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ECRB Report on
Evaluation of the annual average transmission charges paid by producers
in
Energy Community Contracting Parties

December 2019

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Introduction

1. About ECRB

The Energy Community Regulatory Board (**ECRB**) operates based on the Energy Community Treaty. As an institution of the Energy Community¹ the ECRB advises the Energy Community Ministerial Council and Permanent High Level Group (**PHLG**) on details of statutory, technical and regulatory rules and makes recommendations in the case of cross-zonal disputes between regulators.

ECRB is the independent regional voice of energy regulators in the Energy Community. Its mission builds on three pillars: providing coordinated regulatory positions to energy policy debates, harmonizing regulatory rules across borders as well as sharing regulatory knowledge and experience.

2. Background

ECRB promotes the development of a competitive, efficient and sustainable regional energy market that works in public interest. A harmonized and reliable regulatory framework is essential for building trust of investors and customers and ECRB's mission is to facilitate this process for the benefit of Energy Community businesses and citizens.

In this respect, transmission charges paid by system users, i.e. consumers and producers, have an important role. Due to variation in transmission charges faced by the producers of electricity arising from local circumstances and in order to prevent undermining the internal market, a common regulatory approach to transmission charges has been established by Commission Regulation (EU) No 838/2010 of² (**R838/2010**). Under this common approach the acceptable range of the value of the annual average transmission charges paid by producers has been defined, as well as exceptional ranges applying in specific EU Member States (**MS**).

Commission Regulation (EU) No 838/2010 has been adapted for Energy Community Contracting Parties (**CP**) by PHLG Decision 2013/01/PHLG/EnC of 23 October 2013. While the Agency for the Cooperation of Energy Regulators (**ACER**) conducted a monitoring activity envisaged by this Regulation and issued an Opinion on the appropriate range of the transmission charges paid by electricity producers on 15 April 2014, such monitoring has not been conducted for Energy Community Contracting Parties since the adaptation of adapted version of Commission Regulation (EU) No 838/2010.

As part of the ECRB Work Program for 2019, the ECRB Electricity Working Group (**EWG**), conducted monitoring of transmission charges paid by producers in Energy Community **CP**. The aim of this activity is to provide an overview of transmission charges paid by producers that have been in place since 2014 in Energy Community **CPs**, as well as their major elements and specificities of local regulatory frameworks including respective rationale.

3. Methodology and scope

Findings, remarks and recommendations, presented in chapters of this report that follow, are developed based on inputs provided by respective National Regulatory Authorities (**NRA**) in Energy Community **CPs**. A uniform questionnaire has been distributed to all NRAs in Energy Community **CPs**, so to provide information on:

- annual average transmission charges paid by producers (**G-charges**), calculated in accordance with Annex Part B of **R838/2010**,
- **G-charges** allocation setup,
- variation basis of G-charges and ranges of G-charges,

¹ The Energy Community comprises the EU and Albania (AL), Bosnia and Herzegovina (BA), North Macedonia (MK), Georgia (GE), Kosovo* (KS), Moldova (MD), Montenegro (MN), Serbia (RS) and Ukraine (UA). Armenia, Turkey and Norway are Observer Countries. [Throughout this document the symbol * refers to the following statement: *This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Advisory Opinion on the Kosovo declaration of independence*].

² Regulation (EU) 838/2010 of 23 September 2010 on laying down guidelines relating to the inter-transmission system operator compensation mechanism and a common regulatory approach to transmission charging incorporated.

- methods of **G-charges** calculation,
- charges related to ancillary services and losses paid by producers and
- connection charges.

Additionally, instructions on how to provide the requested feedback, including necessary references to **R838/2010**, have been shared with NRAs. While monitoring period for all aspects listed above is from 2013 to 2018, certain data for 2019 are provided where applicable.

During collection data period, feedback was provided by: **ERE**³ (NRA from Albania), **DERK**⁴ (NRA from Bosnia and Herzegovina), **GNERC**⁵ (NRA from Georgia), **ERO**⁶ (NRA from Kosovo*), **REGAGEN**⁷ (NRA from Montenegro), **ERC**⁸ (NRA from North Macedonia), **NEURC**⁹ (NRA from Ukraine). **AERS**¹⁰ (NRA from Serbia) and **ANRE**¹¹ (NRA from Moldova).

³ **ERE** – Enti Rregullator i Energjisë.

⁴ **DERK** – Državna regulatorna komisija za električnu energiju.

⁵ **GNERC** – Georgian national energy and water supply regulatory commission.

⁶ **ERO** – Energy Regulatory Office.

⁷ **REGAGEN** – Regulatorna agencija za energetiku'.

⁸ **ERC** – Регулаторна комисија за енергетика и водни услуги на Република Северна Македонија..

⁹ **NEURC** – National Energy and Utilities Regulatory Commission.

¹⁰ **AERS** – Agencija za energetiku Republike Srbije.

¹¹ **ANRE** – Agenția Națională pentru Reglementare în Energetică a Republicii Moldova.

Findings

1. Overview

The results of then conducted survey, as an overview of collected information related to charges that producers connected to transmission system, are provided in following chapters.

1.1. Annual average G-charges and compliance with Annex Part B of R838/2010

As already mentioned, R838/2010 has been adapted for Energy Community CP end of October 2013. Two out of eight NRAs (ERE and REGAGEN) reported that G-charges have been in place since 2014, while one NRA (SERC) reported that G-charges have been introduced in December 2018.

Annex Part B of R838/2010 defines that the annual average transmission charges paid by producers is the annual transmission tariff charges paid by producers divided by the total measured energy injected annually by producers to the transmission system of a CP. For this calculation, transmission charges shall exclude:

- 1) charges paid by producers for physical assets required for connection to the system or the up-grade of the connection;
- 2) charges paid by producers related to ancillary services;
- 3) specific system loss charges paid by producers.

According to data provided by NRAs (Table 1), annual average G-charges range from 0.0017 €/MWh to 3.5116 €/MWh across CPs, while the the current share (share in 2018) of total transmission revenues collected from G-charges ranges from 0.5162% to 35.17%.

Table 1: National annual average G-Charges since 2014

Contracting Party	Average G-Charges 2014 [€/MWh]	Average G-Charges 2015 [€/MWh]	Average G-Charges 2016 [€/MWh]	Average G-Charges 2017 [€/MWh]	Average G-Charges 2018 [€/MWh]	Share of Transmission revenue 2018 [%]
Albania	/	/	/	/	/	/
Bosnia and Herzegovina	/	/	/	/	0.0017	0.05162 ¹²
Georgia	/	/	/	/	/	/
Kosovo* ¹³	0.4680	0.7750	0.6140	0.4410	0.3940	17
Moldova	/	/	/	/	/	/
Montenegro	2.2625	2.1710	2.3831	3.5116	2.1768	35.17
North Macedonia	/	/	/	/	/	/
Serbia	/	/	/	/	/	/
Ukraine	/	/	/	/	/	/

Looking at the CPs level, in case of Bosnia and Herzegovina data on the annual average G-charges are available only for one year, while in Montenegro annual average G-charges vary from 2.1710 €/MWh in 2015

¹² In case of Bosnia and Herzegovina the share is related to the revenues of Independent System Operator and Transmission Company

¹³ In case of Kosovo*, the presented average G-charges include System Operator and Market Operator charges.

to 3.5116 €/MWh in 2017.

In case of Montenegro, G-charges are in place since 2014 and their introduction was considered in 2013, meaning that the level of G-charges set back then reflected the specific needs on CP level of transmission system operators costs allocation between two major categories of users connected on transmission system: consumers and producers without considering the upper cap agreed by majority of EU MS.

It has been noticed that G-charges have been in place in Kosovo* even in 2013. During the monitoring period, annual average G-charges in Kosovo*, which in this very specific case do include Market Operator charges too, were varying from 0.394 €/MWh in 2018 to 0.775 €/MWh in 2015.

1.2. G-charges setup in Energy Community Contracting Parties

For the purpose of this evaluation, the following definitions of G-charges apply:

- **Energy-based G-charges** – charges payable on every unit of energy produced and/or injected into the grid [€/MWh];
- **Power-based G-charges** – charges payable on the capacity connected to the grid, on yearly or multi-year peak output under peak conditions [€/MW];
- **Lump-sum G-charges** – charges that are fixed at the start of the relevant charging period and do not depend on capacity connected, on yearly or multi-year peak output under peak conditions, unless these are taken into account in the form of an average over a past period of at least 5 years. Moreover, lump-sum G-charges may take into account the average annual load factor or the average of other output related factor, as long as such averages are calculated over a minimum of 5 years. The level of the lump-sum G-charge may be differentiated between small and large plants, or based on generator characteristics [€].

The practice of lump-sum G-charges has not been recorded in CPs so far. In case of Bosnia and Herzegovina, G-charges introduced in December 2018 are energy-based.

Table 2: G-Charge Setup in 2018

Contracting Party	Energy-based [€/MWh]	Power-based [€/MW]	Lump-sum [€]
Albania	/	/	/
Bosnia and Herzegovina	0.01994	/	/
Georgia	/	/	/
Kosovo*	/	/	/
Moldova	/	/	/
Montenegro	/	9,150.90 ¹⁴	/
North Macedonia	/	/	/
Serbia	/	/	/
Ukraine	/	/	/

In case of Montenegro that, together with Kosovo*, has the longest history of applying G-charges in the Energy Community CPs, both (energy-based and power-based) G-charges were present. During 2014 and until August 2015, energy-based G-charges were in place, while since August 2015 until end of 2019 producers connected on transmission network pay G-charges based on power. Sector developments that took place meanwhile resulted in adjustments of allocation approach starting with the next regulatory period. Namely, from 2020

¹⁴ The value of Power-based G-charge in Table 2 includes charge for ancillary services given by Table 4.

producers will pay one part of G-charges based on energy produced and the second part based on power.

An overview of G-charges that were in place in 2018 is given in Table 2. **ERO** has not provided information on the requested set of data.

1.3. Variation basis of G-charges and ranges of G-charges

In general, G-charges can vary based on location, time and voltage level. Based on feedback provided by NRAs, all producers connected on transmission system in particular CP pay the same G-charge regardless its location, time of use of network or voltage level of its connection.

1.4. Methods of G-charges calculation

According to information provided in the Opinion of ACER No 09/2014, different methodologies for calculating the G-charges are identified across countries. Most common practices were:

- G-charges to cover a certain share of total costs;
- G-charges to cover a specific cost element and
- G-charges to cover costs implicitly or explicitly caused by the generation.

In Energy Community CPs, in one case G-charges are set to cover a certain share of total costs and in one CP G-charges are set to cover costs implicitly or explicitly caused by generation unit. An overview of information provided by NRAs is given by Table 3, while more details about respective methodology in place are elaborated in chapter **Findings by Contracting Party**. **ERO** has not provided requested set of data.

Table 3: Methods of G-Charge calculation in 2018

Contracting Party	G-Charge to cover a certain share of total costs	G-Charge to cover a specific cost element	G-Charge to cover costs implicitly or explicitly caused by the generation unit	Other
Albania	/	/	/	/
Bosnia and Herzegovina	YES	NO	NO	NO
Georgia	/	/	/	/
Kosovo*	/	/	/	/
Moldova	/	/	/	/
Montenegro	NO	NO	YES	NO
North Macedonia	/	/	/	/
Serbia	/	/	/	/
Ukraine	/	/	/	/

1.5. Additional charges related to ancillary services and losses paid by producers

It has already been mentioned in chapter **Annual average G-charges and compliance with Annex Part B of R838/2010**, that G-charges according to R838/2010, exclude:

- 1) charges paid by producers for physical assets required for connection to the system or the up-grade of the connection;
- 2) charges paid by producers related to ancillary services;

3) specific system loss charges paid by producers.

Only **REGAGEN** reported that generators cover certain part of costs related to ancillary services. As in this case, costs related to ancillary services present, according to methodology that is in place, are separate cost category, charges related to ancillary services are collected from generators together with G-charges presented in Table 2. Data provided in Table 4 are extracted and recalculated only for the purpose of preparation of this report.

Table 4: Charges related to ancillary services and losses in 2018 [€/MWh]

Contracting Party	Losses [€/MWh]	Ancillary services [€/MWh]	Comment
Albania	NO	NO	
Bosnia and Herzegovina	NO	NO	
Georgia	NO	NO	
Kosovo*	NO	NO	
Moldova	/	/	/
Montenegro	NO	0.1347	
North Macedonia	NO	NO	
Serbia	NO	NO	
Ukraine	NO	NO	

During the collection data period, feedback related to ancillary services and losses charges was not provided by **ANRE**.

1.6. Connection charges

Different to previously mentioned charges, six NRAs from Energy Community CPs reported that in 2018 generators did have to pay connection charges once they are connecting to the transmission system.

Three NRAs reported that connection charges are paid on “deep” costs, meaning that connection charges are based on costs that include costs of grid reinforcement measures, too.

The other three NRAs reported that connection charges are paid on “shallow” costs, i.e. that connection charges are based on costs that exclude costs of grid reinforcement measures.

An overview of NRAs responses is provided by Table 5.

Table 5: Connection charges in 2018

Contracting Party	Shallow	Deep	No
Albania			X
Bosnia and Herzegovina	X		
Georgia	X		
Kosovo*		X	

Moldova	/	/	/
Montenegro		X	
North Macedonia	X		
Serbia	X		
Ukraine		X	

During the collection data period, feedback related to connection charges was not provided by **ANRE**.

2. Findings per Contracting Party

2.1. Bosnia and Herzegovina

G-charges have been introduced in Bosnia and Herzegovina as of December 2018. There the calculated annual average is based on one the month of implementation and equals to 0.0017 €/MWh. A specificity of selected regulatory approach in Bosnia and Herzegovina is that G-charges are collected to recover a share of Independent System Operator's (**NOS**) revenue.

2.2. Kosovo*

Kosovo* is one of the CPs that has introduced G-charges before the adaptation of R838/2010 for CPs. Calculated annual average G-charges during the monitoring period were varying between 0.394 €/MWh in 2018 to 0.775 €/MWh in 2015. A specificity of electricity sector in Kosovo* and the selected regulatory approach is that G-charges include both the System Operator charge and Market Operator Charge.

2.3. Montenegro

G-charges have been introduced in Montenegro as of January 2014. The basic principle that has been respected from the very beginning is that generators connected to the transmission system should cover costs implicitly or explicitly caused by them. According to the *Methodology for determining of regulatory allowed revenue and prices for use of transmission system* that was in place in 2018 and 2019, costs covered by generators are parts of CAPEX and OPEX that are implicitly or explicitly caused by generators connected to the respective system. The annual average G-charge calculated in line with Annex Part B of R838/2010 in 2018 was 2.1710 €/MWh and producers paid it based on power.

Sector developments that took place meanwhile resulted in adjustments of allocation approach starting with the next regulatory period. Namely, as of 2020 producers will pay one part of G-charges based on energy produced and the second part based on power.

3. Summary of findings

In most of Energy Community CPs there are no G-charges in place. While Kosovo* and Montenegro started preparatory activities on introducing G-charges even before adaptation of R838/2010 for Energy Community Contracting Parties (**CP**) by PHLG Decision 2013/01/PHLG/EnC of 23 October 2013, Bosnia and Herzegovina introduced this mechanism only in 2018.

However, connection charges that generators pay are in place in most of Energy Community CPs. Both approaches for calculating connection charges, "deep" and "shallow", are recorded as a practice in this region.

Conclusions and Recommendations

Similar to EU MSs, where G-charges were in place before the introduction of a common regulatory approach to transmission charges stipulated by **R838/2010**, this report identifies **CPs** where G-charges were introduced before the adaptation of respective Regulation. This is the case of Kosovo* and Montenegro.

While annual average G-charges in Kosovo*(that include Market Operator charges) vary between 0.394 €/MWh in 2018 to 0.775 €/MWh in 2015, recorded annual average G-charges in Montenegro vary between 2.1710 €/MWh in 2015 to 3.5116 €/MWh in 2017. G-charges in place in Bosnia and Herzegovina are within the range of 0 to 0,5 EUR/MWh.

Having in mind:

- that **R838/2010** was adapted for **CPs** back in 2013 confirming the standard range for annual average transmission charges paid by producers of 0 to 0,5 EUR/MWh,
- that **R838/2010** allows wider ranges for annual average transmission charges paid by producers to certain **MSs**, such as: Denmark, Sweden and Finland (0 to 1,2 EUR/MWh); Romania (0 to 2,0 EUR/MWh) and Ireland, Great Britain and Northern Ireland (0 to 2,5 EUR/MWh) and
- the track record of annual average G-charges in Kosovo* and Montenegro

ECRB recommends to amend PHLG Decision 2013/01/PHLG/EnC allowing the value of the annual average transmission charges paid by producers to be within a range of 0 to 1,2 EUR/MWh to Kosovo* and 0 to 2,5 EUR/MWh to Montenegro.

While **REGAGEN** reported that producers connected to transmission system in Montenegro will not anymore pay purely power-based G-charges from 2020, but one part of G-charges based on energy produced and the second part based on power, preventing appearance of average G-charges variations as noticed in the monitoring period, **ECRB** recommends **REGAGEN** to continue monitoring the level of average G-charges and to, when needed, adjust respective methodology.