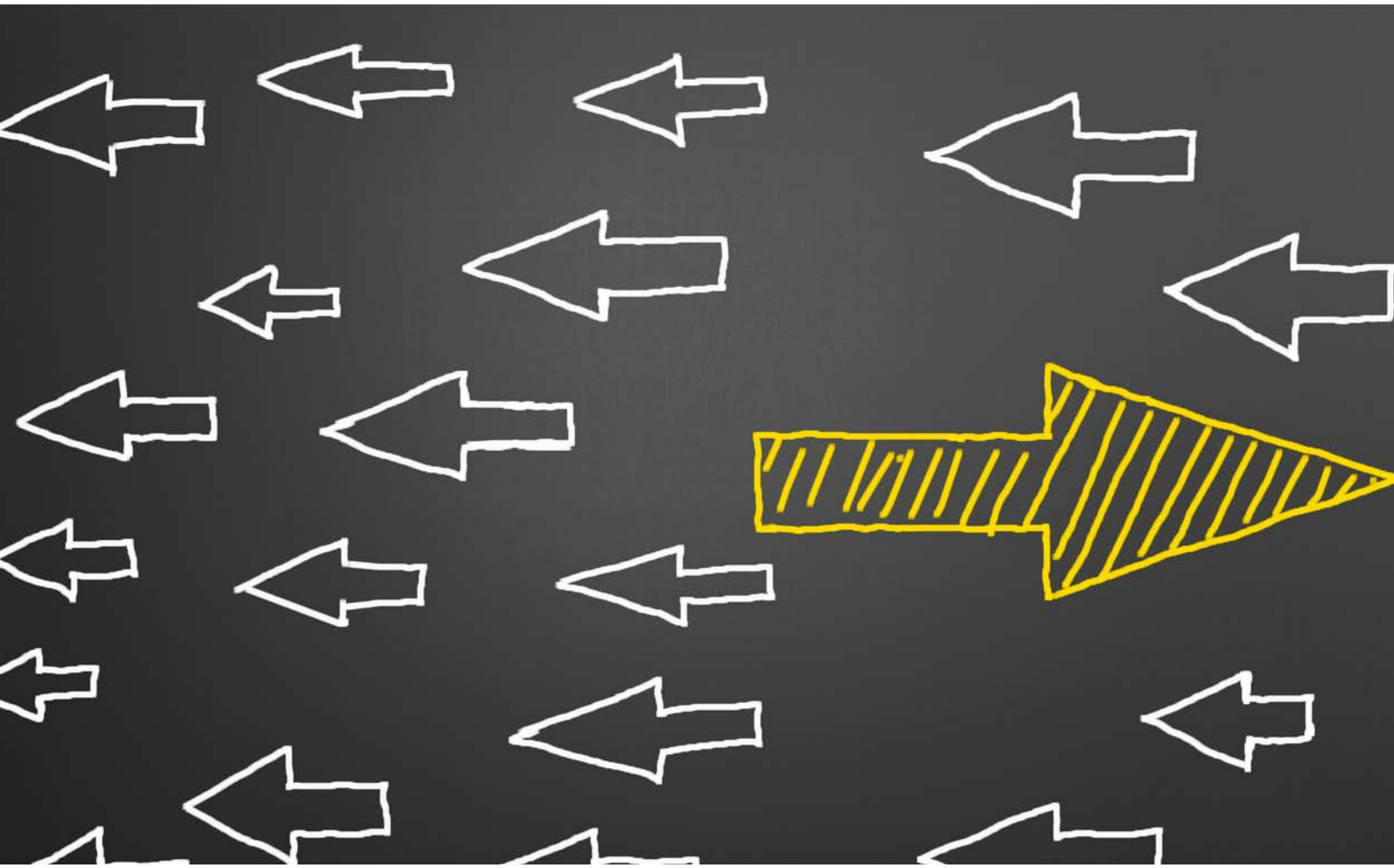
Energy Community



Investments into the past

An analysis of Direct Subsidies to Coal and Lignite Electricity Production in the Energy Community Contracting Parties 2018–2019

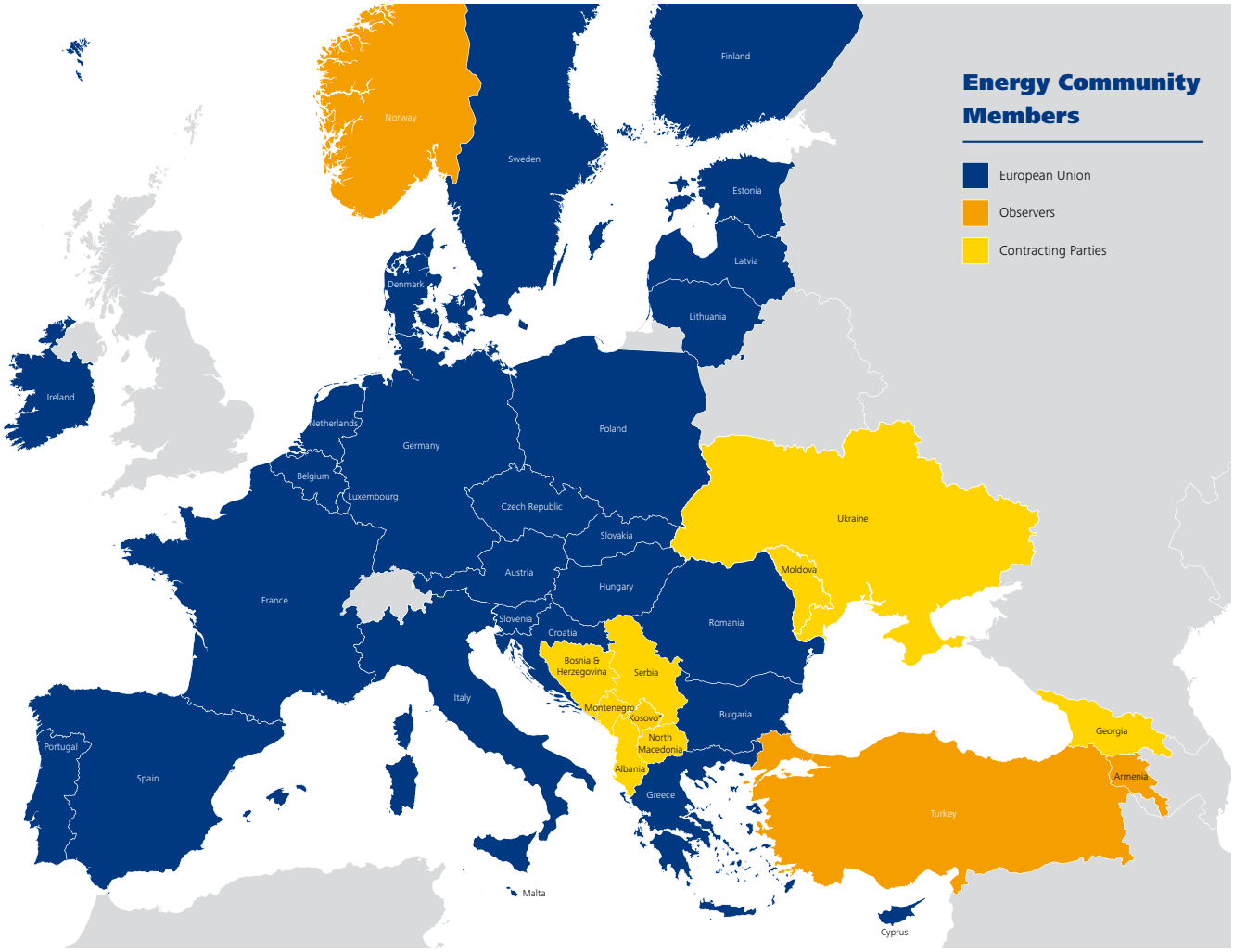
Damir Miljević

December 2020

Layout: Medium d.o.o.
Image: www.istockphoto.com

About the Energy Community

The Energy Community is an international organization which brings together the European Union and its neighbours to create an integrated pan-European energy market. The organization was founded by the Treaty establishing the Energy Community signed in October 2005 in Athens, Greece, in force since July 2006. The key objective of the Energy Community is to extend the EU internal energy market rules and principles to countries in South East Europe, the Black Sea region and beyond on the basis of a legally binding framework. Presently, the Energy Community has nine Contracting Parties - Albania, Bosnia and Herzegovina, Kosovo*, North Macedonia, Georgia, Moldova, Montenegro, Serbia and Ukraine.



Contents

Abbreviations

ECS – Energy Community Secretariat
EnC – Energy Community
EPS – Elektroprivreda Srbije
ERO – Energy Regulatory Office of Kosovo*
ERC – Energy Regulatory Commission of North Macedonia
ERS – Elektroprivreda RS
EPBIH – Elektroprivreda BiH
ESM – Elektroprivreda North Macedonia
EU – European Union
EUROSTAT – Statistical office of the European Union
IEA – International Energy Agency
LCPD – Large Combustion Plants Directive
MERA – Montenegro Energy Regulatory Agency
NCSREPU – Ukraine National Commission for the State Regulation in the Sector of Energy and Public Utilities Sector
NECP – National Energy and Climate Plan
NERP - National Emission Reduction Plan
OECD – Organization for Economic Cooperation and Development
SOE – State-owned enterprise
SERC – State Electricity Regulatory Commission of Bosnia and Herzegovina
WTO – World Trade Organization

1. Executive Summary

Subsidies channelled to electricity generation from coal and lignite often sustain unprofitable and inefficient thermal power plants and coal mines. The subsidies significantly distort the energy markets, sending wrong signals to potential investors and consumers, and adversely impact decision-making about the future development of the electric power sector. The continued high use of these subsidies is a direct obstacle to the energy transition and meeting carbon neutrality goals.

This rings true in the majority of Energy Community Contracting Parties, which have postponed addressing this issue for decades in order to maintain artificially low electricity prices and thus avoid facing potential economic and social disruptions. Vast efforts and financial resources are thus invested in a system that is unsustainable in the short and especially in the long term.

This report sheds light on the scale of direct subsidies in the six Energy Community Contracting Parties which own and utilize generation capacities and resources from coal and lignite: Bosnia and Herzegovina, Kosovo*[1], Montenegro, North Macedonia, Serbia and Ukraine. The report covers the period 2018–2019 and builds on previous research encompassing the 2015–2017 period[2].

The World Trade Organization's (WTO) definition of subsidies[3] was used to research, identify, calculate and describe subsidies, which were classified in three categories: fiscal support-type subsidies[4]; public finance support subsidies[5]; and state-owned enterprises (SOE) investment support subsidies[6].

The report revealed that all six Contracting Parties analysed provided direct subsidies to electricity generation from coal/lignite during 2018 and 2019. These subsidies amounted to more than EUR 900 million. In absolute terms, the subsidies were the highest in Ukraine, Serbia and Bosnia and Herzegovina. The report also uncovered the scale of state guaranteed loans, which amounted to almost 2 billion in 2019 alone.

Table 1: Total amount of direct subsidies provided to coal/lignite electricity producers in EUR million

	2018	2019	Total 2018–2019
Bosnia and Herzegovina	20,2	22,71	42,91
Kosovo*	6,11	6,59	12,7
Montenegro	0,73	0,41	1,14
North Macedonia	2,19	1,64	3,83
Serbia	47,40	41,36	88,76
Ukraine	275,44	476,08	751,52
Total	**352,07**	**548,79**	**900,86**

Source: based on calculation in Annexes

Table 2: Total amount of direct subsidies for period 2018–2019 by subsidy category in EUR million

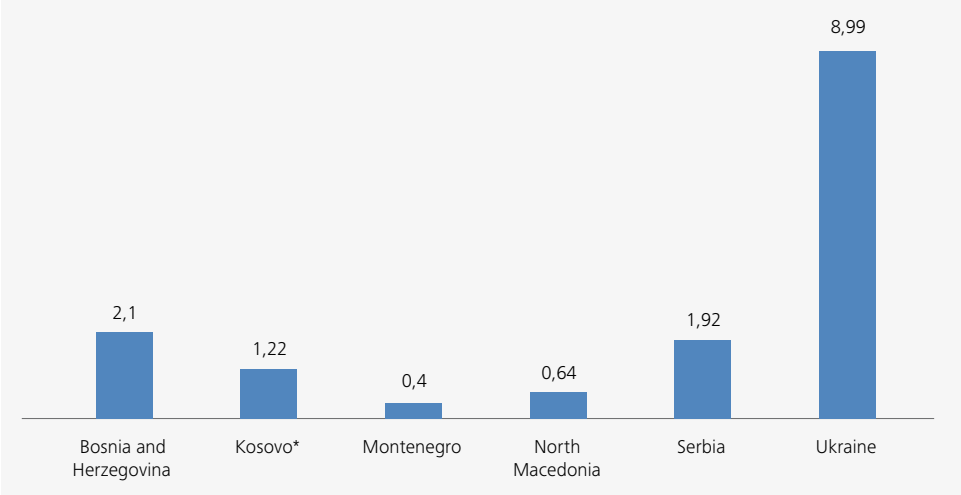
	Fiscal support subsidies	Public finance support subsidies	SOE investment support subsidies	TOTAL
Bosnia and Herzegovina	11,12	9,01	22,78	42,91
Kosovo*	12,45	0,25	0	12,7
Montenegro	0,52	0,61	0	1,14
North Macedonia	0	3,83	0	3,83
Serbia	45,03	40,5	3,23	88,76
Ukraine	592,79	0	158,73	751,52
Total	**661,91**	**54,2**	**184,74**	**900,86**

Source: based on calculation in Annexes

1 *This designation is without prejudice to positions on status, and it is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo declaration of independence
2 https://www.energy-community.org/dam/jcr:ae19ba53-5066-4705-a274-0be106486d73/Draft_Miljevic_Coal_subsidies_032019.pdf Accessed 20.07.2020
3 WTO defines a subsidy as "any financial contribution by a government, or an agent of a government, that confers a benefit on its recipients", https://www.wto.org/english/docs_e/legal_e/24-scm_01_e.htm Accessed 20.07.2020
4 Fiscal support type subsidies are subsidies that are directly linked to the state budget and take the form of direct budget transfers, deferred or reduced budget revenues or write-offs of arrears to the budget. This category of subsidies is most often associated with direct subsidies.
5 Public finance support subsidies are subsidies that are not directly associated with the government budget, but constitute support provided to beneficiaries by institutions under control of governments or international financial institutions that take the form of state guarantees, loans and grants provided by such entities.
6 SOE investment support subsidies constitute assorted types of support extended by majority state-owned enterprises to beneficiaries in the coal-fired electricity generation sector in excess of market-oriented and economically rational behavior and criteria, and take the form of equity investment, loans, advances, or forgiveness of arrears.

The impact of subsidies on coal-fired electricity generation costs is best disclosed as the average amount of subsidy per electricity output during the observed period. Whereby the subsidy levels in absolute terms are the highest in Ukraine and Serbia, the subsidies per unit of coal-fired electricity generation are the highest in Ukraine and Bosnia and Herzegovina, closely followed by Serbia and Kosovo*.

Graph 1: Direct subsidies in EUR per 1 MWh produced (2018–2019 average)



Source: based on calculation in Annexes and data from Energy Regulators

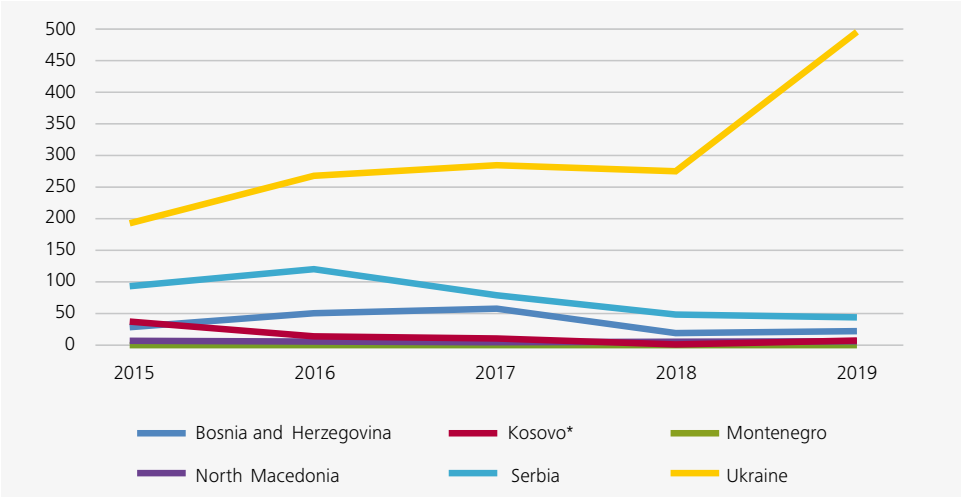
Comparing the results from 2018–2019 with the results from the research conducted in 2015–2017, there was an absolute decline in the amount of direct subsidies in all observed Contracting Parties except Ukraine.

Table 3: Estimated amount of direct subsidies provided to coal/lignite electricity producers 2015–2019 in EUR million

	2015	2016	2017	2018	2019
Bosnia and Herzegovina	26,01	42,86	55,76	20,20	22,71
Kosovo*	38,12	15,23	13,42	6,11	6,59
Montenegro	0,88	1,16	2,04	0,85	0,41
North Macedonia	4,38	3,72	2,93	2,19	1,64
Serbia	95,48	119,5	84,37	47,40	41,36
Ukraine	194,73	263,4	280,44	275,44	476,08
Total	**359,6**	**445,87**	**438,96**	**352,19**	**548,79**

Source: based on calculation in Annexes and data from previous research 2015–2017

Graph 2: Direct subsidies to coal-fired production of electricity 2015–2019 in EUR million

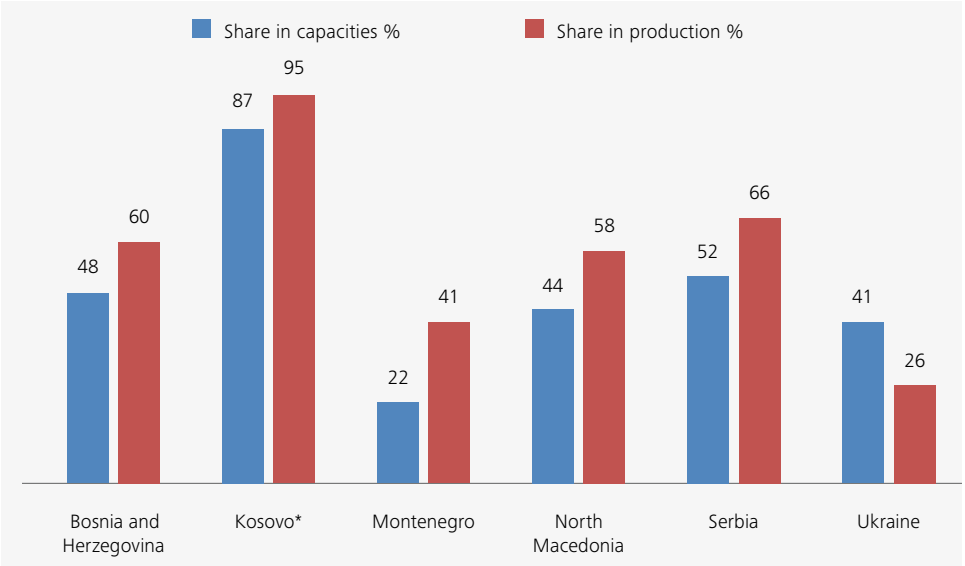


Source: based on calculation in Annexes and data from previous research 2015–2017

2. Introduction and Background

Electricity generation from coal and lignite makes up a significant share of the electric power sector in the majority of the Energy Community Contracting Parties.

Graph 3: Share of coal in the electricity generation fuel mix in 2019



Source: based on national regulatory authorities' reports

All Contracting Parties (exception for Kosovo*) are signatories to the Paris Agreement and have undertaken additional commitments to reduce greenhouse gas emissions and create the right conditions for climate-resilient development. The Paris Agreement requires the signatory Contracting Parties to review their existing energy policies, harmonize them with the signed obligations and redirect funds to achieve the Agreement's abatement goals.

In accordance with the General Policy Guidelines on 2030 Targets for the Energy Community Contracting Parties[7], the European Commission will propose the inclusion of legislation stemming from the 'Clean Energy for all Europeans' package in the Energy Community acquis, namely the recast Renewable Energy Directive, Energy Efficiency Directives and the Governance Regulation, including 2030 energy and climate targets. Following Recommendation 2018/01/MC-EnC on preparing for the development of National Energy and Climate Plans (NECPs) and the accompanying Policy Guidelines 03/2018 of the Secretariat, it is envisaged that NECPs are prepared and submitted to the EnC as soon as possible, ideally before 2021.

In addition, the implementation phase of Directive 2001/80/EC on the limitation of emissions of certain pollutants into the air from large combustion plants[8] (the Large Combustion Plants Directive - LCPD) has started on 1 January 2018. This means that existing fossil fuel-fired power plants have to reduce their sulphur dioxide, nitrogen oxides and dust emissions significantly, while new ones must comply with the stricter requirements of Directive 2010/75/EU on industrial emissions, often only at the cost of non-compliant State aid distorting the markets. Therefore, coal and lignite have become highly problematic natural resources[9].

In order to create undistorted, free flowing energy markets, practices that impede free competition among undertakings are generally prohibited by Article 18 of the Energy Community Treaty. This provision includes a prohibition of State aid, i.e. any public aid which distorts or threatens to distort competition by favouring certain undertakings or certain energy resources insofar as it may affect trade of network energy between the Contracting Parties. Although this definition may not coincide with the definition of subsidies used in this report, it is still of relevance for the assessment of the compatibility of such support. The State aid rules are applied and enforced by national authorities of the Contracting Parties which have to assess compliance of any State aid measure before it is granted.

7 The General Policy Guidelines by the Energy Community Secretariat on the development of National Energy and Climate Plans under Recommendation 2018/01/MC-Enc file:///C:/Users/User/Downloads/PC_03_2018_ECS_NECP.pdf Accessed on 12.07.2020
8 https://www.energy-community.org/legal/acquis.html see under Environment Accessed on 14.07.2020
9 Energy Community Secretariat, June 2018, The Wachau Manifesto

This situation imposes on the Contracting Parties an urgent task to review their current subsidization policies in the coal/lignite electricity generation sector to ensure a gradual, economically and socially sustainable phase-out of coal and lignite.

As part of this joint effort, the Energy Community Secretariat contracted a consultant to prepare a report on coal and lignite electricity generation-related direct subsidies in the Energy Community for the period 2018–2019. The main objective of the report is to identify and calculate such subsidies and categorize them as fiscal support, public finance support or investment by state-owned enterprises for the period 2018–2019.

All data gathered and presented in this report are based on information collected from public sources. The consultant examined all laws and government decisions that can be classified as channelling direct subsidies for the generation of electricity from coal/lignite. This also included official gazettes, budget execution documents and governmental reports. Extensive use was also made of reports produced by international organizations. In addition, information was gathered directly from interviews with various government officials and from company audit reports and financial sector databases[10].

The analysis covers those Contracting Parties where coal is used for electricity generation: Bosnia and Herzegovina, Kosovo*, Montenegro, North Macedonia, Serbia and Ukraine. Albania, Moldova and Georgia do not have coal-fired electricity generation capacity and consequently have no direct subsidies for this type of production.

10 In the list of subsidies in the Annex indicates the sources of information.

3. Methodology

There is no globally agreed definition of what constitutes a subsidy. This research is based on the definition of subsidies provided by the WTO Agreement on Subsidies and Countervailing Measures (WTO 1994)[11]:

Article 1, Definition of a Subsidy

For the purpose of this Agreement, a subsidy shall be deemed to exist if:

A. 1 there is a financial contribution by a government or any public body within the territory of a Member (referred to in this Agreement as "government"), i.e. where:
   (i) a government practice involves a direct transfer of funds (e.g. grants, loans and equity infusion), potential direct transfers of funds or liabilities (e.g. loan guarantees);
   (ii) a government revenue, that is otherwise due, is forgone or not collected (e.g. fiscal incentives, such as tax credits);
   (iii) a government provides goods or services other than general infrastructure, or purchases of goods;
   (iv) a government makes payments to a funding mechanism, or entrusts or directs a private body to carry out one or more of the type of functions illustrated in (i) to (iii) above which would normally be vested in the government and the practice, in no real sense, differs from practices normally followed by governments; or

A. 2 there is any form of income or price support in the sense of Article XVI of the General Agreement on Tariffs and Trade (GATT) 1994[12]; and

B. a benefit is thereby conferred.

It is important to note that the WTO definition of subsidies rests on two fundamental elements. One, that a government or any other public body in the country is providing a financial contribution. Two, that this contribution provides a benefit to the recipient. What matters is not what categories or groups the subsidies fall in, but that they target precisely defined entities/sectors or products/services that benefit from such measures. In this context, the WTO methodology does not recognize the classification into direct or indirect subsidies, but instead it focuses on the calculation of the scale of the benefits generated by subsidies which at the same time presents costs or potential costs for the government.

As one of the major objectives of this study is to advance the understanding of national policies and levels of subsidization, all subsidies with a defined monetary value that may be tracked to a specific final beneficiary, while providing a direct benefit, will be considered as direct subsidies.

In order to better understand national policies and instruments that governments use to subsidize electricity generation from coal, the data and information assembled are aggregated to show the amount of direct subsidies derived from total support measures. The rules for calculation of the subsidy amount are presented below.

To obtain as comprehensive insights into the subsidy levels as possible, it was necessary to depart from the WTO methodology in some cases. Pursuant to the Annex IV of the WTO Treaty[13], the calculation of the amount of subsidy is treated solely in terms of the cost to the subsidizing government, i.e. observed from a government's viewpoint. Recalling that the costs to governments may be lower or higher than the benefits obtained by subsidy recipients[14], the impact of subsidies on the electricity generation from coal is better shown when the amount of the subsidy is calculated as benefit transferred to a beneficiary.

11 Ibidem
12 GATT is a multilateral agreement regulating international trade. According to its preamble, its purpose is the "substantial reduction of tariffs and other trade barriers and the elimination of preferences, on a reciprocal and mutually advantageous basis." GATT was signed in 1947 and lasted until 1993. It was replaced by the WTO in 1995. The original GATT text (1947) is still in effect under the WTO framework, subject to the GATT 1994 modifications.
13 https://www.wto.org/english/docs_e/legal_e/24-scm_01_e.htm Accessed 20.07.2020
14 For instance: A government may borrow in financial markets under much better terms than a commercial entity. Therefore, when e.g. a government provides a loan or a loan guarantee, the benefit to the subsidy recipient is far greater than the cost to the government and is reflected in the interest rate differential between the interest rate on the loan to the beneficiary and the interest rate to a similar loan extended on commercial terms without government involvement.

Based on the WTO definition of subsidies, this report divides support and subsidies to coal/lignite electricity production into three main categories[15]:

Fiscal support

Fiscal support is defined as any direct spending by the government from the budget, tax breaks and income or price support or any government revenue forgone, deferred or not collected and could be divided in two categories:

a. Direct budget transfers for any purpose for coal mines supplying thermal power plants or for companies involved in coal-fired electricity generation including budgetary direct expenditures and government loans;
b. Forgone revenues, including arrears for taxes, contributions or other public revenues connected with entities involved in coal-fired electricity generation, debt write-offs, and exemptions from payment of costs or reduction of liabilities for such costs, and lower tax rates or other fiscal charges relative to other entities.

These types are categorized under 'fiscal support' because they directly impact the budget, either as a direct budget outlay or as forgone or deferred budget revenue.

Direct transfers from the budget are shown in the amounts transferred in the year when the transactions are completed. All direct budget transfers, with the exception of government loans, were included in their full amount as an amount of the subsidy in the year when they were executed.

The data for government loans is shown as the amount of outstanding debt as of year-end. The data for debt for public revenues is shown as the end-year outstanding balance. The reason is that the failure to collect such claims results in lower budget revenues for the given year. Subsidy levels from loans obtained from governments were calculated by taking into account the comparison of interest rates on loans provided by governments and interest rates on comparable commercial loans in the domestic markets. In all presented cases, it was determined that the market loan interest rates were higher than on the government issued loans. The amount of the subsidy was calculated as the benefit incurring to the loan recipient arising from the interest rate differential. The interest rate differential on the previous year's outstanding loan portfolio was calculated and shown as a subsidy in the current year.

The subsidization effect of arrears to governments for various taxes and contributions was computed by recognizing that such arrears constituted unrealized budget revenues and that governments must borrow equivalent amounts in the financial markets to balance budgetary revenues and expenditures. In this case, the subsidy is equal to the cost to the government of borrowing the amount equivalent to budget revenue arrears. The actual government costs were computed using the yield on government bonds as the rate payable on total arrears in the given year.

Other data in this category were calculated and estimated on the basis of decisions of the government to grant to the producers of electricity generated from coal or to the coal mines that supply such producers, a privileged status in the market, or to reduce their liabilities or charges during the period. This data is shown as an annual amount of forgone revenues.

Public finance support

Public finance support constitutes the second category of direct subsidies covered in this study. This category includes loans, grants, guarantees and equity provided by institutions under governmental control or by international financial institutions to entities involved in coal-fired electricity generation.

The level of direct subsidies in the form of loans provided by government controlled institutions was computed by comparing the interest rates on loans received with interest rates on comparable commercial loans to determine the level of benefits obtained by the subsidy recipient. The difference between the two interest rates was used to calculate the amount of direct subsidy. In

15 This approach is mainly based on the Overseas Development Institute and Climate Action Network methodology, see more at: https://www.odi.org/sites/odi.org.uk/files/resource-documents/11762.pdf Accessed 28.07.2020

situations where such loans were provided interest-free, the interest rates on comparable commercial loans were applied to outstanding loan balances in the previous year to compute the amount of the subsidy for the given year.

The level of support is shown as an outstanding balance of loans provided by government controlled or owned institutions and loans provided by international financial organizations guaranteed by government.

Grants were treated as subsidies in their full amount in the year when they were provided and shown in the year when they were received by the beneficiary. There was no equity provision in the observed years.

The amount of direct subsidy from government guaranteed loans is calculated as the direct benefit accruing to the beneficiary because of the government's guarantee. The direct benefit and, consequently, the amount of the subsidy to the beneficiary results primarily from the fact that, without a guarantee, such beneficiaries either might not even receive such loans in terms of size, interest rate or repayment period, which makes it difficult to fairly estimate the received benefit and the actual amount of subsidy.

For the purposes of this study, the difference between the market interest rate and the interest rate on government guaranteed loans was used as the basis to calculate the amount of subsidy. This difference is applied to the outstanding balance of the guaranteed loan in the previous year to determine the amount of subsidy in the given year.

SOE investment support

Investment by state-owned enterprises (SOEs) constitutes the third category of direct subsidies. All companies, which are majority owned by a government or government controlled entities, are considered to be SOEs. As a majority owner, the state through the governance bodies has a decisive influence on decisions about investment and allocation of resources.

In the given context, all funds in the form of capital investment loans, debts for electricity or advances extended by such enterprises to other business entities involved in coal-fired electricity generation (mainly suppliers) which could not be justified as rational economic decisions based on market principles, thereby negatively impacting their own business performance, are treated as support with elements of direct subsidies. They are shown either as the amount extended in the given year (capital investment) or as the total amount at end-year (credits, debts for electricity and advances). Investments by SOEs into their own production are not treated as direct subsidies because it is assumed that management makes economically rational decisions for the company it manages.

The equity investments are identified as subsidies in their full amount, in the year when they were provided.

The level of direct subsidies in the form of loans provided by SOEs was determined by comparing the effective interest rates on received loans from SOE by the subsidy recipient with interest rates on comparable commercial loans. The difference between the interest rate on the loan received and the interest rate on comparable commercial loans was used to calculate the amount of direct subsidy.

In situations where such loans were provided interest-free, the interest rates on comparable commercial loans were applied to outstanding loan balances in the previous year to compute the amount of subsidy for the given year.

Advance payments and electricity debts are treated as interest-free short-term loans, the interest rates on comparable commercial loans were applied to outstanding loan balances in the given year to compute the subsidy amount.

4. Contracting Party Reports

4.1. Bosnia and Herzegovina

Electricity Facts and Figures	2015	2016	2017	2018	2019
Description of data (unit)					
Electricity production [GWh]	14,408	16,509	15,151	17,873	16,074
Gross electricity consumption [GWh]	12,606	12,865	13,366	13,294	12,330
Final consumption of electricity [GWh]	11,183	11,432	11,735	11,792	10,960
Consumption structure [GWh]					
Industrial,transport,services and other non-residential sectors	6,457	6,699	6,979	7,107	6,234
Households (residential customers)	4,726	4,733	4,756	4,685	4,726
Capacity of power plants [MW] by source:	4,016	4,352	4,382	4,462	4,508
Coal-fired	1,856	2,156	2,156	2,156	2,156
Hydro	2,150	2,180	2,207	2,236	2,239
Other renewable	9	15	18	70	113
Electricity generation in coal-fired TPP [GWh]	8,712	10,608	10,918	10,954	9,613
Share of coal-fired el. generation in total el. production	60%	64%	72%	61%	60%
Share of coal-fired el. generation in final el. consumption	78%	93%	93%	93%	88%

Source: SERC Annual Reports

Coal-fired capacities in Bosnia and Herzegovina account for 47.8% of the total installed electricity generation capacity and 60% of electricity production.

Coal-fired electricity generation takes place in five thermal power plants, of which four are majority state-owned. One thermal power plant is owned by Energy Financing Team Group[16] (capacity 300 MW), while the state-owned companies "Elektroprivreda Republike Srpske" (ERS) and "Elektroprivreda BiH" (EPBiH) each own two thermal power plants. Capacity of the TPPs in ERS is 600 MW and 1,256 MW in EPBiH. Three thermal power plants have integrated coal mines, while the remaining two TPPs are supplied from seven coal mines that operate as separate undertakings within the concern Elektroprivreda BiH.

The amount of direct subsidies for coal-fired electricity generation, calculated in accordance with the rules presented in Chapter 3, are shown in the table below.

Table 4: Estimated amount of subsidies in Bosnia and Herzegovina in EUR million

Activity / instrument	2018	2019	2018–2019 average per year
Fiscal support	6,36	4,75	5,56
Public finance support	4,75	4,26	4,51
SOE investment support	9,08	13,69	11,39
TOTAL:	**20,20**	**22,71**	**21,45**

Source: based on calculation in Annex 1

Subsidies in the fiscal support category relate to reprogrammed and uncollected tax, social security contributions and concession fees arrears for the state-owned coal mines in the Federation of Bosnia and Herzegovina (FBiH) and a loan provided by Tuzla Canton Government to coal mines Kreka and Djurdjevik.

In terms of public finance support, there are currently seven outstanding state, entity or cantonal guarantees issued. It is important to note that the FBiH Government issued and the FBiH Parliament confirmed in 2019 a guarantee for block 7 of the Tuzla TPP,

16 EFT Rudnik i termoelektrana Stanari http://www.eft-stanari.net/ Accessed on 16.09.2020

and that the RS Government issued a guarantee for two loans to TPP Gacko. Given the time of issuance and the operational status of these guarantees, they were not included in the calculation in the observed period.

Capital investments of the Elektroprivreda BiH in the mines, loans and advance payments to the mines were categorized as SOE investment support (see annex 1).

The sum total of subsidies was EUR 42,91 million. In FBiH, the subsidies provided within EPBiH to the coal mines account for the greatest share of all subsidies, while accumulation of arrears of the mines considerably contributed to the overall increase. Nevertheless, the coal mines operated with losses in the observed period and seriously jeopardize the profitability of EPBiH, while the unprofitable operations of both TPPs within the ERS jeopardize the profitability of the EPS system as a whole[17].

Comparing the average annual amount of identified subsidies with the average annual coal-fired electricity generation in BiH, each MWh of electricity generated from coal received an average subsidy of EUR 2,10.

4.2. Kosovo*

Electricity Facts and Figures	2015	2016	2017	2018	2019
Description of data (unit)					
Electricity production [GWh]	5.503	5.835	5.300	5.311	5.718
Gross electricity consumption [GWh]	5.570	5.342	5.686	5.669	6.001
Final consumption of electricity [GWh]	3.860	3.686	4.008	4.022	4.408
Consumption structure [GWh]					
Industrial,transport,services and other non-residential sectors	1.746	1.472	1.717	1.649	1.893
Households (residential customers)	2.114	2.214	2.291	2.374	2.515
Capacity of power plants [MW] by source:	1.222	1.033	1.037	1.076	1.099
Coal-fired	1.171	960	960	960	960
Hydro	49	71	76	76	95
Other renewable	1	2	2	40	44
Electricity generation in coal-fired TPP [GWh]	5.361	5.601	5.121	5.008	5.404
Share of coal-fired el. generation in total el. production	97%	96%	97%	94%	95%
Share of coal-fired el. generation in final el. consumption	139%	152%	128%	125%	123%

Source: SERC Annual Reports

In Kosovo*, electricity generation from lignite is dominant, with the share of coal-fired thermal power plants in the total installed electricity generation capacity reaching 87,4% and 95% of the total production of electricity. The installed capacity consists of two state-owned coal-fired thermal plants, vertically integrated with the mines in KEK (Kosovo Energy Corporation).

Table 5: Estimated amount of subsidies in Kosovo* in EUR million

Activity / instrument	2018	2019	2018–2019 average per year
Fiscal support	5,99	6,46	6,23
Public finance support	0,12	0,13	0,12
SOE investment support	0,00	0,00	0,00
TOTAL:	**6,11**	**6,59**	**6,35**

Source: based on calculation in Annex 2

17 In 2019, EPBiH reported an unaudited and unconsolidated net profit in the amount of EUR 10,1 million. At the same time, seven coal mines wholly-owned by EPBIH reported a consolidated net loss of EUR 31,1 million - three times bigger than EPBiH's profit. In 2019, ERS reported an unaudited and unconsolidated net profit of EUR 16,9 million but two TPPs (Ugljevik and Gacko) as members of the ERS holding reported a consolidated loss equal to EUR 9,1 million.

In the 2018–2019 period, fiscal support subsidies to electricity generation from coal in Kosovo* (see Annex 2) related to government loans to cover the cost of KEK's regular operating activities caused by the low level of efficiency of the TPP and major problems related to the collection of electricity bills. During the observed period, the total sum of subsidies was EUR 12,7 million.

Comparing the average annual amount of calculated subsidies with the average annual electricity generation from coal in Kosovo*, each MWh of electricity generated from coal during the period in question received an average subsidy of EUR 1,22.

This is significantly lower than in the period 2015–2017 as the government did not implement any new measure which would amount to new subsidies to KEK in the period 2018–2019.

KEK announced[18] that in 2020 they will receive a EUR 76 million grant from the EU Instrument for Pre-accession Assistance (IPA) for a project to reduce air pollution from the Kosovo B coal-fired power plant.

In March 2020, ContourGlobal[19] announced that it is abandoning the planned investment in the new coal power plant in Kosovo* (Kosova e Re[20]). Despite the fact that the Government of Kosovo* has not officially given up on the Kosova e Re project, it does not seem realistic to expect that the project will be implemented.

4.3. Montenegro

Electricity Facts and Figures	**2015**	**2016**	**2017**	**2018**	**2019**
Description of data (unit)					
Electricity production [GWh]	2.872	3.023	2.343	3.744	3.383
Gross electricity consumption [GWh]	3.466	3.328	4.744	3.468	3.461
Final consumption of electricity [GWh]	2.876	2.794	4.210	2.945	2.967
Consumption structure [GWh]					
Industrial,transport,services and other non-residential sectors	1.625	1.543	2.924	1.659	1.677
Households (residential customers)	1.251	1.251	1.286	1.286	1.290
Capacity of power plants [MW] by source:	886	892	972	973	1.029
Coal-fired	219	219	219	219	225
Hydro	668	674	681	682	684
Other renewable	0	0	72	72	120
Electricity generation in coal-fired TPP [GWh]	1.412	1.216	1.265	1.444	1.390
Share of coal-fired el. generation in total el. production	49%	40%	54%	39%	41%
Share of coal-fired el. generation in final el. consumption	49%	44%	30%	49%	47%

Source: RAE Annual Reports

In Montenegro, the electricity generation capacity from coal accounts for 21,9% of the total capacity and 41% of the production. The only thermal power plant operates as a part of the majority state-owned company "Elektroprivreda Crne Gore" (EPCG). The Pljevlja Thermal Power Plant is supplied with coal from the Pljevlja coal mine, which in 2018 became wholly-owned by EPCG.

18 https://balkangreenenergynews.com/kek-to-get-eur-76-million-grant-to-cut-pollution-from-kosovo-b-power-plant/ Accessed 08.08.2020
19 https://www.forbes.com/sites/emanuelabarbiroglio/2020/03/20/contourglobal-abandons-coal-in-kosovo-and-switch-to-renewables/?sh=69312dd04b2e. Accessed 08.08.2020
20 New Kosovo Project, 2018. http://mzheks.net/repository/docs/1._Kosova_e_Re_20March18_FINAL_EN_REV_(1).pdf Accessed 08.08.2020

Table 6: Estimated amount of subsidies in Montenegro in EUR million

Activity / instrument	2018	2019	2018–2019 average per year
Fiscal support	0,36	0,16	0,26
Public finance support	0,37	0,25	0,31
SOE investment support	0,00	0,00	0,00
TOTAL:	**0,73**	**0,41**	**0,57**

Source: based on calculation in Annex 3

Fiscal support includes the arrears of the Pljevlja coal mine in tax and contributions, which the government consolidated and reprogrammed over five years, with 2017 as the repayment starting date. Public finance subsidies are related to a government guaranteed loan provided by KfW to the TPP.

The sum total of subsidies during the observed period was only EUR 1,14 million, the lowest of all countries covered in this study. Electricity generated from coal received an average subsidy of only EUR 0,40 per MWh. There were no activities which could amount to new direct subsidies to EPCG.

In 2020, EPCG started implementing the EUR 60 million planned investment in the Pljevlja TPP for environmental rehabilitation of Block 1 and reclamation of the existing slag and ash deposit site. The planned investment should be completed by 2022[21].

4.4. North Macedonia

Electricity Facts and Figures	2015	2016	2017	2018	2019
Description of data (unit)					
Electricity production [GWh]	5.251	5.302	5.447	5.468	5.658
Gross electricity consumption [GWh]	7.887	7.465	7.375	7.359	7.483
Final consumption of electricity [GWh]	6.645	6.235	6.080	6.104	6.238
Consumption structure [GWh]					
Industrial,transport,services and other non-residential sectors	3.503	3.178	2.990	3.115	3.200
Households (residential customers)	3.142	3.057	3.090	2.989	3.038
Capacity of power plants [MW] by source:	1.841	1.846	1.854	1.860	1.877
Coal-fired	824	824	824	824	824
Gas-fired	287	287	287	287	287
Oil-fired	210	210	210	210	210
Hydro	673	675	682	687	698
Other renewable	58	60	61	62	68
Electricity generation in coal-fired TPP [GWh]	2.093	2.777	3.290	2.703	3.294
Share of coal-fired el. generation in total el. production	40%	52%	60%	49%	58%
Share of coal-fired el. generation in final el. consumption	31%	45%	54%	44%	53%

Source: ERC Annual Reports

In North Macedonia, coal-fired thermal power plants account for 43,9% of the total installed electricity generation capacity and 58% of the total electricity production. Electricity from coal is generated in two TPPs (Bitola and Oslomej), which together with the coal mines operate as part of the vertically integrated state company "Elektrane Sjeverne Makedonije" (ESM –former ELEM).

During the observed period, there were no direct subsidies for electricity generation from coal, with the exception of the public finance support in the form of four state loan guarantees. On average, the subsidy was EUR 0,64/MWh.

21 https://www.epcg.com/media-centar/saopstenja-za-javnost/38-godina-uspjesnog-rada-te-pljevlja Accessed 21.10.2020

The sum total of direct subsidies provided to coal-fired electricity generation during the observed period was EUR 3,83 million, as demonstrated in the table below.

Table 7: Estimated amount of subsidies in North Macedonia in EUR million

Activity / instrument	2018	2019	2018–2019 average per year
Fiscal support	0,00	0,00	0,00
Public finance support	2,19	1,64	1,92
SOE investment support	0,00	0,00	0,00
TOTAL:	**2,19**	**1,64**	**1,92**

Source: based on calculation in Annex 4

In the coming period[22], ESM plans to invest EUR 41 million in the further modernization of the existing mines, as well as EUR 140 million in continued modernization and environmental rehabilitation of the Bitola TPP. A new coalfield is planned to be opened, which will require an investment of approximately EUR 122,5 million. In view of ESM's financial position, such ambitious plans signal that additional government assistance will be required for their implementation.

4.5. Serbia

Electricity Facts and Figures	2015	2016	2017	2018	2019
Description of data (unit)					
Electricity production [GWh]	34.575	35.633	33.582	34.336	35.066
Gross electricity consumption [GWh]	35.176	35.138	35.592	35.317	32.536
Final consumption of electricity [GWh]	28.489	28.904	29.406	29.233	26.587
Consumption structure [GWh]					
Industrial,transport,services and other non-residential sectors	14.427	14.973	15.229	15.818	13.247
Households (residential customers)	14.062	13.931	14.177	13.415	13.340
Capacity of power plants [MW] by source:	7.257	7.442	7.479	7.782	7.898
Coal-fired	3.971	4.032	4.054	4.079	4.079
Oil/Gas-fired	261	357	357	368	329
Hydro	3.011	3.016	3.029	3.045	3.060
Other renewable	15	38	40	291	431
Electricity generation in coal-fired TPPs [GWh]	25.017	25.016	24.240	22.954	23.169
Share of coal-fired el.generation in total el. production	72%	70%	72%	67%	66%
Share of coal-fired el.generation in final el. consumption	88%	87%	82%	79%	87%

Source: AERS Annual Reports

In Serbia, generation from coal constitutes the major source of electricity, accounting for 51,6% of the total installed capacity and 66% of the total electricity production.

Electricity generation from coal is run by the state-owned "Elektroprivreda Srbije" (EPS) in two segments. "Termoelektrane Nikola Tesla" includes the TPP Nikola Tesla A (6 blocks), TPP Nikola Tesla B (2 blocks), TPP Kolubara (5 blocks) and TPP Morava (1 block). "Termoelektrane Kostolac" includes the TPP Kostolac A (2 blocks) and TPP Kostolac B (2 blocks). Coal is supplied from EPS's own strip mines located in the vicinity of the TPPs. In addition, EPS also procures coal from underground coal mines owned by the state-owned company PEU "Resavica".

22 https://www.esm.com.mk/wp-content/uploads/2017/04/Investiciski-Plan-2018-2022_prevod-bez-tabela.pdf Accessed 17.10.2020

Table 8 – Estimated amount of subsidies in Serbia in EUR million

Activity / instrument	2018	2019	2018–2019 average per year
Fiscal support	23,29	21,75	22,52
Public finance support	22,53	17,97	20,25
SOE investment support	1,58	1,65	1,62
TOTAL:	**47,40**	**41,37**	**44,38**

Source: based on calculation in Annex 5

Fiscal support subsidies consisted of direct budget transfers, a government loan for the coal mines and taxes and contributions in arrears, i.e. for the PEU "Resavica", which is not part of EPS, and direct budget transfers to EPS.

The subsidies shown in the public support category are derived from international loans guaranteed by the government and loans provided by institutions under government control. The subsidies shown under SOE investment support are derived from EPS support to PEU "Resavica" in the form of loans and electricity bill debts.

The sum total of subsidies was EUR 88,77 million, the second highest in absolute terms but much lower than in the previous period. This is mainly because there were no new write-offs and international grants and the level of interest rates on commercial loans and yields on government bonds was significantly lower. On average, public finance support amounted to 1,93 EUR/MWh of generated electricity.

The greatest share of subsidies was used to sustain underground coal pits operated by PEU "Resavica", which continued to be supported by the government and EPS in 2020. As part of the restructuring and financial consolidation of PEU "Resavica", implemented by the government with the support of the World Bank Group, the closing of two underground coal mines[23] was announced in 2018, but still pending. New investment in underground mining equipment was also announced[24]. In addition, EPS plans[25] to continue the revitalization and modernization of the coal mines and TPP facilities, as well as the construction of a new 350 MW unit at Kostolac. In March 2020, EPS signed a preliminary agreement on the construction of the new unit with the Chinese company POWERCHINA.

4.6. Ukraine

Electricity Facts and Figures	2015	2016	2017	2018	2019
Description of data (unit)					
Electricity production [GWh]	157.635	154.817	155.414	159.350	153.967
Gross electricity consumption [GWh]	136.262	133.513	135.714	137.838	139.352
Final consumption of electricity [GWh]	117.140	116.873	118.927	120.842	120.219
Consumption structure [GWh]					
Industrial,transport,services and other non-residential sectors	80,122	80,413	83,907	84,348	84,983
Households (residential customers)	37,018	36,461	35,020	36,494	35,236
Capacity of power plants [MW] by source:	54,355	54,130	54,204	49,965	52,787
Coal-fired	25,334	24,565	24,565	18,626	21,842
Gas-fired	8,392	8,392	8,392	9,316	6,091
Nuclear	13,835	13,835	13,835	13,835	13,835
Hydro	5,884	6,311	6,229	6,170	6,297
Other renewable	910	1,028	1,184	2,019	4,723
Production of electricity in coal-fired TPP [GWh]	44,457	44,904	40,526	43,108	40,512
Coal-fired el. production share in total el. production [%]	28%	29%	26%	27%	26%
Coal-fired el. production share in final el. consumption	38%	38%	34%	36%	34%

Source: NCSREPU Annual Reports

23 https://www.blic.rs/biznis/drzava-daje-pet-miliona-evra-za-pocetak-zatvaranja-rudnika-resavica/1ztwfgq Accessed 01.09.2020
24 See more: https://www.b92.net/biz/vesti/srbija.php?yyyy=2020&mm=05&dd=07&nav_id=1681668 Accessed 01.092020
25 http://www.eps.rs/cir/SiteAssets/Pages/planovi/Trogodisnji%20program%20poslovanja%20JP%20EPS%20za%202020-2022.pdf Accessed 26.09.2020

After nuclear energy, coal is the second most important source of electricity in Ukraine with a 26% share of electricity production. Electricity generation capacity from coal accounts for 41,4% of the total installed capacity but not all are operational all year round or operate on other fuels.

Production is organized in three enterprises: Donbasenergo (1 TPP – capacity 0,88 GW), majority privately held, DTEK (9 TPPs[26] - capacity 16,3 GW), privately held and Centrenergo (3 TPPs – capacity 7,6 GW), which is majority state-owned. Coal is supplied from private and state-owned mines and import.

According to the Secretariat of the Cabinet of Ministers of Ukraine (2018), there are 102 state-owned coal mines, but most of them are located in the territory not controlled by the government. Out of the 33 state-owned coal mines controlled by the government, only four are profitable [27].

Table 9: Estimated amount of subsidies in Ukraine in EUR million

Activity / instrument	2018	2019	2018–2019 average per year
Fiscal support	204,79	388,00	296,39
Public finance support	0,00	0,00	0,00
SOE investment support	70,64	88,08	79,36
TOTAL:	**275,44**	**476,08**	**375,76**

Source: based on calculation in Annex 6

In terms of fiscal support, state mines received direct subsidies from the budget for miners' wages, costs, essential modernization and improving the level of safety in the mines. Direct budget transfers to coal mines in 2019 almost doubled in comparison to previous years. This indicates that direct fiscal support still constitutes the only way to ensure that most state-owned coal mines remain in operation. Centrenergo also received direct financial aid from the budget.

Other subsidies relate to the debts of the mines and Centrenergo for tax and other arrears to the state, repayment of a loan for which the state issued a guarantee and VAT exemption for supplying coal or/and other products of its enrichment. During this period, there were no publicly available data that would point to subsidization that would fall into the public finance support, while the arrears in payment of electricity bills were classified into the SOE investment support.

The total sum of subsidies was EUR 751,52 million, which is a significant increase compared to the period 2015–2017[28]. The average annual amount of identified subsidies per unit of electricity produced from coal amounts to 8,99 EUR/MWh.

In 2017, the government adopted the Energy Strategy of Ukraine until 2035[29], which envisages the restructuring of the coal sector by closing unprofitable mines, privatization and establishment of coal markets by end-2020. Unfortunately, this has not happened at the planned pace. According to the State Property Fund[30], only four state-owned mines have been prepared for privatization and the privatization of Centrenergo has been postponed until the second quarter of 2021[31].

26 Excluding Zuivska TPP, over which DTEK lost control in 2017 because of the armed conflict in Ukraine.
27 Secretariat of the Cabinet of Ministers (2018), Head of Government: We should hear the noise of production in the mines, not knocking of helmets due to wages arrears, https://www.kmu.gov.ua/ua/news/glava-uryadu-na-shahtah-maye-buti-shum-virobnictva-ne-stuk-kasok-cherez-borgi-po-zarplati Accessed 08.08.2020
28 The average annual level of subsidies in the period 2015–2017 amounted to EUR 246.21 million and for the period 2018–2019 amounted to EUR 375.76 million or 52,6% more.
29 Cabinet of Ministers of Ukraine (2017), Resolution of the Cabinet of Ministers No 605-p as of 18 August 2017 on the Approval of the Energy Strategy of Ukraine "Security, Energy Efficiency, Competitiveness" for the period up to 2035 (in Ukrainian) https://www.kmu.gov.ua/npas/250250456 Accessed 03.10.2020
30 https://privatization.gov.ua/en/product/dp-vugilna-kompaniya-krasnolymanska/ Accessed 05.10.2020
31 https://www.epravda.com.ua/news/2020/06/20/662061/ Accessed 05.10.2020

5. Overall Findings

The research has shown that all Energy Community Contracting Parties that produce electricity from coal/lignite continue to provide direct subsidies in various forms. They are provided through direct budget subsidies (fiscal support) mainly in the form of direct budget transfers and by tolerating the non-payment of tax and other liabilities to the state and reprogramming such liabilities. In the 2018–2019 period, only North Macedonia did not provide subsidies in the form of fiscal support. In most cases, direct fiscal support measures were channelled as support to coal production, rather than to thermal power plants.

In the countries where coal mines operate as independent businesses (Bosnia and Herzegovina, Serbia, Ukraine and Montenegro), it was possible to identify subsidies that are classified as SOE investment support. This type of subsidy mainly relates to state-owned electric power companies providing continuous advance payments to coal producers, investments into the capital of the mines, tolerating the mines' unpaid electricity bills and loans to support coal production. Where the coal mines and thermal power plants are integrated in a single electric power company, SOE investment subsidies could not be determined. It is only logical to assume that coal production is subsidized also in the integrated systems.

Table 10: Total amount of subsidies by category in period 2018–2019 in EUR million

	Fiscal support subsidies	Public finance support subsidies	SOE investment support subsidies	TOTAL
Bosnia and Herzegovina	11,12	9,01	22,78	42,91
Kosovo*	12,45	0,25	0	12,7
Montenegro	0,52	0,61	0	1,14
North Macedonia	0	3,83	0	3,83
Serbia	45,03	40,50	3,23	88,76
Ukraine	592,79	0	158,73	751,52
TOTAL	**661,91**	**54,2**	**184,74**	**900,86**

Source: based on calculation in Annexes

Given that electricity generation is a capital-intensive sector that is mainly performed by state-owned thermal power plants in the observed Contracting Parties which are supplied by state-owned coal mines (with the exception of Ukraine), the greatest public finance support is provided in the form of loans from state controlled institutions and state loan guarantees. Such guarantees pose an imminent risk for the government as the guarantor if the beneficiary is unable to pay off its debt. Serbia continues to make the most use of these instruments. In the 2018–2019 period, it supported electricity generation from coal with loans and guarantees which reached almost EUR 1,2 billion. In 2019 alone, Bosnia and Herzegovina issued new loan guarantees to TPPs which totalled more than EUR 742 million.

On top of that, cross-subsidization between customer categories further distorts the recognition and allocation of full costs. The prices of electricity charged to industry and households differ significantly. The prices charged to households, mainly under the regime of universal service, are not only lower than prices charged to industry, often they are also lower than the mere operating expenses per unit. When cross-subsidies between customer categories are eliminated, the final prices for households and industry will have to increase in all Contracting Parties (except for industrial customers in Kosovo*).

In the period 2018–2019, the average annual level of subsidies is significantly lower in all observed countries compared to the period 2015–2017, except in Ukraine. This is not due to the fact that governments have abandoned the use of subsidies but primarily due to falling market interest rates on government bonds and comparable commercial loans used in calculating direct subsidies. Moreover, there were also no write-offs of debts and receivables to entities in the coal sector as was the case in the previous period in the last two years. In fact, the Contracting Parties spent more than EUR 2,1 billion in direct subsidies to coal-fired electricity production during 2015–2019.

From the overall annual level of support[32] in the period 2015–2019, it can be concluded that there were no substantial changes to government policies towards subsidisation. Given the increased debts of coal mines to the public budget (Bosnia and Herzegovina, Serbia and Ukraine) and electricity suppliers (Serbia and Ukraine) and the fact that grants have already been planned (Kosovo*), guarantees issued (Bosnia and Herzegovina) and new guarantees announced for financing investments in new coal-fired units or revitalization of old ones, it is realistic to expect that support will continue in the coming years.

Table 11: Total amount of subsidies for the period 2015–2019 in EUR million

	2015	2016	2017	2018	2019	TOTAL 2015–2019
Bosnia and Herzegovina	26,01	42,86	55,76	20,20	22,71	167,54
Kosovo*	38,12	15,23	13,42	6,11	6,59	79,47
Montenegro	0,88	1,16	2,04	0,85	0,41	5,34
North Macedonia	4,38	3,72	2,93	2,19	1,64	14,86
Serbia	95,48	119,5	84,37	47,40	41,36	388,11
Ukraine	194,73	263,4	280,44	275,44	476,08	1.490,09
TOTAL	**359,6**	**445,87**	**438,96**	**352,19**	**548,79**	**2.145,41**

Source: based on calculation in Annexes and data from previous research 2015–2017

32 The level of support is defined as a sum of all nominal values of the measures or activities related to subsidization (see Total support in tables in Annexees)

6. Concluding Remarks

The study's findings show that electricity generation from coal still receives significant direct subsidies, which disrupt competition in the electricity market, favouring this type of electricity production over electricity from other sources, and obscure real financial and economic performance of this sector.

The subsidies also lead to the wasteful spending of public resources. Whereas subsidies to unprofitable and economically unviable entities are flowing, funds to promote the energy transition or to improve the economic and social situation of vulnerable population groups are missing or insufficient. The resources trapped in coal subsidies combined with unrealistically low electricity prices are perhaps the biggest obstacle to an accelerated transition to a decarbonized energy sector.

In their strategic plans for energy development until 2035, all Contracting Parties that generate electricity from coal envisaged the revitalization and environmental rehabilitation of many existing thermal power plants and the construction of replacement capacities. This direction also implies a need to invest in the modernization of existing mines and opening of new pits and coalfields. The question arises whether these new or rehabilitated coal-fired TPPs supplied from new mines can be economically and financially viable in times when solar and wind power are becoming cheaper and more competitive.

Considering the level of national debt, the practice of deficit budget financing and exposure arising from issued state guarantees, it is even questionable whether countries can secure financing for the planned coal-fired electricity generation.

In light of these considerations, the Energy Community Contracting Parties should reassess their energy policies without delay. This should be followed by the development of plans to eliminate subsidies and start the process of coal phase-out.

When embarking on this reform path, the Contracting Parties can build on the experiences made by EU Member States. Several platforms are dedicated to knowledge sharing and both technical and financial support is available to support coal regions in transition.

7. ANNEXES[33]

Contents

33 All amounts are stated in both national currencies and in euros, with the exchange rates of national currencies into euros calculated on the basis of the average annual exchange rates of the central bank of each given country for which the data are shown.

Annex 1. Bosnia and Herzegovina – Detailed list of subsidy measures

Bosnia and Herzegovina – Fiscal support direct subsidies

Measure or project (written description)	Source of subsidy (entity / institution name)	Subsidy type	Beneficiary	2018 (million BAM)	2019 (million BAM)	2018 (million EUR)	2019 (million EUR)	Average annual amount (million BAM)	Average annual amount (million EUR)
Concession fees in arrears - coal mines in Federation BiH	Government of Tuzla Canton	Concession fees in arrears	state coal mines Kreka, Djurdjevik, Abid Lolic and Banovici	13,49	12,92	6,90	6,61	13,21	6,75
	Source: http://www.vladatk.kim.ba/Direkcije/KzK/Izvjestaj_o_radu_Komisije_za_koncesije_za_2019_godinu.pdf								
Taxes and contributions in arrears - coal mines in Federation BiH	Government / Tax administration Federation of BiH	tax and contributions in arrears	state coal mines	441,10	475,66	225,53	243,20	458,38	234,37
	Source: http://www.pufbih.ba/v1/novosti/1704/pregled-poreznih-obveznika-sa-iznosom-duga-preko-5000000-km-na-dan-31122019-godine								
Loan from budget	Government of Tuzla Canton	Government loan	state coal mine Kreka and Đurđevik	7,97	7,97	4,07	4,07	7,97	4,07
	Source: http://www.vrifbih.ba/javni-izvj/Report.aspx?id=9525&langTag=bs-BA								
VAT in arrears - coal mines in FBiH	Government / Indirect Tax Administration BiH	tax and contributions in arrears	state coal mines	7,61	5,45	3,89	2,79	6,53	3,34
	Source: http://www.new.uino.gov.ba/bs/Lista%20du%C5%BEnika								
Non paid concession fees	Government of ZEDO Canton	Lost revenue	state coal mines Kakanj, Breza and Zenica	2,38	1,90	1,22	0,97	2,14	1,10
	Source: https://www.zdk.ba/sjednicevlade/sjednice2018/162sjednica/162-15_24-09-2018.pdf								
Total support				**472,56**	**503,90**	**241,61**	**257,64**	**488,23**	**249,63**

Fixed exchange rate 1 EUR = 1,955830 BAM

Subsidies calculations

	2018	2019
Yield on government bonds* (%)	2,10	1,43

*Source: BiH Central Bank Report | https://www.cbbh.ba/Content/Archive/36?lang=bs

Subsidy calculation (outstanding balance of a loan in previous year x interest rate on commercial loans)					
	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million BAM	million BAM	million EUR	million EUR
Outstanding balance in previous year		7,97	7,97	4,07	4,07
Interest rate on comparable commercial loan*		4,48	4,133	4,48	4,133
Amount of the subsidy per year		**0,36**	**0,36**	**0,18**	**0,17**

Subsidy calculation (outstanding balance of the arrears x yield on government bonds)					
	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million BAM	million BAM	million EUR	million EUR
Outstanding balance of the arrears		462,21	494,03	236,32	252,59
Yield on government bonds		2,1	1,43	2,1	1,43
Amount of the subsidy per year		**9,71**	**7,06**	**4,96**	**3,61**

Summary of calculated subsidies	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million BAM	million BAM	million EUR	million EUR
Arrears		9,71	7,06	4,96	3,61
Loan form Budget		0,36	0,33	0,18	0,17
Non paid concession fees		**2,38**	**1,90**	**1,22**	**0,97**
Total:		**12,44**	**9,30**	**6,36**	**4,75**

Bosnia and Herzegovina – Public Finance support direct subsidies

Measure or project (written description)	Source of subsidy (entity / institution name)	Subsidy type	Amount (in original currency)	Repayment period and interest rate	Beneficiary	Interna-tional support	2018 (million BAM)	2019 (million BAM)	2018 (million EUR)	2019 (million EUR)	Average annual amount (million BAM)	Average annual amount (million EUR)
Loan 1 - support for coal mining	Ministry of Finance Council of Ministers BiH	Government loan guarantee	4,110 million JPY	40 years, 10 years grace period, 0,75%	EPBiH i EPS	Govern-ment of Japan	41,62	40,91	21,28	20,91	41,27	21,10
Source: https://www.mft.gov.ba/bos/images/stories/javni_dug/informacije/2020/april/Informacija%20o%20stanju%20javne%20zaduzenosti%20BiH%20na%20dan%2031%2012%202019%20BOS.pdf												
Loan 2 - IDA loan RITE Ugljevik and Gacko	Ministry of Finance Council of Ministers BiH	Government loan guarantee	N/A	10 -15 years, 0,75 %	MH EPS	WB IDA	11,07	9,41	5,66	4,81	10,24	5,24
Source: https://www.blberza.com/Cms2FileCache/files/cms2/docver/85704/files/RITE_RI_2019.pdf												
Loan 3 - flue gas desulphurization con-struction project for Ugljevik	Ministry of Finance Council of Ministers BiH	Government loan guarantee	12,633 million JPY	30 years, 10 years grace period, 0,55%	MH EPS	Govern-ment of Japan	183,01	182,62	93,57	93,37	182,82	93,47
Source: https://www.mft.gov.ba/bos/images/stories/javni_dug/informacije/2020/april/Informacija%20o%20stanju%20javne%20zaduzenosti%20BiH%20na%20dan%2031%2012%202019%20BOS.pdf												
Loan 4 - RMU Banovići d.d.	Ministry of Industry and Mining Tuzla Canton	Government loan guarantee	1 million KM	10 years, 3,63%	RMU Banovići	Intesa SanPaolo Bank	1,00	1,00	0,51	0,51	1,00	0,51
Source: http://rmub.ba/izvjestaji												
Loan 5 - TPP Tuzla block 7 construction	Government of FBiH	Government loan guarantee	613,99 million EUR	20 years, 5 years grace period, 6 month EURIBOR +2,3%	EPBiH	CEXIM Bank China	0,00	1.200,86	0,00	613,99	600,43	307,00
Source: https://parlamentfbih.gov.ba/v2/userfiles/file/Usvojeni%20materijali_2019/Odluka%20o%20odobravanju_odluke_%20%20BLOK%207_bos.pdf												

Loan 6 - RITE Gacko	Government of RS	Government loan guarantee	6 million KM	5 years, 2,4%	MH EPS	Sberbank BiH	0,00	5,60	0,00	2,86	2,80	1,43
	Source: https://www.mft.gov.ba/bos/images/stories/javni_dug/informacije/2020/april/Informacija%20o%20stanju%20javne%20zaduzenosti%20BiH%20na%20dan%2031%2012%202019%20BOS.pdf											
Loan 7 - RITE Gacko	Government of RS	Government loan guarantee	12,4 million KM	5 years, 2,39%	MH EPS	Nova Bank BiH	0,00	12,40	0,00	6,34	6,20	3,17
	Source: https://www.mft.gov.ba/bos/images/stories/javni_dug/informacije/2020/april/Informacija%20o%20stanju%20javne%20zaduzenosti%20BiH%20na%20dan%2031%2012%202019%20BOS.pdf											
Total support							**236,70**	**1.452,80**	**121,02**	**742,81**	**844,75**	**431,91**

Subsidies calculations

Loan 1	**2018**	**2019**
Interest rate on government guaranteed loan	0,75	0,75
Interest rate on comparable commercial loan*	4,48	4,13
Interest rate differential	3,73	3,38
*Source: BiH Central Bank Report | https://www.cbbh.ba/Content/Archive/36?lang=bs		

Subsidy calculation (outstanding balance of the loan in previous year x difference in interest rate)					
	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million BAM	million BAM	million EUR	million EUR
Outstanding balance of the loan in previous year		43,63	41,62	22,31	21,28
Interest rate differential (%)		3,73	3,38	3,73	3,38
Amount of the subsidy per year		**1,63**	**1,41**	**0,83**	**0,72**

Loan 2	**2018**	**2019**
Interest rate on government guaranteed loan	0,75	0,75
Interest rate on comparable commercial loan*	4,48	4,13
Interest rate differential	3,73	3,38
*Source: BiH Central Bank Report | https://www.cbbh.ba/Content/Archive/36?lang=bs		

Subsidy calculation (outstanding balance of the loan in previous year x difference in interest rate)					
	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million BAM	million BAM	million EUR	million EUR
Outstanding balance of the loan in previous year		12,57	11,07	6,43	5,66
Interest rate differential (%)		3,73	3,38	3,73	3,38
Amount of the subsidy per year		**0,47**	**0,37**	**0,24**	**0,19**

Loan 3	**2018**	**2019**
Interest rate on government guaranteed loan	0,55	0,55
Interest rate on comparable commercial loan*	4,48	4,13
Interest rate differential	3,93	3,583

*Source: BiH Central Bank Report | https://www.cbbh.ba/Content/Archive/36?lang=bs

Subsidy calculation (outstanding balance of the loan in previous year x Difference in interest rate)					
	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million BAM	million BAM	million EUR	million EUR
Outstanding balance of the loan in previous year		183,01	182,62	93,57	93,37
Interest rate differential (%)		3,93	3,583	3,93	3,583
Amount of the subsidy per year		**7,19**	**6,54**	**3,68**	**3,35**

Loan 4	**2018**	**2019**
Interest rate on government guaranteed loan	3,63	3,63
Interest rate on comparable commercial loan*	4,48	4,13
Interest rate differential	0,85	0,503

*Source: BiH Central Bank Report | https://www.cbbh.ba/Content/Archive/36?lang=bs

Subsidy calculation (outstanding balance of the loan in previous year x Difference in interest rate)					
	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million BAM	million BAM	million EUR	million EUR
Outstanding balance of the loan in previous year		1,00	1,00	0,51	0,51
Interest rate differential (%)		0,85	0,503	0,85	0,503
Amount of the subsidy per year		**0,0085**	**0,0050**	**0,0043**	**0,0026**

Summary of calculated subsidies					
Loan 1 + 2 + 3 + 4	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million BAM	million BAM	million EUR	million EUR
		9,30	**8,33**	**4,75**	**4,26**

Note: Loan guarantees for loans 5 + 6 + 7 will be valid for subsidies calculation in 2020.

Bosnia and Herzegovina – SOE Investment support

Measure or project (written description)	Source of subsidy (entity / institution name)	Subsidy type	Beneficiary	2018 (million BAM)	2019 (million BAM)	2018 (million EUR)	2019 (million EUR)	Average annual amount (million BAM)	Average annual amount (million EUR)
Investment in coal mines capital base in Federation BiH	JP EPBiH d.d.	SOE Investment	7 coal mines in FBiH	13,60	21,92	6,95	11,21	17,76	9,08
	Source: https://www.epbih.ba/stranica/izvjestaji-o-poslovanju#objavljeni-izvjestaji-o-poslovanju								
Loans for coal mines	JP EPBiH d.d.	SOE Investment	7 coal mines in FBiH	10,74	10,74	5,49	5,49	10,74	5,49
	Source: https://www.epbih.ba/stranica/izvjestaji-o-poslovanju#izvjestaji-nezavisnog-revizora								
Interest free financing (advance payment)	JP EPBiH d.d.	SOE Investment	7 coal mines in FBiH	87,66	110,71	43,92	56,60	99,18	50,26
	Source: https://www.epbih.ba/stranica/izvjestaji-o-poslovanju#objavljeni-izvjestaji-o-poslovanju								
Total support				**112,00**	**143,37**	**56,37**	**73,30**	**127,69**	**64,84**

Subsidies calculations

Loans for coal mines	**2018**	**2019**
Interest rate on SOE loan	1,5	1,5
Interest rate on comparable commercial loan*	4,48	4,133
Interest rate differential	2,98	2,633

*Source: BiH Central Bank Report | https://www.cbbh.ba/Content/Archive/36?lang=bs

Subsidy calculation for advance payment to coal mines (amount of advance payment x Interest rate on comparable commercial loan*)

Advanced payment	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million BAM	million BAM	million EUR	million EUR
Outstanding balance of advanced payment		87,66	110,71	43,92	56,60
Interest rate on comparable commercial loan* (%)		4,48	4,133	4,48	4,133
Amount of the subsidy per year		**3,93**	**4,58**	**1,97**	**2,34**

Subsidy calculation (outstanding balance of the loan x interest rate differential)

Short term loans to coal mines	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million BAM	million BAM	million EUR	million EUR
Outstanding balance of the loan		10,74	10,74	5,49	5,49
Interest rate differential (%)		2,98	2,633	2,98	2,633
Amount of the subsidy per year		**0,32**	**0,28**	**0,16**	**0,14**

Summary of calculated subsidies

SOE investment support	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million BAM	million BAM	million EUR	million EUR
Equity investment		13,60	21,92	6,95	11,21
Loans to coal mines		0,32	0,28	0,16	0,14
Advance payment		3,93	4,58	1,97	2,34
Total:		**17,85**	**26,78**	**9,08**	**13,69**

Annex 2. Kosovo* – Detailed list of subsidy measures

Kosovo* – Fiscal support direct subsidies

Measure or project (written description)	Source of subsidy (entity / institution name)	Subsidy type	Beneficiary	2018 (million EUR)	2019 (million EUR)	Average annual amount (million EUR)	Notes
Loan from budget (loan 1)	Ministry of Finance	Government loan	KEK	171,80	161,93	166,87	New programme made in 2015. 191,952 million EUR repayment 18 years interest rate 2,5%.
	Source: https://mf.rks-gov.net/desk/inc/media/A3C6FC70-032A-440A-ABBD-3148F7995E37.pdf						
Total support				**171,80**	**161,93**	**166,87**	

Subsidies calculations

Loan 1	2018	2019
Interest rate on government loan (%)	2,5	2,5
Interest rate on comparable commercial loan* (%)	5,78	6,26
Interest rate differential	3,28	3,76
Source: Kosovo Central Bank Report | https://bqk-kos.org/?id=102		

Subsidy calculation (outstanding balance of the loan in previous year x Interest rate differential)			
	Year	**2018**	**2019**
	Currency	million EUR	million EUR
Outstanding balance of the loan in previous year		182,68	171,80
Interest rate differential (%)		3,28	3,76
Amount of the subsidy per year		**5,99**	**6,46**

Kosovo* – Public finance support direct subsidies

Measure or project (written description)	Source of subsidy (entity / institution name)	Subsidy type	Amoun (in original currency)	Repayment period and interest rate	Beneficiary	Interna-tional support	2018 (million EUR)	2019 (million EUR)	Average annual amount (million EUR)
Energy clean up and land reclamation project	Ministry of Finance	State loan guarantee	2,8 million SDR	20 years, 2%	KEK	WB IDA	3,17	3,01	3,09
	Source: https://mf.rks-gov.net/desk/inc/media/B2B024AA-B18C-41AE-9B4D-3D47314D6539.pdf								
Total support							**3,17**	**3,01**	**3,09**

Subsidies calculations

Loan	2018	2019
Interest rate on government guaranteed loan (%)	2,00	2,00
Interest rate on comparable commercial loan* (%)	5,78	6,26
Interest rate differential	3,78	4,26

Source: Kosovo Central Bank Report | https://bqk-kos.org/?id=102

Subsidy calculation (outstanding balance of the loan in previous year x Interest rate differential)			
Loan	Year	**2018**	**2019**
	Currency	million EUR	million EUR
Outstanding balance of the loan in previous year		3,17	3,01
Interest rate differential (%)		3,78	4,26
Amount of the subsidy per year		**0,12**	**0,13**

Annex 3. Montenegro – Detailed list of subsidy measures

Montenegro – Fiscal support direct subsidies

Measure or project (written description)	Source of subsidy (entity / institution name)	Subsidy type	Beneficiary	2018 (million EUR)	2019 (million EUR)	Average annual amount (million EUR)	Notes
RU Pljevlja	Ministry of Finance/ Tax administration	Tax and contributions in arrears	RU Pljevlja	6,31	4,62	5,46	Reprogrammed over 5 years, started in 2017.
	Source: https://www.rupv.me/izvjestaj-revizora						
Total support				**6,31**	**4,62**	**5,46**	

Subsidies calculations

	2018	2019
Yield on government bonds* (%)	3,875	2,55
*Source: BiH Central Bank Report | http://www.cb-cg.org/index.php?mn1=statistika		

Subsidy calculation (outstanding balance of the tax and contributions in arrears X yield on government bonds)			
Loan	Year	**2018**	**2019**
	Currency	million EUR	million EUR
Outstanding balance of the tax and con. in arrears		9,25	6,31
Yield on government bonds		3,875	2,55
Amount of the subsidy per year		**0,36**	**0,16**

Montenegro – Public finance support direct subsidies

Measure or project (written description)	Source of subsidy (entity / institution name)	Subsidy type	Amount (in original currency)	Repayment period and interest rate	Beneficiary	International support	2018 (million EUR)	2019 (million EUR)	Average annual amount (million EUR)
Filters replacement in TE Pljevlja	Ministry of Finance	State loan guarantee	9,5 million EUR	9 years 6 m Euribor+1%	EPCG	KfW	4,84	3,73	4,29
	Source: https://www.rupv.me/izvjestaj-revizora								
Total support							**4,84**	**3,73**	**4,29**

Subsidies calculations

	2018	2019
Interest rate on government guaranteed loan	0,73	0,70
EURIBOR*	-0,266	-0,303
Interest rate	1,00	1,00
Interest rate on comparable commercial loan**	7,24	5,77
Interest rate differential	6,15	5,07

**Source: Central Bank Report | http://www.cb-cg.org/index.php?mn1=statistika
*Source: https://www.global-rates.com/interest-rates/euribor/2017.aspx

Subsidy calculation (outstanding balance of the loan in previous year x Interest rate differential)			
	Year	**2018**	**2019**
	Currency	million EUR	million EUR
Outstanding balance of the loan in previous year		5,96	4,84
Interest rate differential(%)		6,15	5,07
Amount of the subsidy per year		**0,37**	**0,25**

Annex 4. North Macedonia – Detailed list of subsidy measures

North Macedonia – Public finance support direct subsidies

Measure or project (written description)	Source of subsidy (entity / institution name)	Subsidy type	Amount (in original currency)	Repayment period and interest rate	Beneficiary	Interna-tional support	2018 (million MKD)	2019 (million MKD)	2018 (million EUR)	2019 (million EUR)	Average annual amount (million MKD)	Average annual amount (million EUR)
Modernization of units 2 and 3 of boilers in TPP Bitola (loan 1)	Ministry of Finance	State loan guarantee	49,2 million EUR	12 years, 6month EURIBOR + 1,675%	AD ESM	Deutsche Bank	1.641,14	1.388,19	26,68	22,57	1.514,66	24,63
	Source: https://www.finance.gov.mk/files/u5/Law_20on_20Guarantee_deutche_bank.pdf											
Modernization of unit 1 of boilers in TPP Bitola (loan 2)	Ministry of Finance	State loan guarantee	24,3 million EUR	12 years, 6month EURIBOR + 1,295%	AD ESM	Deutsche Bank	997,72	872,77	16,22	14,19	935,25	15,21
	Source: https://www.finance.gov.mk/files/u5/Law_on_Guarantee.pdf											
Modernization of TPP Bitola (loan 3)	Ministry of Finance	State loan guarantee	30 million EUR	14 years, 1month EURIBOR + 4,75%	AD ESM	Stopanska banka	1.006,34	838,32	16,36	13,63	922,33	15,00
	Source: https://www.finance.gov.mk/mk/node/1523											
Supplying, erection and putting into operation of LOT 3 – main coal con-veyor belt system from Brod Geotino to Suvodol (loan 4)	Ministry of Finance	State loan guarantee	16 million EUR	8,5 years, 6month EURIBOR + 1,55%	AD ESM	Deutsche Bank	174,08	58,43	2,83	0,95	116,25	1,89
	Source: https://www.finance.gov.mk/files/u5/Law_on_guarantee_Dojce_banka__gneotino.pdf											
Total support							**3.819,28**	**3.157,71**	**62,09**	**51,34**	**3.488,49**	**56,72**

Subsidies calculations

Loan 1	2018	2019
Interest rate on government guaranteed loan	1,409	1,372
EURIBOR*	-0,266	-0,303
Interest rate	1,675	1,675
Interest rate on comparable commercial loan**	4,37	3,97
Interest rate differential	2,961	2,598

**Source: Central Bank Report | http://www.nbrm.mk/ns-newsarticle-kvartalen-izvestaj-statisticki-prilog-2019.nspx
*Source: https://www.global-rates.com/interest-rates/euribor/2017.aspx

Subsidy calculation (outstanding balance of the loan in previous year x Difference in interest rate)					
Loan 1	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million MKD	million MKD	million EUR	million EUR
Outstanding balance of the loan in previous year		1.893,05	1.641,14	30,79	26,68
Interest rate differential (%)		2,961	2,598	2,961	2,598
Amount of the subsidy per year		**56,05**	**42,64**	**0,91**	**0,69**

Loan 2	2018	2019
Interest rate on government guaranteed loan	1,029	0,992
EURIBOR*	-0,266	-0,303
Interest rate	1,295	1,295
Interest rate on comparable commercial loan**	4,37	3,97
Interest rate differential	3,341	2,978

**Source: Central Bank Report | http://www.nbrm.mk/ns-newsarticle-kvartalen-izvestaj-statisticki-prilog-2019.nspx
*Source: https://www.global-rates.com/interest-rates/euribor/2017.aspx

Subsidy calculation (outstanding balance of the loan in previous year x Difference in interest rate)					
Loan 2	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million MKD	million MKD	million EUR	million EUR
Outstanding balance of the loan in previous year		1.121,82	997,72	18,25	16,22
Interest rate differential (%)		3,341	2,978	3,341	2,978
Amount of the subsidy per year		**37,48**	**29,71**	**0,61**	**0,48**

Loan 3	2018	2019
Interest rate on government guaranteed loan	1,63	1,597
EURIBOR*	-0,37	-0,403
Interest rate	2,00	2,00
Interest rate on comparable commercial loan**	4,37	3,97
Interest rate differential	2,74	2,373

**Source: Central Bank Report | http://www.nbrm.mk/ns-newsarticle-kvartalen-izvestaj-statisticki-prilog-2019.nspx
*Source: https://www.global-rates.com/interest-rates/euribor/2017.aspx

Subsidy calculation (outstanding balance of the loan in previous year x Difference in interest rate)					
Loan 3	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million MKD	million MKD	million EUR	million EUR
Outstanding balance of the loan in previous year		1.173,73	1.006,34	19,09	16,36
Interest rate differential (%)		2,74	2,373	2,74	2,373
Amount of the subsidy per year		**32,16**	**23,88**	**0,52**	**0,39**

Loan 4	2018	2019
Interest rate on government guaranteed loan	1,284	1,247
EURIBOR*	-0,266	-0,303
Interest rate	1,55	1,55
Interest rate on comparable commercial loan**	4,37	3,97
Interest rate differential	3,086	2,723

**Source: Central Bank Report | http://www.nbrm.mk/ns-newsarticle-kvartalen-izvestaj-statisticki-prilog-2019.nspx
*Source: https://www.global-rates.com/interest-rates/euribor/2017.aspx

Summary of calculated subsidies					
Public finance support	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million MKD	million MKD	million EUR	million EUR
Loan 1		56,05	42,64	0,91	0,69
Loan 2		37,48	29,71	0,61	0,48
Loan 3		32,16	23,88	0,52	0,39
Loan 4		8,93	4,74	0,15	0,08
Total:		**134,62**	**100,97**	**2,19**	**1,64**

Subsidy calculation (outstanding balance of the loan in previous year x Difference in interest rate)					
Loan 4	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million MKD	million MKD	million EUR	million EUR
Outstanding balance of the loan in previous year		289,32	174,08	4,71	2,83
Interest rate differential (%)		3,086	2,723	3,086	2,723
Amount of the subsidy per year		**8,93**	**4,74**	**0,15**	**0,08**

Exchange rate: 2018 1 EUR = 61,5120 MKD; 2019 1 EUR = 61,5058 MKD All currency conversions were made using yearly average rates, available at: http://www.nbrm.mk/kursievi_na_nbrm_za_potriebitie_na_drzhavnitie_orghani.nspx

Annex 5. Serbia - Detailed list of subsidy measures

Serbia – Fiscal support direct subsidies

Measure or project (written description)	Source of subsidy (entity / institution name)	Subsidy type	Beneficiary	2018 (million RSD)	2019 (million RSD)	2018 (million EUR)	2019 (million EUR)	Average annual amount (million RSD)	Average annual amount (million EUR)	Notes
Budgetary expenditure for underground coal mines	Government	Direct budget transfer	JP PEU Resavica	2.524,15	2.392,50	21,34	20,30	2.458,33	20,82	Calculated 50% of total amount (50% of total coal production goes to electricity production)
	Source: https://www.mre.gov.rs/doc/informator/Informator_o_radu_MRE_SEPTEMBAR_2020_cirilica_.pdf									
Taxes, contributions and other public revenues in arrears (underground coal mines)	Tax administration	Taxes and contribution in arrears	JP PEU Resavica	428,84	428,84	3,63	3,64	428,84	3,63	Calculated 50% of total arrears (50% of total coal production goes to electricity production)
	Source: Audit and Company Reports. http://www.jppeu.rs/informator.html									
Taxes and contributions in arrears re-programmed (underground coal mines)	Government / Tax administration	Taxes and contribution in arrears	JP PEU Resavica	2.522,17	2.522,17	21,32	21,40	2.522,17	21,36	Reprogrammed by RS Tax Administration Calculated 50% of arrears (50% of total coal production goes to electricity production)
	Source: Audit and Company Reports. http://www.jppeu.rs/informator.html									
Budgetary expenditure for filters in TENT	Government	Direct budget transfer	JP EPS Belgrade	111,44	53,49	0,94	0,45	82,47	0,70	
	Source: http://www.eps.rs/cir/SiteAssets/Pages/Finansijski-izvestaji/JP%20EPS%20REVIZORSKI%20IZVESTAJ%202019-potpisan.pdf									
Loan to JP PEU Resavica from budget (loan 1)	Government	Government loan	PEU Resavica	260,13	260,13	2,20	2,21	260,13	2,20	Calculated 50% of total amount (50% of total coal production goes to electricity production) no repayment, no interest rate - conditional loan
	Source: http://www.jppeu.rs/dokumenti/Izvestaj%20revizora%20i%20set%20redovnih%20finansijskih%20izvestaja%20za%202017.%20godinu.pdf									
Agreement about old debts SFRJ - SSSR,Serbia and Russian Federation (loan 2)	Government	Government loan	JP EPS Belgrade	5.406,53	4.730,72	45,71	40,14	5.068,63	42,93	10 years repayment period, 2 years grace period, interest rate LIBOR +1%
	Source: http://www.eps.rs/cir/SiteAssets/Pages/Finansijski-izvestaji/JP%20EPS%20REVIZORSKI%20IZVESTAJ%202019-potpisan.pdf									
Total support				**11.253,27**	**10.387,84**	**95,15**	**88,14**	**10.820,55**	**91,64**	

Subsidies calculations

	2018	2019
Yield on government bonds* (%)	4,03	3,97

*Source: National Bank of Serbia | https://www.nbs.rs/sr_RS/drugi-nivo-navigacije/statistika/ks_stat/

Loan 1	**2018**	**2019**
Interest rate on government conditional loan	0,00	0,00
Interest rate on comparable commercial loan*	6,09	5,37
Interest rate differential	6,09	5,37

*Source: National Bank of Serbia | https://www.nbs.rs/sr_RS/drugi-nivo-navigacije/statistika/ks_stat/

Subsidy calculation (outstanding balance of the tax and contributions in arrears x yield on government bonds)					
	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million RSD	million RSD	million EUR	million EUR
Outstanding balance of the tax and con. in arrears		2951,00	2951,00	24,95	25,04
Yield on government bonds		4,03	3,97	4,03	3,97
Amount of the subsidy per year		**118,93**	**117,15**	**1,01**	**0,99**

Subsidy calculation (outstanding balance of the loan in previous year x Interest rate differential					
Loan 1	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million RSD	million RSD	million EUR	million EUR
Outstanding balance of the loan in previous year		260,13	260,13	2,20	2,21
Interest rate differential (%)		6,09	5,37	6,09	5,37
Amount of the subsidy per year		**15,84**	**13,97**	**0,13**	**0,12**

Loan 2	2018	2019
Interest rate	1,00	1,00
USD Libor*	2,02	2,12
Interest rate on government loan	3,02	3,12
Interest rate on comparable commercial loan**	3,50	3,20
Interest rate differential	0,48	0,08

*Source: https://www.global-rates.com/interest-rates/euribor/2017.aspx
**Source: National Bank of Serbia | https://www.nbs.rs/sr_RS/drugi-nivo-navigacije/statistika/ks_stat/

Summary of calculated subsidies					
Fiscal support	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million RSD	million RSD	million EUR	million EUR
Budgetary expenditures		2635,60	2445,99	22,28	20,75
Taxes and contributions in arrears		118,93	117,15	1,01	0,99
Government loans		41,69	18,08	0,35	0,15
Total:		**2754,52**	**2563,14**	**23,29**	**21,75**

Subsidy calculation (outstanding balance of the loan in previous year x Interest rate differential					
Loan 2	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million RSD	million RSD	million EUR	million EUR
Outstanding balance of the loan in previous year		5406,53	5406,53	44,56	40,14
Interest rate differential (%)		0,48	0,08	0,48	0,08
Amount of the subsidy per year		**25,84**	**4,11**	**0,21**	**0,03**

Exchange rate: 2018 1 EUR = 118,2733 RSD; 2019 1 EUR = 117,8618 RSD
https://www.nbs.rs/sr_RS/drugi-nivo-navigacije/statistika/ks_stat/

Serbia – Public finance support direct subsidies

Measure or project (written description)	Source of subsidy (entity / institution name)	Subsidy type	Amount (in original currency)	Repayment period and interest rate	Beneficiary	Interna-tional support	2018 (million RSD)	2019 (million RSD)	2018 (million EUR)	2019 (million EUR)	Average annual amount (million RSD)	Average annual amount (million EUR)
Loan to JP PEU Resavica (loan 1)	Deposit insurance Agency of Serbia	Loan provided by state institution	1851192 EUR	no repayment	JU PEU Reasavica	no	109,47	109,09	0,93	0,93	109,28	0,93
	Source: Audit and Company Reports. http://www.jppeu.rs/informator.html											
Loan to JP PEU Resavica (loan 2)	Deposit insurance Agency of Serbia	Loan provided by state institution	243990 EUR	no repayment	JU PEU Reasavica	no	14,43	14,38	0,12	0,12	14,40	0,12
	Source: Audit and Company Reports. http://www.jppeu.rs/informator.html											
Loan to JP PEU Resavica (loan 3)	Development Fund of Serbia	Loan provided by state institution	1988,04 million RSD	no repayment	JU PEU Reasavica	no	994,02	994,02	8,40	8,43	994,02	8,42
	Source: Audit and Company Reports. http://www.jppeu.rs/informator.html											
Flue gas desulphurization construction project for TPP Nikola Tesla A (loan 4)	Ministry of Finance	State loan guarantee	28,252 billion Yen (cca 213 million EUR)	15 years, 0,6%	JP EPS Belgrade	JICA ODA Loan	22.613,66	19.069,37	191,20	161,79	20.841,51	176,50
	Source: https://www.reuters.com/article/us-serbia-energy-cleanup/serbias-largest-power-plant-to-start-clean-up-to-meet-eu-standards-idUSKCN1BJ1ZI											
Flue gas desulphurization construction project for TPP Kostolac B (loan 5)	Ministry of Finance	State loan guarantee	286,6 million USD (cca 242,9 million EUR)	15 years, 3%	JP EPS Belgrade	China Exim Bank	25.708,92	23.019,09	217,37	195,31	24.364,01	206,34
	Source: https://www.dri.rs/upload/documents/revision/2019/2019-4-JP%20Elektroprivreda%20Srbije.pdf											

Kolubara project A - design, production and installation of the BTO system for the future surface kop Field C (loan 6)	Ministry of Finance	State loan guarantee	78,5 million EUR	8,5 years, EURIBOR + 1%	JP EPS Belgrade	EBRD	4.917,03	3.811,06	41,57	32,33	4.364,05	36,95
	Source: http://www.eps.rs/cir/SiteAssets/Pages/Finansijski-izvestaji/JP%20EPS%20REVIZORSKI%20IZVESTAJ%202019-potpisan.pdf											
EPS restructuring project (refinancing of existing loans in commercial banks 2015) (loan 7)	Ministry of Finance	State loan guarantee	200 million EUR	15 years, EURIBOR + 1%	JP EPS Belgrade	EBRD	21.026,51	19.207,35	177,78	162,97	20.116,93	170,37
	Source: http://www.eps.rs/cir/SiteAssets/Pages/Finansijski-izvestaji/JP%20EPS%20REVIZORSKI%20IZVESTAJ%202019-potpisan.pdf											
Kolubara project B and C - interlayer stacker for Tamnava West Field and coal quality management system for Tamnava surface mine (loan 8)	Ministry of Finance	State loan guarantee	65 million EUR	6,5 years, variable 0,86%	JP EPS Belgrade	KfW	7.687,76	6.482,40	65,00	55,00	7.085,08	60,00
	Source: http://www.eps.rs/Documents/JP%20EPS%20izvestaj%202017.pdf											
Part of emergency flood recovery project (loan 9)	Ministry of Finance	State loan guarantee	14,96 million EUR	21 years, 6 moth EURIBOR + 0,8%	JP EPS Belgrade	IBRD	1.768,90	1.762,74	14,96	14,96	1.765,82	14,96
	Source: http://documents.worldbank.org/curated/en/909671500037057765/pdf/FERP-project-audit-EPS-2016.pdf											
TENT A, modernization and ash transportation system (loan 10)	Ministry of Finance	State loan guarantee	45 million EUR	12 years, 5 years grace period, 1%	JP EPS Belgrade	KfW	5.320,49	5.303,78	45,00	45,00	5.312,13	45,00
	Source: http://www.eps.rs/Documents/JP%20EPS%20izvestaj%202017.pdf											
Kostolac B second phase Drmno open pit mine and 350 MW unit at Kostolac B (loan 11)	Ministry of Finance	State loan guarantee	608 million USD (cca 529 million EUR)	20 years, 2,5%	JP EPS Belgrade	China Exim Bank	62.566,58	62.348,89	529,00	529,00	62.457,73	529,00
	Source: https://www.dri.rs/upload/documents/revision/2019/2019-4-JP%20Elektroprivreda%20Srbije.pdf											
Total support							**152.727,77**	**142.122,17**	**1.291,32**	**1.205,83**	**147.424,97**	**1.248,58**

Note: for PEU Resavica, 50% of the total loan amounts have been calculated, considering that 50% of the total coal production goes to the production of electricity

Subsidies calculations

Loan 1	2018	2019
Interest rate on government loan	0	0
Interest rate on comparable commercial loan*	6,09	5,37
Interest rate differential	6,09	5,37

*Source: National Bank of Serbia | https://www.nbs.rs/sr_RS/drugi-nivo-navigacije/statistika/ks_stat/

Subsidy calculation (outstanding balance of the loan in previous year x Difference in interest rate)					
Loan 1	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million RSD	million RSD	million EUR	million EUR
Outstanding balance of the loan in previous year		112,31	109,47	0,93	0,93
Interest rate differential (%)		6,09	5,37	6,09	5,37
Amount of the subsidy per year		**6,84**	**5,88**	**0,06**	**0,05**

Loan 2	2018	2019
Interest rate on government conditional loan	0	0
Interest rate on comparable commercial loan*	6,09	5,37
Interest rate differential	6,09	5,37

*Source: National Bank of Serbia | https://www.nbs.rs/sr_RS/drugi-nivo-navigacije/statistika/ks_stat/

Subsidy calculation (outstanding balance of the loan in previous year x Difference in interest rate)					
Loan 2	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million RSD	million RSD	million EUR	million EUR
Outstanding balance of the loan in previous year		14,80	14,43	0,24	0,24
Interest rate differential (%)		6,09	5,37	6,09	5,37
Amount of the subsidy per year		**0,90**	**0,77**	**0,01**	**0,01**

Loan 3	2018	2019
Interest rate on government conditional loan	0	0
Interest rate on comparable commercial loan*	6,09	5,37
Interest rate differential	6,09	5,37

*Source: National Bank of Serbia | https://www.nbs.rs/sr_RS/drugi-nivo-navigacije/statistika/ks_stat/

Subsidy calculation (outstanding balance of the loan in previous year x Difference in interest rate)					
Loan 3	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million RSD	million RSD	million EUR	million EUR
Outstanding balance of the loan in previous year		994,02	994,02	8,19	8,40
Interest rate differential (%)		6,09	5,37	6,09	5,37
Amount of the subsidy per year		**60,54**	**53,38**	**0,50**	**0,45**

Loan 4	2018	2019
Interest rate on government guaranteed loan	0,6	0,6
Interest rate on comparable commercial loan*	3,5	3,20
Interest rate differential	2,9	2,60

*Source: National Bank of Serbia | https://www.nbs.rs/sr_RS/drugi-nivo-navigacije/statistika/ks_stat/

Subsidy calculation (outstanding balance of the loan in previous year x Difference in interest rate)					
Loan 4	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million RSD	million RSD	million EUR	million EUR
Outstanding balance of the loan in previous year		24.121,74	22.613,66	198,80	191,20
Interest rate differential (%)		2,9	2,60	2,9	2,6
Amount of the subsidy per year		**699,53**	**587,96**	**5,77**	**4,97**

Loan 5	2018	2019
Interest rate on government guaranteed loan	3,00	3,00
Interest rate on comparable commercial loan*	3,5	3,20
Interest rate differential	0,5	0,20

*Source: National Bank of Serbia | https://www.nbs.rs/sr_RS/drugi-nivo-navigacije/statistika/ks_stat/

Subsidy calculation (outstanding balance of the loan in previous year x Difference in interest rate)					
Loan 5	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million RSD	million RSD	million EUR	million EUR
Outstanding balance of the loan in previous year		17.144,88	25.708,92	198,80	217,37
Interest rate differential (%)		0,5	0,20	0,5	0,2
Amount of the subsidy per year		**85,72**	**51,42**	**0,99**	**0,43**

Loan 6	2018	2019
Interest rate	1,00	1,00
Euribor*	-0,17	-0,22
Interest rate on government guaranteed loan	0,83	0,78
Interest rate on comparable commercial loan**	3,5	3,20
Interest rate differential	2,67	2,42

*Source: https://www.global-rates.com/en/interest-rates/euribor/2018.aspx
**Source: National Bank of Serbia | https://www.nbs.rs/sr_RS/drugi-nivo-navigacije/statistika/ks_stat/

Subsidy calculation (outstanding balance of the loan in previous year x Difference in interest rate)					
Loan 6	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million RSD	million RSD	million EUR	million EUR
Outstanding balance of the loan in previous year		6.280,96	4.917,03	51,76	41,57
Interest rate differential (%)		2,67	2,42	2,673	2,417
Amount of the subsidy per year		**167,89**	**118,84**	**1,38**	**1,00**

Loan 7	2018	2019
Interest rate	1,00	1,00
Euribor*	-0,17	-0,22
Interest rate on government guaranteed loan	0,83	0,78
Interest rate on comparable commercial loan**	3,5	3,20
Interest rate differential	2,67	2,42

*Source: https://www.global-rates.com/en/interest-rates/euribor/2018.aspx
**Source: National Bank of Serbia | https://www.nbs.rs/sr_RS/drugi-nivo-navigacije/statistika/ks_stat/

Subsidy calculation (outstanding balance of the loan in previous year x Difference in interest rate)					
Loan 7	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million RSD	million RSD	million EUR	million EUR
Outstanding balance of the loan in previous year		23.368,44	21.026,51	192,59	177,78
Interest rate differential (%)		2,673	2,42	2,673	2,417
Amount of the subsidy per year		**624,64**	**508,21**	**5,15**	**4,30**

Loan 8	2018	2019
Interest rate	0,86	0,86
EURIBOR*	-0,17	-0,22
Interest rate on government guaranteed loan	0,69	0,64
Interest rate on comparable commercial loan**	3,5	3,20
Interest rate differential	2,81	2,56

*Source: https://www.global-rates.com/en/interest-rates/euribor/2018.aspx
**Source: National Bank of Serbia | https://www.nbs.rs/sr_RS/drugi-nivo-navigacije/statistika/ks_stat/

Subsidy calculation (outstanding balance of the loan in previous year x Difference in interest rate)					
Loan 8	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million RSD	million RSD	million EUR	million EUR
Outstanding balance of the loan in previous year		7.361,09	7.687,76	65,00	65,00
Interest rate differential (%)		2,81	2,56	2,81	2,56
Amount of the subsidy per year		**206,85**	**196,81**	**1,83**	**1,66**

Loan 9	2018	2019
Interest rate	0,80	0,80
Euribor*	-0,17	-0,22
Interest rate on government guaranteed loan	0,63	0,58
Interest rate on comparable commercial loan**	3,5	3,20
Interest rate differential	2,87	2,62

*Source: https://www.global-rates.com/en/interest-rates/euribor/2018.aspx
**Source: National Bank of Serbia | https://www.nbs.rs/sr_RS/drugi-nivo-navigacije/statistika/ks_stat/

Subsidy calculation (outstanding balance of the loan in previous year x Difference in interest rate)					
Loan 9	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million RSD	million RSD	million EUR	million EUR
Outstanding balance of the loan in previous year		1.814,71	1.768,90	14,96	14,96
Interest rate differential (%)		2,87	2,62	2,87	2,62
Amount of the subsidy per year		**52,14**	**46,29**	**0,43**	**0,39**

Loan 10	2018	2019
Interest rate	1,00	1,00
Interest rate on government guaranteed loan	1,00	1,00
Interest rate on comparable commercial loan**	3,5	3,20
Interest rate differential	2,5	2,20

**Source: National Bank of Serbia | https://www.nbs.rs/sr_RS/drugi-nivo-navigacije/statistika/ks_stat/

Loan 11	2018	2019
Interest rate on government guaranteed loan	2,50	2,50
Interest rate on comparable commercial loan**	3,5	3,20
Interest rate differential	1,00	0,70

**Source: National Bank of Serbia | https://www.nbs.rs/sr_RS/drugi-nivo-navigacije/statistika/ks_stat/

Public finance support					
Summary of calculated subsidies	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million RSD	million RSD	million EUR	million EUR
Loan 1		6,81	6,15	0,06	0,05
Loan 2		1,76	1,59	0,01	0,01
Loan 3		60,22	55,57	0,50	0,45
Loan 4		696,05	612,04	5,77	4,97
Loan 5		120,01	53,52	0,99	0,43
Loan 6		167,04	123,70	1,38	1,00

Subsidy calculation (outstanding balance of the loan in previous year x Difference in interest rate)					
Loan 10	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million RSD	million RSD	million EUR	million EUR
Outstanding balance of the loan in previous year		5.416,15	5.320,49	45,00	45,00
Interest rate differential (%)		2,5	2,20	2,5	2,2
Amount of the subsidy per year		**135,40**	**117,05**	**1,13**	**0,99**

Subsidy calculation (outstanding balance of the loan in previous year x Difference in interest rate)					
Loan 11	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million RSD	million RSD	million EUR	million EUR
Outstanding balance of the loan in previous year		64.187,11	62.566,58	529,00	529,00
Interest rate differential (%)		1,00	0,70	1,00	0,70
Amount of the subsidy per year		**641,87**	**437,97**	**5,29**	**3,70**

Public finance support					
Summary of calculated subsidies	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million RSD	million RSD	million EUR	million EUR
Loan 7		621,53	529,03	5,15	4,30
Loan 8		220,52	204,87	1,83	1,66
Loan 9		51,89	48,20	0,43	0,39
Loan 10		135,82	121,89	1,13	0,99
Loan 11		638,68	455,91	5,29	3,70
Amount of the subsidy per year		**2.720,33**	**2.212,45**	**22,53**	**17,97**

Serbia – SOE Investment support direct subsidies

Measure or project (written description)	Source of subsidy (entity / institution name)	Subsidy type	Beneficiary	2018 (million RSD)	2019 (million RSD)	2018 (million EUR)	2019 (million EUR)	Average annual amount (million RSD)	Average annual amount (million EUR)
Loan to coal underground mines*	JP EPS Belgrade	Loan provided by SOE	JP PEU Resavica	1.166,91	1.166,91	9,87	9,90	1.166,91	9,88
	Source: Audit and Company Reports | http://www.jppeu.rs/informator.html								
Debt for electricity	JP EPS Belgrade	Right not to pay	JP PEU Resavica	1.906,99	2.448,516	16,12	20,77	2.177,75	18,45
	Source: http://www.eps.rs/cir/SiteAssets/Pages/Izvestaji/20%20najvecih%20duznika%2020200910.pdf#search=du%C5%BEnic								
Total support				**3.073,90**	**3.615,43**	**25,99**	**30,68**	**3.344,66**	**28,33**

**Note: Loan could be converted in capital, no interest payment, no repayment up to privatization*

Subsidies calculations

	2018	2019
Interest rate on comparable commercial loan*	6,09	5,37
*Source: National Bank of Serbia | https://www.nbs.rs/sr_RS/drugi-nivo-navigacije/statistika/ks_stat/		

Subsidy calculation (outstanding balance of the loan and debt for electricity X interest rate on comparable commercial loan)					
	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million RSD	million RSD	million EUR	million EUR
Outstanding balance		3.073,90	3.615,43	25,99	30,68
Interest rate on comparable loan		6,09	5,37	6,09	5,37
Amount of the subsidy per year		**187,20**	**194,15**	**1,58**	**1,65**

Annex 6. Ukraine - Detailed list of subsidy measures

Ukraine – Fiscal support

Measure or project (written description)	Source of subsidy (entity / institution name)	Subsidy type	Beneficiary	2018 (million UHA)	2019 (million UAH)	2018 (million EUR)	2019 (million EUR)	Average annual amount (million UAH)	Average annual amount (million EUR)
Restructuring of coal and peat industry	Ministry of Energy	Direct budget transfer	State coal mines	0,00	3268,62	0,00	112,91	1634,31	56,45
	Source: https://www.treasury.gov.ua/ua/file-storage/vikonannya-derzhavnogo-byudzhetu								
Rescue measures at coal mining enterprises	Ministry of Energy	Direct budget transfer	State coal mines	290,00	289,16	9,02	9,99	289,58	9,51
	Source: https://www.treasury.gov.ua/ua/file-storage/vikonannya-derzhavnogo-byudzhetu								
State support for coal mining enterprises on partial compensation of production costs of finished marketable coal	Ministry of Energy	Direct budget transfer	State coal mines	1072,25	0,00	33,36	0,00	536,12	16,68
	Source: https://www.treasury.gov.ua/ua/file-storage/vikonannya-derzhavnogo-byudzhetu								
State support for construction of mine No10 "Novovolynska"	Ministry of Energy	Direct budget transfer	State coal mines	34,65	61,87	1,08	2,14	48,26	1,61
	Source: https://www.reuters.com/article/us-serbia-energy-cleanup/serbias-largest-power-plant-to-start-clean-up-to-meet-eu-standards-idUSKCN1BJ1ZI								
Prevention of the emergency situation due to flooding of the mines of Pervo-maysko-Stakhaniv coal mining region	Ministry of Energy	Direct budget transfer	State coal mines	82,39	0,00	2,56	0,00	41,20	1,28
	Source: https://www.treasury.gov.ua/ua/file-storage/vikonannya-derzhavnogo-byudzhetu								
Decommissioning of unprofitable coal and peat mining enterprises	Ministry of Energy	Direct budget transfer	State coal mines	281,13	127,90	8,75	4,42	204,51	6,58
	Source: https://www.treasury.gov.ua/ua/file-storage/vikonannya-derzhavnogo-byudzhetu								
Repayment for electricity arrears of state-owned coal-mining enterprises	Ministry of Energy	Direct budget transfer	State coal mines	0,00	445,27	0,00	15,38	222,64	7,69
	Source: https://www.treasury.gov.ua/ua/file-storage/vikonannya-derzhavnogo-byudzhetu								
Measures to support domestic production of coal and reform of the coal sector	Ministry of Energy	Direct budget transfer	State coal mines	0,00	1671,15	0,00	57,73	835,57	28,86
	Source: https://www.treasury.gov.ua/ua/file-storage/vikonannya-derzhavnogo-byudzhetu								

Loan guarantee payment from budget for Loan Lisichanskvugillya PJSC and the State Development Bank of the PRC	Ministry of Finance	Direct budget transfer	State coal mine	432,84	386,99	13,47	13,37	409,92	13,42
	Source: http://www.treasury.gov.ua/main/uk/doccatalog/list?currDir=146486								
Taxes and contributions in arrears - state coal mines	Government/Tax administration	Taxes and contributions	State coal mines	7307,54	7836,46	227,37	270,69	7572,00	249,03
	Source: https://data.gov.ua/dataset/af37e83b-5d0d-4d70-b8dc-d38ebc8054eb/resource/dd6be7f0-4e14-4cbe-a5dc-4d5dc372122a								
Taxes and contributions in arrears - Centrenergo	Government/Tax administration	Taxes and contributions	Centrenergo	9,92	9,92	0,31	0,34	9,92	0,33
	Source: https://data.gov.ua/dataset/af37e83b-5d0d-4d70-b8dc-d38ebc8054eb/resource/dd6be7f0-4e14-4cbe-a5dc-4d5dc372122a								
State support for overhaul of TPP	Ministry of Energy	Direct budget transfer	Centrenergo	49,05	45,46	1,41	1,57	47,25	1,49
	Source: http://www.centrenergo.com/upload/document/f37a8fcf104f.pdf								
VAT exemption for operations on supplying coal and/or products of its enrichment	Ministry of Finance	Revenue foregone	TPPs	3041,52	3607,68	94,63	124,62	3324,60	109,63
	Source: http://w1.c1.rada.gov.ua/pls/zweb2/webproc4_1?pf3511=64598; http://w1.c1.rada.gov.ua/pls/zweb2/webproc4_1?pf3511=66853								
Total support				**12601,29**	**17750,48**	**391,96**	**613,14**	**15175,89**	**502,55**

Subsidies calculations

	2018	**2019**
Yield on government bonds*	17,79%	16,93%
*Source: National Bank of Ukraine | https://bank.gov.ua/en/statistic/sector-financial/data-sector-financial#1ms		

Financial support					
Summary of calculated subsidies	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million UAH	million UAH	million EUR	million EUR
Taxes and contrib. In arrears		1301,78	1328,39	40,50	45,89
Direct budget Transfer and VAT exemption		5283,83	9904,11	164,29	342,11
Total:		**6.585,60**	**11.232,50**	**204,79**	**388,00**

Exchange rate 2018 1 EUR= 32,14 UHR; 2019 1 EUR= 28,95 UHR
www.bank.gov.ua/files/Exchange_r.xls

Subsidy calculation for Taxes and contributions in arrears (amount of debt x yield on government bonds)					
	Year	**2018**	**2019**	**2018**	**2019**
	Currency	million UAH	million UAH	million EUR	million EUR
Outstanding balance of tax and con. in arrears		7.317,46	7.846,38	227,67	271,03
Government bonds yield* (%)		17,79%	16,93%	17,79%	16,93%
Amount of the subsidy per year		**1301,78**	**1328,39**	**40,50**	**45,89**

Ukraine – SOE Investment support direct subsidies

Measure or project (written description)	Source of subsidy (entity / institution name)	Subsidy type	Beneficiary	2018 (million UHA)	2019 (million UAH)	2018 (million EUR)	2019 (million EUR)	Average annual amount (million UAH)	Average annual amount (million EUR)
Electricity arrears of coal mines to suppliers	SOE "Regional Electricity Network"/SOE "Ukrinterenergo"	SOE Investment	Coal mines	13.200,64	15.000,00	410,72	518,13	14.100,32	464,43
	Source 1: https://meregi.com/wp-content/uploads/ Source 2: https://www.unn.com.ua/uk/exclusive/1816730-usi-derzhavni-shakhti-zaborguvali-za-elektroenergiyu-blizko-15-mlrd-grn-volinets								
Total support				**13.200,64**	**15.000,00**	**410,72**	**518,13**	**14.100,32**	**464,43**

Subsidies calculations

	2018	2019
Interest rate on short term commercial loan*	17,20%	17,00%

*Source: National Bank of Ukraine | https://bank.gov.ua/en/statistic/sector-financial/data-sector-financial#1ms

Subsidy calculation for electricity arrears (amount of debt x Interest rate on comparable commercial loan*)

	Year	2018	2019	2018	2019
	Currency	million UAH	million UAH	million EUR	million EUR
Electricity arrears		13.200,64	15.000,00	410,72	518,13
Interest rate on comparable commercial loan* (%)		17,20%	17,00%	17,20%	17,00%
Amount of the subsidy per year		**2270,51**	**2550,00**	**70,64**	**88,08**

Energy Community Secretariat
Am Hof 4, 1010 Vienna, Austria
Tel: + 431 535 2222
Fax: + 431 535 2222 11
Internet: www.energy-community.org
Twitter: https://twitter.com/Ener_Community
E-mail: contact@energy-community.org