



Next generation of customers and digital channels of communications in the Energy Community

Contracting Parties

Status review

February 2021

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I. INTRODUCTION

1. About ECRB

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

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

2. Scope of the report

Ongoing energy transition puts consumers in its centre, enabling benefits from new technologies and active participation in the market. It also brings to attention the need to empower and protect them. The Clean Energy Package² aims at facilitating the process by defining the energy policy in the fields of electricity market design, energy efficiency and renewable energy, which would benefit consumers. In this context, digitalization i.e. growing application of information and communication technology across the economy, including energy systems³, comes into focus of national regulatory authorities striving to fulfil their role in facilitating retail market development and protecting consumers⁴.

The purpose of this survey is to **assess the availability of digital products and services offered by suppliers, network operators and other stakeholders to customers in electricity sectors** of the Energy Community Contracting Parties and to **provide recommendations for designing better regulatory** framework in this field.

The report investigates

- the definition of electronic communication
- digital channels of communication
- provision of on-line services
- development of price comparison tools (PCT)

¹www.energy-community.org.

² https://ec.europa.eu/energy/topics/energy-strategy/clean-energy-all-europeans_en.

³ International Energy Agency, Digitalization and Energy, p.22, 2017.

⁴ Digitalization is one the strategies highlighted in CEER's 3D Strategy (2019-2010), <https://www.ceer.eu/documents/104400/-/-/483aa2de-7785-f5bb-87fb-4b0398fcfe0b> and also subject to CEER's consultation on dynamic regulation to enable digitalization of the energy system, done in 2019 (<https://www.ceer.eu/documents/104400/-/-/3aedcf03-361b-d74f-e433-76e04db24547>).

- development of mobile applications by suppliers,
- online switching, as well as
- energy offers and possible surveys carried out by licensees.

The report covers the Energy Community Contracting Parties (CP) **Albania, Bosnia and Herzegovina, Georgia, Kosovo*,⁵ Moldova, Montenegro, North Macedonia, Serbia** and **Ukraine** as well as the Energy Community Participant country **Greece**.

3. Methodology

Data and analyses contained in the present report are based on information and data provided by the regulatory authorities of the analysed markets. For this purpose, a questionnaire was prepared and circulated to the regulators.

⁵ Throughout this document, 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.

II. ASSESSMENT

1. Definition of electronic communication in legislation

Electronic communication is changing the nature of customer behavior and engagement in the energy sector, therefore the present chapter investigates whether regulators or other energy market authorities have managed to adapt their legislation in terms of electronic communications, including the provision of electronic services.

The answers provided by all CPs show that the majority of the regulators have not included or regulated electronic communication in their legislation, but they act based on the general state legislation approved by relevant institutions.

In all CPs, except Ukraine, there is a law on electronic communication applicable for all sectors. In addition to this, in Serbia, there are in place the *Law on electronic document, electronic identification and trust services in electronic business* as well as the *Law on Information security*⁶. In Moldova, exists the *Law on electronic commerce defines the electronic communication*. In Kosovo*, in addition to the implementation of the *Law on electronic communications*, electronic communication is also regulated by ERO's Operational rulebook.

As an example, the Georgian *Law on Electronic Communications* defines the electronic communication as “a technological system of electronic processing, routing (switching), conveyance and transmission of calls and various information signals, including by wire (including fibre-optic), satellite, radio or optical equipment, and other technological means and operational technical resources including fixed (circuit - and packet-switched, including Internet) and mobile communications, digital broadcasting, and terrestrial broadcasting and cable networks”.

2. Procedures on electronic communication with regulatory authorities

This chapter examines the possibility for customers or other interested parties to submit requests to NRAs electronically. Based on the answers received, it can be concluded that in all analysed markets, customers or other interested parties may contact NRAs electronically through an NRA official email as a main channel of communication. More details on communication procedures in individual CPs are presented here:

- Albania: customers can raise any issue through official address of ERE (erealb@ere.gov.al).
- Bosnia and Herzegovina: in addition to the standard means of communication (phone inquiries, fax or meetings in person), customers may communicate electronically by sending different inquiries (applications, requests for information about the problems with the electricity supply, changes in rates, renewable energy sources, construction

⁶ By adoption of this set of laws and bylaws in telecommunication area, national legislation was completely aligned with EU legislation.

of energy facilities etc.). All pleadings are recorded according to the relevant rules and regulations.

- Georgia: customers are able to apply through web-portal (my.gov.ge). This portal has been created specifically for this reason. The customer must have an ID card and electronic reader through which he is able to sign the application electronically. After signing the application, the portal will convert it into a PDF document, which will include a “qualified signature” according to Georgia’s *Law on Electronic Documents and Electronic Trust Services*.
- Kosovo*: customers can raise various regulatory issues through electronic communication made via the official e-mails. On the NRA website, there is a customer corner which includes the email address as well as the application for submitting official complaints, requests or any inquiries. If the customer submits an online complaint, it will be logged; a complaint number will be generated and sent electronically to the customer, in accordance with the relevant rules and regulations.
- Moldova: in order to file a complaint, the customer needs to access the ANRE official website. There is a dedicated section, where the customer can fill in the form related to his case. After completing the form, the complaint is automatically sent to ANRE. ANRE registers the complaint and forwards it to the General Director, who then distributes the petition to ANRE`s departments in charge.
- Montenegro: customers can raise issues through the official e-mail. Requests are reviewed by responsible staff who then prepares answers and send them by e-mail, post or explain by phone.
- North Macedonia: interested parties can raise any issue through NRA’s e-mail address or directly through the web page. Responses are provided within 24 hours. All communications are possible through the electronic web service for water services, which enables electronic submission of reports and requests for water tariffs by water service providers.

The software consists of two parts:

- Portal (<https://voda.erc.org.mk>) which can be accessed by all water service providers and where they electronically submit reports and requests by entering all the necessary data, additional documents, as well as filling in the appropriate tables defined in compliance with bylaws.
 - The system for processing the submitted data by the controllers in the Energy Regulatory Commission with the possibility for simulation of the submitted data, i.e for their change in the simulation in order to obtain the final results for the water service tariff for the respective water service provider. The whole system is made using ASP.NET technology and MS SQL Database Server.
- Serbia: customers can contact AERS through its official e-mail address. In addition to customers, also energy companies may file appeals, various requests/complaints and license application via e-mail, in accordance with legislation on electronic communication.

- Ukraine: customers can raise any issue through official e-mail address which is published on NEURC’s website and through the call centre that is established within NEURC.
- Greece: all communications are done via e-mail or via e-form of complaints through the official website of RAE (www.rae.gr).

3. Electronic communication with other institutions

In relation to communications with other institutions where customers may raise energy issues, majority of CPs (Albania, Bosnia and Herzegovina, Georgia, Kosovo*, Montenegro, Serbia and Ukraine) reported that customers have the possibility to address these institutions electronically. The regulatory authorities of Moldova and North Macedonia reported that there were no other institutions except the NRA where customers may raise energy issues online. The table below shows to which institutions customers may file complaints in relation to energy issues online.

Table 1 Electronic communication with institutions other than NRA

	Electronic communication with institutions other than NRA
Albania	Ombudsman, FSHU (Albanian Universal Supplier), Co-governance platform of Albanian Government. All communication is done by e-mail or website.
Bosnia and Herzegovina	Institution of the Ombudsman for Customer Protection in Bosnia and Herzegovina. The website http://www.ozp.gov.ba/kontakt contains template for electronic submission and contact information.
Georgia	GNERC is the only institution authorized to solve the disputes between the utility companies or between the companies and customers. Customers are entitled to apply to the Energy Ombudsman who is obliged to review the application and act as a representative of the applicant. It must be noted that Energy Ombudsman is not entitled to solve the dispute as far as this function remains exclusively to NRA. However, companies and customers are still entitled to initiate a dispute in the Common Courts of Georgia, which have already implemented paid online application service.
Kosovo*	Within the Ministry of Trade and Industry there is a separate department that deals with customer complaints, including complaints about the energy sector. This department, after receiving complaints from customers, forwards the same to the regulator or to the relevant company for clarification but it is not entitled to take any decision. Customers also may rise any issue within the Institution of the Ombudsman.
Montenegro	Customers may raise energy issues to the TSO, DSO, supplier and the Ministry of Economy. Communication with customers is prescribed by internal procedures of these companies and institutions.
Serbia	Customers may raise any issue by an e-mail to the Ministry of Mining and Energy, suppliers, the TSO or DSO.
Ukraine	Customers may address any issue to the State agency of energy surveillance.

4. Number of internet users through fixed cable and mobile

In order to assess the use of internet and customers' possibilities to interact digitally, all regulatory authorities were asked to report about statistics on the general number of internet users through fixed cable and mobile devices for the years 2018 and 2019. The relevant responses are summarized in Table 2 below and show that there is a high and increasing internet coverage/usage of both fixed cable and mobile internet services in the Contracting Parties, enabling great opportunities for online services and digital interactions for customers.

Table 2 Number of internet users in Contracting Parties and Greece

	Number of internet users			
	2018		2019	
	fixed cable	mobile	fixed cable	mobile
Albania	n.a. ⁷	n.a.	82.2% of households	88.9% of households
Bosnia and Herzegovina	716,685	3,195,294	746,271	3,330,502
Georgia	858,000	2.9 million	n.a.	3.2 million
Greece	89% of households			
Kosovo*	308,555 (93.2%)	1,288,654 (70.9%)	335,764 (94.4%)	1,316,939 (72.5%)
Moldova	623,135	2,948,000	670,530	2,381,083
Montenegro	n.a.			
North Macedonia	n.a.			
Serbia	72.9% of households			
Ukraine	24,100,000 (62.6%)	45.9%	n.a.	n.a.

⁷ Throughout this document „n.a.” stands for “information not available”.

5. Customer corner

For customers it is of particular importance to be informed about the latest developments in the energy sector and, in that respect, the existence of a customer corner on the regulator's website as well as its content are crucial. The regulatory authorities of Albania, Bosnia and Herzegovina, Georgia, Greece, Kosovo*, Moldova and Ukraine reported that their websites include a customer corner where customers may find specific information of their interest, while the regulators of Montenegro, North Macedonia and Serbia reported that there was no separate customer corner but customers were informed through their websites in general.

The following information may be found in the regulators' customers corners:

- Albania: contracts, complaint form, new connections, economic damage, information on ERE's role in customer protection, standard complaints and rules regulation, supply in free market.
- Bosnia and Herzegovina: information from regulatory jurisdiction, notices on hearings, ongoing proceedings, facts about electricity market and frequently asked questions.
- Georgia: application forms for applying to utility companies, application forms for applying to the NRA, information about tariffs, rights and obligations of the customers, information about vulnerable customers, energy efficiency measures the customers may undertake, net metering, calculator for the price of connection to the grid and consumption safety rules.
- Kosovo*: how to file a complaint including the application for filing a complaint, customer rights and obligations, description or explanation of the invoice, bill calculator, switching procedure, electricity tariff, list of suppliers, self-generation of electricity, explanation on energy savings, brochures as well as the corner for the submission of various questions.
- Moldova: customer's, DSO's and supplier's duties and obligations, tariffs, conclusion of the contracts, network connection, supplier switching, DSO's and supplier's contact details. Also, the customer corner includes a customer guide that was elaborated by the ANRE and contains easily understandable information for every customer.
- Serbia: there is no customer corner on AERS' website but there is a separate corner with frequently asked questions and answers, so that customers can be properly informed.
- Ukraine: customer protection, tariffs, quality and State aid.

6. Use of social media

Having in mind that a large number of social media is in use today, as well as the enormous communication opportunities they offer it is reasonable to assess their use by the regulators.

In the Contracting Parties, only **regulatory authorities of Georgia, Kosovo*, Moldova and Ukraine reported that they use social media as an additional channel for communicating with customers and the public.**

The Georgian regulator has official accounts on Facebook, LinkedIn and Twitter for communicating with customers.

The regulators of Kosovo* and Moldova use Facebook whereas NUERC Ukraine uses Facebook, Twitter and YouTube as official channels of communication with customers.

7. Electronic communication of DSOs, suppliers and consumers

Considering that many energy providers are redefining their role in consumers' lives and are moving to the digital world, the present chapter will analyze electronic communications of distribution system operators and suppliers with customers in all Contracting Parties.

The **communication procedures and channels used by the DSOs and suppliers** in the Contracting Parties are described below:

- Albania: DSO and suppliers communicate through websites, call centers and e-mails.
- Bosnia and Herzegovina: DSOs and suppliers have made available communication through websites, e-mail, official contacts and alike. DSOs and public suppliers mainly have departments for relations with distribution network users and end customers and most of them have their own call centers. All licensees have contact number details and website addresses available for customers.
- Georgia: based on the Supply and Consumption Rules of GNERC, customers are entitled to apply through the official webpage of the supplier company. Companies shortly inform the customers about the status and consequences of their application via SMS or e-mail depending on the customer's request. As for other types of communication, companies are obliged to provide customers with a 24/7 hotline service. In addition, bills may be sent by means of SMS, e-mail or other type of e-communication, in accordance with the customer's request.
- Kosovo*: the DSO and suppliers have established communication with customers via websites, call centers, mobile applications and e-mails. Over the years, the supplier's aim has been to increase the communication and provide information to the customers through various communication channels. A call center is available; it is functional 24/7 and can be reached via a free of charge telephone number or e-mails. The responsibility of the call center operators is to handle all customer inquiries, provide necessary information and answers to customer inquiries and, when further

information is needed, the requests are forwarded to the relevant departments. Recently, the supplier has launched a new *Inter Voice Response System* in the call center that allows customers to access valuable information related to electricity services. Another available electronic communication channel is a mobile application, supplier's website and Facebook. A mobile application has been launched in February 2019, with the purpose to provide to customers real term information related to their metering point such as: billing, payment, planned outage, disconnection, reconnection, promotions and others.

- Moldova: DSOs and suppliers are obligated to have a call-center for the purpose of communication with customers. At the same time, all energy companies must communicate with the customers via e-mail, if the customer requests so.
- Montenegro: communication is possible via contacts available from websites, call centers and e-mails. In addition to call centers and emails, licensees also use social media for communication.
- North Macedonia: based on the supply rules, all suppliers in North Macedonia are obliged to have a call center and an e-mail address in order to enable communication with customers. According to the rules, the supplier is obliged to have its own website on which all information regarding electricity prices and tariffs, supply conditions, prescribed electricity quality, rights and obligations of the supplier, the appropriate operator and customers will be published and updated, as well as all notices on planned power outages. The supplier provides electronic access to the customer to the account balance, inspection and verification of his paid and unpaid liabilities, as well as data on electricity consumption for the last five years, i.e. for the period in which it was supplied by the same supplier, if that period is less than five years. All invoices for electricity consumption and usage of the distribution grid can be provided electronically. Also payment of these invoices can be carried out online with registration.
- Serbia: DSO and suppliers have made available communication via e-mail, website, call center and mobile application.
- Ukraine: DSOs and suppliers have made available communication with customers via separate e-mail, call center, personal account on the website, mobile applications and chat-bot in Viber.
- Greece: the communication is performed via e-mail (infodeddie@deddie.gr), website (www.deddie.gr) and a call center.

8. Online services of distribution system operators

This chapter examines the online information or services the DSOs offer to customers. The table below shows an overview of the main information available to customers on DSOs' websites.

Table 3 Information that can be found on the DSOs' websites

	ALB	BIH	GEO	KOS*	MDA	MKD	MNE	SRB	UKR
Planned outages	x	x	x		x	x		x	
Network maintenance			x				x		
Distribution tariffs		x	x	x				x	x
Phone number for reporting failures		x	x	x				x	x
Price list for services		x	x	x		x		x	x
Load curves		x							
Procedures for new connections		x	x	x			x	x	x
Laws and regulations		x	x	x		x	x	x	x

Georgian regulator reported that unbundling process of distribution and supply of energy utilities is yet to be completed and, accordingly, DSOs also perform supply functions. They provide online application services to their customers and inform them about the status of their applications by means of SMS. DSOs are obliged to provide a 24/7 hot line service to their customers.

The regulatory authorities of Albania, Georgia, North Macedonia and Ukraine reported that **online application for a new connection to DSOs** is possible and described the relevant procedures (see below). In Bosnia and Herzegovina, Kosovo*, Moldova, Montenegro and Serbia an online application for connection is not possible.

- Albania: customers are entitled to apply for a new connection through the official website of DSO (<https://oshee.al/online/>);
- Georgia: based on Supply and Consumption Rules of GNERC (specifically adopted for electricity (capacity), natural gas and water supply), customers are entitled to apply for a new connection through the official website of DSO. Companies shortly inform applicants on the status and consequences of their application by means of SMS or e-mail (depends on customer's request).
- North Macedonia: in accordance with the Law on construction and Article 24 of the distribution grid code, the request for connection can be submitted through the information system *e-permit for construction*. Additionally, according to Article 26 from the Distribution Grid Code also appeals on the consent for connection to the distribution grid can be submitted through this information system.
- Serbia: a request for connection may be submitted via e-mail;
- Ukraine: an online application is possible via web-form;

- Greece: an application is possible online at DSO's website, where the customer is able to find the appropriate form, as well as elaborated information necessary to complete the new connection.

9. Online services of suppliers

The present chapter provides an overview of online services that suppliers offer to customers. The responses provided by the NRAs of the Contracting Parties reveal that these services are mainly related to billing, information on consumption, consumption history and benchmarking, online payment, tariff /price information, transactions and complaints. More detailed overview is provided in the table below.

Table 4 Online services that suppliers offer to customers

	ALB	BIH	GEO	KOS*	MDA	MKD	MNE	SRB	UKR
Billing	x	x	x	x	x	x	x	x	x
Information on consumption	x	x	x	x		x	x	x	x
Consumption history		x		x		x	x	x	x
Online payment	x	x	x	x	x	x	x	x	x
Price information	x	x	x	x	x	x	x	x	x
Transactions⁸				x			x		x
Complaints	x		x	x	x	x		x	x

9.1. Online access to consumption data

With respect to **online access to information on consumption**, all NRAs except Moldova reported that suppliers offer such a service to customers.

In Georgia, in addition to the suppliers' website, customers receive information about consumption and fees via SMS and e-mail due to their request. This service does not relate to the type of meter, since the number of smart meters is still very low.

Kosovo* reported that all customers who have smart meters can view their consumption on real terms through supplier mobile application and/or can get information through call-center or e-mail. In addition, customers can find valuable information on their energy consumption (current and historical/numerical and graphical) via an App. This available information allows customers to better understand their consumption and utilize it in an efficient manner.

Montenegro reported that customers may view their consumption online via a mobile App that is related to the type of meter the customer owns.

In Serbia, all customers connected to the transmission system have the possibility to view their consumption in real time. The grid code defines that direct access to the metering data via remote or local communication is allowed for customers.

⁸ This includes the general status of invoices received from customers as well as payments made.

In addition to online services, it has been assessed if the possibility of submitting online requests to suppliers exist. These may be, for example, complaints seeking clarification or additional information, change of the name in the account card, meter replacement, closing or activation of the account, request for changing the tariff group, request for meter inspection, request for re-sealing, request for re-connection, etc. The answers show that customers may address their suppliers for various requests through electronic communication using web services, call centers, e-mails and mobile apps as a main channel of communication.

- The Albanian NRA reported that communication is managed through the Customer Relations Department of the Universal Supplier <https://oshee.al/> online Services. The requests that customers are entitled to submit include: customer service, online bill, complaint / request, status of the complaint/request, update of the customer data, human resources, complaint corner, energy trade platform.

- Bosnia and Herzegovina reported that customers can submit their requests via call center, e-mail and websites. The requests that customers are entitled to submit concern the pre-contractual period, the conventional period and finally network failures.

- Georgia reported that customers are entitled to apply through the official website of the suppliers and via the my.gov.ge portal regarding any issue related to the utility service. They can receive answers on their questions via a call-center of the company. The standards and procedures for the call-center are determined and regulated through the “Service Quality Rules” adopted by GNERC.

- The Greece NRA reported that customers can submit their requests via call centers, e-mail and websites. The requests that customers are entitled to submit concern the pre-contractual period, the conventional period and finally network failures.

- The Kosovo* NRA reported that customers can require any type of information related to their metering point from the call center or official e-mails. However, also specific type of complaints and requests can be initiated and processed through the call center service such as: complaint on reading issues, complaint on disconnection, request for reconnection, complaint on online services, customers or employees and complaint on bill. These inquiries are processed and treated in the same manner as via customer care offices. Currently, the supplier is developing the new version of a mobile application which will provide new benefits to electricity customers including the ability to file complaints and requests through mobile application, tracking system etc.

- Moldova reported that customers can request any information that is related to supply activity, and there is not an exhaustive list with requests that can be submitted. It can be done

through call center, e-mail or website. As usually, if the customer needs some actual information from the supplier, it will use the call center, where the operator will answer quickly to the customer question or will undertake actions that don't require additional activities. On the other hand, if the customer has any issue that needs to be resolved by the supplier, he will submit a letter through e-mail, that will be registered as a usual petition, which will be examined in legal terms.

- Montenegro reported that customers can submit requests through e-mail. Requests that customers usually submit to the supplier are about billing or connection after paying the previous debt.
- North Macedonian reported that customers can submit on the separate e-mail address complaints to their suppliers.
- The Serbian NRA reported that according to the current legislation requests may be submitted via e-mail.
- The NRA of Ukraine reported that suppliers are obliged to receive any type of request by e-mail, and provide an opportunity for submission of requests by phone. In the electricity sector, call centers are obligatory for all DSOs and suppliers with more than 100000 customers.

9.2. Online switching

In the majority of the Contracting Parties, namely in Albania, Bosnia and Herzegovina, Georgia, Kosovo*, Moldova and Montenegro online switching is not possible. In North Macedonia, Serbia and Ukraine such a possibility exists.

In North Macedonia, the switching procedure is conducted by the DSO on the request of the suppliers. Suppliers submits necessary documents online on the application developed by DSO. The procedure is prescribed in the electricity supply rules. Also, the DSO issues a switching confirmation through this application.

The Greek NRA reported that customers may fill online their application according to the following steps: find the suitable offer, select the offer, enter the customer information, attach the appropriate documents and sign the Supply Contract Agreement.

In Serbia and Ukraine, switching requests may be submitted via e-mail.

9.3. Online energy packages/offers

In Montenegro, North Macedonia and Ukraine customers may sign up for different energy packages.

The Montenegrin regulator reported that on the website of the supplier there are offers for different tariff models. If the customer wants to change the tariff model, he/she signs a new supplier contract at the supplier premises.

In North Macedonia, the regulator has introduced a web based price comparison tool for comparing electricity prices (<https://www.switch.mk>), which allows suppliers to offer online energy packages/offers depending on time of use and contracts duration.

In Ukraine, suppliers offer different prices for different quantities of energy, for specific time of use or different payment methods.

9.4. Mobile applications

Taking into account the latest technological developments and the increased usage of internet through mobile phones, it is reasonable to assess if suppliers have developed any application through which customers may receive online services or even receive information in real time.

Only in Albania, Kosovo*, Montenegro and Ukraine suppliers have developed such applications.

Table 5 Information provided to customers by suppliers through mobile applications

	Bill display	Bill payment	Outage information	Information on energy usage	Account settings and control	Immediate access to phone support	Meter reading submission
ALB	x	x					
KOS*	x	x	x	x	x	x	x
MNE	x			x			
UKR	x	x		x	x	x	x

In addition to the information's presented in the table above, Kosovo* has reported that the application provides also other information, such as disconnection and access on information of more than one meter. In Montenegro, additional information that can be found in the application such as news from supplier, addresses and contact of supplier premises where customers can pay bills and get all necessary information.

10. Information on energy outage

It is of utmost importance that customers receive information on energy outage on time in an appropriate form. The energy customers in the Contracting Parties and Greece are informed on this through various channels of communication.

- Albania: TV channels and web services;
- Bosnia and Herzegovina: DSO website, the customer relations offices for users of distribution system/end customers, daily press or other media as well as in special ways of informing customers as is stated in the contract (as special contractual provision);
- Georgia: customers are informed about outages by means of SMS or e-mail; also, information is provided via webpages and Facebook pages of the companies, as well as news agencies. According to the "Service Quality Rules" adopted by GNERC, companies have to inform their customers no later than 1 day and not earlier than 5 days ahead of the planned outage;
- Greece: customers are informed for energy outages through DSO press releases, local radio or TV stations and through the DSO website;
- Kosovo*: all information for planned outages are announced 24-48 hours ahead through media and DSO's website, including social media (Facebook), key customers are informed about planned outages by the supplier call center whereas all customers who have an access to mobile application receive a text message;
- Moldova: ANRE regulation on quality of supply and distribution services provide that the DSO or TSO is obliged to inform the customers about energy outages through telephone, mass-media or other means of information. The DSOs and TSOs can choose the means of communication, however the information has to be provided 3 days prior to the energy outage;
- Montenegro: customers receive information on energy outage through DSO's website, newspapers and TV;
- North Macedonia: customers receive information on the planned energy outages by TV channels and web services and publications on the webpage of DSO;
- Serbia: customers are informed through the media and the DSO web page. The customer is entitled to request from DSO to be informed on the outage by e-mail or SMS, this service however must be paid.
- Ukraine: customers are informed on the outages through DSOs website, in the Inter Voice Response System of call center and SMS (for some DSOs).

11. Information on home energy savings potential

In order to trigger energy savings among customers, the majority NRAs reported that they provide useful information on energy savings potentials through their web sites and different printed brochures. In some case such an information is provided by the suppliers only.

- Albanian: NRA website, supplier websites, and Energy Efficiency Agency webpage <https://www.facebook.com/eficenca.gov.al/>.
- Bosnia and Herzegovina: NRA's, DSOs' and supplier's websites, daily press or other media;
- Georgia: NRA website, printed brochures;
- Kosovo*: NRA website, DSO website and supplier's website;
- Moldova: National Agency for Energy Efficiency website;
- Montenegro: supplier website and electricity bills;
- North Macedonia: suppliers are obliged to provide to the customers information on available measures to improve energy efficiency and the effects of such measures, available financing mechanisms, types of energy contracts services, as well as contact details with energy service providers;
- Serbia: supplier website;
- Ukraine: NRA web page, NRA booklets and supplier website.

12. Price comparison tools and bill calculators

Price comparison tool is one of the essential instruments facilitation consumers' participation in energy market. One of the requirements of the Clean Energy Package i.e. its Electricity Directive⁹, is to ensure that at least household consumers and microenterprises with an expected yearly consumption of up to 100,000 kWh have access, free of charge, to at least one tool comparing the offers of suppliers, including offers for dynamic electricity price contracts. A set of minimum requirements for the comparison tolls is also prescribed.

⁹ Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity (<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019L0944&from=EN>).

Among the Contracting Parties, only in Bosnia and Herzegovina and North Macedonia price comparison tools are in place. They are accessible through separate web pages, but relevant links are also placed on the NRAs' web page. The comparison tool also exists in Greece.

The Georgian regulator reported that it sets tariffs for the supply activities. The information on tariffs is easily available to customer through GNERC's website. As for natural gas supply by non-household customers, which is a deregulated energy activity and prices are not set by GNERC, non-household customers are able to view prices offered by natural gas suppliers GNERC's website. GNERC's website also includes a price calculator for grid connection while Kosovo* reported that a bill calculator is placed on NRA's website.

Regarding the bill calculator, only several Contracting Parties (Bosnia and Herzegovina, Kosovo*, Montenegro and Serbia) responded that such is available on the suppliers' website.

13. Surveys on customer satisfaction

Finally, regular surveys on customer satisfaction with energy services are, among other, indicators of retail market development. The suppliers exposed to competition seek to identify how to improve services and keep customers. Among the Contracting Parties, only in Ukraine suppliers conduct such surveys, however they still do not publish the results.

III. CONCLUSIONS AND RECOMMENDATIONS

The main **conclusions** from the presented assessment are the following:

1. The majority of the regulatory authorities have not included **electronic communication** in their legislation, but they act based on general state legislation approved by other relevant institutions.
2. In all analyzed markets, customers and other interested parties may contact NRAs electronically, whereas official e-mails are a main channel of communication. In the majority of Contracting Parties, customers have the possibility to address other institutions and companies electronically.
3. Regulatory authorities of Albania, Bosnia and Herzegovina, Georgia, Greece, Kosovo*, Moldova and Ukraine reported that their websites include a **customer corner** where customers may find specific information of their interest. In Montenegro, Northern Macedonia and Serbia, the regulators' web pages do not have a separate customer corner but customers can be informed via their website in general.
4. The regulators of Georgia, Kosovo*, Moldova and Ukraine report that they use **social media as an additional channel for communication with customers**. The Georgian NRA reported that they have official accounts on Facebook, LinkedIn and Twitter for communicating with customers. Kosovo* and Moldova reported that they use Facebook whereas Ukraine uses Facebook, Twitter and YouTube as official channels of communication with customers.
5. All Contracting Parties responded positively regarding the **possibility of electronic communications between DSOs, suppliers and customers**. The main communication channels used for electronic communications are websites, call centers, separate e-mails, sms and mobile applications. The Greek regulator reported that the main means of communication between customers and DSO is the website, call center and separate e-mail.
6. In all analyzed markets, **DSOs offer online information and services to customers through website, call center, mobile applications and separate e-mails**. Main information that can be found on the DSOs' websites are: planned outages, network works, tariff rates for use of distribution system, phone number and reporting failures, consumption categories, price list of services, load curves, procedures for new connection and applicable laws and regulations.
7. The regulators of Albania, Georgia, North Macedonia, Serbia and Ukraine reported that **online application for new connection to distribution system** is possible. In Bosnia and Herzegovina, Kosovo*, Moldova and Montenegro online application for connection is not possible.
8. The majority of suppliers in the Contracting Parties offer online services to customers and these services are mainly related to billing, information on consumption,

consumption history and benchmarking, online payment, tariff /price information, transactions and complaints.

9. In the majority of the Contracting Parties- Albania, Bosnia and Herzegovina, Georgia, Kosovo*, Moldova and Montenegro, **online switching** is not possible while in North Macedonia, Serbia and Ukraine such a possibility exists.
10. In Montenegro, North Macedonia and Ukraine customers may sign up for **different energy offers**.
11. **Mobile applications**, as an important tool with communication with customers nowadays, are developed by suppliers in Albania, Kosovo*, Montenegro and Ukraine.
12. Various channels of communication are used in the Contracting Parties to **inform customers on the energy outages**. Some examples are: websites, call centers, mobile applications, sms, television and newspapers.
13. In the majority of the analyzed markets, NRAs provide customers with useful **information on energy savings potentials** through their web sites and different printed brochures. In other markets, such information is provided by suppliers only.
14. **Price comparison tools** as an important tool for facilitating retail market development are available in Bosnia and Herzegovina and North Macedonia only. The relevant links are also available on NRAs' web pages. On the other side, the website of the Georgian NRA includes a price calculator for grid connection, while Kosovo* reported that the **bill calculator** is available on the NRA's website.
15. **Surveys on customer satisfaction** are regularly performed only by Ukrainian suppliers. In other Contracting Parties such practice has not been established yet.

Main **recommendations** from the presented assessment are the following:

16. Electronic communications are regulated in different ways within the legal frameworks of Contracting Parties, mostly within laws on communication. Having in mind that energy laws are quiet on this issue and that the upcoming energy transition brings active consumers in its focus, **it is recommended that NRAs explore the possibilities to adapt/adopt secondary legislation needed for further development and support of digital services in energy sector**.
17. Considering the technological developments as well as the high use of internet in all Contracting Parties, **it is recommended that regulators and energy companies increase electronic services, move from traditional communication to digital, by using different channels of communications**.
18. ECRB recommends that NRAs include a requirement for **energy companies/licensees to conduct regular surveys on customer satisfaction, in particular with respect to online services, in order to improve customer satisfaction and address consumer expectations, needs and preferences**.