-sized electricity and heat generation capacities using RES and non-reusable waste as fuel.

Furthermore, network operators should give priority to generating installations using technologies free from emissions of carbon dioxide or using RES or waste in connection with the operation of and access to networks.

Generators of electricity from RES (such as biomass) or waste may request from the Hungarian Energy Office the issuance of a certificate guaranteeing the origin of such electricity generated in the previous year.

The transmission system operator may limit, reduce or suspend services for the protection of the generation of electricity from RES (biomass) or waste.

There is also preferential grid connection for electricity produced from biomass.

The preferential nature of waste-generated electricity can also be captured in relation to the treatment of cogeneration technologies in Hungary: since 1 July 2011 all cogeneration power plants have been excluded from mandatory off-take, except for those generating electricity from renewable sources or waste.

It should be noted that the Government elaborated a new regulation called “MeTáR” (*“Megújuló Támogatási Rendszer”* – renewable subsidy system) to replace the existing mandatory off-take system of heat and electricity generated from renewable and alternative energy sources. According to plans, a decision by the Parliament on the introduction of the new system is expected sometime in 2016.

### **KOSOVO**

As there are no known and active WtE projects in Kosovo, information regarding a preferred structure cannot be provided.

**POLAND**

WtE projects are not the most preferred projects in the environmental protection strategy of Poland. Moreover, the public acceptance of waste-related power facilities (incinerators, power plants) is rather limited.

**ROMANIA**

No, there is no preferred structure for WtE projects in Romania.

**SERBIA**

No, there is no specific preferred structure for WtE projects in Serbia.

Such projects can be conducted as public enterprises, private companies, Public Private Partnerships, concessions, etc. However, according to the latest press releases many of the larger projects are planned as Public Private Partnerships ("PPP").

**SLOVAK REPUBLIC**

No, there is no preferred structure for WtE projects in Slovakia.

**SLOVENIA**

The Celje Heating Plant is managed by a special type of company (*javno podjetje*), where the state/municipality is the exclusive owner, with some special rights as a public authority, but the company functions as a merchant project. For future projects, a public private partnership (with concession agreement) is the preferred structure.

**UKRAINE**

There is no preferred structure for WtE projects in Ukraine. However, RES projects are usually structured as a Ukrainian subsidiary, fully or partially owned by foreign investors. Therefore, the same structure may be used for WtE projects.

Most of the recent large WtE projects (e.g. large waste incineration plants located in major cities, etc.) were supported by the state (through partial budget funding, state guarantees, PPPs, etc.). Since such state support has dwindled or disappeared altogether over the past two (2) years, the majority of the large WtE projects have either been cancelled or put on hold. Investors are reluctant to be solely (i.e. without state support) involved in significant WtE projects in Ukraine mainly due to certain difficulties with the practical implementation of the relevant legislation and the absence of waste collection/separation infrastructure.

Therefore, currently active WtE projects in Ukraine are mostly low-key and are often implemented at existing production facilities (plants, factories, farms etc.). Waste generated at such facilities is for the most part used to produce heat and/or electricity. Small to mid-sized local enterprises/entrepreneurs are also active in installing facilities producing, e.g. biofuel – they mostly use loans (including from the EBRD) to implement such projects.

Municipalities are also active in attracting loans and grants (mostly from the EBRD and from various European funds and institutions) as well as partial financing from local budgets for modernising/installing heating sub-stations and boilers running on alternative fuels (including waste).



# REGULATION

## **2. REGULATION**

### **2.1 What are the principal laws and regulations regulating WtE projects (include regulations applicable to municipal solid waste disposal, conveyance of waste, tipping fees, energy generation and environmental issues)?**

#### **ALBANIA**

The principal laws and secondary legislation governing WtE projects, energy generation and environmental issues are the following:

- Law No. 10463 dated 22 September 2011 “On Integrated Waste Management”, as amended;
- Council of Ministers Decision No. 178 dated 6 March 2012 “On waste incineration”;
- Council of Ministers Decision No. 452 dated 11 July 2012 “On waste landfills”;
- Law No. 138/2013 dated 2 May 2013 “On Renewable Energy Sources”, as amended;
- Law No. 43/2015 dated 30 May 2015 “On Energy Sector”;
- Council of Ministers Decision No. 822 dated 7 October 2015 “On approval of rules and procedures for construction of new energy production capacities that are not subject to concessions”;
- Law No. 10431, dated 9 June 2011 “On environmental protection”, as amended;
- Law No. 10448 dated 14 July 2011 “On environmental permits”, as amended;
- Law No. 107/2015 dated 1 October 2015 “On territorial planning and development”; and
- Law No. 8987 dated 24 December 2002 “On incentives for the construction of new electricity generation capacities”.

#### **AUSTRIA**

The following legislation represents the principal regulatory framework related to WtE projects in Austria.

- (a) European and Austrian waste laws regulating WtE projects in Austria:
- The AWG as the principle domestic legislation defines the general framework of Austrian waste management, including the collection, transport, management and treatment of waste and landfills. It gives, *inter alia*, effect to the revised Waste Framework Directive as well as Directive 99/31/EC.
    - Article 1 Paragraph 2 AWG aims at providing a waste priority hierarchy, specifying that waste disposal has the lowest priority in the outlined system; and
    - Article 43 Paragraph 2b AWG states that any permit covering incineration or co-incineration with energy recovery shall only be granted if the recovery of energy takes place with a high level of energy efficiency.
  - Directive 99/31/EC addresses the costs of landfill. Pursuant to Article 10 thereof, the costs involved in the setting up and operation of a landfill site, including as far as possible the cost of the financial security, and the estimated costs of the closure and after-care of the site for a period of at least thirty (30) years must be covered by the price to be charged by the operator for the disposal of any type of waste in that site. The Landfill Ordinance (Deponieverordnung) implements Directive 99/31/EC.
  - As already mentioned, Directive 2000/76/EC defines incineration plants and co-incineration plants and aims to prevent or limit negative effects on the environment by defining limit values of air and water emissions. The AVV,

which implements Directive 2000/76/EC, applies to incineration plants treating dangerous waste as well as to incineration plants treating non-dangerous waste.

- Pursuant to Article 7 Paragraph 11 AVV, any heat generated by incineration or co-incineration shall be recovered as far as practicable.
  - WtE projects are also subject to environmental legislation. Directive 2011/92/EU, which has been amended in 2014 by Directive 2014/52/EU, requires an environmental impact assessment for waste disposal installations for the incineration or chemical treatment pursuant to Article 4 in connection with Annex I. The Austrian Environmental Impact Assessment Act 2000 (*Umweltverträglichkeitsprüfungsgesetz 2000*, “**EIA Act**”) implements Directive 2011/92/EU. The types of WtE projects subject to an EIA are listed in Annex 1 of the EIA Act. The EIA procedure constitutes a combined permitting procedure that replaces other applicable regulatory permitting procedures.
- (b) From an electricity perspective, the following European and Austrian framework regulates WtE projects:
- The Green Electricity Act is the central regulatory act for promoting green energy in the Austrian electricity market. Electricity derived from RES in Austria comprised seventy-eight point four percent (78.4%) of the total electricity production in Austria in 2013.
  - Directive 2009/28/EC repealing Directives 2001/77/EC and 2003/30/EC has been implemented by the Green Electricity Act.
  - Directive 2003/54/EC has been implemented through amendments to the Austrian Federal Electricity Industry and Organisation Act (*Elektrizitätswirtschafts- und –organisationsgesetz 2010*, “**Federal Electricity Act**”).
  - Directive 2009/72/EC repealing Directive 2003/54/EC has, *inter alia*, been implemented by the Federal Electricity Act. The Federal Electricity Act, together with provincial electricity statutes, sets the principal regulatory framework for the generation, transmission, distribution and supply of electricity and the organisation of the electricity market in Austria.

## BOSNIA AND HERZEGOVINA

The principal laws and regulations regulating RES generating electricity projects, including waste management projects, in FBiH and RS are as follows:

### FBiH

- Law on Waste Management (Official Gazette of FBiH, nos. 33/03 and 72/09);
- Law on RES and Cogeneration (Official Gazette of FBiH nos. 70/13 and 5/14) (“FBiH Law on RES and Cogeneration”);
- Law on Environmental Protection (Official Gazette of FBiH, nos. 33/03 and 38/09);
- Rulebook on Incentives for Electricity Production Using Renewable Energy Sources and Efficient Cogeneration;
- Rulebook on the Mandatory Repurchase and Takeover of RES Produced Electricity (Official Gazette of FBiH, no. 50/14);
- Rulebook on the Methodology for Determining Feed-in Tariffs for RES Produced Electricity and Efficient Cogeneration (Official Gazette of FBiH, no. 50/14);
- Rulebook on RES Micro-facilities for Generation of Electricity (Official Gazette of FBiH no. 50/14);
- Rulebook on Acquiring the Status of the Eligible Producer of Electricity (Official Gazette of FBiH no. 53/14); and
- Decision on the Establishment of RES Operator (Official Gazette of FBiH no. 90/13); and Decision on the Calculation of Guaranteed Price for RES and Efficient Cogeneration Facility Generating Electricity from 7 July 2014 (published on the official Web site of FERC).

### RS

- Law on Waste Management (Official Gazette of RS nos. 111/13 and 106/15);
- Law on RES and Cogeneration (Official Gazette of RS nos. 39/13 and 108/13) ("**RS Law on RES and Cogeneration**");
- Law on Incentives for Electricity Production Using Renewable Energy Sources and Efficient Cogeneration (RS Official Gazette No. 52/14);
- Law on Environmental Protection (Official Gazette of RS, no. 71/12);
- Rulebook on the Issuance of Certificates for Production Facilities that Produce Electricity by Using RES or in Cogeneration (Official Gazette of RS No. 112/13);
- Rulebook on Incentives for Electricity Production Using RES and Efficient Cogeneration (RS Official Gazette, nos. 114/13 and 88/14) ("**RS Rulebook on Incentives**");
- Rulebook on the Issuance of Guarantees on the Origin of the Electricity (Official Gazette of RS No. 1/14);
- Decision on the Amount of Feed-in Tariff and Premium for Renewable Energy Sources and Efficient Cogeneration Facility Generating Electricity (RS Official Gazette, no. 88/14) ("**RS Decision**");
- Decision on the Methodology of Determining the Level of Prices for RES-Electricity Produced in Plants with an Installed Capacity of up to 5 MW (Official Gazette of RS No. 71/04); and
- Decision on the Amount of Compensation for Incentives of RES Generated Electricity (Official Gazette RS No. 116/13).

### BULGARIA

As detailed in Section 1.2 above, the main applicable statutory instruments are the Energy Act, the AERS, the WMA, the Environment Protection Act, the Waters Act and the Spatial Development Act.

The WMA regulates the so-called "by-products"<sup>10</sup> which (although they result from a production process, the primary aim is not the production of that product) may be regarded as not being waste. Specifically, in order for a substance or object to qualify as a by-product, the following conditions should be met:

- further use of the substance or object is clearly defined;
- the substance or object can be used directly without any further processing other than normal industrial practice;
- the substance or object is produced as an integral part of a production process; and
- further use is lawful, i.e. the substance or object fulfils all relevant product, environmental and health protection requirements for the specific use and will not adversely impact environmental or human health.

The determination of whether a specific substance or object qualifies as a "by-product" is made by a grounded decision of the Minister of Environment and Waters.

It should be emphasised that only energy produced from any of the above-outlined sources, as defined in the AERS, may benefit from the renewable sources incentives (please see below).

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<sup>10</sup> Pursuant to the definition in Article 4, Paragraph 1 of the WMA.

## CROATIA

The principal laws and regulations regulating RES generating electricity projects, including waste management projects, in Croatia are as follows:

- The Energy Act (*Zakon o energiji*, Official Gazette of Croatia Nos. 120/2012, 14/2014, 95/2015, 102/2015) regulates licensing and general regulatory issues relating to the energy sector;
- the Sustainable Waste Act (*Zakon o održivom gospodarenju otpadom*, Official Gazette of Croatia No. 94/2013) regulates waste management;
- the Electric Energy Market Act (*Zakon o tržištu električne energije*, Official Gazette of Croatia Nos. 22/2013, 95/2015, 102/2015) regulates the organisation of the electric energy market;
- Renewable Energy Sources and High Efficient Cogeneration Act (*Zakon o obnovljivim izvorima energije i visokoučinkovitoj kogeneraciji*, Official Gazette of Croatia No. 100/2015) which seeks to consolidate Croatian legislation in renewable energy;
- Waste Management Bylaws (*Pravilnik o gospodarenju otpadom*, Official Gazette of Croatia Nos. 23/14, 51/14, 121/15);
- Waste Management Plan in the Republic of Croatia 2007–2015 (*Plan gospodarenja otpadom u Republici Hrvatskoj za razdoblje 2007.–2015. godine*, Official Gazette of Croatia Nos. 85/07, 126/10, 31/11, 46/15);
- the Ministerial Ordinance on Granting the Status of an Eligible Electricity Producer (*Pravilnik o stjecanju statusa povlaštenog proizvođača električne energije*, Official Gazette of Croatia Nos. 132/2013, 81/2014, 93/2014, 24/2015, 99/2015, 110/2015) regulates the requirements for qualifying as an eligible electricity producer generating both heat and power and using waste or renewable energy sources to generate electricity in a profitable and environmentally friendly way;
- the Governmental Regulation on Fees for Promotion of Production of Electricity from Renewable Energy Sources and Cogeneration (*Uredba o naknadi za poticanje proizvodnje električne energije iz obnovljivih izvora energije i kogeneracije*, Official Gazette of Croatia No. 128/2013) sets incentive fees;
- the Ministerial Ordinance on Use of Renewable Energy Sources and Cogeneration (*Pravilnik o korištenju obnovljivih izvora energije i kogeneracije*, Official Gazette of Croatia Nos. 88/2012 and 120/2012) regulates projects involving the construction of RES and cogeneration facilities; and
- the Governmental Tariff System for Electricity Generation from Renewable Energy Sources and Cogeneration (*Uredba o naknadi za poticanje proizvodnje električne energije iz obnovljivih izvora energije i kogeneracije*, Official Gazette of Croatia Nos. 133/2013, 151/2013, 20/2014, 107/2014, 100/2015) regulates the right of eligible producers to an incentivised electricity price paid by the Croatian market operator.

## CZECH REPUBLIC

The principal laws and bylaws are:

- Act No. 185/2001 Coll., on waste regulates municipal solid waste disposal, the conveyance of waste and tipping fees;
- Promotion Act (Act No. 458/2000 Coll.);
- Energy Act (Act No. 458/2000 Coll.);
- Act No. 17/1992 Coll., on the protection of the environment;
- Act No. 406/2000 Coll., on administering energy;
- Czech Governmental Regulation No. 482/2005 Coll. on types, methods and parameters of biomass in the promotion of the generation of electricity from biomass;

- Czech Governmental Regulation No. 383/2001 Coll. on details regarding handling waste;
- Governmental Decree No. 354/2002 Coll. on emission limits and conditions for operation of waste incineration plants and cogeneration plants; and
- Governmental Decree No. 197/2003 Coll., on the plan for the waste economy of the Czech Republic.

### HUNGARY

The principal laws and bylaws are:

- Act CLXXXV of 2012 on waste management;
- Electricity Act (Act LXXXVI of 2007 on electric energy);
- Government decree No. 385/2014 on the conditions of conducting waste management activities as a public utility service;
- Government decree No. 98/2001 conditions of activities in connection with dangerous waste;
- Act LIII of 1995 on environmental protection;
- Government decree No. 389/2007 on the mandatory off-take system of electric energy generated from RES or waste; and
- Decree No. 29/2014 of the Ministry of Agriculture on the technical requirements of waste burning power plants.

### KOSOVO

The principal laws and bylaws are:

- Law No. 2012/04-L-060 (“**Law on Waste**”).
- Law No. 2010/03-L-184 (“**Law on Energy**”).
- Law No. 2010/03-L-185 (“**Law on the Energy Regulator**”).
- Law No. 2010/03-L-201 (“**Law on Electricity**”).
- “Rule on the support scheme (on the support of generation of electricity from renewable energy sources)”, adopted by the ERO on 23 December 2014.
- Decision of the ERO adopted on 23 December 2014 determining the feed-in tariffs for the generation of electricity from RES.

### POLAND

The provisions of EU directives (including the Framework Directive, Landfill Directive, and Packaging Directive) are the framework for the National Waste Management Plan (KPGO 2014), as well as for the Regional Waste Management Plans prepared for each specific region of Poland.

The responsibilities of local authorities regarding waste management are set forth primarily by the provisions of the following legal acts:

- Act on Environmental Protection dated 27 April 2001 (Official Journal 2001, No. 62, item 627);
- Act on waste dated 14 December 2012 (Official Journal 2013, item 21), outlining obligations relating to waste treatment, imposed on municipalities;
- Act on packaging and packaging of waste dated 11 May 2001 (Official Journal 2001, No. 63, item 638), according to which every entrepreneur who releases packaged products on the market is obliged to ensure the appropriate level of recovery and recycling of packaging waste;

- Act on maintaining cleanliness and order in municipalities dated 13 September 1996 (Official Journal 2013, item 1399), obliging municipalities to create a modern system for waste collection and management;
- Act on the recycling of vehicles withdrawn from exploitation dated 20 January 2005 (Official Journal 2005, No. 25, item 202);
- Act on Renewable Energy Sources (RESAct) dated 20 February 2015 (Official Journal 2015, item 478); and
- Energy Law dated 10 April 1997 (Official Journal 2006, No. 89, item 625, as amended).

## ROMANIA

The principal laws and regulations governing WtE project in Romania are:

- Law no. 211/2011 on the *regime of waste*;
- Law no. 278/2013 on *industrial emissions*;
- Order no. 756/2004 on *the approval of technical norms for the incineration of waste* issued by the Romanian Ministry of Environment, Water and Forests;
- Law no. 123/2012 on *electricity and gas*;
- Law no. 220/2008 on *the support scheme for the production of electricity from renewable resources* ("**Law on RES-Electricity**");
- Order no. 34/2013 for *the approval of the Regulation for the issuance of setting up permits and licences* in the gas sector; and
- Order no. 48/2014 on *the approval of the Regulation for accreditation of renewable energy producers for the application of the green certificate support scheme*.

## SERBIA

The principal laws and regulations in Serbia are:

- Law on Environmental Protection (Official Gazette of the Republic of Serbia, Nos. 135/04, 36/2009, 72/2009 and 43/2011);
- Law on Waste Management (Official Gazette of the Republic of Serbia, Nos. 36/09 and 88/2010);
- Law on Packaging and Packaging Waste (Official Gazette of the Republic of Serbia, No. 36/09);
- Law on Strategic Assessment of Impacts on Environment (Official Gazette of the Republic of Serbia, Nos. 135/04 and 88/2010);
- Law on Environmental Impact Assessment (Official Gazette of the Republic of Serbia, Nos. 135/04 and 36/2009);
- Law on Integrated Prevention and Control of Pollution of the Environment (Official Gazette of the Republic of Serbia, Nos. 135/04 and 25/2015);
- Energy Law (Official Gazette of the Republic of Serbia, No. 145/2014);
- The Decree on the Conditions and Procedure for Obtaining the Status of Privileged Producer of Electrical Energy (Official Gazette of the Republic of Serbia Nos. 8/2013 and 70/2014);
- The Decree on Incentive Measures for Privileged Producers of Electrical Energy (Official Gazette of the Republic of Serbia No. 8/2013) – *ceased to be in effect on 31 December 2015, a new decree is expected to be adopted in the first (1st) quarter of 2016*;
- Rulebook on Categories, Examination and Classification of Waste (Official Gazette of the Republic of Serbia, No. 56/2010);

- Law on Hazardous Waste Transport (Official Gazette of the Republic of Serbia, No. 88/2010);
- Rulebook on Manners for Storage, Packaging and Marking of Hazardous Waste (Official Gazette of the Republic of Serbia, No. 92/2010);
- Decree on Amount and Conditions for Acquiring Incentive Funds (Official Gazette of the Republic of Serbia, Nos. 88/2009, 67/2010, 101/2010, 86/2011, 35/2012, 41/2013, 81/2014 and 30/2015);
- Rulebook on Conditions and Manner Of Collection, Transport, Storage and Treatment of Waste Used as Secondary Raw Material or For Energy Production (Official Gazette of the Republic of Serbia, No. 98/2010);
- Decree on Categories of Waste for Which Technical Treatment is Conducted; Conditions and Criteria for Determining Location; on Technical and Technology Conditions for Designing, Building, Equipping and Work of Facilities for Thermal Treatment of Waste, and Management of Waste After Incineration (Official Gazette of the Republic of Serbia, Nos. 102/2010 and 50/2012);
- Strategy for Waste Management for 2010-2019 (Official Gazette of the Republic of Serbia, No. 29/2010);
- Law on Public-Private Partnership and Concessions (Official Gazette of the Republic of Serbia, No. 88/2011).

The current Serbian waste management regulations were passed so as to be in line with the respective EU regulations.

### **SLOVAK REPUBLIC**

The principal laws and bylaws are:

- Act No.309/2009 Coll. on the promotion of renewable energy resources and high-efficiency cooperation;
- The Waste Act;
- Act No. 251/2012 Coll. on Energetics;
- Act No. 17/2004 Coll. on fees for the storage of waste;
- Ordinance of the Ministry of Environment No. 371/2015 Coll. on executing several provisions of the Waste Act; and
- Ordinance of the Ministry of Environment No. 365/2015 Coll. constituting the Catalogue of Waste.

### **SLOVENIA**

In Slovenia, WtE projects are regulated under European and Slovenian waste and energy law. The principal domestic legislation on waste is the Environment Protection Act, with numerous detailed regulations enacted to implement the Act. The basic principle of waste management are regulated in the Waste Regulation, which prescribes the conditions that must be fulfilled for collecting, trafficking, transporting, sorting and treating waste. For most of these activities, the operator only has to be entered in a register with the Ministry. For waste treatment however, a special environmental allowance has to be obtained.

The principal domestic legislation on energy is the Energy Act, which regulates the Energy Agency, the national regulatory authority responsible for overseeing the energy and natural gas market. The Agency has regulatory and supervisory powers. Besides the Energy Act, many Regulations govern this area, the most relevant for WtE being the Regulation on support for electricity generated from RES.

### **UKRAINE**

The principal laws and bylaws are:

- The Law of Ukraine "On Waste" No. 187/98-BP of 5 March 1998;
- The Law of Ukraine "On Alternative Types of Fuels" No. 1391-XIV of 14 January 2000;

- The Law of Ukraine “On Alternative Sources of Energy” No. 555-IV of 20 February 2003;
- The Law “On the Power Industry” No. 575/97-BP of 16 October 1997;
- The Law “On Principles of Energy Market in Ukraine” No. 663-VII of 24 October 2013; and
- Order of the Ministry of Housing and Public Utilities of Ukraine “On Approval of Exploitation Rules of Solid Waste Landfill” No. 435 of 1 December 2010.

## 2.2 What are the principal regulatory bodies regulating WtE projects?

### ALBANIA

The principal authority empowered to administer the waste sector in Albania is the Ministry of Environment. The Ministry of Environment is also responsible for issuing the respective environmental permits necessary for conducting any type of waste related activity. Depending, however, on the specific type of project, other authorities can be involved, such as, the Ministry of Energy and Industry or the Ministry of Transport and Infrastructure. With regard to projects involving the use of biomass, the principal authority is the Ministry of Energy and Industry.

Another principal authority is the Integrated Waste Management Committee, which is an inter-ministerial body that coordinates the tasks of ministries for integrated management of environmental waste. At the end of each year, the Committee submits to the Council of Ministers an annual report on the state of integrated waste management in the country.

Another very important authority is the Albanian Energy Regulatory Entity (“**ERE**”), which among other functions, is also responsible for issuing the various energy licences to entities that will carry out an activity related to the generation, trade or supply of energy in Albania, including the production of energy from biomass.

### AUSTRIA

Pursuant to Article 38 of the AWG, the competent regulatory authority is the provincial governor of the federal province (*Land*) in which the respective WtE project is situated. The provincial governor has the power to delegate competence to the administrative authority and to authorise the authority to decide in their own name. The issuance of the permit under AWG encompasses permitting procedures under other regulatory regimes. The decision of the provincial governor is – since 1 January 2014 – subject to appeal to the competent Administrative Court (*Verwaltungsgericht*).

The provincial government of the federal province where the WtE project is located has competence for the EIA procedure. Under the EIA Act, the provincial government generally must decide upon an application – depending on the type of project – within nine (9) months or six (6) months (e.g. in the case of mass-waste landfills) after submission of an application. The decision of the provincial government is – since 1 January 2014 – subject to appeal to the Federal Administrative Court (*Bundesverwaltungsgericht*). Taking into consideration the preparation of all relevant documents, the permitting procedure can last up to two (2) years or even more. A permit for operation under the EIA Act also covers the aspects of the AWG, meaning that separate proceedings under the AWG are not required.

The Federal State of Austria has adopted the Federal Electricity Act, which contains directly applicable provisions of law and sets out the legislative framework to be further specified by the nine Austrian Federal Provinces. The Federal Provinces have enacted provincial electricity statutes in accordance with the framework provisions of the Federal Electricity Act. As a consequence of this split of competencies, the Austrian legal structure regulating electricity is somehow heterogeneous. The competent authority issuing a permit under the provincial electricity statutes is the respective provincial government or district authority.

## BOSNIA AND HERZEGOVINA

The principal regulatory bodies regulating RES-Electricity projects (including WtE projects) are the Federal Ministry of Energy, Mining and Industry and the Federal Regulatory Commission for Electricity (“**FERC**”) which, as the main regulatory body in electricity market, plays a significant role in this matter. An operator for RES and Cogeneration has been established, and is, *inter alia*, authorised to issue a certificate of origin to RES electricity producers.

In RS, the competent regulating authority for RES-Electricity projects is the Ministry of Industry, Energy and Mining. The main regulatory body for the electricity market in RS is the RS Regulatory Electricity Commission (“**RERS**”). Similarly, as in FBiH, an operator for RES will also be established in RS. Until then, this function is performed by RERS.

## BULGARIA

The main regulatory bodies are:

- the Energy and Water Regulatory Commission (EWRC);
- the Regional Inspectorates on Environment and Waters; and
- the Agency for Sustainable Energy Development.

## CROATIA

The main regulatory bodies are:

- the Ministry of Environmental and Nature Protection;
- the Environment Agency;
- the Environmental Protection and Energy Efficiency Fund;
- the Croatian Energy Market Operator; and
- the Croatian Energy Regulatory Agency.

## CZECH REPUBLIC

The main regulatory bodies are:

- the Ministry of Industry and Trade;
- the Ministry of Environment;
- the Energy Regulatory Office (“**ERO**”); and
- the State Energetic Inspection.

## HUNGARY

General provisions are defined by acts adopted by the Parliament, but provisions on detailed rules governing WtE projects are adopted by the Government or the Minister of Agriculture in the form of decrees in both cases.

The designated regulatory body responsible for energy and public utility services (including waste management) is the Hungarian Energy and Public Utility Regulatory Authority (“**HEO**”).

## KOSOVO

The main regulatory body for energy activities in Kosovo is the Energy Regulator Office (“**ERO**”), an independent agency that is responsible, *inter alia*, for licence issuing, procedures for granting authorisations for the construction of new generating capacity, the creation and efficient functioning of competitive energy markets, etc.

## POLAND

In particular, general provisions are defined by acts adopted by the Parliament. However, provisions on detailed rules governing WtE projects are adopted by the Minister of Economy and of Environment Protection in the form of decrees, and the President of the Energy Regulatory Office (*Prezes Urzędu Regulacji Energetyki, Prezes URE*), in the form of decisions.

## ROMANIA

There are several regulatory bodies which oversee the activity of WtE projects:

- environmental: the National Environmental Protection Agency as issuer of the integrated environmental permit for operation purposes;
- origin certification of biomass used as fuel or raw material: (i) Romanian Ministry of Environment and Forest for biomass obtained from forestry and related activities, industrial and municipal wastes; and (ii) the Ministry of Agriculture and Rural Development for biomass obtained from agriculture and related activities<sup>11</sup>;
- gas/electricity production licence: the Romanian Energy Regulatory Body (“**ANRE**”).

## SERBIA

According to the relevant regulations, in general, the following governmental bodies are in charge for WtE projects:

- the Government;
- the Ministry of Agriculture and Environmental Protection;
- the Ministry of Construction, Traffic and Infrastructure;
- the Ministry of Mining and Energy;
- the Agency for Environmental Protection;
- the Energy Agency; and
- the municipalities.

## SLOVAK REPUBLIC

The main regulatory bodies are:

- the Ministry of Environment;
- the Ministry of Economics;
- the Regulatory Office for Network Industries;
- the State Energy Inspection; and
- the Slovak Agency for Innovation and Energy.

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<sup>11</sup> In order for WtE to be considered RES and to benefit from the GC support system which is in place in Romania, the developer of the project has to obtain an origin certificate from the Romanian Ministry of Environment and Forests.

## SLOVENIA

The regulatory bodies are the Energy Agency for energy related matters, the Slovenian Environment Agency for waste and environmental matters, and the relevant local authority for planning permission and planning matters. For bigger projects, an assessment of environmental impact has to be made and a special environmental permission given by the Slovenian Environment Agency.

## UKRAINE

As mentioned above, under Ukrainian law, waste is one of the recognised sources for RES-Electricity (such as biomass). Thus, WtE projects are regulated by those laws applicable to RES, which are adopted by the Ukrainian Parliament. By-laws are usually issued by the National Commission Performing State Regulation in the Area of Energy and Public Utilities ("**Energy Commission**"). Waste treatment is also regulated by the Ministry of Ecology and Natural Resources of Ukraine.

### 2.3 Are flow contracts permitted in your country?<sup>12</sup>

## ALBANIA

Albanian legislation does not expressly provide for or regulate flow contracts, but anticipates that such contracts exist in practice. However, it should also be noted that under domestic legislation, waste operation activities are subject to the concessions and public private partnership law or public procurement rules. The service provider or operator may only be selected via a concession tender which is strictly regulated by law, and often following a public procurement procedure (in case concession law overlaps with public procurement law, then both are applicable with certain limitations).

For example, the Landfill of Elbasan was granted through a negotiation procedure pursuant to the public procurement law. Then the operator was granted the project as a concession and entered into a "BOT" type concession agreement with the Ministry of Environment.

## AUSTRIA

To the best of our knowledge there is no explicit prohibition against agreements whereby a municipality contracts to direct its municipal waste to a particular facility. However, anti-competition regulations under European and Austrian law as well as public procurement law have to be considered.

## BOSNIA AND HERZEGOVINA

Given the general lack of WtE projects in BiH, it is very difficult to predict the models of implementation of these projects. In general, it is possible that these projects are conducted on the basis of public private partnership. Therefore, at this moment it is still not clear whether the WtE projects will be implemented on the basis of flow contracts.

## BULGARIA

According to the provisions of the WMA, the mayor of the respective municipality is obliged to organise the management of the waste generated on its territory. An integral element of this responsibility is to sign a contract for the collection and transportation of the generated waste.

Review of the practices of a number of municipalities in Bulgaria indicates that the respective contracts for waste collection often contain a clause specifying the particular depot/facility to which the generated waste should be trans-

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<sup>12</sup> In the WtE context, a "flow contract" is an agreement or system whereby a municipality contracts to direct its municipal waste stream to a particular facility. In some situations these systems require the municipality to compel haulers to act in a manner consistent with the flow contract.

ported. For example, such clauses have been stipulated in the waste collection and treatment contracts signed for the capital City of Sofia, as well as for some other large Bulgarian cities.

Accordingly, flow contracts can be considered as allowable in Bulgaria.

### **CROATIA**

Yes, collection, transport and disposal of waste are considered to be communal services. These services are provided by companies owned by one or more municipalities. It is common for a municipality to direct its solid waste stream to a particular regional waste management centre.

### **CZECH REPUBLIC**

Yes, it is usual for a municipality to contract a single company for the disposal of its waste. The contract can usually be concluded following a public tender procedure or concession award. Municipalities collect funds for payment of the waste disposal services from citizens as special payment for waste disposal.

### **HUNGARY**

Hungarian regulation defines a contract between the municipality and the public utility company providing waste management services as a contract awarded for a maximum of ten (10) years (as a result of a public procurement procedure), the content of which may be freely defined by the parties within the restrictions of the relevant legislative acts. The relevant legislation does not mention or regulate flow contracts, but as the exact terms of the local waste management contracts are subject to the agreement of the parties, we cannot exclude the possibility that this exists in practice.

However, as a general rule, the service provider is obliged to ensure the proper use of selectively collected solid waste and the recyclable materials.

### **KOSOVO**

Due to the absence of active WtE projects in Kosovo, no detailed information can be provided with regard to experience with flow contracts except that no particular statutory provisions governing these exist in Kosovo.

### **POLAND**

Under Polish law, municipalities are responsible for the organisation of a system of municipal waste collection. Municipalities are legally obliged to organise a public tender either for the collection of municipal waste or for the collection and storage of the municipal waste in a particular facility. Consequently, flow contracts are permitted and constitute one of two legal options the municipality has at its disposal.

In the long-term, the cooperation between local authorities and private companies may result in benefits for both parties.

### **ROMANIA**

No, such contracts are not currently contemplated under existing Romanian legislation.

### **SERBIA**

Yes, according to the relevant Serbian regulations, a municipality may assign its municipal solid waste flow to a private entity.

**SLOVAK REPUBLIC**

The legal term “flow contract” is not in use, however in the collection of MSW in a municipality and its flow to a particular facility, the commercial entity would be subject to concessions and public procurement laws.

**SLOVENIA**

Subject to compliance with the condition that waste collectors must be entered in the register with the Ministry, no special prohibition against flow contract agreements between private parties exists.

**UKRAINE**

No, Ukrainian law does not recognise the concept of “flow contract”. Moreover, local authorities regulate only the collection and removal of waste, and waste utilisation is not within their scope of powers.

The entities responsible for waste collection in a certain area are appointed by the local authorities based upon a tender. The contract concluded by the local authority and the tender winner is based upon a framework contract for waste disposal. Such framework contract does not contain any obligation of a hauler to dispose of the waste at a specific facility. Moreover, Ukraine lacks at least 670 landfills (according to experts) – the existing disposal facilities are overfilled and there are only a few recycling facilities. The law grants companies a free choice of facilities for waste utilisation or disposal. Therefore, flow contracts are generally not permitted in Ukraine under the current legislation.

**2.4 Are there limitations on foreign investment in WtE projects?****ALBANIA**

There are no limitations on foreign investments. Albanian law does not differentiate between foreign and domestic investors.

However, it is worth noting that electricity production is subject to licensing by the ERE and licences are only issued to companies, i.e. companies which are established and registered under Albanian law. There is, however, no limitation imposed on the shareholders of the company, i.e. a foreign investor can own one hundred percent (100%) of the shares of such company.

**AUSTRIA**

As far as we are aware, no foreign investment limitations exist which explicitly address WtE projects.

**BOSNIA AND HERZEGOVINA**

The relevant laws on foreign investments do not stipulate any limitations as to foreign investment in RES generating electricity projects, including WtE projects.

**BULGARIA**

There are no limitations in this respect.

**CROATIA**

Generally, a local company should run the project, but there are no limitations regarding the shareholders of such local company.

However, specific activities related to regional waste management centres should be performed by companies owned by counties and/or municipalities.

### **CZECH REPUBLIC**

There is no regulation forbidding or limiting foreign investments in companies undertaking investment in the WtE area.

### **HUNGARY**

There are no limitations on foreign investment. Using waste as fuel in energy generation requires permission of the environment protection authority and has to be done in compliance with the relevant environmental protection and waste management regulations, but these are applicable both to foreign and domestic investors.

However, it is worth noting that electricity production is subject to the licence of the HEO and licences are issued to Hungarian companies. Under Hungarian law, a complex small power plant licence may only be obtained by an economic organization with its seat in Hungary. Furthermore, the holder of the generation licence of a power plant with a capacity of 50 MW or more may only be a limited liability company or a company limited by shares with a registered seat in Hungary.

### **KOSOVO**

There are no limitations on foreign investments.

### **POLAND**

There are no specific restrictions applying to foreign investors.

### **ROMANIA**

There are no such limitations.

### **SERBIA**

There are no limitations on foreign investments.

### **SLOVAK REPUBLIC**

Generally, there are no limitations on foreign investments.

### **SLOVENIA**

There are no limitations on foreign investments.

### **UKRAINE**

There are no limitations on foreign investments, the general foreign investment regime is applied. However, waste treatment and electricity production are subject to licensing. Under Ukrainian law, licences (and permits) may only be obtained by a legal entity incorporated in Ukraine. Thus, for the implementation of WtE projects a legal presence in Ukraine is required.



# INCENTIVES

### **3. INCENTIVES**

#### **3.1 Are tax advantages available to WtE projects?**

##### **ALBANIA**

The Waste Management Law does not expressly provide for any incentives or tax advantages related to WtE projects.

Financial incentives for RES-Electricity producers are granted under Law No. 8987 dated 24 December 2002 “On incentives for the construction of new electricity generation capacities” (“**Incentives Law**”).

The Incentives Law provides that investors which build new electricity generation capacities that use RES are entitled to benefit from an exemption from customs duties on imported machinery and equipment used for capital investment. Such investors are also reimbursed for the custom and excise duties that they have paid upon importing liquid or solid combustibles used for the production of power.

The Incentives Law does not provide any criteria regarding incentives for the application of capital investment in renewable energy projects, thus making them available without discrimination to all new electricity generation capacities that use renewable energy.

On the other hand, legislation which entered into force on 1 January 2015, aims to facilitate and incentivise new investments, including the construction of new RES-Electricity generation capacities from hydropower plants. The adopted legislation (i.e. Law No. 92/2014 “On Value Added Tax in the Republic of Albania”) exempts equipment and machinery from payment of any value added tax (which is currently twenty percent (20%)) upon their importation. The incentive is applicable to new projects with a total investment value exceeding ALL 50 million (approximately EUR 360,000).

##### **AUSTRIA**

We are not aware of any specific tax advantages for WtE facilities in Austria.

##### **BOSNIA AND HERZEGOVINA**

There are no particular financial incentives for energy producers using RES in FBiH. However, there are general tax exemptions applicable to entrepreneurs in FBiH set forth by the FBiH Corporate Income Tax Law. RS Corporate Income Tax Law does not provide tax exemptions as is the case with FBiH Corporate Income Tax Law.

##### **BULGARIA**

There are no tax advantages in this respect.

##### **CROATIA**

There are various tax incentives available for investment projects if certain conditions are met, such as investments located in special state care areas or investments achieving a minimum size and number of new jobs created.

Thus, the Investment Promotion Act offers incentive measures for investment projects in manufacturing and processing activities, development and innovation activities, business support activities and higher added value services, in cases where an ecologically safe entrepreneurial activity is ensured, along with one or more of the following objectives: (i) purchase of new equipment and modern technologies; (ii) increased employment and level of training of employees; (iii) development of products and services with higher added value; (iv) increase in entrepreneurial competitiveness; and (v) balanced regional development of the Republic of Croatia.

Specifically, the Act provides for tax incentives and various forms of financial support for eligible costs of new jobs linked to the investment project, eligible costs of training linked to the investment project, capital costs of the investment project, and labour intensive investment projects.

As to tax incentives, there are substantial reductions in the profit tax rate available, depending upon the size of the investment (thresholds ranging from EUR 1 to EUR 3 million) and the number of new jobs created (thresholds ranging from 3 to 15) and preserved over a certain period (thresholds ranging from three (3) to five (5) years).

However, there is no tax advantage specifically designed for WtE projects.

## **CZECH REPUBLIC**

There are no tax advantages in this respect.

## **HUNGARY**

Please note that no specific corporate income tax incentives are available for "WtE" projects. However, companies engaged in such businesses could be entitled to certain general corporate income tax incentives. In particular, tax relief might apply to several qualifying investment development projects, for research and development and to small and medium-sized enterprises.

In Hungary, certain "extraordinary" taxes have recently been imposed on energy market players. Though there are no special tax exemptions from general tax paying obligations available to waste-generated or RES-Electricity (e.g. biomass) producers, from these new extraordinary taxes, certain tax exemptions and allowances are granted to them.

The so-called "Robin Hood tax" is thirty-one percent (31%) of the positive tax base that is the profit before tax with certain deductions and increases defined by law. Producers selling in the mandatory off-take (either generating electricity from waste or RES) with an inbuilt capacity of or below 50 MW are not subject to this tax (but all others are).

The so-called "energy tax" is HUF 310/MWh (this tax is payable by producers of electricity produced for their own consumption), but RES-Electricity is fully exempt.

Finally, the so-called "public utility line tax" introduced by Act CLXVIII of 2012 is HUF 125/metre, and payable by those licensees whose utility lines are used for the supply of consumers (electricity transmission and distribution systems are included). Hence, generators' lines connecting to the national grid are generally not subject to this new tax.

## **KOSOVO**

No tax incentives other than the ones also available for RES projects are known for WtE projects at this time.

## **POLAND**

The following tax advantages are available for WtE projects in Poland:

- excise duty exemption of electricity produced from RES;
- agricultural tax investment relief for expenditure incurred on devices to be used for energy production from natural sources (among others, biogas) unless they have been partly or wholly financed by public funds. Relief is granted after completion of the investment project. The amount of relief constitutes twenty-five percent (25%) of the documented investment expenses, which is deductible from agricultural tax due; and

- investment relief for Polish personal/corporate income taxpayers, who have the right to deduct (from taxable income) up to fifty percent (50%) of the amount spent on the purchase of new technologies understood as intangible assets (know-how, licences, results of B+R), which (i) enable the production of new products or services or their improvement; and (ii) have not been in use worldwide for more than the last five (5) years, which is to be confirmed by an opinion issued by an independent scientific unit.

### ROMANIA

Presently, there are no tax incentives for WtE projects other than the general advantages offered for any type of investment.

### SERBIA

There are no specific tax advantages provided by regulations for WtE projects.

However, in general, the Investment Law (Official Gazette of the Republic of Serbia No. 89/2015) provides certain privileges to foreign investors, *inter alia*, exemption from customs duty and other import charges for the import of equipment on the basis of a foreign investor's investment (excluding motor vehicles and automatic entertainment and games of chance machines).

In addition, the Investment Law provides certain safeguards for foreign investors, including equal treatment, free repatriation of profit and investment, protection of rights of a foreign investor acquired through investment, protection from expropriation or similar measures, except in cases when public interest requires such measures and only against fair consideration.

Investment incentives are available to any investor in Serbia under the conditions set out in the Decree on Conditions and Manner of Attracting Direct Investments (Official Gazette of the Republic of Serbia No. 28/2015). The authority that grants such investment subsidies is the Ministry for Economy.

In addition, Serbia in general offers other incentives to investors, such as (i) customs-free import of machinery and equipment (foreign investors are exempt from paying customs duty on imported equipment and machinery which represents the foreign investor's share in the capital of a company in Serbia); (ii) local incentives (a wide array of incentives is also available on a local level, varying in scope and size from one city to another. The major ones include: city construction land lease fee exemptions or deductions, including the option of paying in instalments, with the prior consent of the Government; city construction land development fee relief such as fee exemptions or discounts for one-off payments; other local fees exemptions or deductions).

Tax holiday or tax exemption from corporate profit tax is governed by the Corporate Income Tax Law, and may be granted under the conditions set out in this law. This means that a tax holiday may be granted by the competent tax authorities, provided that the conditions of the law are met; i.e. the investment in fixed assets (property, plant, equipment) of the company reaches RSD 1 billion; and at least 100 new jobs are created (which assume employment for an indefinite period). If granted, the tax holiday may be used from the first (1st) year in which taxable profit is determined, and for the following nine (9) years (ten (10) years in total). A tax holiday means pro-rata reduction of tax liability, proportionate to the share of investment in fixed assets with the value of at least RSD 1 billion to the total permanent assets. This means that the amount of reduction of tax liability is subject to change, e.g. in the first (1st) year it may be hundred percent (100%), and in the subsequent years it may change due to additional investment in fixed assets and increase in value of the total fixed assets (therefore the proportion between total fixed assets and fixed assets on the basis of which the tax holiday is given changes).

### SLOVAK REPUBLIC

There is no available income tax incentive for WtE projects at this time.

## SLOVENIA

There are no tax advantages in this respect, but the state provides for financial support for operating expenses for companies producing electricity from renewable sources (the difference between the reference electricity production costs and the reference market price).

## UKRAINE

The Tax Code of Ukraine and the Customs Code of Ukraine provide for import VAT and import duty exemptions for imports of certain equipment related to the production or use of renewable energy. Specifically, import of: (i) certain equipment that works with renewable energy; (ii) materials, raw materials, equipment and components required for the production of renewable energy; (iii) materials, equipment and components required for the production of equipment that operates for the use of renewable energy; and (iv) energy saving equipment are all exempt from VAT and import duties, provided that they are used by the taxpayers for their own production purposes and that no domestic alternatives are available in Ukraine.

The list of such equipment and materials must be provided by the Cabinet of Ministers of Ukraine. The relevant by-law has recently been repealed and the new one has not yet been adopted. Therefore, at the moment these exemptions are not practically applicable.

In addition, electricity suppliers may benefit from an exemption from excise taxes on the supplies of electrical energy produced from RES. This exemption however does not apply to entities producing energy for their own needs.

### 3.2 Is there a purchase guarantee given by the relevant legislation/regulations for electricity generated by WtE projects?

## ALBANIA

Albania has introduced legislation which amends among others the feed-in tariff currently applicable to electricity generated from plants generating electricity from renewable sources with an installed capacity not exceeding 15 MW ("**Preferential Producers**"), and that have concluded an agreement with a term of up to fifteen (15) years for the purchase of electricity with the wholesale public supplier (presently KESH Sh.A.).

The feed-in tariff is set forth in Law No. 138/2013 dated 2 May 2013 "On sources of renewable energy" ("**Law**"). However, the Law needs to be supplemented with additional implementing legislation to be effectively applied. The necessary implementing legislation must be issued by the Albanian Council of Ministers under the proposal of the ERE and the deadline for the approval of this implementing legislation was supposed to be 1 January 2015. Although this deadline has already expired, to date the implementing sublegal acts have not yet been approved.

Based on our previous experience in hydropower projects, the concession agreements entered into between the concessionaire (the entity that will complete the project) and the contracting authority (a public authority) included the obligation of the contracting authority to "guarantee the purchase of the produced electricity by KESH Sh.A, for a period of fifteen (15) years". This means that the Preferential Producers are ensured that they will sell the energy produced by their plants for the first fifteen (15) years of operation. We believe that a similar obligation, i.e. the purchase of energy from KESH SH.A for a certain period of time, also applies to WtE projects which use waste to generate energy.

## AUSTRIA

Yes, if the respective WtE project can be qualified as RES as outlined above (Section 1.2).

The promotion of RES in Austria takes the form of direct support to operators of electricity generating facilities based on RES via mandatory contracting at standardised feed-in tariffs. In addition, the Green Electricity Act provides for the possibility of investment allowances for certain green power plants operating on solid or liquid biomass.

Initially, RES-Electricity facilities must be recognised as such under the Green Electricity Act. Such official recognition takes the form of a decision issued by the provincial governor of the Federal Province where the facility is located. Upon recognition, electricity generated in such facilities benefits from a purchase guarantee from the Green Electricity Settlement Centre (*Ökostromabwicklungsstelle*) at pre-determined prices (guaranteed feed-in tariffs) for a certain period of time. The guaranteed feed-in tariffs are set by the Minister of Science, Research and Economy with the mutual consent of the Minister of Agriculture, Forestry, Environment and Water Management as well as the Minister of Labour, Social Affairs and Consumer Protection on an annual basis (or more often) by ministerial ordinance. These tariffs are essentially based upon the average production costs for cost-efficient, state-of-the-art production facilities.

Mandatory contracting (*Kontrahierungszwang*) at the guaranteed feed-in tariffs is only applicable to RES-Electricity generated in facilities that have been particularly recognised under the Green Electricity Act. Green power plants operating on solid or liquid biomass are eligible for official recognition. The guaranteed feed-in tariffs for RES-Electricity deriving from recognised facilities depend on the prices at the time of application. The compensation for recognised RES-Electricity facilities is based upon the produced electricity that is fed into the public electricity grid system.

Furthermore, mandatory contracting only applies if RES-Electricity generated in a recognised facility and fed into the public grid system is provided to the Green Electricity Settlement Centre over a period of at least twelve (12) months. The duration of the general mandatory contracting period and the mandatory statutory obligation to off-take electricity generated in officially recognised RES-Electricity facilities is generally thirteen (13) years as well as fifteen (15) years for solid and liquid biomass and biogas facilities from the date on which the Green Electricity Settlement Centre off-takes RES-Electricity. However, it ends in any event at the end of the twentieth (20th) year of operation of the facility. After expiry of the mandatory contracting period, the Green Electricity Settlement Centre is obliged to offer to the operator of the RES-Electricity facility to off-take the electricity at the market prices for an indefinite period of time.

RES-Electricity deriving from specific facilities such as from (i) plants operating on geothermal energy, biomass or biogas (even if only partially so), if their fuel efficiency or thermal efficiency is below sixty percent (60%) or if they are not equipped with a state-of-the-art heat meter that is used for recording the used heat; and (ii) plants operating on biomass or biogas, if they do not have a fuel/feedstock procurement plan that covers at least the first five (5) years of operation cannot be made subject to mandatory contracting at the guaranteed feed-in tariffs. In those cases, the Green Electricity Act might under certain circumstances provide for specific investment grants.

## BOSNIA AND HERZEGOVINA

Yes, in both FBiH and RS, promotion schemes include purchase guarantees (mandatory repurchase of electricity) and feed-in tariffs.

In FBiH, a RES producer that has obtained energy consent issued by the Ministry of Energy, Mining and Industry, is entitled to conclude a contract on the compulsory purchase of the electricity produced from RES with the RES Operator at the guaranteed price. The guaranteed price is calculated in accordance with the methodology and decisions adopted by FERC.

In general, a producer of electricity in RS can benefit from the promotion system if it produces electricity by using RES in an economically appropriate manner and respecting environmental protection requirements. Namely, in terms of WtE projects, this applies to: (i) power plants using solid biomass of installed power up to 10 MW; and (ii) power plants using agricultural biogas of installed power up to 1 MW.

## BULGARIA

Under the AERS, there is a provision for the mandatory off-take of energy generated from biomass, which may include municipal waste. However, not all the municipal waste may be qualified as a renewable source – only biologically degradable waste qualifies as such a source. Hence, the mandatory off-take of electricity is provided only for such “renewable” projects.

It should be further noted that according to a bill for the amendment of the Agricultural Land Conservation Act (“**Bill**”), adopted by the Bulgarian National Parliament on 4 December 2015, the above-outlined purchase guarantee will not be applicable to:

- power plants with an installed capacity of up to 1.5 MW, operating on biomass with a minimum content of sixty percent (60%) of manure; or
- power plants with an installed capacity of up to 500 KW, operating on biomass consisting of plant waste,

which were put into operation after 1 January 2016.

The Bill was promulgated in the State Gazette No. 100 on 18 December 2015 and entered into force on 21 December 2015.

## CROATIA

Yes, there is a purchase guarantee for electricity generated by all RES power plants, thus including the facilities listed under Section 1.2 above. Additionally, incentive fees are paid for the delivered electricity to the eligible producers generating electricity from RES in the following amounts: (i) 0.035 HRK/KWh (0.0046 EUR/KWh) as a general rule; or (ii) 0.005 HRK/KWh (0.00066 EUR/KWh) for buyers required to obtain permission for greenhouse gas emission.

## CZECH REPUBLIC

Three (3) mandatory purchasers are designated by the Promotion Act in the Czech Republic – E.ON Energie, a.s., CEZ Prodej, s.r.o. and Pražská energetika, a.s. These mandatory purchasers are required to purchase electricity from producers if such energy is produced from RES or by other supported methods, including the incineration of waste.

The Ministry of Industry and Trade is currently analysing the advantages of an option given to it by the Promotion Act to organise a public tender to select other purchasers instead of the above-mentioned three (3) mandatory purchasers designated by the Promotion Act. However, no final decision has yet been adopted to organise the tender.

## HUNGARY

As mentioned above, electricity generated from waste, such as RES-Electricity (biomass), falls under the mandatory off-take regime. The detailed regulations for the purchasing obligation under the mandatory off-take system are provided in decrees.

Producers who wish to sell electricity generated from RES or waste or a part of it in the mandatory off-take system must submit an application to the HEO for determining the duration and amount of electricity that falls under the mandatory off-take system. The earliest time at which the producer may submit the application is concurrently with the application for the relevant HEO licence.

In addition to the general annexes to the application set out in the applicable laws, a waste or RES-Electricity producer must attach to the application all the relevant documents evidencing any other support (e.g. investment support, tax exemption or tax allowance or any other direct price subsidy of preferential connection fee) which has already been received, is currently in use or is intended for use in the future.

The HEO shall determine the duration of the mandatory off-take on the basis of the return on investment period. The HEO calculates the return time by energy source and generation procedure, taking into account the (domestic and international) data of the investment implemented and operated in accordance with the rational choice of seat, the principle of lowest cost, the best available technology and the prices defined in the relevant decree. Furthermore, if the producer also receives other support of the sort referred to above, the HEO shall modify the return time on the basis of the current value of the ratio of such support to the total cost of investment.

MAVIR, as the primary off-taker of electricity falling under mandatory off-take, has the obligation to off-take all such electricity. The eligibility for mandatory off-take shall terminate with expiry of the duration defined for mandatory off-take, or when the installation has sold the entire quantity of electricity benefiting from the mandatory off-take.

Only waste can be used as an energy source which complies with the conditions of waste collection and selection and excludes groups 05-15 of the European Waste Catalogue (EWC).

### KOSOVO

Public suppliers must give “purchasing priority” to “renewable energy” for which a guarantee of origin has been issued (Article 9.3 of the Law on Electricity). However, the Law on Electricity does not provide any further detail regarding how such purchasing priority shall operate in practice.

### POLAND

An obligation to purchase power generated from RES is imposed on suppliers of last resort/energy utilities. Suppliers of last resort/energy utilities are obliged to purchase RES power generated in the distribution or transmission grid located within an area in which a given supplier is active. The purchase price should be equal to the average selling price of electricity in the preceding calendar year. The average price is published by the President of URE by 31 March each year.

### ROMANIA

Romanian legislation ensures guaranteed access to the grid system for electricity produced from RES, including WtE projects that use RES-Electricity energy sources, but no purchase guarantee. The RES-Electricity energy sources resulting from waste are regulated under Law no. 220/2008: biomass, bioliquid, biogas, waste fermentation gas, land-fill gas and sewage treatment gas. Other WtE projects that use fossil sources do not benefit from the RES-Electricity support scheme.

### SERBIA

Under the Energy Law, there is a prescribed purchase guarantee only for energy producers who have acquired the status of a privileged producer.

Pursuant to the Decree on the Conditions and Procedure for Obtaining the Status of Privileged Producer of Electrical Energy (Official Gazette of the Republic of Serbia Nos. 8/2013 and 70/2014, “**Privileged Producers Decree**”<sup>13</sup>) a company acquires the status of a privileged producer if it produces energy in, *inter alia*, the following types of electricity plants:

- power plant using biomass;
- power plant using biogas;
- power plant using biogas of animal origin;

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<sup>13</sup> A new decree regulating the process for obtaining temporary status as a privileged producer, status as a privileged producer and status as a RES producer, is in preparation and although it was expected to be adopted by the end of 2015, this is still pending. According to information informally obtained from the Ministry of Mining and Energy, the new decree should be adopted in the first (1st) quarter of 2016.

- gas from municipal waste and sewage gas;
- power plants using waste; and
- cogenerating power plants using natural gas or waste technological gasses with organic fractions, if they have a total annual percentage of efficiency above eighty-five percent (85%).

According to the Energy Law, an electricity producer can obtain the so-called “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 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 privileged producer may be granted for a maximum period of three (3) years, except for producers using solar power, to which such status may be granted for a maximum period of one (1) year.

If the privileged electricity producer with a temporal status does not ultimately obtain the privileged producer status within this provisional period, such producer's temporary status may be extended for an additional year at the most provided that it has filed proof that the power plant has been constructed.

If a producer produces electricity in a power plant that contains different units, the 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.

In order to meet the criteria of the Privileged Producers Decree, the calorific value of the used renewable energy source must constitute a certain percentage of the total annual calorific value of the consumed fuel. The percentages are different depending upon the source of energy. In the case of biomass the percentage is set at eighty percent (80%) of the total annual calorific value of consumed fuel; in the case of biogas, biogas of animal origin, gas from municipal waste and gas from facilities for treatment of communal waste waters, geothermal power plants and plants that use waste, the percentage is set at ninety percent (90%).

The status of Privileged Producer is granted by the Ministry of Mining and Energy upon a request by the interested party containing all the required documents and proof that are specified in the Privileged Producers Decree. Under the Energy Law, a producer who obtains the status of a Privileged Producer is obligated to sell the electricity exclusively to a guaranteed supplier which is currently the state-owned company EPS Snaabdevanje d.o.o.

According to the Decree on Incentive Measures for cers of Electrical Energy (Official Gazette of the Republic of Serbia No. 8/2013) (which cased to be in effect on 31 December 2015<sup>14</sup>), the feed-in tariffs which applied to the privileged producers who use biomass and waste and sell their electricity to EPS Snabdevanje d.o.o. were set as follows:

TYPE OF POWER PLANT/ ENERGY SOURCE	INSTALLED POWER	PRICE (EUROCENTS/KWH) <sup>15</sup>
Biomass	up to 1 MW	13.26
	1 MW to 10 MW	13.82
	over 10 MW	8.22
Biogas	up to 0.2 MW	15.66
	0.2 MW to 1 MW	16.498
Biogas from animal origin waste	over 1 MW	12.31
Gas from municipal waste and gas from facilities for treatment of communal waste waters		6.91
Waste		8.57
Combined renewable and natural gas plants	up to 10 MW	8.89

If the criteria for privileged status and feed-in tariffs are met, EPS Snabdevanje d.o.o. is obliged to conclude a contract with the privileged producer, if the privileged producer so requests. Such a contract is concluded for a period of twelve (12) years starting from the date of the contract coming into force. During the duration of the contract, the feed-in tariffs are guaranteed. However, the regulations do not contain any provisions regarding revision or indexation of the feed-in tariffs.

**SLOVAK REPUBLIC**

Generally, the support for producers is granted under Act No. 309/2009 Coll. on the promotion of renewable energy resources and high-efficiency cooperation. Thus, WtE projects fall under the promotion scheme only if they qualify for such promotion incentives. This could be the case for waste biomass, as it falls under the category of RES.

**SLOVENIA**

Yes, according to the Energy Act, for all renewable energy facilities generating less than 1 MW, the state guarantees the purchase of all net generated electricity at a pre-defined price (regardless of the market price of the electricity). According to the Energy Act, this support shall be granted to RES generation units selected in a public tender procedure. However, due to lack of resources, no such tender was published for the year 2015. Before a tender for the year 2016 can be published, an approval of the European Commission is required due to substantial changes to the support scheme in the new Energy Act. In addition, a new regulation on support for electricity generated from RES will have to be adopted to further specify the details of the support.

To producers who have more than twenty-five percent (25%) market share in the production of electricity in Slovenia and a HH index higher than 2,000; the support is given under a precondition that such support will not harm the competition on the market.

14 A new decree prescribing feed-in tariffs is in preparation and although it was expected to be adopted by the end of 2015, this is still pending. According to information informally obtained from the Ministry of Mining and Energy, the new decree should be adopted in the first (1st) quarter of 2016.

15 Figures in italics indicate that there is a variable deduction from the feed-in tariff that is adjusted in accordance with the price of fossil fuels.

## UKRAINE

There are several options for the sale of electricity generated through WtE projects: (i) sale to consumers based on direct contracts; (ii) sale to energy supply companies; and (iii) sale to the wholesale market (the only currently existing wholesale energy market in Ukraine).

Electricity generated from waste (biomass) is granted a purchase guarantee only in the form of off-take by the wholesale market (at the price of the green tariff, described in greater detail below). Contracts with consumers and energy supply companies are of a commercial nature, therefore the amount of the purchased electricity is regulated contractually and the purchase guarantee as such is not applicable to such contracts.

### 3.3 Is there a minimum price guarantee given by the relevant legislation/regulations for the electricity generated by WtE projects?

## ALBANIA

The feed-in tariff promotion system targets RES-Electricity generated from projects with an installed capacity not exceeding 15 MW and that have concluded an agreement with a term of up to fifteen (15) years for the purchase of electricity with the wholesale public supplier (presently KESH Sh.A.).

## AUSTRIA

The guaranteed feed-in tariffs are set by the Minister of Science, Research and Economy in agreement with the Minister of Agriculture, Forestry, Environment and Water Management as well as the Minister of Labour, Social Affairs and Consumer Protection on an annual basis (or more often) by ministerial ordinance. These tariffs are essentially based upon the average production costs for cost-efficient, state-of-the-art production facilities.

The tariffs are intended to achieve the purposes of the Green Electricity Act, especially with a view towards an efficient use of funds, and should be designed in such a way that the production of electricity from RES increases continuously. However, an increase of the production of electricity from RES deriving from RES-Electricity facilities depending upon sources can be pursued only where such sources are verifiably secured.

The applicable legislation and regulations do not provide for any indexation mechanism. Basically, feed-in tariffs are reviewed on a yearly basis and determined for one (1) full year. However, if necessary, they may be set for two (2) or more years. The determination of feed-in tariffs for a period of less than one (1) year is also legitimate.

Until the entering into force of a new ordinance providing for the determination of new feed-in tariffs, the tariffs of the former ordinance apply with a reduction of eight percent (8%) in respect of facilities on the basis of photovoltaic, one percent (1%) in respect of wind power and also one percent (1%) in connection with other RES-Electricity technologies.

## BOSNIA AND HERZEGOVINA

In FBiH, the guaranteed price is the product of the reference price and the tariff coefficient. Therefore, the guaranteed price is calculated in accordance with the methodology adopted by FERK. The reference price for the year 2016 is 0.0995 BAM/KWh. The tariff coefficient is determined for each type of facility producing RES electricity. Depending on the power of a biomass power plant, the tariff coefficient varies from 2.28 to 3.14.

In RS, the feed-in tariff promotion system is determined by an RS Decision. Furthermore, the RERS verifies once a year the amount of the feed-in tariff and premium. If necessary, it can also make corrections in the form of a special decision. In any case, such a decision needs to be approved by the RS Government in order for it to be implemented.

The feed-in tariff in RS consists of a reference price and a premium, where the feed-in tariff is either the same or higher than the reference price for the mandatory repurchase of electricity. The RERS usually reviews the amount of premium once a year. Pursuant to the RS Decision, the current feed-in tariffs for electricity produced by biomass power plants of 1 MW installed power is 0.2413 KM/KWh. For power plants of power greater than 1 MW the feed-in tariff is 0.2461 KM/KWh.

### **BULGARIA**

For energy that is recognised as originating from renewable sources, a mandatory preferential price (feed-in tariff, "FiT") under the AERS is applicable. The FiT is determined by the EWRC and is subject to amendment on an annual basis.

Depending upon the installed capacity of the RES-Electricity plant, either the licensed public provider or the licensed end-supply companies are obliged to buy, up to a certain amount, the energy which is certified as renewable energy (by way of a guarantee for energy origin) at the preferential price. Power plants with an installed capacity above 5 MW should be connected to the transmission electricity network and their generated electricity is to be purchased by the public provider, while the power plants with an installed capacity below 5 MW should be connected to the electricity distribution grids and their generated electricity shall be purchased by the end-supply companies.

Further to amendments to the AERS introduced by a Bill for Amendment and Supplementation of the AERS, promulgated in the State Gazette No 56 from 24 July 2015, and effective from that date, electricity generated by RES-Electricity producers will be purchased under the respective applicable FiT only up to the amount of a newly introduced threshold determined as "Net specific generation of electricity" ("**NSGE**"). The new threshold was determined in a decision of the EWRC<sup>16</sup>. Under the AERS, produced electricity which exceeds this threshold should be sold at prices for surplus of the balancing market or could be sold at freely negotiated prices on the liberalised market.

In connection with the preceding paragraph, it should be noted that the NSGE threshold will not be applicable to those RES-Electricity plants with an installed capacity of up to 1.5 MW, operating on biomass with a minimum content of sixty percent (60%) of manure, as well as for RES-Electricity plants with an installed capacity of up to 500 KW, operating on biomass consisting of plant waste.

Under the AERS, the FiT will not be applicable to RES-Electricity projects which were put into operation after 6 March 2015. Moreover, under the Bill, effective from 21 December 2015, the FiT will not be applicable to the following projects, specifically:

- RES-Electricity plants with an installed capacity of up to 1.5 MW, operating on biomass with a minimum content of sixty percent (60%) of manure; or
- RES-Electricity plants with an installed capacity of up to 500 KW, operating on biomass consisting of plant waste

which are put into operation after 1 January 2016.

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<sup>16</sup> Decision CП-1/31.07.2015 of the EWRC.

## CROATIA

Yes, there is a minimum price guarantee, but it applies to all RES power plants, and not only to power plants generating energy from waste. The feed-in tariff unit prices are determined according to the type of power plants and sources used for electricity generation. Below is an overview of these prices for the relevant power plants:

TYPE OF POWER PLANT UP TO 5 MW	INSTALLED POWER	PRICE (HRK/KWH)	PRICE (EUR/KWH)
Biogas power plants from organic remnants, waste from the agricultural and food-processing industry, landfill gas power plants and waste water treatment gas power plants	up to 300 KW	1.34	0.176
	300 KW – 2 MW	1.26	0.165
	over 2 MW	1.18	0.176
Biomass power plants, including biodegradable fractions of industrial and communal waste	up to 300 KW	1.30	0.171
	300 KW – 2 MW	1.25	0.164
	over 2 MW	1.20	0.157

TYPE OF POWER PLANT UP TO 5 MW	PRICE (HRK/KWH)	PRICE (EUR/KWH)
Biogas power plants from organic remnants, waste from the agricultural and food-processing industry, landfill gas power plants and waste water treatment gas power plants	0.53	0.069
Biomass power plants, including biodegradable fractions of industrial and communal waste	0.53	0.069

## CZECH REPUBLIC

Electricity produced by of the incineration of municipal waste is given a green bonus on its purchase price. This bonus is given to the producer of electricity from RES (e.g. from waste) in addition to the price received by the electricity producer from the purchaser. The bonus amount differs according to the energy output of the facility and yearly operating hours. This is the only subsidy given to electricity produced from waste. These prices are based upon the Price Decision of ERO 9/2015.

## HUNGARY

The base prices of the purchasing obligation are determined by government decree No. 389/2007 on the mandatory off-take system of electricity generated from RES or waste.

The Electricity Act defines the maximum initial purchase price of waste and RES-Electricity that is subject to the mandatory off-take as  $k \cdot \text{HUF } 24.71/\text{KWh}$  (excluding VAT), where  $k$  is the annual indexation factor and HUF 24.71 is the initial purchase price defined for 2007.

In the framework of the Electricity Act, the government decree No. 389/2007 applies differentiated off-take prices based on, the installed capacity, energy source and date of the HEO resolution regarding the quantity and the duration of the mandatory off-take, for example. These prices are indexed and published on the HEO's Web site each year.

**KOSOVO**

For electricity generated from RES (including solid biomass), a special support scheme is available, granting minimum feed-in tariffs until certain capacity targets are met. Both criteria are set by decision of the ERO.

**POLAND**

Electricity generated by WtE projects carried out by micro-installations with a capacity of up to 3 KW must be purchased at a minimum price of PLN 0.75/1 KWh.

Electricity generated by WtE projects carried out by installations with a capacity exceeding 3 KW, up to 10 KW has a fixed purchase price, varying from PLN 0.45 up to PLN 0.70 per 1 KWh, depending on the type of RES-facility.

**ROMANIA**

No minimum price is guaranteed for electricity produced from WtE. The electricity price in Romania is strictly established on the basis of demand and offer on the market managed by the Romanian gas and electricity operator (OPCOM).

However, if the respective electricity is generated from renewable sources (biomass, bio liquid, biogas, waste fermentation gas, landfill gas and sewage treatment gas), it benefits from the RES-Electricity support scheme. The respective producer is issued a number of green certificates ("GCs") for each MW of electricity produced from waste, which can further be sold at a price set between EUR 27 and EUR 55 per GC. Therefore, Romania provides incentives for WtE projects, specifically for: (i) biomass, bioliquids and biogas energy; and (ii) landfill gas and sewage treatment gas. For additional information on the GC support scheme and its duration, please see the table below:

RES	TYPE OF POWER PLANT/GROUP	GC/MWH	SUPPORT PERIOD (YEARS)
Hydro (used in power plants with installed power ≤10 MW)	New – commissioned as of 1 January 2014	2.3 GC	15
	Upgraded/refurbished	2 GC	10
	Commissioned prior to 1 January 2014 and not upgraded	0.5 GC	3
Wind energy	New	1.5 GC until 2017	15
		0.75 GC from 2018	
Geothermal, biomass, bioliquids and biogas energy	New – from all types of bio waste	2 GC	15
	New – from energy crops	3 GC	
	New – high efficiency cogeneration <sup>17</sup>	1 additional GC	
Landfill gas and sewage treatment gas	New	1 GC	15
	New – high efficiency cogeneration	1 additional GC	
Solar energy	New	3 GC	15

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<sup>17</sup> As qualified by ANRE.

A modification from 2013 to Law no. 220/2008 on RES established that a certain number of GCs were temporarily prohibited from trading by accredited producers until 31 December 2013 (and benefiting from the previous support scheme):

- 1 GC for new hydro power plants with power of 10 MW maximum;
- 1 GC for wind power plants; and
- 2 GC for photovoltaic power plants.

This suspension will be lifted starting from 1 April 2017 for hydro and photovoltaic power plants and from 1 January 2018 for wind power plants and shall be carried out in instalments until 30 December 2020. The suspension does not apply to accredited WtE projects, which also benefit from the largest number of GCs, as highlighted in the table above.

## **SERBIA**

Please see response to prior question 3.2.

## **SLOVAK REPUBLIC**

The electricity generated only by waste which belongs to the category of RES-Electricity sources (waste biomass) has a special regime and the minimum prices are granted provided that the conditions of the RES Act and the Decree of the Regulatory Office of Network Industries No. 221/2013 Coll. are met.

## **SLOVENIA**

Yes, the aforementioned Regulation (see Section 2 above) sets out the prices for electricity depending on its source and the size of the company.

## **UKRAINE**

Yes, the green tariff for biomass is determined by the Energy Commission for electricity generated by WtE facilities as of the date of putting the relevant facility into operation (unless another date is specified by law). The green tariff will be valid until 1 January 2030. It is calculated based upon the formula set by the Law "On the Power Industry".

The green tariff is determined based upon the EUR/Hryvnya exchange rate established by the National Bank of Ukraine (the minimal reference rate is UAH 1,085,546 to EUR 100). The rate of the green tariff is adjusted by the Energy Commission quarterly. Moreover, the use of equipment of Ukrainian origin at WtE facilities allows producers to benefit from a higher rate of green tariff.

### **3.4 Are WtE projects given preferential dispatch treatment in your country?**

#### **ALBANIA**

Pursuant to the RES Law, producers that generate electricity from RES have a priority to access the electricity grid. The transmission system operator ("TSO"), which is a state-owned legal entity, is obliged to allow the RES-Electricity producers access to the national electricity grid to the extent that allows the security operation of the national electricity grid, based on transparent criteria. In practice, however, it is unclear how the priority right is implemented, as there are no implementing regulations in place.

### **AUSTRIA**

Pursuant to Article 16 of Directive 2009/28/EC, when dispatching electricity generating installations, transmission system operators shall give priority to generating installations using RES insofar as the secure operation of the national electricity system permits and based on transparent and non-discriminatory criteria. The priority access for RES is important for integrating RES.

Pursuant to Article 20 of the Federal Electricity Act, in the event of insufficient capacities of the system, Austrian provincial laws must provide for priority access for the transport of electricity deriving from RES-facilities in order to supply customers. However, the obligations set out under Regulation 2009/714/EC must be observed. Due to the Federal Electricity Act, operators shall buy electricity from RES.

### **BOSNIA AND HERZEGOVINA**

All RES projects and producers are given preferential dispatch treatment and they are prioritised with regard to the connection to the grid.

### **BULGARIA**

If such projects fall under the scope of the AERS, they will benefit from preferential dispatch treatment.

### **CROATIA**

No, WtE projects are not given preferential dispatch treatment in Croatia.

### **CZECH REPUBLIC**

Operators of the transmission/distribution grid are obliged to prefer RES-Electricity generating facilities and cogenerating plants in connection to the transmission/distribution grid, if they comply with the prescribed conditions and such connection is technically possible.

### **HUNGARY**

As explained above, WtE projects are treated as instruments to increase energy efficiency, the use of renewable energy and energy with low CO<sub>2</sub> emissions. Therefore, WtE projects are regarded in the same way as other RES projects from the regulatory point of view. However, these projects are intended to be connected with rural development and environment protection priorities.

A major problem in connection with the promotion of waste-related power facilities (incinerators, power plants) is that the public acceptance of such projects is rather limited.

### **KOSOVO**

No, no preferential treatment explicitly for WtE projects is available in Kosovo. For the RES promotion scheme, please see Section 3.3.

### **POLAND**

Yes, pursuant to Polish legal regulations, electricity produced from RES (including WtE) has priority access to the grid-system.

## ROMANIA

In Romania, the transmission system operator and distribution operators ensure that the electricity produced from renewable sources, (including WtE projects that use RES sources) is dispatched on a priority basis.

## SERBIA

No, WtE projects are not explicitly given a preferential dispatch treatment and under the relevant legislation in Serbia, WtE projects are not separately defined and regulated, but are an integral part of the regulations related to waste and energy.

However, pursuant to the Serbian Energy Law a privileged producer (i.e. a producer of energy from renewable sources that acquires a status of privileged producer), *inter alia*, enjoys priority in injection of the total produced electricity into a transmission or distribution system, except when the safety of operations of these systems is endangered.

## SLOVAK REPUBLIC

No, there is no such preferential treatment scheme valid in Slovakia for WtE projects. For the RES promotion schemes, see above.

## SLOVENIA

No, but all the electricity generated from renewable sources has to be provided to Centre for support (*Center za podpore*), if the company receives the special aid of guaranteed electricity purchase.

## UKRAINE

No, there is no preferential electricity dispatch treatment under Ukrainian law, therefore WtE projects do not have any preferential dispatch treatment in Ukraine.

### 3.5 What are the other incentives available to WtE projects? Are these incentives available to foreign investors? Are there incentives available to foreign investors that may not be available to domestic investors?

## ALBANIA

Albanian law does not differentiate between foreign and domestic investors.

## AUSTRIA

European incentives provide for the increase of energy efficiency. On a national level, the Federal Act on the Climate and Energy Fund (*Klima- und Energiefondsgesetz*) is the legal basis for subsidies which the Austrian climate and energy fund grants for projects relating to energy efficiency and sustainability. Beside that, there are no significant incentives for renewable energy producers other than the promotional framework of the Green Electricity Act.

In addition, 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 on a private level.

We are not aware of any special incentives available to foreign investors beyond those which are also available to domestic investors.

## BOSNIA AND HERZEGOVINA

According to the FBiH Law on RES and Cogeneration, the promotion system for the production of RES-Electricity for eligible producers in FBiH is based on the following:

- priority of delivery and/or off-taking of the electricity produced from RES to the grid;
- priority in applying for access to the network;
- obligation to purchase the electricity produced from RES;
- guaranteed price / feed-in tariffs; and
- right to obtain a guarantee of origin certificate.

The RS Law on RES and Cogeneration sets up a general framework for a promotion system for the production of RES, while the new set of documents recently adopted (i.e. the RS Rulebook on Incentives and the RS Decision) provides for detailed rules and regulations on this matter. It should be noted that the promotion system includes the following measures:

- benefits for grid connection;
- priority of grid access (*dispecarenje*);
- mandatory repurchase of electricity;
- feed-in tariff; and
- premium on the use of electricity for personal needs or market sale.

Specifically, the feed-in tariff and corrective coefficients depend upon both the type of renewable source and on the amount of installed power of a given facility.

Please note that all incentive measures, outlined above, are applicable to both foreign and domestic investment projects. Foreign investors, in this respect, do not have any special or favourable treatment.

## BULGARIA

According to public information from official sources<sup>18</sup>, WtE projects can obtain financing from operational programmes of the European Union. In particular, priority axis 2 “Waste” of Operational Programme “Environment” provides funding in the amount of BGN 562 million (approximately EUR 281 million) for waste management projects, including projects related to the design, construction and commissioning of different WtE installations. Municipal authorities will be the main beneficiaries under this priority axis.

Operational Programme “Innovations and competitiveness” also provides the option for private entities to obtain funding for WtE projects. The funding will primarily be orientated towards RES-Electricity installations for personal needs.

Furthermore, farmers and small enterprises operating in the agriculture sector are entitled to receive limited funding for the design and construction of WtE installations under Operational Programme “Rural development”.

The above-outlined operational programmes were agreed in 2014 and the respective applications are still expected to be filed.

Such incentives are available both to foreign and local investors.

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<sup>18</sup> <http://archive.eufunds.bg/bg/page/986>; <http://ope.moew.government.bg>

It should be noted that for renewable WtE projects which obtain financing from national or European programmes for the construction of the particular power plant, the standard FIT will not be applicable. The price for the off-take of electricity generated from such projects will be determined through a mechanism of correction of the standard FIT, which will normally apply to these projects. The correction, in particular, will be implemented through proportionate reduction of the value of the regulatory asset base<sup>19</sup> in the FIT formula with the amount of the investments approved for financing under the respective operational programme.

The final value of the price for electricity off-take will differ for the separate types of RES-Electricity plants, and will vary, depending on the particular percentage of the funding. According to the practice of the EWRC<sup>20</sup>, the higher percentage of funding will result in a lower purchase price. The FIT for currently operational RES-Electricity plants will not be further adjusted and the prices currently set by the EWRC shall be applied.

## CROATIA

There are no particular financial incentives for renewable energy producers other than those mentioned above. Generally, there are no special incentives that are solely available for incoming foreign investments.

## CZECH REPUBLIC

Czech law does not differentiate between foreign and domestic investors. No incentives are currently available for foreign investors in the area of WtE.

## HUNGARY

Many tenders are published by the government organisations in charge, which support environmental protection programmes and investments, such as the “*Széchenyi 2020*” programme (the umbrella name of the EU co-financed projects between 2014-2020).

In connection with electricity produced from RES and waste, the most important subsidy programmes currently applicable are as follows: (i) development assistance from the EU; (ii) the Environmental and Energy Efficiency Operative Programme (*Környezeti és Energiahatékonysági Operatív Program – “KEHOP”*); (iii) preferential loans from the so-called “Energy Efficiency Loan Fund”; (iv) preferential grid connection; and (v) financial funds from trading Hungary’s Assigned Amount Units issued pursuant to the Kyoto Protocol.

In the period from 2014 to 2020, Hungary will be entitled – on account of its European Union membership – to EU subsidies which may be used for development purposes. From the total allowance of KEHOP, the subsidy scheme with the priority axis named “Increasing use of renewable energy sources” and “Efficient energy use” will provide subsidies with a total volume of nearly EUR 1 billion. The primary goal of the axis “Increasing use of renewable energy sources” and “Efficient energy use” is to influence the resource structure of domestic energy sources in a favourable direction, i.e. to facilitate the departure from fossil energy sources to renewable and efficient variants, also including the promotion of WtE projects.

Apart from KEHOP, the measures of the Rural Development Programme (*Vidékfejlesztési Program*) as another operative programme aimed at the use of the resources of the EU Cohesion Policy 2014-2020, also support the propagation of renewable energy use in Hungary. The objective of this plan is to ensure that rural areas intensively participate in the development of the bio energy segment apart from producing the necessary raw materials. This plan supports the production of RES in three (3) strategic directions: liquid biomass (bioethanol and biodiesel), solid biomass (wood and soft stemmed energy plantation) and biogas. The subsidy resources are provided by the European Agricultural

<sup>19</sup> According to the legal definition under § 1, point 12 of Ordinance № 1/18.03.2013 on the regulation of electricity prices, “regulatory asset base” refers to the value of the company’s tangible and intangible assets, which are simultaneously used and have a useful life for the provision of the respective regulated service. The regulatory asset base is a principle element of the price formation mechanisms of electricity.

<sup>20</sup> As per the latest decision of the EWRC № L-14/01.07.2014.

Fund for Rural Development, which provides assistance to the competitive production of biomass and its processing to primary semi-finished products and the producer's own energy supply.

A third (3rd) EU co-financed operative programme, the Economic Development and Innovation Operative Programme (*Gazdaságfejlesztési és Innovációs Operatív Program – GINOP*), is also worth mentioning, as this programme provides financial support for research and innovation in the territories of energy efficiency and the generation of energy from RES among others.

There was also a special fund called the Energy Efficiency Loan Fund (*Megújuló energiaforrás hasznosítására irányuló beruházások finanszírozását szolgáló pénzügyi konstrukció* KEOP-2013-4.8.0) financed by the EU Cohesion Policy 2007-2013 established to make preferential loans available to RES-Electricity producers. A similar but revised financial instrument is expected to be introduced within the framework of KEHOP 2014-2020.

Government Decree No. 323/2007. (XII.11.) on certain provisions of enforcement of the Act LX of 2007 on the enforcement of the UNFCCC and the Kyoto Protocol has created the Green Investment Scheme.

The aim of the Green Investment Scheme (*Zöld Beruházási Rendszer*) is to provide subsidies to green installations. The financial fund for the subsidy is secured by the trading of Hungary's Assigned Amount Units issued pursuant to the Kyoto Protocol. Pursuant to Hungarian law, the price received by Hungary for the transfer of these Assigned Amount Units in the first undertaking period must be used to subsidise domestic emission reduction projects.

The subsidies for green installations are granted by a tender proceeding published by the Ministry of National Development ("**Ministry**"). The tender must be published on the official Web site and in the Official Journal of the Ministry. The fact that the tender has been published shall also be posted in two (2) national newspapers.

### **KOSOVO**

According to available information, we do not know of any other incentives for WtE projects, except for special financing options generally available for RES projects funded by the European Union.

### **POLAND**

Incentives are applicable both to foreign and domestic investors.

A range of economic incentives are available for the construction of modern thermal municipal waste treatment plants in Poland. These mechanisms include:

- EU subsidies for the co-financing of qualifiable costs of the construction of an installation granted under the Operational Programme Infrastructure and Environment and other EU funds allocated for such activity;
- as of 1 July 2016, support contracts will be 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 will be held electronically, via an internet platform; and
- in the years 2006-2015, fees charged for depositing waste in a landfill site have increased from PLN 14.17 (approximately EUR 4) per ton up to PLN 200 (approximately EUR 50) per ton.

In order to obtain a grant for co-financing construction, it is necessary to meet a number of formal requirements defined in the guidelines prepared by the Ministry of Regional Development, in particular, for income generating projects. The detailed conditions for recognising the energy as generated from renewable sources and from highly-efficient cogeneration have been set in the relevant regulations issued by the Minister of Economy and the Minister of Environment.

**ROMANIA**

For the moment, there are no special incentives available for WtE in particular. The support scheme for RES-Electricity energy is generally applicable, including WtE projects using RES-Electricity sources. Please note that accreditation in the RES-Electricity support scheme is only allowed for energy projects commissioned or refurbished until the end of 2016. The support scheme will no longer be applicable to new projects starting from 2017.

**SERBIA**

Pursuant to the Decree on Amount and Conditions for Acquiring Incentive Funds, operators of waste treatment facility that use used tires for generating energy are entitled to an incentive in the amount of RSD 3,606 per ton (approximately EUR 30).

Except as stated above in answer to question 3.1, there are no specific incentives available to WtE projects for foreign investors.

**SLOVAK REPUBLIC**

There are no such incentives, neither to domestic nor to foreign investors in the area of waste management. The projects may apply to the EU funding – priority axes – environment.

**SLOVENIA**

There is a programme of support offered by the Energy Agency according to which companies may, if chosen on the basis of a public tender by the Energy Agency, obtain financial support (subvention, credit, etc.) for purchase or maintenance of machinery and infrastructure that will produce energy from renewable sources. According to the application documentation and conditions on the official Web site of the Agency there is no differentiation between domestic and foreign investors.

**UKRAINE**

According to the State Economic Program for Energy Efficiency and Development of Energy Production from Renewable and Alternative Energy Sources for the Years 2010-2016, the state attempts to stimulate industrial enterprises to implement energy efficient technologies, equipment, facilities, etc. by partly subsidising energy efficient projects, including via the reduction of the cost of loans extended to such projects. This subsidy is granted on a competitive basis and within the amounts provided for in the state budget for the applicable year.

We are not aware of other incentives, except for those mentioned above. Foreign investors have no special privileges with respect to obtaining incentives compared to domestic investors.



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# STATISTICS

## **4. STATISTICS**

### **4.1 Approximately how many WtE projects are in your country? What percentage of electricity in your country is generated by WtE projects?**

#### **ALBANIA**

As already mentioned in Section 1 above, there are few plants using biomass as fuel for the production of energy and only one WtE project in Albania that uses waste as a form of fuel – this is the Landfill of Elbasan project, which is currently in the construction phase. At present, the total percentage of the amount of energy generated by these plants is unknown.

#### **AUSTRIA**

In 2013, the incineration rate of municipal waste was thirty-seven percent (37%) in Austria. Only four percent (4%) of municipal waste was landfilled due to the introduction of landfill bans. In 2010, Austrian WtE plants produced 0.2 million MWh electricity and 3.6 million MWh heat. According to data from 2012, 0.07 million MWh electricity and 1.45 million MWh heat were produced from 7.49 million tonnes of thermally treated waste by a total of 59 plants (WtE plants and dedicated refuse derived fuel (RDF) plants).

According to the last available data from 2010, 10 waste incineration plants and 49 thermal treatment plants are in operation in Austria. Seven incineration plants use grate firing systems to process residual waste:

- Müllverbrennungsanlage Spittelau (Vienna);
- Müllverbrennungsanlage Flötzersteig (Vienna);
- Müllverbrennungsanlage Pfaffenau (Vienna);
- Müllverbrennungsanlage WAV (Wels);
- Müllverbrennungsanlage Dürnrrohr (Zwentendorf);
- Kärntner Restmüllverbrennung (Arnoldstein); and
- Müllverbrennungsanlage Zistersdorf (Zistersdorf).

In the remaining three incineration plants fluidised-bed incineration takes place:

- Wirbelschichtofen 4 - Simmeringer Haide (Vienna);
- Reststoffverwertung Lenzing (Lenzing); and
- Thermische Reststoffverwertung Niklasdorf (Niklasdorf).

#### **BOSNIA AND HERZEGOVINA**

The potential is present for biomass energy to provide fourteen percent (14%) of the total energy supply, versus the actual current six point five percent (6.5%) of the total energy consumption. An estimated 34.5 PJ of energy is available as biomass resources in the country, predominantly including firewood, grain residues, and residues from log processing. Potential cogeneration amounts to 410 MW of heat and approximately 200 MW of electricity per annum, with an additional 600 MW of estimated thermal capacity being available from wood waste. The potential of biogas from the agricultural sector as an energy source has also been recognised, although no in-depth study has currently been conducted.

There is no all-encompassing study on WtE projects; however the local media covers the most notable ones.

Near Sarajevo, a landfill gas plant with a 350 KW generator has been built with Austrian support; its capacity is due to be doubled in the near future. The electricity from the plant is fed into the urban grid. In addition, conducted project is being carried out in Maglaj, whereby the construction of a boiler room based on biomass is being invested in. Another ongoing project is the "Agricultural Biomass Cross-border Development of Energy in Posavina". The aim of the project is focused on using agricultural biomass for the production of, *inter alia*, biogas, which can be used for the production of electricity.

## BULGARIA

The number of waste to-energy-projects has increased steadily from just seven (7) in 2012 to twenty-nine (29) in 2015. The total installed capacity is approximately 55.1 MW, which amounts to around one point thirty-three percent (1.33%) of the total installed capacity of the RES-Electricity. WtE projects account for two point thirteen percent (2.13%) of the energy generated in Bulgaria from renewable sources in 2015<sup>21</sup>.

## CROATIA

Locating landfills and public opposition to siting new facilities, especially incinerators, remains a challenge in Croatia and each new waste management facility faces strong opposition. No WtE facility has been established in Croatia to date.

## CZECH REPUBLIC

There are three (3) incinerator plants in the Czech Republic. The overall production of electricity generated by WtE projects was 87 GWh in year 2014. This equals approximately zero point zero nine percent (0.09%) of electricity produced in the Czech Republic in 2014.

All RES produced 9,170 GWh of electricity in the year 2014. This equals a ten point two percent (10.2%) share of the overall 2014 electricity production.

Currently, operational WtE facilities include:

- Waste incinerator Prague – Malešice (i) producing electricity since 2010; (ii) turbine capacity 17.5 MW; and (iii) yearly capacity 310,000 tonnes of waste.
- Waste incinerator Brno (i) producing electricity since 2010; (ii) turbine capacity 22.7 MW; and (iii) 248,000 tonnes of waste.
- Waste incinerator Liberec (i) turbine capacity 3.5 MW; and (ii) yearly capacity 96,000 tonnes of waste.

## HUNGARY

There is only one (1) power plant in Hungary which produces electricity from waste. Thus the percentage of electricity generated by WtE projects is rather low at only zero point five percent (0.5%).

The quantity of waste has decreased significantly since 2000 (e.g. the volume of industrial production waste decreased by forty percent (40%)). The biologically degradable part of communal solid waste was 1,827,868 tonnes in 2006, amount of waste (methane) gas was 140,821 tonnes.

Communal solid waste is utilised energetically by the *Fovárosi Hulladékhasznosító Mu* (Waste incineration plant of Budapest): in 2007, the energy produced by the incineration of waste was 3,310,385 GJ, whereby the energy efficiency rate was 0.63. This power plant consumes 420,000 tonnes of communal waste each year, providing heat for

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21 According to official data of the Sustainable Energy Development Agency, available at: <https://portal.seea.government.bg/>.

approximately 13,000 households and electricity to approximately 50,000 households. However, as a result, only nine percent (9%) of Hungary's solid communal waste output is used to produce energy.

Please note that we expect a significant increase in the future. Please see Section 4.2.

### **KOSOVO**

There is no official statistical information available regarding WtE projects in Kosovo.

### **POLAND**

Poland still struggles with an insufficiently developed network of plants. The existing installations would not be able to cope with tasks arising from the directives, due to a limited number of sites. Furthermore, a majority of these existing installations specialise solely in mixed waste management rather than in the recovery of resources from waste. Given their limited processing capacity, as much as seventy point nine percent (70.9%) of communal waste collected in Poland is disposed off at landfill sites without any treatment.

Waste treated in modern incineration plants and processed into alternative fuel may constitute a valuable source of renewable energy, especially for waste producers. The production of Refuse-Derived Fuel ("RDF") from municipal solid waste, using a combination of mechanical heat treatment or mechanical biological treatment, remains underdeveloped. Local companies are capable of producing only 700,000 tons of fuel that match the quality requirements set by the cement industry, whereas twice as much is needed. Consequently, numerous cement plants tend to import alternative fuels from Germany.

In Poland, there is a serious shortage of thermal waste treatment plants and the capacity of the existing installations does not allow for regular waste combustion, especially in urban areas. Currently there are only two (2) incinerators located in Gdansk and Warsaw (District Targówek). The Warsaw plant combusts roughly 50,000 tons of waste annually, which constitutes only zero point five percent (0.5%) of the overall generated waste. Six (6) other installations for thermal treatment of waste are expected to start operating in 2016 in the cities of Białystok, Bydgoszcz, Konin, Kraków, Szczecin and Poznan.

Currently there are no waste treatment installations utilising pyrolysis to convert energy from waste to electricity or gas in Poland. Nonetheless, a positive aspect of WtE in Poland is the development of biogas plants. Poland boasts approximately hundred and ninety six (196) biogas plants with a total electrical capacity of approximately 130 MW. Almost ninety-one (91) installations are biogas plants located at landfill sites, and seventy-five (75) are located at sewage treatment plants. Approximately thirty (30) biogas plants incinerate waste generated in agricultural production. It is expected that the capacity of Poland's biogas plants will have reached 980 MWe by 2020.

### **ROMANIA**

At the moment, there is no official statistical data as to the number of WtE projects in Romania. According to the ANRE annual report from 2013, only one percent (1%) of the renewable electricity produced in Romania in 2013 resulted from biomass. During the period 2008-2012, this percentage was even lower than one percent (1%).

A statistic from Transelectrica S.A., the Romanian transport system operator, indicates that the total capacity of WtE projects in Romania that benefitted from the RES-Electricity support scheme in 2013 amounted to 82.53 MW, originating from: (i) 64.7 MW from agricultural and forestry waste; (ii) 13.02 MW from energy crops; (iii) 2.72 MW from deposit gas; (iv) 2.26 MW from biogas and fuel alcohol; and (v) 0.35 MW from fermentation gas.

According to Eurostat, investments were made in Romanian WtE projects benefiting from the RES-Electricity support scheme in the amount of EUR 117 million.

## **SERBIA**

There is no statistical data available. However, according to the latest press releases, the potential of WtE projects is recognised by the authorities, which should have a positive influence on prospective investors for such projects.

## **SLOVAK REPUBLIC**

There are no such statistics available to us.

## **SLOVENIA**

Currently, only the above-mentioned Toplarna Celje, can produce such electricity, with a capacity of 2 MW, which is a very small percentage of the electricity production in Slovenia (less than one percent (1%)). Another project is also RCERO Ljubljana, where hard (solid) fuels will be produced from waste.

## **UKRAINE**

There is no official statistical information regarding WtE projects in Ukraine. As regards large-scale facilities, Ukraine has four vast waste incineration plants. Most of them were put into operation in the 1980s, only one plant was launched recently (in 2013). A total of only around 20 biogas plants have been put into operation in Ukraine so far, a substantial number of which run on biologically degradable waste.

There are no official statistics as to what percentage of electricity is generated by WtE projects in Ukraine.

## **4.2 Do you foresee any near term developments favoring WtE projects in your country?**

### **ALBANIA**

The Albanian government has declared that there will be other WtE projects using waste as a form of fuel in other regions of Albania. Considering that:

- Albania is rich with RES;
- it produces huge amounts of waste each year;
- there is an increasing trend of awareness concerning environmental issues in Albania; and
- the continuing need for electricity;

it may be expected that there will be an increased implementation of WtE projects in the near future in Albania.

### **AUSTRIA**

The Landfill Directive 1999/31/EC prescribes targets for Member States to reduce the amount of biodegradable waste that they landfill to thirty-five percent (35%) of 1995-levels by 2016. The aim is to reduce as far as possible negative effects on the environment, e.g. the pollution of surface water, groundwater, soil and air and on the global environment, including the greenhouse effect, as well as any resulting risk to human health, from the landfilling of waste. Austria has already reached the prescribed target. By introducing landfill bans for untreated residual waste, waste landfilled is reduced to a minimum.

According to the EU energy and climate package, Austria is obliged to (i) increase the share of renewable energy to thirty-four percent (34%); (ii) reduce greenhouse gas emissions in sectors not subject to emissions trading by sixteen percent (16%); and (iii) improve energy efficiency by at least twenty percent (20%) until 2020.

Regarding the regulatory regime governing electricity produced from RES, it is noteworthy that in October 2014 the European Council set itself a new target of at least twenty-seven percent (27%) renewables by 2030. According to the European Commission, in order to reach this target and as part of the EU's plans for an Energy Union, a new Renewable Energy Directive, (including a post-2020 framework), will be needed. In that respect, the European Commission identified potential areas which will need attention. These include (i) new control mechanisms to ensure that the target will be achieved at EU-level; (ii) measures to empower consumers on renewable energy solutions; (iii) cutting emissions in the heating and cooling sector; (iv) removing market entry barriers for renewables; and (v) boosting the use of renewables in the transport sector.

### **BOSNIA AND HERZEGOVINA**

Bearing in mind that BiH is rich with RES, and that there is an increasing trend of investments in this sector, especially hydro and solar power, it can be expected that there will be an increased implementation of WtE projects as well.

### **BULGARIA**

The figures outlined in Section 4.1 above indicate a trend of slow increase in the number of WtE projects. Currently there are no pending legislative or administrative initiatives which could further promote the development of such projects.

The funding available from the operational programmes of the European Union could potentially stimulate an increase in the number of new WtE projects to be commissioned in Bulgaria in the future.

### **CROATIA**

Croatia is working to fully implement the EU environmental regulations. As mentioned above, WtE projects are one of the preferred methods of waste management, after reuse and recycling. In particular, it has been announced that the construction of a Zagreb-based WtE facility will commence in March this year but the planned initiation of operations is still unknown.

### **CZECH REPUBLIC**

Council Directive 1999/31/EC (EU Landfill Waste Directive) has been implemented into Czech law.

According to information available in the Czech media, the landfill deposit charge is expected to double by 2020, in order to discourage the use of landfills as the primary way to dispose of waste and to encourage recycling. It is expected that the increase of this landfill charge will also represent an opportunity for further development of WtE projects, based on the incineration of this waste.

### **HUNGARY**

Hungary's parliament has approved the country's National Energy Strategy up to 2030. Under the Strategy, Hungary will aim to ensure the long-term security of energy supplies in Hungary and increase the share of RES and waste in its electricity generation mix, particularly biomass. The envisaged increase of the share of RES in the energy mix is up to fifteen percent (15%) by 2030 and up to twenty percent (20%) by 2050.

For the compliance of the environment protection strategy of the European Union, especially in the field of waste management, the short-term strategy of the government is to raise the role of waste recycling in any form (including the promotion of WtE projects, especially by enhancing the building of decentralised small and medium-sized heat and electricity generation capacities).

## KOSOVO

Currently, we do not see a possibility of WtE projects being successfully developed in the near future.

## POLAND

There is a significant demand for modern infrastructure, such as thermal treatment plants, gasification plants and mechanical biological treatment installations. Furthermore, there is substantial opportunity for cooperation or mergers/acquisitions between market players, in order to achieve a greater market share. Numerous players are looking for external financial or strategic investors to buy into the market and/or to finance the necessary capital expenditures. Such cooperation also provides opportunities for financial institutions willing to launch waste management focused products (e.g. loans, project finance, etc.). The waste sector is expected to consolidate in the coming years, and minor players will likely go out of business due to recently introduced bidding systems for contracting waste collection services. Smaller players will find it more and more difficult to keep up with the competition.

There is a plan to construct eleven (11) thermal waste treatment plants combined with launching new mechanical-biological treatment plants. In Poland, there are no treatment installations utilising pyrolysis to convert waste into electricity or gas. However, regional authorities are showing increasing interest in introducing pyrolysis installations in their regions. Moreover, the RDF production market remains underdeveloped and dispersed in comparison to other European markets.

It is important to make an effort to implement an integrated approach in the construction of the waste management system in Poland, which properly takes into account the environmental, energy and resource aspects.

## ROMANIA

Bulletin no. 48/2012 issued on 27 March 2012 by Eurostat showed that in Romania, the majority of municipal waste is deposited in landfills, whereas recycling and valuation processes are rarely used. We expect this tendency to change, as a result of the following legal provisions contained in Government Emergency Ordinance no. 196/2005 *on the Environmental Fund*:

- owners or, where applicable, landfill managers have to pay RON 80 (approximately EUR 17.7) for every tonne of inert and non-hazardous waste that is deposited for final disposal in landfills starting in 2017. In 2018, this tax is increased to RON 120 (approximately EUR 26.6) for each tonne of unused waste;
- municipalities currently have to pay RON 100 (approximately EUR 22.2) to the Environmental Fund for every tonne of waste disposed in landfills in the event that the respective municipality has not fulfilled its annual reduction quota of fifteen percent (15%) of deposited municipal waste. The fee calculation is based on the difference between the annual fifteen percent (15%) quota and the actual amount entrusted for recovery or incineration.

In addition, Law. no. 249/2015 on *the management of packaging and waste derived from packaging* (“**Law No. 249/2015**”) entered into force on 2 November 2015. Law no. 249/2015 seeks to implement EU Directive 94/62/EC as subsequently amended and supplemented by the European Parliament and by the Council. According to its provisions, sixty percent (60%) of the weight of waste derived from packaging must be capitalised or incinerated in incineration plants with the recovery of energy. The obligation applies to producers, distributors, owners renting packaging and importers of packaging. Non-compliance with the above obligation is sanctioned with an (administrative) fine between RON 15,000 and RON 25,000 (approximately between EUR 3,300 and 5,500).

These are important monetary incentives to motivate municipalities, as well as landfill owners and packaging operators to recycle or value waste by incineration and we expect it to further lead to the demand and development of more WtE projects in Romania. It is necessary for new legislation to be passed to promote this specific type of energy projects.

### SERBIA

We do not foresee any coming developments favouring WtE projects in Serbia.

### SLOVAK REPUBLIC

We do not see any significant change in renewable energy legislation nor the introduction of any new WtE laws.

We are not aware of any significant increase in the number of WtE projects in the near future. However, it is possible that this kind of WtE project will become more active in the upcoming years, not only because of the agreed share of RES, but also because of steadily declining capacities at landfill sites.

### SLOVENIA

Slovenia is encouraging the use of energy from renewable sources and its share in the gross final consumption was twenty-two point five percent (22.5%) in 2013 and twenty-one point nine percent (21.9%) in 2014. Increased use of RES is encouraged through various mechanisms. Investment in new plants is encouraged by the Slovenian Ecological Fund through favourable credits and subsidies, as well as from energy suppliers (according to the Regulation on energy savings requirements). Electricity production from RES is promoted by the promotion scheme for production of electricity from RES, including also biomass.

Slovenia is promoting green energy and sustainable development; however the implementation of positive changes favouring WtE projects in the near future is still dependent upon the new government strategy for waste treatment, which is currently under preparation.

### UKRAINE

In general, energy derived from renewable sources currently makes up only around four percent (4%) of the total energy consumption in Ukraine. This ratio should reach eleven percent (11%) by 2020, according to the National Renewable Energy Action Plan until 2020 (approved by the Ukrainian Government in 2014). The target figure seems realistic, considering for example that only a small fraction (around ten percent (10%)) of biomass resources available in Ukraine are currently being used for energy generation, (which suggests a high potential for growth).

Positive changes in the relevant legislation are also envisaged for the future. Specifically, under the EU-Ukraine Association Agreement (which entered into force for this purpose on 1 November 2014), Ukraine committed to incorporate the following Directives and Regulations of the European Parliament and of the Council into domestic legislation within five (5) years of taking effect by the Association Agreement:

- Waste Framework Directive, which establishes a general framework for processing different types of waste;
- Directive 2006/21/EC on the management of waste from extractive industries, which provides for a system of management of waste produced by extractive industries; and
- Directive 2010/75/EU on industrial emissions (integrated pollution prevention and control), which provides, *inter alia*, for the system of permits for and controls over waste processing operations.

Moreover, on 1 February 2011, Ukraine joined the Energy Community. By virtue of its accession to this organisation Ukraine is required to gradually adopt and implement EU standards and regulations of the Third Package, *inter alia*, in the field of generation of energy from waste.

We anticipate no new major taxation or other financial incentives favouring WtE projects in the near future. However, considering the feed-in tariffs for energy produced from biomass, those WtE projects (using biomass or biogas) focusing on generation of heat or electricity may be successfully developed in Ukraine.



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