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BENCHMARK ANALYSIS

IDENTIFYING DIFFERENT CATEGORIES OF SUPPLIERS WITH PUBLIC SERVICE OBLIGATIONS

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The Benchmark Analysis “Identifying Different Categories of Suppliers with Public Service Obligations”, as part of the ERRA Work Plan for 2016/2017, was prepared within Customers and Retail Markets Working Group in the period June 2016 – May 2017.

The analysis is based on the answers to the Questionnaire (Annex 1) received from NRA representatives from 12 countries, including:

- State Electricity Regulatory Commission of **Bosnia and Herzegovina** (SERC)
- **Bhutan** Electricity Authority (BEA)
- **Estonian** Competition Authority (ECA)
- **Hungarian** Energy and Public Utility Regulatory Authority
- Public Utilities Commission of **Latvia**
- National Commission for Energy Control and Prices of **Lithuania**
- Energy Regulatory Commission of **Macedonia**
- **Romanian** Energy Regulatory Authority
- Federal Tariff Service of the **Russian Federation**
- Electricity and Co-Generation Regulatory Authority of **Saudi Arabia**
- Regulatory Office for Network Industries, **Slovakia**
- Energy Market Regulatory Authority of **Turkey**

The Questionnaire was composed of seven sets of questions with different options, which are covering both electricity and gas retail markets.

Bosnia and Hercegovina, Bhutan and Saudi Arabia provided answers related only to the electricity market.

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Summary

Starting point of the paper is to evaluate state of market liberalization through analysis of two measures: the possibility of the different group of consumers entering to the market and negotiating the supply price with the selected supplier and the existence of regulated end-user price. It was concluded that there are 4 general groups of countries regarding state of the market liberalization in electricity and gas: 1. full market liberalization with market based end-user prices; 2. full market liberalization with market based and regulated end-user prices; 3. partially liberalized markets with eligibility thresholds, market based and regulated end-user prices and 4. non-liberalized markets without chance for consumer switching.

Following sub-chapter is regarding the form of Public Service Obligation, which could be different in the energy supply field:

- Universal Service Providers (Supplier of Regulated Tariff Consumers) with the obligation to serve those consumers, who are not allowed or who are not interested to purchase energy on the free market;
- Serving Vulnerable Consumers could be special obligation on suppliers ensuring special conditions for the identified vulnerable customers (certain privileges relating to metering, reading and billing procedures, and payment terms, as consistent with their respective needs (e. g. cash payment by the blind)),
- Supplier of Last Resort (SoLR) with the obligation to serve (as temporary solution) those consumers whose supplier went on bankruptcy and/or whose supply license has been withdrawn.

There are different solutions how to designate the SoLR obligation to suppliers:

- SoLR obligation is designated to dedicated supplier(s) ex ante, and
- SoLR obligation is not designated to any supplier ex ante. In case of serious supply problem (bankruptcy, license withdrawal, or other circumstances make the continuous supply impossible) the relevant authority (government, NRA) – through selection and designation process – designates the SoLR obligation to one or more supplier(s) temporarily.

The legal and regulatory framework in most responded countries differentiates between Universal Service Provider (USP) and Supplier of Last Resort (SoLR). In limited countries, there are special obligations serving vulnerable consumers with special conditions. Most cases the SoLR type of public service obligation is designated ex-ante by the NRA or by the relevant DSO (in one case the Ministry as license issue authority). Two cases the SoLR is selected and designated ex-post (after the continuous supply ability is declared) by the NRA. In those cases, where the market is not open and the different functions are not unbundled the vertically integrated undertaking perform the public service obligations (USP).

The selected and appointed/designated undertakings functioning (in most cases temporarily) as SoLR could be different, including USP, vertically integrated undertaking, DSO, any supplier and supplier with the largest market share.

The third sub-chapter concludes that in most of the countries NRAs are entitled for issuing licenses for the suppliers with public service obligation. In one case this role is done by the Government/Ministry, in other case NRA plans to issue licenses in the future, while in the third case there are no specific licenses for the suppliers with public service obligations.

Regarding the process of designating public service obligation examined in the fourth sub-chapter, USP is licensed in most cases by the NRA, but there are countries, where the Law delegates this public service obligation to different undertakings. The SoLR type of public service obligation in most cases is designated by Law to different undertakings, but there are NRAs with designation right (especially in ex-post nomination). There are countries, where every licensed supplier is obligated to provide public services.

Next point of the analysis shows that there is a variety of options used among the countries for setting retail prices of the supplier with public service obligations: in six cases the NRA sets the USP tariff (in two cases the SoLR tariff as well). The other most frequently used practice, when the supplier set the USP and SoLR tariff with NRA/Government approval. There are limited cases, when the supplier (or relevant DSO) sets the SoLR tariff. In one case the ministry sets the SoLR tariff.

As for the level of setting retail prices of the supplier with public service obligations, in most cases the USP tariff and the tariff of vulnerable consumers are lower than the market based prices (cross-subsidized). In some countries, the electricity and gas retail price regulation for these public service obligations differentiate. In four countries, the USP prices are market based. In one case the non-household regulated tariff is higher than the market based prices. The SoLR tariff is higher in five cases than the market based prices forcing consumers to purchase energy from the free market suppliers. In two cases the SoLR tariff is equal to the market price, while in one case where the portion of SoLR consumption is continuously decreasing this tariff is cheaper than the market based price.

Finally, key findings from the last set of questions which are examining circumstances in which functions of the supplier of last resort or other type of supplier with public service obligation are played, are similar in most of the cases and include the following:

- The household and/or small customer does not find a supplier on the market (no energy supplier is willing to sign a contract with the customer);
- The current supplier of the household and/or small customer has gone bankrupt and is no longer doing business;
- The license of the current supplier has been revoked;
- The household and/or small customer does not choose a supplier when moving to another (new) address;
- The household and/or small customer does not choose a supplier at market opening (when the former regulated tariff supply not exist anymore and SoLR performs the role of USP at the same time);
- The fix-term supply contract expires and the consumer does not extend it and/or does not signed a new contract with another supplier and
- The household and/or small customer is dropped by its current supplier because of non-payment (this condition exists in limited country cases).

Key Findings

1. State of Market Liberalization

Starting point of the paper is to evaluate state of market liberalization through analysis of two measures:

- Possibility of the different group of consumers entering to the market and negotiating the supply price with the selected supplier and
- Existence of regulated end-user price.

It was concluded that there are 4 general groups of countries regarding state of the market liberalization in electricity and gas.

The first group is composed of countries which have full market liberalization with market based end-user prices (all consumers can enter to the market) and is composed of **Estonia** (both in electricity and gas, regulated end-user tariffs don't exist); **Latvia** (only electricity, regulated end-user tariffs don't exist) and **Macedonia** (only in gas, regulated end-user tariffs don't exist).

The second group of countries featuring full market liberalization with market based and regulated end-user prices is composed of **Hungary** (both in electricity and gas markets, households and some of the small companies have the right to stay on the regulated market and be supplied through a regulated tariff set by HEA, free trade ratio among companies is 69.3% and among households is 2.8%); **Lithuania** (both in electricity and gas, regulated end-user tariffs exist for public services), **Romania** (fully liberalized in electricity and gas, all customers are eligible to switch supplier, but regulated end user prices exist for households) and **Slovakia** (both in electricity and gas, regulated end-user tariffs exist for households and small companies).

The third group is composed of countries which have partially liberalized markets with eligibility thresholds, market based and regulated end-user prices and is composed of the following countries: **BIH** (partially liberalized electricity market, still regulated tariff exists for households and small companies set by NRA, 7.7% free trade ratio in 2015); **Macedonia** (Partially liberalized electricity market, households and most of the small customers at the current point are not eligible to choose supplier and are supplied by the incumbent regulated supplier through regulated tariffs set by ERC. Electricity market according to the current Energy Law is gradually opening through eligibility thresholds, by 2020 all customers should be eligible to choose supplier. Free trade ratio of the overall Macedonian electricity market was 45% in 2016); **Russia** (Semi-liberalized electricity and gas market, still regulated tariff exists for households and small companies set by NRA; 0% of free trade ratio among household gas consumers) and in **Turkey** (partially liberalized electricity and gas, still regulated tariff exists for households and small companies set by NRA or other governmental body. For electricity, eligibility limit is 2400 kWh /year for 2017 and it decreases yearly. For natural gas eligibility limit is 75.000 m³ /year per household and 0 for other consumers, not changed for 2017).

The fourth group is composed of countries which still have non-liberalized markets without chance for consumer switching and is composed of the following countries: **Bhutan** (fully regulated electricity market: none of the customers could choose among suppliers/traders and regulated end-user tariff does exist for all customer segments. In Bhutan, there is only one regulated supplier to the customers); **Latvia** (the **gas market** is fully regulated: none of the customers could choose among suppliers/traders and

regulated end-user tariff does exist for all customer segments) and **Saudi Arabia** (Fully Regulated Electricity Market: none of the customers could choose among suppliers/traders and regulated end-user tariff does exist for all customer segments).

2. Types and Features of Suppliers with Public Service Obligation

The second sub-chapter shows that form of Public Service Obligation could be different in the energy supply field, including:

- Universal Service Providers (Supplier of Regulated Tariff Consumers) with the obligation to serve those consumers, who are not allowed or who are not interested to purchase energy on the free market,
- Serving Vulnerable Consumers could be special obligation on suppliers ensuring special conditions for the identified vulnerable customers (certain privileges relating to metering, reading and billing procedures, and payment terms, as consistent with their respective needs (e. g. cash payment by the blind)) and
- Supplier of Last Resort (SoLR) with the obligation to serve (as temporary solution) those consumers whose supplier went on bankruptcy and/or whose supply license has been withdrawn.

Analysis shows that there are different solutions how to designate the SoLR obligation to suppliers:

- SoLR obligation is designated to dedicated supplier(s) ex ante;
- SoLR obligation is not designated to any supplier ex ante. In case of serious supply problem (bankruptcy, license withdrawal, or other circumstances make the continuous supply impossible) the relevant authority (government, NRA) – through selection and designation process – designates the SoLR obligation to one or more supplier(s) temporarily.

The legal and regulatory framework in most responded countries differentiates between USP and SoLR. In limited number of countries there are special obligations serving vulnerable consumers with special conditions. In most cases the SoLR type of public service obligation is designated ex-ante by the NRA or by the relevant DSO (in one case the Ministry as license issue authority). In two cases the SoLR is selected and designated ex-post (after the continuous supply ability is declared) by the NRA. In those cases, where the market is not open and the different functions are not unbundled the vertically integrated undertaking perform the public service obligations (USP).

The selected and appointed/designated undertakings functioning (in most cases temporarily) as SoLR could be different, including: USP, vertically integrated undertaking, DSO, any supplier and supplier with the largest market share.

The detailed explanations of the different solutions are the following:

- a. **Bosnia and Hercegovina:** Supplier of tariff consumers - Universal Service Provider); Supplier of last resort is designated ex ante by the regulators and supplier function is done by the Vertically Integrated Company. (G+D+S: Federation of BIH) (D+S: Republika Srpska+Brčko District of BIH);

- b. **Bhutan:** Regulated supplier of tariff consumers. Bhutan Power Corporation Limited is VIC and has License for transmission, distribution and supply of electricity issued by the electricity regulator;
- c. **Estonia:** In electricity, a small consumer is entitled to purchase electricity from the network operator to whose network his or her electrical installation is connected (universal service). It means if you are not chosen supplier, have not made contract, contract has expired etc. you have opportunity to receive universal service. And in retail gas market there is a supplier of last resort, meaning that the seller of gas who has the greatest market share within a network area is obligated to sell gas within the technical limits of the network to any household customer who has a network connection and who is located within the network area if the customer wishes to purchase gas.
- d. **Hungary:** Both in electricity and gas retail markets, there is Universal Service Provider. SoLR will be designated by the HEA after the original electricity USP or gas supplier (both USP and free market supplier) notified the HEA of its inability to continue service. The designated gas SoLR(s) is (are) obligated to serve those customers, who are eligible receiving universal service. In Hungary, there is no separate entity to function merely as SoLR. In Hungary, there is no separate entity acting as supplier of vulnerable consumer. The USPs provide for the vulnerable consumers. Suppliers of vulnerable customer have extra responsibilities as follows: Vulnerable customers are those household customers, who are afforded more protection if they fit conditions specified by different legal regulations. According to these regulations vulnerable customers are indigent persons, or people living with disabilities. Persons fitting the description above can request the supplier to register them as a vulnerable customer, and if they can certify that they are entitled to the benefits guaranteed for vulnerable customers, registration cannot be denied. After the registration, vulnerable customers are entitled to – and suppliers are to comply with – following benefits: - installment/payment facilities, - deferred payment; - prepayment metering device; The supplier must offer to customers with disabilities certain privileges relating to metering, reading and billing procedures, and payment terms, as consistent with their respective needs (e. g. cash payment by the blind). The supplier is a different company than the distributor, created by unbundling.
- e. **Latvia:** In electricity retail market, there is Supplier of last resort, serving the customers of bankrupted suppliers - distribution system operator determines, in a tender, the electricity trader that will provide the final guaranteed supply to users. The supply of last resort shall be guaranteed, if the user does not have a valid trade of electricity contract or balancing service contract for any object consuming electricity. Within the context of the development of the gas sector, the movement towards the liberalization of the natural gas market must be mentioned - as the gas market opening in Latvia is expected in April 2017, there is no regulation at this moment that would be related to SoLR issues. In gas retail market supplier function is done by the Vertically Integrated Company (Generation/Production + Transmission/Transportation + Distribution + Supply);
- f. **Lithuania:** Both in electricity and gas; Energijos Skirstymo Operatorius AB (Regulated tariff supplier); Energijos Skirstymo Operatorius AB (ex-post after the bankruptcy of

supplier); Energijos Skirstymo Operatorius AB Supplier of vulnerable customers Supplier function is done by the Vertically Integrated Company (Generation/Production + Transmission/Transportation + Distribution + Supply). The Law on Electricity ensures to all customers a possibility to choose an independent supplier. Since 2013, all commercial customers have been paying for electricity at the market prices, and, in the case of necessity, a six-month guaranteed electricity supply is secured to these customers. The household customers also have the right to choose an independent electricity supplier and to buy electricity either in the market, or by concluding bilateral agreements.

- g. **Macedonia:** In the retail electricity market, there is Supplier of tariff consumers (households and small customers) and Supplier of last resort, designated ex ante by NRA. Small customers which are eligible to procure electricity on open market, once per year can choose if in the next year they want to be supplied by SoLR under regulated tariff. As of 1 January 2017, supplier function (supplier of tariff consumers and SoLR) is fully unbundled from the DSO. In gas retail market supplier of last resort (SoLR) serves customers of bankrupted suppliers for a limited period. It is designated ex ante by the regulators and is unbundled from DSO/TSO.
- h. **Romania:** In the electricity retail market, there are SoLRs, which are nominated by the NRA through a decision for a known period (ex. 1 year). After the decision is taken by the NRA, SoLR will serve all clients which don't have a supplier. Vulnerable consumer can't be disconnected and there are some special rights for the blind and deaf people.) and (in the gas market there is a supplier of tariff consumers, as well as Supplier of last resort. If a supplier is in a position of have its license revoked and if a customer does not find a supplier on the market (e.g. bankruptcy of supplier is a reason for the license to be revoked and the designation of the SoLR is ex-ante). Any supplier could have in its portfolio vulnerable customers for which special/extra responsibilities exist.
- i. **Russia:** In the electricity retail market there is a Supplier of last resort, Guaranteeing supplier status is assigned by the executive authorities in the field of regulation of tariffs to Federal Subjects of the Russian Federation and the Ministry of Energy of Russia in accordance with the Resolution of the Government on 04.05.2012 number 442In the gas retail market there is a Supplier at regulated tariffs, Supplier function is done by the Vertically Integrated Company (Generation/Production + Transmission/Transportation + Distribution + Supply).
- j. **Saudi Arabia:** Supplier function is done by the Vertically Integrated Company (Generation/Production + Transmission/Transportation + Distribution + Supply). There is no Supplier in Saudi Arabia until now.
- k. **Slovakia:** Both in electricity and gas retail markets, all the suppliers are legally named as "Suppliers providing universal service". 4 suppliers in total (3 for electricity and 1 for gas sector) were designated ex-ante by NRA's decision as SoLR. In Slovakia, suppliers for vulnerable customers are the same entities as suppliers providing universal service.
- l. **Turkey:** Both in electricity and gas there is a Supplier of last resort serving the customers of bankrupted suppliers. The procedure includes the following steps:

- After the bankruptcy of a supplier, suppliers' customer list is published on the market operator portal;
- All suppliers are eligible to place offer to the customers of the bankrupted supplier;
- If a customer does not accept any offer, SoLR has an obligation to serve that customer.

3. Type of institution in charge for issuing licenses for the Suppliers with Public Service Obligation

In all the countries, except in Russia and Saudi Arabia, NRAs are entitled for issuing licenses for the suppliers with public service obligation. In Russia, this role is done by the Government/Ministry, while in Saudi Arabia it's planned in the future NRA to issue the licenses. There is a specific situation in Estonia, where there are no specific licenses for the suppliers with public service obligations. Supply/sales activity needs license, but in near future there are planning to go just with registration.

4. Process of designating Public Service Obligation

The USP is licensed in most cases by the NRA, but there are countries, where the Law delegates this public service obligation to different undertakings. The SoLR type of public service obligation in most cases is designated by Law to different undertakings, but there are NRAs with designation right (especially in ex-post nomination). There are countries, where every licensed supplier is obligated to provide public services.

The detailed explanations of the different solutions are the following:

- a. **In Bosnia and Hercegovina**, the license for Supplier of tariff consumers and SoLR is set by decision of NRA.
- b. **In Bhutan** is prescribed by the Law which entity will be entitled with the public service obligation (Supplier of tariff consumers and Supplier of vulnerable consumers). Every licensed Supplier is obliged to provide public service (e.g. universal service). Any entity/entities can apply for the license to electricity regulator. According to the guidelines, NRA will process for issuing the license.
- c. **In Estonia**, (SoLR in electricity and gas) is prescribed by the Law which entity will be entitled with the public service obligation. There are no specific licenses for the suppliers with public service obligations. Supply/sales activity needs license, but in near future it is envisaged to be just registration.
- d. **In Hungary** (both for electricity and gas) is prescribed by the Law which entity will be entitled with the public service obligation. The supplier can only operate possessing a license. A license will be granted by HEA if the supplier meets the requirements by law. Tariff consumers are served by USPs. If a supplier is not able to continue to supply, other market participants (suppliers) can step into its place voluntarily. In absence of a volunteer, HEA appoints a provider from the other USPs or free market suppliers. The appointment is

for a definite period. In Hungary, the vulnerable customers are a subgroup of household customers, who are a subgroup of customers entitled to universal service.

- e. **In Latvia**, it is prescribed by the Law which entity will be entitled with the public service obligation SoLR in electricity.
- f. **In Lithuania**, both in electricity and gas, every licensed supplier is obliged to provide public service (e.g. universal service).
- g. **In Macedonia**, at the current point SoLR and Supplier of tariff consumers in electricity and SoLR in gas is prescribed by the Law which entity will be entitled with these public service obligations. With the adoption of the Third Energy Package, USP should be chosen through a tendering procedure.
- h. **In Romania**, in the electricity and gas retail market the SoLR are nominated with a decision of the NRA. For each distribution zone, there is nominated SoLR. NRA is working to set the secondary legislation to designate SoLR by competition in the beginning of 2018. In the gas retail market, the supplier of tariff consumers is prescribed by the Law.
- i. **In Russia** in the electricity market every licensed supplier is obliged to provide public service for the tariff consumers, while SoLR is prescribed by the Law which entity will be entitled with the public service obligation (Incumbent suppliers or sales department of the DSO are ((by Law)) designated to be suppliers with public service obligation, e.g. universal service). In the gas retail market, the supplier of tariff consumers and supplier of vulnerable consumers are designated by the Law.
- j. **In Saudi Arabia**, this issue is not applicable.
- k. **In Slovakia**, both in electricity and gas, every licensed supplier which supplies households or small companies is obliged to provide universal (public) service.
- l. **In Turkey**, in the retail electricity market suppliers of tariff consumers, SoLR and suppliers of vulnerable consumers (applicable for relatives of martyrs and veteran soldiers) are prescribed by the Law. In the retail market, the function of the supplier of tariff consumers and SoLR is done by the DSOs.

5. Setting retail prices of the Supplier with Public Service Obligations

There is a variety of options used among the countries:

In six cases the NRA sets the USP tariff (in two cases the SoLR tariff as well). The other most frequently used practice, when the supplier set the USP and SoLR tariff with NRA/Government approval. There are limited cases, when the supplier (or relevant DSO) sets the SoLR tariff. In one case the ministry sets the SoLR tariff.

The detailed explanations of the different solutions are the following:

- a. **In Bosnia and Hercegovina**, the retail prices of the suppliers with public service obligations are set by the NRA.

- b. **In Bhutan**, the retail prices of the supplier with public service obligations are set by supplier, approved by NRA/Government.
- c. **In Estonia, in electricity retail market** a small consumer is entitled to purchase electricity from the network operator to whose network his or her electrical installation is connected (universal service). It means if you consumers haven't chosen supplier, have not made contract, contract has expired etc. they have opportunity to receive universal service. **But it is the most expensive way.** By Electricity Market Act is set only - **consumer is entitled to purchase electricity for a price which is reasonable and justified and which conforms to the principle of equal treatment.** In the **gas retail market** are set by **supplier, approved by Competition Authority.** There are no specific requirements for selling gas. By Natural Gas Act is stated - The seller of gas who has the greatest market share within a network area is obligated to sell gas within the technical limits of the network to any household customer who has a network connection and who is located within the network area if the customer wishes to purchase gas. In setting the price of gas for household customers, the gas undertaking in a dominant position shall follow the principle that the weighted average price of the gas it sells contains the price for which it has purchased gas from abroad and a sales margin added thereto. The gas undertaking in a dominant position must obtain the approval of the Competition Authority for the ceiling rate of its sales margin.
- d. **In Hungary** (both for electricity and gas) retail prices of the supplier with public service obligations are set by the Government/Ministry, while HEA makes the proposal concerning those retail prices.
- e. **In Latvia**, for SoLR in electricity retail prices are set by the supplier, while for the Supplier of tariff consumers in gas retail market retail prices are set by the supplier but approved by the NRA/Government.
- f. **In Lithuania**, retail prices of the supplier of tariff consumers both in electricity and gas, is set by NRA, while retail prices of SoLR and supplier of vulnerable consumers, both in electricity and gas retail markets, are set by Government/Ministry. In Lithuania, retail prices of the supplier of tariff household consumers both in electricity and gas, is set by public supplier and verified by the NRA, while retail prices calculation formula of SoLR and additional advantages for vulnerable consumers, both in electricity and gas retail markets, are set by Government/Ministry.
- g. **In Macedonia**, at the current point, electricity retail prices of the Supplier of tariff consumers and SoLR are set by the NRA, while the sales margin of the SoLR in gas retail market is set by the supplier and approved by the NRA.
- h. **In Romania**, both in electricity and gas retail market, retail prices of the suppliers with public service obligations are set by the NRA.
- i. **In Russia** in the electricity market, retail prices of the suppliers with public service obligations are set by the Government/Ministry, while in the gas retail market it was reported that these prices are set both by the Government/Ministry and the NRA.
- j. **In Saudi Arabia**, this issue is not applicable.

- k. **In Slovakia**, both in electricity and gas retail market, retail prices (maximum prices - price cap method) of the suppliers with public service obligations are set by the NRA. The price cap method (setting maximum prices) is used also by last resort supply.
- l. **In Turkey**, in the electricity and gas retail market, the retail prices of the suppliers with public service obligations are set by the NRA, except in the case for vulnerable consumers in the electricity market where they are set by the Government/Ministry.

6. Comparing retail prices of the Supplier with Public Service Obligations with market based prices

In most cases the USP tariff and the tariff of vulnerable consumers are lower than the market based prices (cross-subsidized). In some countries, the electricity and gas retail price regulation for these public service obligations differentiate. In four countries, the USP prices are market based. In one case the non-household regulated tariff is higher than the market based prices. The SoLR tariff is higher in five cases than the market based prices forcing consumers to purchase energy from the free market suppliers. In two cases the SoLR tariff is equal to the market price, while in one case where the portion of SoLR consumption is continuously decreasing this tariff is cheaper than the market based price.

The detailed explanations of the different solutions are the following:

- a. **In Bosnia and Hercegovina**, the retail prices of the suppliers with public service obligations are below the market prices (cross-subsidized) for households and above the market prices for small customers.
- b. **In Bhutan**, the electricity prices are currently not market based. They are set on a cost-plus method for a period of 3 years.
- c. **In Estonia**, both in electricity and gas retail market, retail prices are market based.
- d. **In Hungary**, both in electricity and gas retail market, retail prices are below the market prices (cross-subsidized).
- e. **In Latvia**, for SoLR in electricity retail prices are above the market prices (forcing customers to go to commercial suppliers), while in gas sector there is no SoLR, since the gas market is not liberalized yet. The adoption of the relevant national legislation is still in process and it is planned, that the regulation will enter force in April 2017.
- f. **In Lithuania**, retail prices of the supplier of tariff consumers and supplier of vulnerable consumers, both in electricity and gas, are market based, while retail prices of SoLR, both in electricity and gas retail markets, are above the market prices (forcing customers to go to commercial suppliers).
- g. **In Macedonia**, at the current point, electricity retail prices of the Supplier of tariff consumers and SoLR are cost reflective, although not fully market based. For households are slightly below the market price, while SoLR retail price in gas retail market is above the market prices (forcing customers to go to commercial suppliers).
- h. **In Romania, in electricity retail market, SoLR** apply three types of tariffs: regulated tariffs only for households, at this moment for 30% of household consumption (the percent

will decrease at 0 in 2018) and are below market prices; tariffs for small consumers are slightly above market prices, and tariffs for nonresidential clients who didn't choose a supplier when the market fully opened and for the nonresidential who did not have a supplier - tariffs are higher than tariffs for small consumers. In the gas retail market, retail prices of the suppliers of tariff consumers are covering all justified costs and are set according to a methodology issued by NRA, while retail prices of SoLR are above the market prices (forcing customers to go to commercial suppliers).

- i. **In Russia** in the electricity market, retail prices of the suppliers of tariff consumers are below the market prices, while for SoLR are market based. In the gas retail market the retail prices of the suppliers of tariff consumers are market based, while for the vulnerable consumers are below the market prices (cross-subsidized).
- j. **In Saudi Arabia**, this issue is not applicable.
- k. **In Slovakia**, retail prices of the suppliers, both in electricity and gas, are market based, while retail prices of SoLR, both in electricity and gas retail markets, are above the market prices (forcing customers to go to commercial suppliers).
- l. **In Turkey**, in the electricity retail market, retail prices of the suppliers of tariff consumers and SoLR are market based, while the retail prices for vulnerable consumers are below the market price (cross-subsidized). In the gas retail market, retail prices of the supplier of tariff consumers and SoLR are set by the NRA and price can be above or below market prices.

7. Circumstances which are activating SoLR functions

In most cases the circumstances which are activating the SoLR functions are the same and include:

- The household and/or small customer does not find a supplier on the market (no energy supplier is willing to sign a contract with the customer);
- The current supplier of the household and/or small customer has gone bankrupt and is no longer doing business;
- The license of the current supplier has been revoked;
- The household and/or small customer does not choose a supplier when moving to another (new) address;
- The household and/or small customer does not choose a supplier at market opening (when the former regulated tariff supply not exist anymore and SoLR performs the role of USP at the same time);
- The fix-term supply contract expires and the consumer does not extend it and/or does not signed a new contract with another supplier and
- The household and/or small customer is dropped by its current supplier because of non-payment (this condition exists in limited country cases).

The detailed explanations of the different solutions are the following:

- a. **In Bosnia and Hercegovina** SoLR functions in the following cases: If a household and/or small customer does not find a supplier on the market (no energy supplier is willing to sign a contract with the customer); The current supplier of the household and/or small customer

has gone bankrupt and is no longer doing business; The license of the current supplier has been revoked; If a household and/or small customer does not choose a supplier when moving home; If a household and/or small customer does not choose a supplier at market opening; and if a fix-term supply contract expires.

- b. **In Estonia**, both in electricity and gas retail market, SoLR (Public Service Obligation or Universal Service) functions in the following cases: If a household and/or small customer does not find a supplier on the market (no energy supplier is willing to sign a contract with the customer); The current supplier of the household and/or small customer has gone bankrupt and is no longer doing business; The license of the current supplier has been revoked; If a household and/or small customer does not choose a supplier when moving home; If a household and/or small customer does not choose a supplier at market opening; and if a fix-term supply contract expires.
- c. **In Hungary**, both in electricity and gas retail market, SoLR (the appointed USP acting as SoLR) functions in the following cases: The current supplier of the household and/or small customer has gone bankrupt and is no longer doing business and the license of the current supplier has been revoked.
- d. **In Latvia**, for SoLR functions in electricity market are in the following cases: If a household and/or small customer does not find a supplier on the market (no energy supplier is willing to sign a contract with the customer); If the current supplier of the household and/or small customer has gone bankrupt and is no longer doing business; If the current supplier has lost the right to be an electricity trader; If a household and/or small customer does not choose a supplier when moving home; If a household and/or small customer does not choose a supplier at market opening and if a fixed-term supply contract expires. The gas retail market is not yet liberalized and there is no SoLR.
- e. **In Lithuania**, both in electricity and gas retail market, SoLR functions in the following cases: If a household and/or small customer does not find a supplier on the market (no energy supplier is willing to sign a contract with the customer); If a household and/or small customer is dropped by its current supplier because of non-payment; The current supplier of the household and/or small customer has gone bankrupt and is no longer doing business; The license of the current supplier has been revoked; The license of the DSO has been revoked; If a fix-term supply contract expires.
- f. **In Macedonia**, at the current point, **SoLR functions in the electricity market are** in the following cases: If a household and/or small customer does not find a supplier on the market (no energy supplier is willing to sign a contract with the customer); If a household and/or small customer does not choose a supplier at market opening and If a fix-term supply contract expires. The switching of small customers from a commercial supplier to SoLR is allowed once in the year. **In the gas retail market functions of SoLR are** in the following cases: If a household and/or small customer does not find a supplier on the market (no energy supplier is willing to sign a contract with the customer); The current supplier of the household and/or small customer has gone bankrupt and is no longer doing business; The license of the current supplier has been revoked and If a household and/or small customer does not choose a supplier at market opening.

- g. **In Romania**, in **electricity retail market SoLR functions** in the following cases: If a household and/or small customer does not find a supplier on the market (no energy supplier is willing to sign a contract with the customer); If a household and/or small customer is dropped by its current supplier because of non-payment (Only after the debts payment to the previous supplier. Additional guarantee can be asked.) The current supplier of the household and/or small customer has gone bankrupt and is no longer doing business; The license of the current supplier has been revoked; If a household and/or small customer does not choose a supplier when moving home; If a household and/or small customer does not choose a supplier at market opening and If a fix-term supply contract expires. **In the gas retail market functions of SoLR are** in the following cases: If a household and/or small customer does not find a supplier on the market (no energy supplier is willing to sign a contract with the customer); The current supplier of the household and/or small customer has gone bankrupt and is no longer doing business and the license of the current supplier has been revoked.
- h. **In Russia** in the electricity market, SoLR functions in the following cases: the current supplier of the household and/or small customer has gone bankrupt and is no longer doing business and the license of the current supplier has been revoked. In the gas retail market, SoLR is not applicable since there is only Supplier at regulated tariffs.
- i. **In Slovakia**, both in electricity and gas, SoLR must supply electricity or gas to those electricity customers and gas customers connected to system or network whose suppliers lost their capacity to supply electricity or gas (the current supplier of the household and/or small customer has gone bankrupt and is no longer doing business, the license of the current supplier has been revoked) or whose switch to new electricity supplier or gas supplier has been stayed and simultaneously whose supplies have not been secured otherwise by the date of interruption of electricity or gas supplies.
- j. **In Turkey**, in **electricity retail market SoLR functions** in the following cases: If a household and/or small customer does not find a supplier on the market (no energy supplier is willing to sign a contract with the customer); If a household and/or small customer is dropped by its current supplier because of non-payment; The current supplier of the household and/or small customer has gone bankrupt and is no longer doing business; The license of the current supplier has been revoked; The license of the DSO has been revoked; If a household and/or small customer does not choose a supplier when moving home; If a household and/or small customer does not choose a supplier at market opening and If a fix-term supply contract expires. **In the gas retail market functions of SoLR are** in the following cases: If a household and/or small customer does not find a supplier on the market (no energy supplier is willing to sign a contract with the customer); If a household and/or small customer is dropped by its current supplier because of non-payment; The current supplier of the household and/or small customer has gone bankrupt and is no longer doing business; The license of the current supplier has been revoked; If a fix-term supply contract expires; if a household and/or small customer does not choose a supplier when moving home or if a household and/or small customer does not choose a supplier at market opening, they have been supplied by DSO.

Annex 1 – Questionnaire

1. Status of the market liberalization	Electricity	Natural Gas
Fully Liberalized (all customer segments could choose among suppliers/traders and regulated end-user tariff does not exist)		
Non Liberalized (Fully Regulated Market: none of the customers could choose among suppliers/traders and regulated end-user tariff exists for all customer segments)		
Semi-liberalized (partially liberalized, still regulated tariff exists for households and small companies set by NRA or other governmental body)		
Rough estimation of free trade ratio (percentage of energy consumption supplied by "free" traders/suppliers on not-regulated tariff) (%)		
Rough estimation of free trade ratio among household customers (percentage of energy consumption supplied by "free" traders/suppliers on not-regulated tariff) (%)		
Additional comment/explanation		

2. Types of suppliers with public obligation	Electricity	Natural Gas
Supplier of tariff consumers (Default supplier)		
Supplier of last resort (SoLR)		
Supplier of vulnerable customers		
Supplier function is done by the Vertically Integrated Company (Generation/Production + Transmission/Transportation + Distribution + Supply)		
Other type (please explain)		

Additional comment/explanation		
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3. Which institution is issuing licenses for the suppliers with public obligation?	Electricity	Natural Gas
National Regulatory Authority (NRA)		
Government/Ministry		
NRA and Government/Ministry		
Other body (please explain)		
Additional comment/explanation		

4. The process of issuing license for supplier with public obligation is done through:	Electricity	Natural Gas
Public tender		
Proscribed by the Law which entity will be entitled with the public obligation (Incumbent suppliers or sales department of the DSO are by Law designated to be suppliers with public obligation)		
Every licensed Supplier is obliged to provide public service (e.g. universal service)		
Other (please explain)		
Additional comment/explanation		

5. The retail prices of the supplier with public obligation are set by:	Electricity	Natural Gas
NRA		
Government/Ministry		
Set by supplier, approved by NRA/Government		
Set by supplier		
Other (please explain)		
Additional comment/explanation		

6. The retail prices of the supplier with public obligation are:	Electricity	Natural Gas
Market based		
Below the market prices (cross-subsidized)		
Above the market prices (forcing customers to go to commercial suppliers)		
Other (please explain)		
Additional comment/explanation		

7. Functions of the supplier of last resort or other type of supplier with public obligation are played in the following cases:	Electricity	Natural Gas	Type of supplier (e.g. SoLR, default supplier, regular supplier with public obligation, other..)
If a household and/or small customer does not find a supplier on the market (no energy supplier is willing to sign a contract with the customer)			
If a household and/or small customer is dropped by its current supplier because of non-payment			
The current supplier of the household and/or small customer has gone bankrupt and is no longer doing business			
The license of the current supplier has been revoked			
The license of the DSO has been revoked			

If a household and/or small customer does not choose a supplier when moving home			
If a household and/or small customer does not choose a supplier at market opening			
If a fix-term supply contract expires			
Other cases, please explain:			
Additional comment/explanation			