Climate and Energy Transition in the Balkans

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Climate Change and Energy transition in the Balkans

What is written in energy strategies and climate change mitigation plans in Balkan countries, probably could not differ more from the actual political practices. While political elites do not even use euphemisms for their practices, mostly corrupted by western European capital, grassroots struggles and left political views on parliamentary levels are seldom (in non-EU countries) if not non-existant (in EU countries). Reason for this is a "shock doctrine". We are constantly bombarded with different neoliberal reforms and at the same time completely exposed to deteriorating political culture. This is not inherent in our social or historical contexts but is imported with capitalism in which any socialist policy is considered a curse word. Even this year during elections for European Parliament, allegedly left-wing political option publically denounced socialism on public TV. Recycling and different green practices are still being introduced bottom-up, meaning parents learn about them from their children, and the infrastructure is extremely weak, despite penalties Croatia gets from the EU. Those stubborn enough do not emigrate, while most young and educated move to the West. The political climate is a reason for moving away equal to the economic one.

This is the context in which Bilten exists and it is precisely the reason for our existence. Our goal is to reconnect Balkan countries separated by wars and right-wing politics. We criticise our respective countries writing from similar perspectives to emphasise that our political and economic problems are not, in fact, the result of our bacwardness, of our alleged social underdevelopment and similar. We criticise auto-racist and auto-colonial perspectives, instead, we put the issues we tackle in a broader social, economic and historical context. Reason for this and other publications done in collaboration with transform! europe is to make that abstract perspective even more salient. In five years of our existence we have published on daily basis, and we have produced a lot of knowledge and a lot of information. We write in Bosnian-Cro-

atian-Serbian dialect precisely because our audiences are our people. Publications in the English language are an attempt to bring our perspectives to the non-BCS speaking countries, especially in the European Union where our interests have no left representatives of our own.

This is our second publication published with the support of transform! europe, and it brings together different essays and articles previously published by regional portal Bilten.org which is supported by Belgrade office of Rosa Luxemburg Foundation. The first one tackled left and right wing policies, this one is about climate change and energy. Our texts are journalistic, not academic and their aim is to attract not only Balkan audience but also international audience and by doing so rise the awareness of the situation in Balkan region. Publication consists of two parts. It starts with more general perspectives and consequences of Climate change for Serbia, Bosnia and Herzegovina, North Macedonia and Bulgaria and continues with Energy illustrating it from perspectives of Croatia, Bulgaria, and Bosnia and Herzegovina. Both parts end with contributions from transform! europe that round the publication perfectly.

Andrea Milat Editor in Chief Bilten.org

Climate Change

Climate change and energy in the Balkans: where there's smoke, there's fire

Reducing the use of fossil fuels and CO2 emissions is an imperative for curbing global warming and related climate change. However, Western Balkan countries still have plans for building new thermal power plants.

Saša Petrović

The relationship between planet warming and negative effects on climate has long been a scientifically verified fact. The transition from fossil fuels to renewable energy sources (RES) is continuously imposed as an absolute necessity in halting the planet's warming climate. Stumbling rock and the main reason for insufficient investment in the development of the RES have so far been higher costs of energy production when compared to fossil fuels. However, a new report by the International Renewable Energy Agency (IRENA) suggests that by 2020 things will change radically.

The report forecasts that the costs of producing electricity from renewable sources will soon become equal to that derived from fossil fuels, or, probably even cheaper. According to IRENA's data, the cost of electricity from fossil fuels today amounts to 0.05-0.17 US dollars per KWh in G20 countries. By 2020, it should fall to 0.03-0.10 dollars per KWh, primarily in the solar and wind power sectors. If this happens, apologists for fossil fuels will have no justification for choosing fossil fuels. Of course, if we do not take into account the interests of the fossil fuel industry and the actions of their lobbies, which will certainly try to slow down the process of energy transition and turn their businesses towards the RES as the main mode of energy production. How ever, things will be interesting in the Balkans.

Losses due to inefficiency

Most Western Balkan countries import electricity because their capacities do not meet domestic needs. Imports are necessary because of the high percent-

age of loss in the electricity distribution system. Kosovo and Albania are at the top of the inefficacy ladder with a total of 32 percent of electricity lost, followed by Montenegro with 18 percent, Macedonia with 15 percent, Serbia with 14 percent and Bosnia and Herzegovina with ten percent. The total amount of energy loss in the system is about 10.12 GWh, which is nearly double the expected amount of energy from all the new thermal power plants that are in the construction.

In terms of energy efficiency, Western Balkans countries spend on average three times more energy than the EU countries due to the deteriorated energy infrastructure, inefficient structure of industrial sector and poorly insulated households. Energy strategies of the Balkan states are not taking the issue of energy dispersion seriously enough. Reparation of energy systems could significantly contribute to the more rational use of energy and could lead to savings in the energy sector. But energy experts in governments do not seem to pay much attention to the mentioned problems. Instead of more elegant, cheaper and eco-friendly solutions, states support further expansion of filthy technologies. As we speak new concessions are being granted for finding new gas and oil localities, and eventual exploitation.

At the same time, energy strategies of different countries all nominally support the Paris agreement and green transitions. The practices of these countries completely contradict their policies. While developed countries are abandoning the use of fossil fuels, it seems that the Balkan countries are doing the opposite. Investing in fossil fuels has even less justification if the cost of emission of carbon dioxide emissions¹ is taken into account. All trends show that the cost of emissions will grow year after year at a rapid rate. The current price of one ton of CO2 in the European market is about 20 euros. Since last year, the price of emissions has increased by as much as 176 percent. According to scientists' recommendations, the real price of emissions should be \$40-80 per ton, if we want to keep the planet's warming to permissible 1.5 degrees

¹ All countries in the region (except Kosovo) are signatories to the UN Framework Convention on Climate Change, the Kyoto Protocol and the Paris Agreement, which means that they are obliged to charge polluters for their CO2 emissions. The proceeds from the collection are currently flowing into national budgets, but as is announced, after the year 2021 funds should go to the mutual fund.

Celsius. It is logical to assume that the price of emissions will grow further.

Balkans locked-in coal

Thermal power plants that Six Western Balkan countries plan to build are estimated to emit circa 23,867,292 tons of CO2 annually, according to a feasibility study. That means that priced at 20 euros per ton, countries will have to pay half a billion euros per year for their emissions. It stands to reason that new power plants will bring countries greater loss than gain.

IRENA's report on the potentials of renewable energy in southeast Europe shows that the region has a capacity of 723 GW. The capacity of wind power is 532 GW while solar has a share of 120 GW, which means that RSE have the potential to meet southeast Europe's energy needs. World Economic Forum's analysis already shows that solar energy is in some countries twice as cheaper than coal. In terms of jobs, the renewable energy sector already generates them more than the coal and gas sectors.

In short, data show that renewable energy sources are more cost-effective and more rational investments than fossil fuels, and this is true for the energy sector as well as in economy, and environmental aspects. Instead of starting the green transition, Balkan countries are more likely to lose their investments after the so-called "Carbon lock-in". The results of such a strategy in the future can only result in expensive electricity, endangered human health, and a ruined environment.

According to numerous analyses, the Western Balkans region is highly exposed to climate change. Estimates say that in Serbia damages caused by climate change in the period 2000 – 2014 amount to about 5 billion euros. Serious estimates of the damage caused by climate change can not be done without adequate monitoring to help mitigate these changes. Western Balkan countries have not yet perceived the influence of global warming as a problem that requires serious consideration. Accordingly, there is no set of measures introduced to combat climate change, although reality demonstrates the need for it.

What is it all about?

Results of the climate change study in the Western Balkans indicate that the temperature here is growing faster than the global average. Consequences account for increased frequency and duration of heat strokes that will result in more frequent droughts and fires. Agriculture will suffer great damage, in terms of yield reductions and their declining quality. The risk of late spring fires will increase. Also, as the average temperature increases the variety of cultivation periods for various crops will change. Water resources and their natural regulation regimes are also in jeopardy. The disappearance of snow cover in mountainous areas, the reduction of groundwater regeneration and hydrological volume of river flows will result in problems with supply and reduction in water quality, especially in summer.

In addition to this, the risk of flooding increases due to oscillations of rainfall and frequent storm surges. Due to more frequent and longer periods of heat strokes, the level of mortality will increase and old diseases will surface underneath the melting ice. According to some estimates, total health costs incurred by air pollution from thermal power plants in five Western Balkan countries are up to 8.5 billion euros per year. Thermopower plants in the region emit 13 times more sulfur dioxide and 30 times more particles that have been proven to cause heart and respiratory illnesses. An important aspect of creating an energy strategy should be the external costs that a particular project carries with it. However, it appears that health costs arising from air pollution from thermal power plants go under the radar of decision-makers.

Although all of this may sound like some apocalyptic scenario, it is slowly playing out in reality. Although it takes time for a certain amount of CO2 emissions to be felt on daily basis as global warming, before we humans feel it on daily basis, it has already left a deep scar on the ecosystems. Global warming and climate change have a specific mode of manifestation in time, that is, the effects of climate change are manifested over a long period which makes it difficult for their immediate perception. Also, the consequences of CO2 emissions are cumulative. Total accumulation is what raises the temperature and the more emissions are discharged, it is less likely that the current temperature rise will be limited to a sustainable level. The longer we cling to the old way, the more difficult it will be to reverse these changes. Sweeping the problems under the rug until they come crashing down on you, is a method often practiced in the region, in the case of climate change, this will simply not suffice. The effects of climate change have already become "tangible" reality. The window for change is closing as we speak and consequences are about to increase our problems exponentially.

Translated into English by Andrea Milat

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Hidden Interests in Bosnia's Energy Business

A project including 500 mini-hydropower plants in Bosnia was conceived as a method to circumvent expensive and complex environmental impact studies needed in large plants. As water is becoming a more and more valuable resource, the local authorities are discarding protection and are chasing quick profits for entrepreneurs regardless of the ecological and social consequences.

Mario Kikaš

In the cultural history of Bosnia and Herzegovina, the rivers and infrastructure built on/above them is an ever-present topos. It's difficult to imagine local literature without rivers and bridges. More difficult even still to trace the history of the area without Ottoman bridges, Austrian Railways alongside rivers or dams and hydropower plants built during the 1960s socialist modernization effort that attempted to bring Bosnia and Herzegovina and its people up to date with the "modern world". The history of infrastructure often gives the most graphical picture of the transformations and (dis)continuities of a specific territory, with its ambivalent and complex relations towards the landscape and nature it wants to bridge, the population that it resettles and the economy that it attempts to develop.

Recently published document entitled "Strategic environmental impact study of the water management in Adriatic basin" (July 2016) warns about the endangerment levels of waterways in the region of Herzegovina. It contains, among other things, information on the status of water infrastructure in the area which turned out to be completely unfit for the purpose of protecting the environment as well as the health of the population. Suffice to say that the sewer system in three of the south-western counties in the Adriatic basin of Bosnia and Herzegovina is present only in urban areas, and not necessarily all of them. Most of the people in the region of Herzegovina don't have access to sewer systems. Even the one in Mostar, the largest urban settlement in the region, covers only the central parts of the city, and this without collectors. This all makes Neretva, which flows through the city, a polluted river and a health hazard, as is witnessed by frequent reports in local media or by the health authorities.

Upper Horizons stalling

The same document also reports on the "considerable pressure" of anthropogenic factors on the 49 water bodies in the area. It specifically warns about the risks of new hydropower plants, such as the one in the area of Trebišnjica river which is a part of the Upper Horizons project. This project includes several hydropower objects and a complete hydro-morphological transformation of the area up to the confluence of Neretva. While it would strengthen the energy capacities in the south of Croatia and the Serb part of Bosnia and Herzegovina (Republika Srpska), the changing of the flow of Trebišnjica would also considerably reduce the volume of water in connected rivers, such as Neretva, and other water bodies. In the worst case scenario, it would significantly increase the salinity which would also have a very negative impact on the main economic activity in the area – agriculture.

Upper Horizons also attracted significant attention in Croatia whose Government was closely involved in the cooperation with the Government of Republika Srpska (RS). After the change of the Croatian Government in 2016, several cabinet posts were filled by people from the Croatian part of the Neretva river valley and the project suddenly quieted down. At the same time, in the broader Herzegovina region, several new projects were announced which threaten the environment and served as a cause for rebellions both by the underdeveloped civil society and among the locals. The second most important project after the Upper Horizons was started in the upper Neretva basin in the Kalinovik municipality (Republika Srpska). It's part of the same "exploiting the hydro-energetic potentials" package.

Due to the energy crisis and geopolitical turbulence, water has clearly become an important resource and electrical power an important product for the European market. This was understood by the authorities in both parts of Bosnia and Herzegovina who quickly jumped to sell-out some of the last remaining resources in this part of the Balkans. In this context, the mentioned hydro-plant in Kalinovik quickly turned out to be the most controversial. It emerged as a result of a so-called self-initiated offer by a Serbian businessman Vuk Hamović to the Government of RS. The building tender was awarded to a Chinese company, Synohydro. However several accidents, including the ones that involved workers' deaths, soon stopped the construction. As it turned out, the terrain is much more unstable than was initially assessed. This clearly showed the amateurism by which the concession was awarded. Also, contrary to promises, no jobs were secured for the local population of this impoverished area.

Infrastructure for whom?

While the authorities in the Serb part of Bosnia put an emphasis on the large projects and big concessions, the other half of Bosnia (Federation) puts in hopes into a more "subtle" model of mini-hydropower plants. The biggest county in the region recently gave several concessions for these types of plants in the Neretva valley that has already been considerably exploited during the socialist period. Very soon, a few stories with a very similar plot started to attract public attention. As a rule, these stories include suspiciously fast licenses given to investors by local authorities without adequate research and studies. Construction soon starts but is then faced by considerably resistance by the local population. Because of their small size, mini-hydropower plants don't require rigorous procedures in licensing. If any is needed, it is often provided by suspicious private firms.

One example is the attempt by the Bosnia's best basketball player Mirza Teletović to build a mini hydropower plant near his native Jablanica. He was soon faced with considerable resistance by the local population worried about their houses and agricultural land. Surprised, he attempted to prove that he possesses "all the necessary paperwork" for the project. "All necessary paperwork" soon became an unavoidable platitude against any critique of 500 mini power plants planed on the territory of Bosnia and Herzegovina. The "paperwork" itself can, however, be problematic, as is illustrated by the example of a similar mini-hydropower plant in the village of Buna near Mostar. Local protesters were supported by the director of the Sarajevo Geographical Institute Muriz Spahić, who warned about hidden interests behind environmental impact studies. "Those who commission those projects put profit before na-

ture. It's interesting that here the investor is actually in charge of the environmental program, which is unheard of in other countries", explains Spahić for a local media outlet analiziraj.ba.

A similar warning can be heard from one of more vocal environmental groups in Bosnia – Centre for the Protection of Environment from the city of Banja Luka. They claim that the project that includes a multitude of mini hydropower plant project is unsustainable and an inadequate substitution for a few big ones. In fact, they claim, "small hydropower plants present the same threat to small rivers as big ones present to large rivers". After extracting everything that could be extracted from the dwindling industrial sector, capital didn't take long to find a new source of accumulation. Sometimes quite literarily. Hydropower plants that could soon flood Herzegovina karst fields emerge as a result of deals by business and bureaucracy and have no positive influence on the local community and its everyday life.

The region in question is severely underdeveloped and its infrastructure is scarce, with villages that lack access to potable water and a sewer system, let alone collectors. While the real problems of utility infrastructure in Herzegovina are completely ignored, projects that are activated are those that extract the profits for the few and serve to ensure the energy stability for the rest of Europe. In other words, a classical colonial scenario which, as is shown in a recent study by Bankwatch, includes the European Bank for Reconstruction and Development. According to the reports by the media, the EBRD also got a new employee very well acquainted with the local resources and the possibilities of their exploitation in servicing the needs of Europe of the Centre. The colonial story will not be left without its politically tragic comprador figure.

Translated into English by Nikola Vukobratović

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Mining and the anti-mining struggles in North Macedonia

Having learned from their neighbours about the social and ecological damages international companies leave behind them in the Balkans, Macedonian local communities organised to fight against new mine-pits for gold and copper with partial success. Social-democrat led Prime Minister Zoran Zaev fulfilled his preelection promise only partially.

Adela Gjorgjioska

In the spring of 2017 small peripheral towns across Macedonia turned into hubs of grassroots struggles against international mining projects in the country. These citizen initiatives shared the same fear: that concessions for geological exploration or exploitation (granted as part of former Prime Minister Gruevski's wider policy for attracting FDI's) will bring devastating environmental and social consequences with very marginal benefits for the local areas and the country as a whole. Although the exact number of concessions granted during Gruevski's rule at the time was not clear¹, it was known for sure that at least 80 such concessions have been granted since 2012, when the government introduced new legislation aimed at increasing business activities and investment in the mining sector. With a new Government in place since May 2017, the presence of international mining companies and the consequences of their mineral exploitation remains a cause of concern amongst the local population and the anti-mining activists. At the time new legislation also introduced shorter, simpler and faster procedures for granting mining permits and concessions, and for the easy and almost automatic conversion of explorative concessions into exploration concessions, which allow construction and exploitation work to commence. As mining construction works based on these concessions started to spring up across the country, so did the dissatisfaction of the local population in the affected areas. In the spring of 2017, a tide of local initiatives begun processes for calling on local

¹ After the government change, we found out that at the time of Gruevski's departure from Government in late 2016 there were 378 operational concessions.

referendums aimed at challenging and stalling the expanding international mining industry in the country.

The first such initiative took place on April 23rd 2017, when a referendum was held and successfully won in the city of Gevgelija in southeastern Macedonia, against the opening of gold and copper mine on two sites on the mountain Kozuf by the Canadian Company Nevsun Resources LTD. As stated by the local activists, "the initiative was started on February 15th 2017 by a group of activists united around the slogan "Spas za Gevgelija" (Save Gevgelija) and very quickly gained huge support from all the citizens in the municipality." According to the activists, the successful referendum outcome in Gevgelija was aimed at obstructing the company from transforming its concession from exploratory into an exploitation concession: "The company's license for geological exploration is now about to expire. They can still apply for converting their concession into an exploitative concession, but it will be automatically rejected because of the referendum outcome which commits all future city-mayors and city councillors to give a negative opinion for all mines in Gevgelija." The successful referendum in Gevgelija (70% turn out with 99% voting against) inspired similar local initiatives which dared to challenge different mining projects across the country. Two more successful referendums were held, in Bogdanci on June 11th 2017, with a 61% turn out and 98% voting against. The third successful referendum was held in Dojran (51% turn out, 91% against). The referendums that followed in Bosilovo, Valandovo and Novo Selo failed due to a low turnout.

Authorities from the MOEPP emphasized that the referendum doesn't have a legal power to stop mining projects which already hold exploitation concessions. In 2018, a severe blow was dealt to the local grassroots activism and the local referendums held by the Constitutional Court. It deemed the decision for holding local referendums on the mining issue to be unconstitutional and unlawful. The decision was based on the argument that it was not the local municipalities which had granted the concessions; hence they cannot rule on the decision to revoke them. The authorities and mining companies also claimed that they have obtained the necessary licences from the Ministry of Environment and Physical Planning (MOEPP). However, in a context of wide-spread clientelism and corruption, the public has every reason to doubt the

validity of that process and fear the consequences from any shady doings or shortcuts taken. The then Minister of Economy Driton Kuchi has added that "legislative and practice have proven to be in favour of concessioners." In spite of this favourable position of concessioners, mining companies seemed to feel threatened by the wave of anti-mining mobilizations. Two weeks after the referendum in Gevgelija, Sardich MC (the company behind the mine project Kazandol) issued a warning before a lawsuit against Angel Nakov – one of the most vocal activists from "Za spas na Gevgelija". It accused Nakov of mentioning what they describe to be "false" risks relating to Kazandol in an interview on a national TV station. The real reason behind this retaliation was the need to prevent further mobilization which can threaten other projects.

The Kazandol and Illovica-Stuka mine projects

In the case of Kazandol, a concession for extraction had been granted in 2015 to the concessioner the English-Ukrainian company Sardich MC (which only pays about 45,000 euros concession fee per annum) has already commenced with construction works for the mine. Interestingly, one of Sardich SC executive directors and shareholders is Aco Spasenoski, who from 2006 - 2009 was Minister for Agriculture in the Gruevski Government, which is indicative of the usually close links between domestic political and international business interests. Once an exploratory concession (as in the case of Ilovica and Kazandol) was granted there was little that could be done short of revoking the concession which would make the country liable to international financial lawsuits. However, this did not deter the anti-mining resistance in Kazandol. From the local initiative in SOS Valandovo they told me "We are aware that the fight against Kazandol mine will be difficult but we are continuing our fight and have no intention of giving up". Their struggle bore fruit in March 2018, when the Government revoked the concession for the exploitation of gold, copper, and silver of "Sardich MC" for the Kazandol mine.

Another vast mining project is the Ilovica-Shtuka mining project, 20 km from the city of Strumica, conducted by the Canadian-British company EuroMaxx Resources. They hold 2 concessions, for 20 km squared, paid for with only 55.000 euros annual concession fee. Resistance has also organized in and around the city of Strumica against this mining project, although like Kazandol it is also already under an exploitation concession. In the case of Ilovica, authorities and other proponents often cited the involvement of the EBRD as a guarantee for the safety of the project, listing the transparency of the EBRD and its high standards as a justification for the benefits of the project. The role of the EBRD, in this case, is that of both a creditor and shareholder (the EBRD holds 19.99% of the Company's issued and outstanding share capital on an undiluted basis. Grassroots resistance has intensified in opposition to the Government's failure to revoke the mining licence for exploitation of the Ilovica-Stuka mine. The citizens from the South East region have made clear their opposition to the mine taking several actions organized through two interconnected initiatives: "Zdrava Kotlina" and "Youths against the Stuka-Ilovica mine of death". In April and May 2019 protests were organized, in spite of numerous threats by the mining company "Euromaxx resources" against vocal activists including warnings to press charges for positions expressed on social media.

As of yet, the situation with the Ilovica-Stuka mine remains unresolved. According to activist Mitko Ristomanov, the failure to comply to contractual terms can be used by the Government as an argument for revoking the mining concession: "Due to insufficient and incomplete project documentation Euromaxx resources missed their last deadline for obtaining the necessary licences on the July 24th 2016. Which means that for about 3 years their activities have been illegal. Also contractually, the date by which they need to build the mine was July 24th 2019 providing they had by then obtained the necessary licences." What further complicated the situation is the fact that since May 2019, following a private placement financing, the concession for the Ilovica-Stuka mine has a changed ownership structure. It is no longer owned by Euromaxx resources but by Galena Resource Equities Limited affiliate of the Trafigura, implicated in several controversies including illegally exporting toxic waste from Amsterdam and an attempt to try to cover up African pollution disaster. How this case will unravel will depend on the steps taken by the new owner, but also on the willingness and capacity of the Government to act in line with local population's opposition to the mine; and also in view of the negative impact the mine would have on the agriculture in the region, as well as its broader environmental consequences.

Environmental risks and other possible economic models

The anti-mining campaign emphasized the environmental risks including: the damage to the landscape (the mining will create a crater 3 km wide, 700m deep); risks of water pollution due to the proximity of the mine to the water springs which service the nearby cities of Kavadarci and Negotino; air pollution likely to result from the release of 10 tonnes of dust daily containing toxic poisons such as arson and thallium; the production of a 15 million square meters of slag, which will include large quantities of cyanide, arson and sulphuric acid that cannot be recycled or permanently destroyed. The biggest risk mentioned is that of cvanidation or leaching with sodium cvanide- currently the most widely used method for gold processing operations, which if leaked into soil or groundwater can produce irreparable damage to all life and the environment. Cyanide-related disasters are not unknown regionally. In 2000, the gold mine in Baia Mare, Romania, experienced a cyanide-related disaster, which resulted in the release of 100.000 cubic meters of cyanide-rich waste into the surrounding watershed. Drinking water supplies were cut off for 2,5 million people in neighbouring Hungary and Serbia and hundreds of tons of fish in the Szamos-Tisza-Danube River system were killed.

Even the benefit of employment, which is often given as an argument by proponents of the mining projects, should not be taken at face value. Out of the announced 13.500 employees, currently, mining operations employ 2175 workers in Macedonia. Nevsun Resources LTD, the Canadian company that was hoping to build a mine near Gevgelija had been facing claims reported by the Guardian due to "forced labour, horrendous working conditions and a climate of fear and intimidation" in its majority-owned Bisha mine in northwest Eritrea. What is more, the immediate and long term health impact on workers working in such toxic chemical environment also needs to be taken into consideration when qualifying the benefits of employment to act as a sufficient trade-off for the numerous other negative externalities. Another argument against the mining projects has been that in each of the towns where anti-mining initiatives have sprung up, there is an alternative economic model could have been adopted for securing sustainable development.

In the case of the town of Dojran, which is near a lake there is the potential

for developing summer tourism. In the case of the Kozuf Mountain, there is the potential for developing winter tourism. In the case of Valandovo, Bogdanci and Gevgelija, a traditionally agricultural area due to its Mediterranean climate, there is the potential for developing organic farming. Indeed, according to two accredited companies for establishing organic farming if mining commences in the area, these areas could lose their certificates for organic farming. What is more, by 2017 1 billion denars had been spent on subsidising the development of organic farming in that region. The loss of that potential and the waste of money were also listed as factors that need to be factored in the cost-benefit calculations about mining in the region.

The anti-mining struggle during Zaev's Government

In June 2019, out of the around two hundred concessions for exploration and exploitation granted by the previous Government, around 14 have commenced activities for opening mines or have already opened, most of them concentrated in the south-eastern part of the country. They include "Euromaxx Resources" which has two concessions, including the Ilovica-Stuka mine for the exploitation of copper and gold; "Bulmak" which also has two concessions for the exploitation of lead and zinc in Zletovo and Toranica, "Leguri" from Skopje for the exploitation of magnate in Stogovo, in Veles for the exploitation of nickel, in Loyani for antimony and iron in Tamjiste. In 2018, 12 concessioners exploited minerals to the value of 180,8 million euros. Out of this sum, only 4,95 million euros or 2,74% were paid to the state as a contribution for the concession, while the mining companies had a profit of 38%, or 68,9 million euros. Based on this, the added value created by the mines in 2018 was 108 million euros, or 1,3% of GDP.

During the local elections in the fall of 2017, Macedonia's current prime minister Zoran Zaev made big promises to the inhabitants of the South Eastern region that mines will not be opened in their region. These promises have only partially been fulfilled. In 2017 the Government revoked the concession for detailed geological exploration of the Kozhuf mine". In March 2018, the Government revoked the concession for the exploitation of gold, copper, and silver of "Sardich MC" for the Kazandol mine. Another positive development was the adoption of Amendments and supplements to the Law on Mineral Resources adopted in the autumn of 2018. The changes stipulate that it will not be possible to grant a concession for exploitation which uses peeling or flotation of metallic mineral materials with cyanide or sulfuric acid in openpit mines. These legal amendments however, are not retroactive and do not help the case against revoking existing concessions.

The ongoing anti-mining struggles and their outcomes, (continue to) serve as a mirror to reflect on the interaction of global capitalism and democracy in the country. They also serve as a testing ground for the current SDSM led Government, reflecting both on its ability to represent more than just a nominally social democratic party, and its ability to provide a new model to the Foreign Direct Investments (FDI)-based model flag shipped by the past VMRO-DPMNE-DUI Government, which has made mining exploitation one of the most far-reaching legacies of the now outgoing Gruevski government. The role of the local citizen initiatives in persisting with their battles had proven and continues to be hugely important. Among else they have fought an ideological battle in public discourse against the prioritization of economic growth and the rise of GDP (below 2% GDP growth from mining industry), above all else which leads the sidelining of all other issues such as environmental, political and social impacts, as secondary or unimportant. And secondly, that fight will have to bring to the fore the following- that it should no longer be deemed acceptable that the state be immunized from the responsibility over its failure to search and provide for alternatives which balance between economic, social and environmental concerns in ways which are in the best interest of the population and the country.

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If you have no oxygen, breathe CO2

Like many other cities in the Balkans, Sofia has also been sunbathing in extreme air pollution. But also with extreme political reactions: the authorities and the liberal media blame the poor.

Jana Tsoneva

At the beginning of December 2018, Sofia's air pollution index(es) broke all records: meters reported concentration of fine particulate matter in some areas between 500 to 900 mg/m3 (an amount greater than 50 mg/m3 is considered hazardous). What are the reasons behind Sofia's steadily deteriorating air quality?

Before I answer, I am obliged to make a caveat. Despite the pressing nature of the air problem, no "hard science" has given thus far a definitive answer as to the source of the *main pollutant*. This helps make Sofia's air a deeply *political* question. Not that science fully immunizes an issue from politicisation but its lack makes it all the more vulnerable to competing and clashing interpretations. In other words, the public and policy discussion about Sofia's wors-ening air rages as interpretative battles in which different versions appeal to science and are vying for hegemony. What attests to this is the most basic impossibility to even determine with accuracy the level of pollution. Mistrust in government-operated readers fuels a movement of DYI "citizen science" readers and other "civil society" pollution maps (and apps).

This article is thus yet another subjective account in which I try to systematize the main versions.

Cancellation of the urban plan

In the first place, Sofia's geography works against it. Sofia is nested in a valley surrounded by mountains impeding ventilation. One of the persistent features of this type of geography is the so-called "temperature inversion" in which instead of going up, warm air stays closer to the ground, trapping in

emissions and pollution. Yet even such a geography can be mitigated with some intelligent urban planning. For example, in Sofia's earliest developmental phases, urban planners designed a series of vast open spaces connecting the city to the Vitosha mountain nearby. This was to ensure the uninterrupted supply of fresh mountain air to the city. To this end, Sofia invested in large public parks facing Vitosha and prohibited the construction of houses larger than one-and-a-half stories in the villages nested in the mountain slopes adjacent to the city.

After 1989 a boom in suburbanization progressively integrated these villages into the city and transformed them into spaces for the prestigious (and imposing) homes of Sofia's *nouveau riches*. (In general, a view towards Vitosha is a coveted feature in the property market, making neighborhoods that offer it among the most expensive and desirable). The whole haphazard development of Sofia added an impressive amount of very tall office and commercial buildings in the way of the fresh mountain air. Gradually, bans over privatization and construction in public parks were also lifted or bypassed semi-legally. And the culprits are not only business centres and shopping malls – most recently, citing "terrorism" concerns, the Embassy of the USA closed its centrally located offices, acquired 40 acres of the Vitosha-facing South park, and built a giant fortified structure there.

This did not happen in a vacuum but was facilitated by the process of "restitution" which means the return of properties and plots nationalized by the Communists to their pre-1944 owners. This was a process fraught with contradictions, violence, and illegalities. The restitution was vital for the reanimation of the emaciated pre-1944 bourgeoisie, but also for the creation of a bourgeois class after 1989. Meanwhile, the liquidation of the country's Socialist-era industrial base produced a double bind for the air: it led the city to a pattern of development heavily reliant on real estate and it also centralized the country. Sofia swelled to around 2 million residents (by conservative estimates).

The effects of peripheral position

The property bubble adds an insufferable amount of dust matter in the air but Sofia's cars match (and probably surpass) it. Sofia's post-1989 urban planning has been notoriously car-friendly and has overseen the destruction of public transit and the expansion of car roads and highways. Instead of making public transport a cheap, ecological and socially-friendly alternative to cars, in 2017 the city enforced a 60% hike in the single-use public transport ticket. Sofia did expand the metro (with European money) but has been closing tram lines, its bicycle lanes are the laughing stock of the Internet, and most recently it replaced the automatic pedestrian traffic lights with lights on demand which ensure (and thus privilege) uninterrupted car flow.

The car-issue far exceeds Sofia's regional political economy and demands a European perspective. As Western European states, most notably Germany, started gradually phasing out diesel engine cars out of environmental concerns, poorer Eastern Europe, overwhelmingly dependent on second-hand car markets, became the obvious dumping ground for all those cheap polluting types of diesels. In fact, for the first time, this year in Bulgaria diesel cars out-numbered petrol ones. (As the average age of the car fleet in country is over 20 years, even the current road-worthy petrol cars are far from air-friendly). With its 600 cars per 1000 people, car density in Sofia is almost double that of Vienna.

This is how Bulgaria's poverty and its peripheral place in global capitalism constitute an affront to public spaces and services, privilege suburbanization and the real estate bubble, and thus conspire to make the already dire air situation even worse.

Yet another side effect of the structural economic changes after 1989 was the privatization and liberalization of central heating. (Socialism built giant power plants which fuelled cheap central heating in cities). The market reforms made central hearing prohibitively expensive and the 1990s and the early 2000s saw a wave of cancellation of subscriptions. (In contrast, during socialism, the citizens paid bribes in order to be linked with the central heating ahead of schedule). So people transitioned to more "private" ways of keeping

homes warm: either by electric appliances (which produced its own political crisis in 2013 with the eruption of the most widespread utilities bills protests in the country), and by burning wood and coal (and other types of highly polluting "hard fuels" associated with the 19th century and the times before the modern central heating system. In a way, Sofia has de-modernized and "ruralized" after 1989). As of now, an estimated one-ninth (or 55,000) of Sofia's households keep warm this way. The municipality contributed to the problem by subsidizing the purchase of stoves, instead of central heating bills. Most recently, in a pathetic PR stunt, the mayor of Bulgaria's richest city demonstrated her concern by getting a private company to install a whopping 10 (ten!) chimney filters.

Class prejudices

Meanwhile, the city council just authorized the controversial upgrade of one of Sofia's power plants into an RDF (refuse-derived fuel) incinerator. Even here experts are split over the question of how polluting it will be to operate a trash incinerator very close to the city center. Protests against the incinerator erupt regularly but experts and the municipality argue it will not be that polluting. I think it is safe to say that in such a critically polluted atmosphere, even "not that polluting" is already alarming. As normal to capitalism, the air pollution created its own economic opportunities with sales of domestic air purifies and facial masks shooting up through the roof. Such measures convert a public and political issue into a personal strategy of concerned private individuals seeking technical solutions to a capitalist problem.

One's political views determine the optics through which one will look at the issue. For example, middle-class people and the liberal media neglect car emissions, casting blame onto the poor for polluting the air with their coal stoves. This accusations sometimes acquires very sinister overtones when the gaze is directed at Roma ghettos, allegedly burning not only wood but also old car tires and other refuse. Should this vision prevail, the protests for clean air are at risk of developing into protests against the Roma minority of which there has been no shortage. The municipality also prefers to deflect blame from itself onto the poor. Most recently, it proposed the criminalization of this type of heating. Yet its actions betray a different perspective. Because in the worst days last week it only installed 10 chimney filters yet it introduced the so-called "green ticket", an extraordinary measure which drastically reduces public transit fares in the most polluted days. (Far from an emergency measure, it should be the normal price.) In short, through its actions, the municipality admitted that car exhaust fumes are a big factor. This realization is not the product of scientific study but was discovered by coincidence that in the day of no car traffic, the air quality improved by a factor of six.

Yet even this admission is not free from class prejudice. It is easy to blame and punish the financially-stretched owners of 20+ years old second-hand car imports. To this end, the government introduced new taxes for old cars, hoping it will incentivize people to switch to less polluting ones. This sparked a new wave of mass protests, very similar to the French "yellow vests". Such punitive attempts to mitigate air pollution will not compensate for the lack of expansion and affordability of the public transit network, the lack of investment in central heating and the absent subsidies for more environmentally-friendly ways of keeping warm. Still less will they wean the city off its real estate-dependent growth model.

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Clean Air is a basic human right

Despite EU's proclaimed successes in green transitions, its energy systems are fueled by coal, transport is run on gasoline and diesel, the public health is deteriorating, and the price of climate change is rapidly rising. EU needs lifestyle changes lead not followed by Europe wide policies that will enable the green transition, while at the same time providing strong social and labour protections.

Manuela Kropp

Globally, nine out of 10 people are breathing unsafe air. But clean air is not a luxury, it is a basic human right. There is a public health crisis we have to fix by transitioning away from polluting fossil fuels to renewable energy and clean transport.¹ Each year in the European Union over 430.000 people die prematurely as a result of breathing polluted air. Exposure to polluted air leads to serious medical conditions including respiratory infections, heart disease, strokes, bronchitis, and cancer. Air pollution also has negative impacts on Europe's nature and biodiversity such as causing acidification and eutrophication. It also damages crops, natural vegetation, and historical buildings. There are a number of different substances that have a negative effect on air quality, including sulphur oxides, nitrogen oxides, volatile organic compounds, and tiny particulate matter.² In fact, the problem of poor air quality is so severe, with most EU member states failing to keep air quality standards, that the European Commission has taken legal action on excesses of particulate matter against 16 countries. In 2018 the European Commission referred six countries to the European Court of Justice: Hungary, Italy, and Romania for persistently high levels of particulate matter (PM10), and France, Germany, and the United Kingdom for breaching nitrogen oxides (NOx) limits.3

¹ Clean air isn't a luxury, it is a basic human right, Greenpeace International, 5 June 2019

² European Environmental Bureau, <u>https://eeb.org/work-areas/industry-health/air-quality/</u>, on 7 June 2019

³ Chronic coal pollution, EU action on the Western Balkans will improve health and economies across Europe, Brussels, February 2019

Coal burning is the number one source of air pollution worldwide: In Europe and the United States, air pollution from coal-burning kills 23,300 and 13,200 people per year, respectively. In China alone, approx. 670.000 people die each vear due to air pollution from coal combustion.⁴ Around 80% of premature deaths associated with the emissions from coal-fired power plants in Europe were caused by exposure to PM2.5 (particulate matter)⁵. Coal plants contribute substantially to the formation of PM2.5 via their emissions of sulphur dioxide (SO2) and nitrous oxides (NOx), which react with ammonia to form PM2.5 in the atmosphere. Coal power plants were responsible for 26% of all SO2 emissions and 8% of all NOx emissions across Europe in 2016.⁶ The EU has over 250 coal power plants generating a fifth of the energy we use in the EU.⁷ The member states most reliant on coal are Poland, Germany, Bulgaria, the Czech Republic, and Romania. Germany and Poland alone are jointly responsible for 51% of the EU's installed coal capacity and 54% of emissions from coal.⁸ Eight of the top ten most polluting coal power plants in the EU plus Western Balkans can be found in the latter. 16 Western Balkan coal power plants pollute as much as 250 EU plants, partly because the pollution control is switched off (e.g. in Kostolac B in Serbia, in Tuzla in Bosnia-Herzegovina). Modelling shows that more than half of the number of premature deaths in 2016 caused by emissions from Western Balkan coal power plants occurred in the EU.9

⁴ Clean air isn't a luxury, it is a basic human right, Greenpeace International, 5 June 2019

⁵ PM2.5 refers to atmospheric particulate matter (PM) that have a diameter of fewer than 2.5 micrometers, which is about 3% the diameter of a human hair. Particles in this category are so small that they can only be detected with an electron microscope. Fine particles can come from various sources. They include power plants, motor vehicles, airplanes, residential wood burning, forest fires, agricultural burning, volcanic eruptions, and dust storms. Some are emitted directly into the air, while others are formed when gases and particles interact with one another in the atmosphere. Since they are so small and light, fine particles tend to stay longer in the air than heavier particles. This increases the chances of humans and animals inhaling them into the bodies. Owing to their minute size, particles smaller than 2.5 micrometers can bypass the nose and throat and penetrate deep into the lungs and some may even enter the circulatory system.

⁶ Last Gasp, The coal companies making Europe sick, November 2018

⁷ Last Gasp, The coal companies making Europe sick, November 2018

⁸ Climate Analytics, A Stress Test for Coal in Europe under the Paris Agreement, February 2017

⁹ Chronic coal pollution, EU action on the Western Balkans will improve health and economies across Europe, Brussels, February 2019

Polish coal and German Dieselgate

Poland is one of the worst countries in the EU when it comes to smog: 33 of the 50 dirtiest cities in the EU are within its borders. However, Poland is not even discussing a possible coal phase-out although the problem of air pollution is widely discussed in civil society. However, Polish problem gets even more complex if we consider the social and economic cost of coal-phase out for this country. Since its economy is heavily dependent on coal, to phase it out, many mostly labour and social protection nets need to be established and green transition must be able to reabsorb jobs lost with the coal phase-out. The complexity of these problems leads us to believe that not a single country can do this on their own, but that EU must take a stronger lead if it wants to truly be a leader in fighting the climate crisis. At least the government has announced that it will allocate 25 billion euros in the coming years to the country's fight against air pollution.¹⁰

The transport sector is growing faster than any other climate emissions source, with the world's car fleet, predicted to triple by 2050. This sector is responsible for up to 70% of particulate emissions in some areas, and for up to 30% of particulate emissions in Europe.¹¹ Emissions from road transport have been increasing over the last two decades. This is because transport has grown and partly because growth in diesel vehicles (which produce higher NOx and PM emissions than petrol-fuelled vehicles) has increased.¹² Volk-swagen's Dieselgate scandal showed that in the transport sector emission limits are not respected because of the lack of law enforcement and because legislation is not strict enough. Real-life passenger car emissions by far exceed the allowed emissions limits for nitrogen oxide, which are only respected during the outdated test cycle in the laboratory. The EU legislation on diesel

¹⁰ Shakil Shah, Poland finally realises it has to deal with its pollution problem, Emerging Europe, 16 October 2018 <u>https://emerging-europe.com/news/poland-finally-realises-it-has-to-deal-with-its-pollution-problem/</u>

¹¹ Clean air isn't a luxury, it is a basic human right, Greenpeace International, 5 June 2019

¹² European Environment Agency, Emissions of air pollutants from transport <u>https://www.eea.europa.eu/data-and-maps/indicators/transport-emissions-of-air-pollutants-8/transport-emissions-of-air-pollutants-6</u>

machinery is extremely lax compared to the road vehicles emissions legislation.¹³ Despite over 25 years of emission legislation, there has been minimal progress reducing diesel emissions of nitrogen oxides. Industry's claims that Dieselgate is history and new Euro 6 models complying with the new Real Driving Emissions standard are clean is incorrect. Many new models are not clean, particularly when driven by customers on the road.¹⁴ In the sector of rail freight, the picture is not better: since 2011 the share of rail in freight transport has declined, the share of polluting road transport increased. Currently, a lot of companies choose to transport goods by more polluting modes of transport for price and flexibility reasons. Rail has costs that are unique to the mode, as well as logistic complexities that do not exist for road transport.¹⁵

EU needs a green infrastructure network and a strong public sector

What do we need to do? In the energy sector, we need massive investment in renewable energy such as solar and wind power and a European coal phaseout by 2030. Renewable energy community projects play an important role here: A recent study found that half of EU citizens – including local communities, schools, and hospitals – could be producing their own renewable electricity by 2050, meeting 45% of their energy demand.¹⁶ Yet community energy is still relatively undeveloped in Southern, Central and Eastern Europe, mainly due to a lack of supportive frameworks, despite strong interest from communities and local authorities. Re-municipalisation in the energy sector can bring back operational management under control and support the energy transition to renewable energy – good examples can be found in

¹³ https://www.transportenvironment.org/what-we-do/air-pollution

¹⁴ Cars with engines: Can they ever be clean, Transport and Environment, September 2018 https://www.transportenvironment.org/sites/te/files/publications/2018_09_TE_Dieselgate_report_final.pdf

¹⁵ Transport and Environment <u>https://www.transportenvironment.org/what-we-do/rail/rail-freight</u>

¹⁶ Friends of the Earth Europe, Unleashing the Power, booklet, December 2018 <u>https://www.foeeurope.org/sites/default/files/climate_justice/2019/community_energy_booklet_final.pdf</u>

Germany, France, and the United Kingdom.¹⁷ A lot remains to do: in 2017 the share of renewable energy in the EU was only 17% in the final energy consumption.¹⁸

In the transport sector, public transport, electric rail freight transport and a reduction in transport in general by reducing global value chains is necessary. The city of Copenhagen is a good example of how to develop sustainable urban transport. Daily incoming commuting flows raised new concerns among residents and practitioners about the externalities of car use (e.g., safety, noise, congestion). Some traffic mitigation policies aimed at increasing road safety were introduced. Being the only affordable transport alternative, cycling became a rallying symbol for city life. Within the planning community, J. Gehl's work highlighted the added value of small-scale initiatives as a way to enhance public spaces. Spreading across many sectors, his ideas encouraged transport planners to explore new traffic and speed reduction measures that drew on urban design.¹⁹ Freight transport needs to be shifted from the road to electric rail, in a transboundary way to allow for the flexible, cross-border rail transport network in the EU. These measures could be financed by the European budget instead of infrastructure for fossil fuels such as gas pipelines and liquid natural gas terminals.²⁰ In general, transport needs to be reduced by favouring the local production and consumption of goods. This transition in the energy and transport sector will cost a lot of money - it will only be available if member States and the EU end the policy of austerity and increase public spending for a basic human right: clean air.

¹⁷ Local Energy Ownership in Europe, energy cities, <u>http://www.energy-cities.eu/IMG/pdf/</u> local_energy_ownership_study-energycities-en.pdf

¹⁸ COM, Renewable Energy Progress Report, 9.4.2019 <u>https://ec.europa.eu/commission/sites/beta-political/files/report-progress-renewable-energy-april2019_en.pdf</u>

¹⁹ CREATE Project, Copenhagen and its region <u>http://nws.eurocities.eu/MediaShell/media/</u> CopenhagenTN.pdf

²⁰ Since 2013 gas projects have received more than 1 billion EUR via the Connecting Europe Facility programme. (Source: Letter of MEPs to Commissioner Canete, 8 June 2017).

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Energy systems

Taxing the sunshine

Technological availability and price competitiveness of solar energy has caused significant commotion on the energy market. The interests of capital and the disorientation of the state hamper socially optimal implementation of these energy capacities. However, there are democratic models that can overcome these obstacles.

Andrea Milat

One of the cable television channels specializing in the promotion of holidays in "exotic" parts of the world aired an ad for real estate on the seafront, where the copywriters cheekily stated: "... along with the house, you get *free* sunrises and sunsets throughout the year, overlooking the 'water', which you can enjoy chilled by the summer breeze." The idea of charging for sun rays and wind has spread from the only sphere where it was already assigned a price – the energy sector – to tourism, another highly profitable branch of the economy.

The panic about the commodification of the sun would be premature, as the processes that constitute the decisive factors in the development of societies have not yet gone irreversibly in the antidemocratic direction. But while most of us know next to nothing about the modern technological capabilities of solar energy, its price or cost-effectiveness in our own country, and do not have the initial capital for changing the energy model of our own households, the more attuned and better organized, various private investors and large energy companies have made significant advances in the struggle for their interests. There is nothing unexpected about that, it is a typical form of class struggle, where, as usual, the stronger party is well organized, while the weaker but more numerous side is not even aware that the war is on.

As it is often the case when it comes to innovative, progressive social practices based on modern technological achievements, they originate from values and principles. Solar energy in its rudimentary beginnings was imagined in the form of solar panels that would heat hot water boilers in places which the power lines have not yet reached. In these early stages commonly considered problems with solar energy were low photocell efficiency, inability to store the energy for evening use, high prices, and some would even indicate used photocells as a potentially major waste issue. However, through the years of development, photocells efficiency has increased considerably (enabling their use today even in the sun scarce northern countries), lithium-ion batteries have been designed to store this energy and provide its use in days and nights without sunshine, the price of solar energy has decreased considerably, making it competitive in price with fossil energy everywhere, northern countries included. In the Gulf States, where the oil is extremely cheap but there is also abundance of sunlight, it became cheaper than the electricity generated from other sources.

Two types of solar energy

Despite all this, not only has solar energy not taken its place in line with expectations and possibilities, but paradoxically in countries that are extremely sun-rich, such as Spain or Nevada in the USA, it has become so expensive that it is unprofitable. In 2015, a tax was introduced in Spain, while Solar City, Elon Musk's project, was pushed out of Nevada. The method is similar in both cases: the state abolished solar energy subsidies to households and raised the price of panel mounting. In Spain, a 'sun tax'¹ was introduced which extended the solar panel repayment from 13 to 31 years, with the similar outcome achieved in Nevada model. Reasons behind this are not environmental, social, technological or democratic, but economical, meaning profit-driven and political.

There are currently two dominant methods of solar energy collection: concentrated solar thermal power plants and photovoltaic cells or so-called is-

¹ A few weeks before the general elections (held on April 28th 2019), the Spanish Government approved a Royal Decree that regulates the new conditions for self-consumption of electricity, which encourage collective self-consumption and establishes a simplified mechanism for compensation of self-produced and unconsumed energy. With this decree the so called 'sun-tax' was abolished. Sun-tax was introduced in 2015 by Mariano Rajoy's Popular Party to tax the development of photovoltaic solar energy. It was an extreme anti-social messaure. Abolishing this law means that Spain is now in line with EU policies and the energy targets for 2030.

land systems. The former use huge mirrors to collect and focus solar energy and convert it into heat by means of a motor, usually a steam turbine, to ultimately get the electric power connected to an electric generator from where it returns to the national distribution network. Heat is preserved in molten salts that allow solar thermal power plants to produce energy even after the sundown and make it possible to transport energy over long distances. The price of energy thus obtained is competitive with that generated from fossil sources, but it still implies the form of distribution of electricity from large producers to consumers, which again makes it more expensive than the island-based household systems.

Photovoltaic cells produce a DC current that fluctuates relative to the intensity of the sun. To make it usable, this energy needs to be converted into the current of the appropriate voltage by the converters. This difference makes photovoltaic plants, unlike concentrated solar cells, commercially non viable for grid and commercial use. Photovoltaic solar energy combined with batteries for storage works better at household or neighbourhood levels. In this particular form of energy creation lies the so-called "revolution" of renewable energy sources that should be the foundation of "transition" to the green economy.

Renewable Energy Sources Revolution

In Croatia, a couple of years ago, media web outlet Poslovni.hr published a lament of private investors in solar energy under the title "Lower Price Destroyed Investments". It's a stunningly non-critical text for the media whose target audience includes economic analysts and stockbrokers. As stated in the text, a group of dozen investors started the fight against the discrimination of the so-called "Non-Integrated Solar Energy" (small power plants) in opposition to "integrated" solar panels on households and buildings. The problem originated in the price reduction of solar energy: the cost of buying electricity from large solar power plants has fallen in the past years from 1.1 Croatian Kuna per kilowatt to 0.53 Kuna, which corresponds to the global trend of reducing solar energy prices and its increasing competitiveness. In a desperate attempt to socialize the risks of their investments, hidden by anonymity they point out the responsibility of the cruel state that lowered its subsidies for the

fall in solar energy prices, instead of the laws of the market, which in other times work so well for their interests. In the times of austerity, the state was motivated by practical instead of ideological reasons, trying to get as much as possible with as little as possible, and thus began to divert more subsidies to the so-called integrated systems, considering that, as mentioned above, the price of solar energy thus obtained fell even more.

While the state is somewhat less concerned about the distress of investors in small solar power plants, which are prominent opponents of decentralized networked local models, much more attention is devoted to the economic circumstances of large national energy companies as their other opponent. Indeed, judging by the examples mentioned above, coming from the sunny states on two continents: Spain and Nevada, the state as the representative of energy companies in public, incentivises solar panels for households as long as their numbers do not grow so much that they start to endanger big energy companies. This is a real problem that ceases to be a matter of expertise and becomes an important socio-political issue. In both examples, installing solar panels by households has become so effective that large companies begun to record a fall in conventional electricity sales. Additionally, due to the early commitments to buy surplus electricity produced by households from renewable sources by large power companies, the companies found themselves in a situation where they had to buy electricity from their former buyers. This is an organic tendency that arises from cheap and widely available technological solutions combined with the unregulated area that until now had very few limitations. Thus, this phenomenon got its name even in the technocratic and bureaucratic literature of the European Union where the consumers who produce excess solar energy are classified as the "prosumers"².

These "prosumers" grew to be a serious threat to the income of large energy companies. The reasoning is thus: the simpler and more frequent installation of solar panels in households, followed by increasingly high quality and cheaper power storage batteries, as well as energy networking that is decentralised or stays at the neighbourhood level, ultimately in the sun-rich

² eng. producer + consumer. The term was coined by futurist Alvin Toffler for consumers who produce something. It was particularly popular in the USA in the dot.com bubble period.

countries makes the models of HEP, EPS, E.On, RWE, etc almost completely superfluous. Of course, not entirely and not in all countries, but this type of companies are certainly threatened with loss of the social importance that they had so far and with it associated drops in profits. In the sun-rich countries, these companies could be reduced to mere service companies that maintain local networks. In the case of countries where these companies are still not privatized, their numerous workers have decent conditions, and from their profits, besides the part that goes into public budget, some means reach the culture sector as well. The loss of the importance of these companies is therefore a serious problem for the state, which would explain, although it doesn't justify, the logic of countries that take the side of the companies opposing solar panels on households.

Communal management of energy companies

At the same time, the number of examples, even in some northern countries, where citizens got organised and advocated the organisational socialisation (communalisation) of privatized energy companies, founded co-operatives for micro-energy network management, or begun to switch off the entire neighbourhoods from the national energy grid because they produced enough energy themselves, is ever growing. They are too numerous to list here, so readers are referred to check previously published Bilten texts on this topic, while we will proceed to address the aspect that we have not yet explored in more detail - an example of managing communal energy company.

As is usual in similar discussions, when it comes to advocating decentralized, neighbourhood-based energy models, the first counterargument concerns technological constraints. This is an outdated argument, as we have already pointed out, due to lower prices that increased the availability of new solar technologies and enabled an increase in installation of solar panels on house-holds. The second argument is usually the variations that affect this type of energy, and this is being solved by increasing quality of the batteries – since it is already possible to gather and store enough energy for the use over a three-day period. After accepting the political argument that decentralized models can function, what remains is the usual liberal objection that the people are a bad master, and that direct democracy, which seems to work best with decen-

tralized power networks, can not function anyway. This complaint, too, neglects the under-utilized technological possibilities, in this case the internet.

This is the very problem encountered by stakeholders of Som Energie – energy co-operative that connects local groups in Spain. The energy market in the extremely sun-rich Spain, is controlled by an oligopoly where 80% of the market consists of two companies: Endesa and Iberdrola. 26 million households use about 30% of total energy production. Nevertheless, Spain had changed its approach to renewables in 2015 and had moved from subsidizing it to the taxation of solar energy, making it markedly expensive. The average energy bill for households in Spain had risen by 80% in the last 10 years (despite the global trend of falling electricity prices), so Spaniards have had the most expensive monthly electricity bills (80 euros) within the EU, until 2019's abolition of the 'Sun tax'. At the same time, the price of photovoltaic cells and other equipment in Spain has fallen by 70% since 2008.

Som Energia and the digital assembly

These were the circumstances when, 7 years ago, Som Energia was founded by professors and students of the University of Girona in Catalonia, with the aim of promoting climate protection and successful energy transition with the help of a sustainable business model. Five years later, this co-operative reached 35.000 members that are at the same time consumers. The second pillar of its policy is investing in green power plants. They have set up five solar parks, a huge biogas plant and built the first Spanish citizen-owned wind turbine. All this amounts to over 7.5 million euros investments so far. Co-operative is open to new members, and the founder's stake is as low as 100 euros, payable in instalments. In addition to the above-mentioned goals, the co-operative is considered to be a factor of social resistance, opposed to nuclear projects and the fracking of shale gas.

A large number of decentralized, autonomous local groups making up Som Energia complicate the conduct of voting and elections, so they used internet as a solution. Once a year, with the help of internet technologies, a general assembly (plenum) and elections are organized. After the delegate system was abandoned, this was the only way to organize, otherwise they would need a football stadium to hold the assembly. Using the internet has solved two problems: distance and numbers. They were thinking of every aspect in trying to ensure equal participation, including the problems encountered by older and less internet-savvy members. Som Energia uses non-discriminatory language and prefers ethical and ecological banks as their partners.

As such, it was expected to encounter problems with the state. The aforementioned 'Sun tax' has prevented this co-operative from introducing social energy tariffs, despite the unequal market conditions, which are visible in the fact that same tariffs are available to other energy companies. Social prices in Spain are regulated by state subsidies that Som Energia has failed to qualify for. The state thus prevents the transition to a green economy, as when a poor consumer switches to Som Energia they permanently lose the right to the social electricity tariff. Som Energia has subsequently decided to resolve this problem by financing the social price of electricity from its own profits.

The Spanish 'Sun tax' was an excellent example of how energy policies can be used by the state to prevent the process of decentralization of power networks and their local governance. More importantly, it was exemplary of how policies are implemented on the ground, contrary to the proclaimed principles and values, such as the Paris Accord. Furthermore, the (non) implementation of solar energy policies also shows a big discrepancy between what the public manifestly wants and is able to carry out with the state interests placed on the side of large companies, to the detriment of citizens. This is the key in which we read the example of mutinous anonymous Croatian investors, their complaints legitimised by the state that is neglecting its social functions. From the multitude of rebelling citizens across Europe the state should be able to discern the potential benefits of public debate and informing the public about the directions and possibilities of social development. Systematic lack of democracy in state's energy policies is often misunderstood as a problem of expertise in the field rather than a political question. State's reluctance to fulfil its primary function could indeed, in a couple of generations' time, end up in charging for the sunrise and sunset views.

Translated into English by Jelena Kranjec

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Is there a point to the Feed-in tariffs without industry?

The price of electricity might be determined by economic factors, however, industrial strategies are more in line with political priorities, but not in the more important sense of public interest. The result of inconsistent policies leads to the lack of industrial strategies which makes feed-in tariffs useless.

Goran Jeras

Energy and its policies are among key branches of the economy and they have a decisive impact on a country's economic development. That makes them important factors to be accounted for in bringing forth strategic plans in any country. Transition to renewable energy today seems to be an unavoidable topic with many different experts' opinions, but also with interests of investors, businessmen and shareholders. The renewable energy sector is often perceived from the perspective of reducing pollution and environmental impacts of fossil fuels, but this ecological aspect is only one of the aspects of the societal need to orient ourselves to more advanced, renewable and clean energies.

Contrary to the often widespread perception of energy from renewable sources as the "expensive one", statistics show something different. It is true that today, in practice, renewable energy sources in most cases consume energy from the classical / fossil sources. However, the truth is much more complex, given the fact that the price of electricity is determined by a number of factors among which the price of energy is a dominant factor. But other factors such as direct or indirect policies, incentives, and subsidies also play a role when it comes to the price for end consumers.

Although coal is often referred to as the cheapest energy source, low prices are the result of neglecting the negative impact on the environment and human health (the so-called Price of externalities) and the whole range of subsidies that state provides for coal-fired power plants, construction of the necessary infrastructure and employment of workers, but the price also includes the rest of the production chain, including mines and transport costs, etc. The best non-profitability example of coal as an energy source can be found in Slovenia where, after decades of construction, the government seriously considered abandoning commission of the almost finished block 6 of the Thermal Power Plant Šoštanj in which EUR 1.2 billion were already invested. It was shown that the projected price of 70-80 €/MWh will be unprofitable and will generate loss of around EUR 50 million per year, given international market price at that moment. The project eventually got green-lighted after all, but for political reasons, since abandoning it would bring Slovenian politicians too much bad publicity, although from a strictly economic point of view that decision would be a rational one.

The advantages of hydropower

A similar economic calculation is also valid for energy produced from the power of water. Hydroelectric power is the most favourable source of energy in Croatia and the surrounding region since it has a very low price (on account of favourable hydrological conditions). However, the reason for that is the fact that the biggest local hydro plants were built in Yugoslavia and have already been fully amortized which enables electricity generation under the price of 20-30 (MWh. However, this price, similar to that of coal, does not include externalities such as the cost of environmental destruction and relocation of people that is necessary when building accumulation lakes. Agricultural damage and the damages to biodiversity caused by changing the water flow path downstream of the power plant are also not accounted for in establishing the price of electricity. If these costs were to be accounted for in the price of a new large power plant, depending on the location, projected price of electricity from such a source would probably exceed 100 (MWh of energy produced.

If we were to build new electricity generation facilities, to calculate its true price and account for all externalities and construction costs, we would use a measure known as LCOE (Levelized Cost of Energy) that is used to compare energy prices. By comparing different available technologies for the production of electricity we can extrapolate that solar and wind power are the cheapest technologies available today with a production cost of 30-40\$/

MWh. This trend is expected to grow, primarily due to the price structure that is formed differently than in electricity produced from classical, fossil fuels. Energy prices from fossil fuels are expected to rise due to the constraint of the available energy source (coal, oil, gas, uranium, etc.). As the quantity of available source decreases due to exploitation, required investments need to increase continuously because the resources need to be mined from greater depths, from further locations, from less abundant sites, and so on.

At the same time, while technologies are advancing, environmental and pollution standards also become more standardised and broader, which continuously adds new costs to the production of the plants that run on classical sources. This, in turn, increases electricity prices for end consumers. In renewable energy sources, there is no such risk – since the Sun will shine "forever" and the raw supply is free of charge. With technology development, the price of plant construction and technology continuously falls and the combination of these two factors contribute to the trend of reduction in the cost of electricity production from renewable energy sources.

Political motives

This analysis also shows what economists already know very well: the construction of new power plants based on fossil fuels is no longer viable. Regardless of whether we are talking about Slovenian Šoštanj or another controversial mega-project for the construction of a new nuclear power plant Hinkley Point C 3.200 MW in the UK which will cost about 20 billion pounds in construction. According to the latest analysis, Hinkley Point power plant will generate unnecessary costs of around £ 1 billion per year, due to the guaranteed purchase cost of electricity in the construction contract, fixed at a level of £92.50/MWh, which in the most conservative estimates, is twice as expensive as it would be with the equivalent construction of a power plant of the same power using wind and solar.

Looking at the very attractive figures for renewable energy sources, we are faced with the question why are so-called "feed-in-tariffs" (FITs) for renewable energy sources needed, when they are already cost-effective with their economic calculations. The answer to this question should be sought in the understanding that the price of electricity is primarily political and only then an economic measure. Namely, as we have seen in the examples of TE Šoštanj and NE Hinkley, although those are not renewable projects but are classic fossil and nuclear fuel, neither of these two projects could be realized without a state guarantee of the minimum purchase price of electricity, or guarantees of covering the losses caused by the price cuts in the market.

Like any other political decision, regulated electricity price has a political motive. It is the need to secure energy sovereignty and to protect jobs linked to the individual economic chain (in mines, refineries, transportation etc.). But those policies could be equally or even much more effective if used with purpose of achieving different political goals such as developing new segments of the economy, achieving environmental goals or improving the health of the population and so on. Unfortunately, when measures and goals are not sufficiently clearly defined, and when they do not have a very strict mechanism of cost and economic efficiency behind them, they can easily become a very fertile land for various forms of corruptive action, given the enormous financial value of energy projects.

Same measures, different results

Subsidized prices of electricity from renewable energy sources are the best example of how seemingly identical measures in different countries can have completely different effects on the development of the economies of these countries. For example, in Western Europe, the incentives for renewable energy sources had the aim of developing technology and adapting the power system to new sources. Through the guaranteed purchase price, it secured a stable financial return to investors who decided to invest in the renewable energy sector in order to create demand for solar and wind power equipment, thus boosting industrial development. Examples of the success of such models can be seen in most Western European countries, where, in addition to a sudden increase in the number of solar and wind power plants, there was also a large increase in the number of companies across the renewable energy sector. In the example of Great Britain, we can see that successful FIT implementation has led to total sector investments around £30 billion, creating more than 100.000 jobs. Based on statistical data on employment, it is estimated that renewable energy sources generate approximately one new job per GWh production, which is more than twice as much as 0.4 jobs per GWh of production in fossil energy sources.

On the other hand, Croatia and other countries in the region have unfortunately failed to accumulate these benefits, primarily because the FIT tariffs did not track financial investments in the domestic industry. Benefits ended in the hands of foreign investors and foreign equipment manufacturers. In 2017, Croatian Energy Market Operator (HROTE) paid a fee of just under two billion kunas to producers on behalf of the FIT tariff. However, only a small part of these funds ended up in the hands of citizens and domestic manufacturing companies. Instead, the majority is directly or indirectly extracted from Croatia. For this reason, important projects of citizens' awareness of the importance of investing in renewable energy sources by organizations such as UNDP, the Green Energy Cooperative (ZEZ) and the Cooperative for Ethical Financing (ZEF) represent valuable initiatives to make Croatia prepared as much as possible for the future that new global renewable energy strategies create.

Translated into English by Andrea Milat

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Bulgarian Lessons: Liberalism as Market Power plus Expensive Electrification of the Whole Country

Fourteen years after privatising electricity distribution, and five years after the private concessionaires' business triggered a huge social crisis, Bulgaria is again facing an energy scandal. But it does once again show the extent to which local elites are ready to protect capital, even at the cost of social security of their peoples.

Jana Tsoneva

June 2019 update: This article follows the tribulations of the botched sale in 2018 of one of Bulgaria's largest private electricity distribution companies, owned by the Czech firm CEZ. The choice of buyer – a rather small and unknown photovoltaic company called Inerkom, sparked public controversy and eventually the deal was cancelled when the Commission for the Protection of Competition prevented it from acquiring CEZ's assets. CEZ and its ex-prospective buyer filed a court case, citing "illegal state meddling" in their business. Eventually, CEZ struck a promise of sale with the Bulgarian company Eurohold: the largest insurance and auto-dealer in the country. The previous choice of buyer triggered concerns about "national security" over suspicions that CEZ Bulgaria is too big for the small energy company to operate. At the time of writing, no such concerns are articulated even though the new buyer trucks in finance, insurance, and car leasing and has no experience whatsoever in energy and utilities. Furthermore, Eurohold is rumoured to have sprung from shady privatization and banking businesses in the 1990s which gobbled up the Bulgarian socialist economy part-legally, part-illicitly. This is a case that is still developing.

High voltage scandal

Last year, a high-voltage scandal was grilling the main politicians and business elites in Bulgaria: an obscure local energy company was going to buy the Bulgarian assets of the largest electricity distribution company in the country, owned by the Czech state company CEZ. The intensity of the controversy belied a deeper debate over when a private business deal constitutes a legitimate public concern. In short, the deal exposed some paradoxes underpinning the separation between public and private, so dear to liberalism.

CEZ is the state-owned Czech electricity provider but it operates like a private investor abroad. Bulgaria privatized its electrical distribution grid in 2004, during the government of the ex-czar Simeon II who swept the elections in 2001 on an anti-political, technocratic platform. His rule put public services and utilities up for sale or concession, thereby deepening the privatization drive of the 1990s which sold off state-socialist enterprises at fire-sale prices. Since 2004 the electricity market has been split between three private distributors.

As befell other newly privatized branches of the public utilities such as water, following the sale end-user prices spiralled up uncontrollably, leading to full-blown mass protests in the winter of 2013, which demanded the nationalization of the grid and an end to the austerity regime. During these events, several people set themselves on fire in public to protest appalling living conditions. The pro-business austerity regime of Boyko Borissov could not appease popular rage and resigned, plunging the country into a cycle of political instability and repeated elections.

The events of 2013 must have been enormously traumatic for Borissov's GERB party, which trucks in "stability," so when the controversy over the CEZ sale broke off, Borissov – who was re-elected in May 2017 – stated that this is a repetition of the "2013 conspiracy" to take down his government. Opposition parties, chief among them the Bulgarian Socialist Party (BSP), seized the opportunity and decried the deal as a fraud sanctioned by the ruling party. GERB apparatchiks vehemently denied any wrongdoing, arguing that there is no way they could have influenced the Czech government's choice of the buyer.

Everyone agrees that due to its sheer size and importance, CEZ Bulgaria is a matter of "national security," but they cannot agree on what steps should be taken to resolve the problematic deal. The Socialists have suggested that the state step in and buy the buyer (or controlling stakes therein), assuring ev-

eryone that this is not "nationalization" but fair acquisition through market means. If the Socialists have proved themselves sensitive to issues of private ownership and rooted for market-based transfer of ownership, a small liberal party had no such qualms and unapologetically demanded cancellation of the deal via state intervention, lest Bulgaria turns into a "Putinist regime."

By the letter of the law

This sale – by all accounts, a transfer of privately-owned assets between two businesses via the market – has raised suspicions because the buyer, Inerkom, is an obscure Bulgarian energy company of moderate financial means and size, which has been operating on the "green" energy market for ten years. Inerkom's successful bid for CEZ has triggered questions about its capacity to run a company supplying power to two million consumers, as well as about its ability finance the purchase, given that Inerkom registered a subsidiary for the sale whose initial capital is only 25,000 euros. (If the deal is struck, CEZ stands to receive around 320 million euros for its assets.)

These do sound like legitimate concerns, and the government reacted to the crisis by sending all available regulators to check on the deal, as well as by holding several meetings with Inerkom executives. But despite the "national security" rhetoric, this is a deal outside the jurisdiction of the Bulgarian government. Things could have been otherwise, had the state accepted CEZ's previous offers to acquire the company - declined, presumably, out of misplaced faith in the superior virtues of private ownership. But it was only with the eruption of the controversy that it dawned on the government that it might not entirely absurd to take ownership of assets deemed crucial for its "national security." Negotiations ensued and Inerkom's owner agreed to let the state participate in the deal by buying up to 34% of CEZ's stock, which would give it leverage but not control; in effect, this appears to be a public subsidy for Inerkom. It is unclear if this will happen, as CEZ is yet to agree to amend the terms of the deal to allow the Bulgarian state to chip in. CEZ representatives have stated repeatedly that they have found nothing suspicious about Inerkom's bid and financing.

Actually, CEZ has been trying to leave the Bulgarian market for a couple of

years by issuing tenders for its assets; Inerkom's bid was the most attractive of these. This fact points to a tension at the heart of the liberal separation between public and private: when is it permissible for a state to intervene in the business dealings of freely contracting parties which do not seem to be doing anything illegal? The state prosecutor has admitted as much while promising to look into the privatization deal of 2004.

One reason for intervention might be the suspicion arises that the parties involved are not acting in good faith. The Czech media, echoed by its Bulgarian counterparts, has cited documents providing that the deal will be partly financed by a Georgian-Russian oligarch, who will funnel capital via an offshore company. This, however, is not against the law, especially since the liberal, anti-corruption Right mobilized parliamentary support to scrap precisely the law which banned offshore shell companies from owning shares in "key" sectors, such as energy. Thanks to this reform, now offshore companies can legally invest in the "commanding heights" of the economy.

National interests

Citing the leaked documents, Borissov thundered that he would do what it takes to cancel the deal. Along the way, he sparkled a minor diplomatic row by saying that the Czech PM had forwarded the papers to him. The latter denied the claim that he had been the source of the papers; it later turned out that a less senior government official had procured the papers.

Needless to say, these discrepancies only intensified the mounting suspicions that Borissov is not telling the whole truth about the deal. Contradictory claims and explanations and uncontrollable convulsions of the implicated parties continue to pile up, with the government flipping between claims that "we will cancel the deal," that it would consider buying shares, and that it might buy out the whole of Inerkom, and banks alleged to have agreed to finance the deal suddenly denying that they did so; particularly startling was the withdrawn resignation of the Minister for Energy Policy, upon media disclosure that she has known Inerkom's owner for twenty years. The minister rejected allegations that she brokered the deal but resigned nevertheless. At first, Borissov accepted the resignation, but then he made her withdraw it.

Inerkom's owner, Ginka Varbakova, has for her part vehemently disavowed any involvement of shady investors, asserting that despite Inerkom's low registered capital, she is a millionaire and that it is a perfectly legitimate business practice to acquire an asset by turning it into a bank loan collateral. Most importantly, she has assured everyone that absolutely nothing will change for CEZ's customers and employees once Inerkom takes ownership.

But given the dismal record of CEZ, continued "business as usual", "nothing will change" is hardly a comforting thought. CEZ Bulgaria has been subjected to numerous audits since the 2013 protests, which documented thousands of irregularities: from the over-billing of consumers - made to shoulder the cost of leakages when the company declined to invest in renewals of the power grid - to tax evasion and a 2016 EU Court of Justice ruling which found CEZ guilty of racial discrimination. Add to this the incessant push, on part of all three distribution companies, to increase the electricity prices *legitimately* (that is, when the companies themselves are not doing it illegally through over-billing) which is normally met by the state regulator who sets the final market rates after negotiations with the providers, to recoup their losses from the temporary reduction of prices which followed the protests of 2013. The newest price hike resulted in 4% more expensive electricity for consumers and 60% for businesses. Meanwhile, since 2016 CEZ has been pursuing an investor dispute settlement against Bulgaria in an international arbitrage court, asking for compensations upwards of 500 million EUR. The reason for this corporate-friendly litigation is always the same: the state regulates "too much" and the company suffers profit losses.

Given all this, Inerkom's reassurances that everything will continue as before under the new management should constitute the real cause for concern. Yet the liberal media and opposition political parties define the "national interest" as coinciding solely with the *nationality* of the capital owner and her *interests*, with a special wariness of possible Russian connections, rather than with the necessity of having a basic public good supplier that does not extort consumers or dodge taxes.

These desperate attempts to find a way out of the predicament which the liberal separation of public and private has engendered, without breaking from liberalism also show up an irreparably elitist and anti-democratic understanding of politics that is shared by all mainstream parties and journalists. So long as the people do not stage a mass rebellion punctuated by desperate self-immolations, none of these seems to consider the exorbitant bills and fraudulent behavior of these companies a problem, still less one impacting "the national interest". It seems that only such extreme, and rare, public manifestations of the everyday social suffering caused by the privatization of public utilities can make these issues of mass concern a subject of public deliberation and political action. Until this happens again, what constitutes a "legitimate public problem" for the political elite and the chattering classes concerns only private capitalists: ownership, not working conditions; capital flows, not the downward movement of wages; transparency in financial deals, not in utility bills. The fact that 66% of Bulgarians are not able to maintain adequate temperatures at home in winter due to prohibitively expensive utilities, and the recurring cases of death by freezing, are yet to enter the political discussion and action in any meaningful way.

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Energy Transition of Bosnia and Herzegovina

The Dayton structure of Bosnia and Herzegovina (BiH) is an obstacle to the adoption of strategically developed energy policy since different instances of power do not necessarily coordinate their decisions or policies. Discussions about investments and their realisation in the energy sector are mostly models copied from the western neighbours, which ignore the specifics of BiH.

Haris Husarić

Coal and salt industries probably shaped people's view on Tuzla since the city's economy, society and history have been developed side by side for more than half of the century. Since the construction of Tuzla Thermal Power Plant, the energy industry provided security and stability for a significant number of people. The cheapest source of energy available – coal – allowed countries like Bosnia and Herzegovina to develop an economically advantageous position, one of energy independence. Unfortunately, that is also probably the reason why the public largely neglected the environmental consequences of its exploitation and combustion. Now, in the phase of slow the global energy transition to renewable sources of energy, Bosnia has another huge challenge to face. Technology that enabled efficient use of renewable energy sources is not cheaply available to BiH industry. The idea of phasing-out coal until the year 2050 seems to be a science-fiction-like endeavour, since the country receives most of its electricity from coal-fired power plants.

Although the share of Bosnia and Herzegovina in the global greenhouse gas emissions of 0.08 percent is not singularly significant, this country is also obliged to follow global international agreements. Also, since BiH is aspiring for the position of a candidate for membership in the EU it is obliged to follow its energy policies. This would specifically mean changing national energy policies, limiting greenhouse gas emissions and investing in renewable energy sources. European Union's interests lie in a more efficient energy transition, with existing members setting standards that are high for Bosnia. Seven EU member states have already announced that by 2030, all coal-fired thermal power plants will be phased-out, for Bosnia, this is practically impossible. Our energy transition remains in the shadows of European interests, securing its peripheral position.

Once it signed The Energy Community Treaty¹ BiH became a part of the European regulatory framework. While Bosnian interests for signing the treaty lie with the hope of joining the EU, European priorities are to broaden geographic areas that abide with its own free market rules. Signing the Treaty means that Bosnia is now a part of a single electricity market of non-EU countries, which allows for free trade in electricity and gas. One of the obligations of non-member countries is to increase its share in energy produced from renewable sources. Thanks to the capacities of biomass (mostly wood) and hydropower plants, both sources considered to be renewable, BiH currently gets 34 percent of its energy from renewable sources, according to BankWatch. ²The same organisation predicts that this number will rise to 40 percent by the end of 2020.

This is not hard to imagine if biomass (wood) should still be considered renewable by then and if the wind energy industry keeps growing. Completed construction of one wind-plant and announcements for the start of another one, both in Herzegovina, shows a steady growth trend. Regardless of trends, the electricity sector in Bosnia and Herzegovina continues to rely on coalbased power plant construction. So much so that the idea of building another eight blocks of clean coal-fired thermal power plants is being occasionally more or less seriously considered.

Clean coal's dirty secrets

The idea of clean coal is nothing but a moral whitewashing for politicians peace of mind. It is, however, an umbrella term for many different types of

¹ The Energy Community Treaty, Official Journal L 198, 20/07/2006 P. 0018 – 0037 <u>https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:22006A0720(01)&from=HR</u>

² BankWatch, Western Balkans countries invest at least 2.4 times as much in coal as in wind power, May 2016 <u>https://bankwatch.org/publication/western-balkans-countries-invest-atleast-2-4-times-as-much-in-coal-as-in-wind-power</u>

improvements in "cleaning-up coal" that can vary from the digitisation of the company running the plant, capturing carbon emissions and storing them under the earth, or even building more efficient two-phase power plants. However, in this case, it would simply mean putting filters on industrial chimneys, since right now, those rules are still not abided by, which causes many health risks for industrial cities like Tuzla, Zenica, and Bosanski Brod. "Clean coal" is marketed as a magic pill: it is supposed to significantly reduce the greenhouse gas emissions and preserve the mines from closing. Since European financial institutions have no interest in financing such endeavours, Bosnian authorities have found new investors in the Chinese capital.

To be fair, Chinese clean coal factories are beyond filters on industrial chimneys. This country has been developing clean coal technology for the last 30 years, the whole the time closely cooperating with USA.³ Easy commercialisation of this technology enabled China to grow into one of the leading countries in the clean coal industry. Growth of this industry has been slowing down in recent years, which is why China announced in 2017 that they will be shutting down all ongoing work on their 151 coal thermal power plants that generate in total 50.000 megawatts of power. However, technology obsolete in China is not as useless in Bosnia and Herzegovina, and so the market rests. The positive financial outcome of this trade is not as likely to happen for the latter country, especially if we account for the price of combined effects of climate change (floods and fires) and coal related environmental and health damages.

Given the fact that unlike coal, prices and distribution of gas and oil derivatives depend on unstable political circumstances, while nuclear energy has always been kept close in a close eye, public debate has never really closely examined the consequences of coal usage until it was too late. The market price of electricity produced by coal has never really accounted for its health, social and environmental costs. That meant that until recently coal was a cheap, easily obtained and preferable raw energy source. That was something BiH could use, given its abundant coal sites, existing thermal power plants,

³ The Atlantic, Dirty Coal Clean Future. December 2010. <u>https://www.theatlantic.com/maga-</u>zine/archive/2010/12/dirty-coal-clean-future/308307/

and developed electrical infrastructure, all of which enabled this country's energy independence. In the chaos of economic transition of the '90s that has, in combination with cheap the labour force, guaranteed more than competitive electricity prices and profitable international trading in electricity.

With the coal phase-out, this competitive edge BiH had on the international electricity market has already started to melt away. The infrastructure for energy produced in renewable sources is more and more in the hands of private foreign investments, making them a growing player in the energy market, while at the same time, the state is losing its share. Regardless of that, energy sector of Bosnia and Herzegovina is currently stable and while Chinese technology promises to preserve existing capacities, global coal market shows signs of instability and coal will not stay the cheapest resource for much longer. Change in global trade on carbon emission will link the price of electricity with the amount of greenhouse gas emitted. Emissions over the quotas will be charged extra. Bosnia and Herzegovina is not yet a part of the global emissions trade market since it is not obliged to do so by the Energy Community Treaty. It will, however need to incorporate those factors in its future energy policies that must be aligned with those of the European Union. Once BiH enters global trading scheme on emissions, planned investments in clean coal technology could easily turn into a stranded asset.

Without a clear strategy, BiH's energy transition is just another case of the dysfunctionality of country's Dayton model of organisation, with state institutions decisive to implement progressive (eco-friendly) energy policies and entities securing guarantees for unsustainable foreign investments. It might also be important to note that it is easier to give such guarantees if the choice appears to be jobs or environment. Energy transition, just like climate change is not a local issue. Just as the costs are global, and precisely because the price is human, animal and plant life, energy transition should be a global and social affair.

Translated into English by Andrea Milat

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The disputed question of (de)centralized planning

In today's terms, we discuss concepts such as energy autonomy and energy democracy as rights and problems that are to be dealt with on the individual level. This approach is accompanied by the so-called "bottom-up" values that have so far proven incapable of solving the actual climate crisis.

Roland Kulke

The Energy transition is a specific subset of current policies as it is a linchpin for any modern economy.¹ Being able to transform the energy system, means solving a lot of nasty problems humanity is currently being confronted with. Only if the power and electricity production can be dealt with in a CO2 neutral way we can de-carbonise the other important sectors of our nature-society metabolism: industry, housing, transport, and agriculture. We need to deal with this challenge from two perspectives. First: we need to understand that time is the most relevant resource. Second: we live in times of post-democracy which poses political challenges itself.

The topic of this intervention is the discussion of the two opposite approaches in the left on how to best change the energy system: from above or from below. We start discussing the more en vogue approach based on decentralised, often on the municipal-level implemented, solutions. We discuss before turning to the more "old-school" solution of centralised investment and planning.

Let's start with the advantages of decentralisation from a political point of view: Living in a post-democratic era our political systems are dominated by the executive branches while the legislature is side-lined.² But this is only the

¹ For a general overview on EU climate policy from the left, see: GUE/NGL: "Climate Emergency Manifesto", April 2019.

² See for examples A. Claire Cutler: "Private Power and Global Authority - Transnational Merchant Law in the Global Political Economy", CUP, 2010.

tip of the iceberg. People often feel generally a lack of self-efficacy in their daily lives. The argument seems valid that people who can generate influence on one very important part of their life: the access to energy, will feel more empowered and therefore are better able to influence their social environment.

We have different concepts in the energy system for empowered citizens: individual prosumers is the most recent one.³ In this case, individuals gain "economic citizenship" by becoming more autonomous due to commanding means of production for their energy consumption. Maybe they even gain profit from selling commodified (!) surplus.⁴ Beyond this we find joint efforts leading potentially to community building experiences. Prominent examples are municipalities re-communalising strategic parts of their energy system. In Germany exist 147 bio-energy-villages with cogeneration of heat and electricity.⁵ The most prominent solutions seem to be energy-cooperatives. In 2018 850 of these existed in Germany, with 185.000 members. These cooperatives are sometimes able to regenerate the social and political life in whole villages of on islands by building what sociologists call social-capital.⁶ Regarding the positive economic aspects, we can assume that local decisions are closer to the local problems as they have access to local knowledge, hence we can assume that they tend to be (ceteris-paribus) more cost-effective.

Political aspects of "bottom-up" solutions

Coming to the more critical aspects of decentralised bottom-up solutions we start again with politics.

³ Read on the concept of Prosumer as one of the few positive examples of EUs recent legislation the report "Putting citizens at the heart of the energy transition - Report on the potential of energy citizens in Europe", published by REScoop.eu and others 2016.

⁴ Kristian Krieger, Manuela Kropp and Roland Kulke: "Fighting Populism with Energy Politics – Energy Cooperatives in Europe", Globalpolicy.org, 05 May 2017

⁵ Peter Hennicke, Jana Rasch, Judith Schröder, Daniel Lorberg: "Die Energiewende in Europa - Eine Fortschrittsvision", oekom verlag, 2019, p 45.

⁶ For wonderful inspiring examples see Conrad Kunze and Sören Becker: "Energy democracy in Europe - A survey and outlook, Rosa Luxemburg Stiftung, Brussels, 2014, online available.

In much of the progressive discussions on local solutions and cooperatives, we can observe a certain "oblivion of power". Anybody, whoever worked in an NGO knows very well: power relations are very dominant in these "moral" organisations. Also, smaller cities and villages are dominated by strong power relationship between "Established and Outsiders".⁷ A typical example of the "oblivion of power" is the highly respected Elinor Ostrom, winner of the so-called Nobel Price of Economics. She is able to write dozens of pages on economics without once using the concepts of interests or power.⁸

It might be instructive to discuss at this point Foucault; both, his concept of governmentality, and his political impact. Foucault analysed "self-techniques", "self-formation" of the citizens, the emergence of their subjectivities. In these analyses Foucault was not interested in top-down government policies. He was instead interested in the rationalities which would be the basis for these self-techniques. Governmentality "deals with how we think about governing, with the different rationalities or, as it has been sometimes phrased, ,mentalities of government".9 The central point here for me is the emphasis of what we (!) think of the government, what possibilities we see. According to what we think would be real, governmentality can then gain traction and can have its effects on reality. This seems to have happened in the last decades with progressive movements: they have lost the "believe" that planning and central decisions can be effectively implemented in a democratic way. Long before the collapse of the Soviet Union left intellectuals lost hope in self-empowerment of the masses. This process is described in a CIA report on the "Defection of Left Intellectuals" in France; foremost focusing on Foucault, whom the "new Right" could perfectly use for its interests due to Foucault "reminding philosophers of the 'bloody' consequences that have flowed from the rationalist social theory...".¹⁰ The result of this betrayal of

⁷ Norbert Elias: "The established and the outsiders", University College Dublin Press, 2008.

⁸ Elinor Ostrom: "Was mehr wird, wenn wir teilen - Vom gesellschaftlichen Wert der Gemeingüter", oekom verlag, 2011.

⁹ Mitchell Dean: "Governmentality - Power and Rule in Modern Society", 2nd ed., Sage, 2010, p. 24, emphasis added.

¹⁰ CIA: "France – Defection of Left Intellectuals, A Research Paper", Sanitized Copy Approved for Release 13th May 2013, published originally December 1985, online available.

Marxist/left-socialist reasoning is that the citizens nowadays don't "believe" anymore in rational planning, while the big international monopolies of Google, Amazon, etc happily follow their own real-existing five-year plans.

Economic disadvantages of decentralised energy system

Now to the economic disadvantages of decentralised energy transformation. We must reflect why many right-wing parties also argue in favour of "Small is beautiful", both regarding climate protection and economy. E. F. Schumacher's book "Small is Beautiful" from 1973 was, regarding economic policies, the most inspiring influence for the Hindu Nationalist movement in the 1970s and 1980s. Recently (June 2019) Marine Le Pen is said to use the same wording trying to connect her party to the climate movement. At least we can say that decentralised solutions are neither a priori democratic, nor socialist. They can very much be in favour of the "powers that be" and against popular influence in the economy. The last, and most important, argument against decentralised solutions is that 2020 humanity must have reached "peak CO2 production". How can we achieve this in a decentralised way? This seems pure fantasy.

Besides the positive aspects of bottom-up energy democracy projects: it's just not enough time to stop the CO2 catastrophe. Hence we now look at the centralised top-down solutions.

Politically the first advantage is just the fact that democracy must have a say where the solutions are being taken. In times of climate catastrophe, we need central decisions if we want it or not. Why central? Because our nation-states are the only sources with enough "firepower". The structural changes we need can only be managed by investing billions of Euro, which will be taxpayers money. As central ministries will award these resources, the decision must be controlled democratically. Unfortunately, the left in Germany has not developed knowledge on how an economic democracy could look like, beyond cooperatives and workers participation (inside a firm).

The need for a global systemic change

One example of exemplifying the urgency: in the next 20 years Germany will invest 40 bios. (!) Euro in three "Länder" (provinces) in Germany to ensure a "Just Transition" for the coal regions to a post-CO2-era. For Rheinland-Pfals alone already now 157 activities are planned, 122 to be implemented immediately. All these decisions have been taken by not more than maybe a doz-en people in Berlin and the regional capital, excluding the provincial parliament, excluding even the governing parties! The urgency of the coming actions requires courage for large-scale economic democratic decisions. Referring again to the German "coal-compromise" we must add that there are no plans for cooperation between the two coal-producing East-German Länder Sachsen and Brandenburg and Poland and the Czech Republic. The German state apparatus was not able to look beyond its borders.¹¹ An example which might be able to be scaled-up is the participatory multi-stakeholder processes in Nord-Rheinwestfalen which were established to initiate the regional "Energiewende".¹²

Economically we face huge challenges. To achieve our goal to stay below the 2 degree Celsius we must close every day one coal unit on the world. This implies a total system change in the world energy system. Think of the dramatic expansion of grids and storage capacities we need when we have to rely on more renewable energies. Sean Sweeney and John Treat illustrate this need by stating that "at the end of 2015, wind and solar PV together generated just 4.6% of global electricity".¹³ They go on: "According to Bloomberg ..., to-tal global investment in renewable energy was at "worryingly low" levels for 2015 — despite the fact that 2015 had been a record year."¹⁴

¹¹ For a vision of a progressive energy transition using the EU institutions see Peter Hennicke, Jana Rasch, Judith Schröder, Daniel Lorberg: "Die Energiewende in Europa – Eine Fortschritts-vision", oekom verlag, 2019.

¹² Philipp Schepelmann: "Governance of Low-Carbon Energy System Transitions: A Case Study from North-Rhine Westphalia, Germany", Asian Development Bank, July 2018.

¹³ Sean Sweeney and John Treat: "Preparing a Public Pathway Confronting the Investment Crisis in Renewable Energy" TUED, Working Paper No. 10, 2017, p. 1.

¹⁴ Ibid, p. 7. Due to lack of space, I need to refer here generally to the work of "Trade Unions for Energy Democracy". In their papers, which are all online, the whole macro-economic situation of the world energy systems is meticulously documented. All papers are online available http://unionsforenergydemocracy.org.

I have now discussed the pros and cons of decentralised bottom-up processes. We need these solutions, but they are insufficient due to the fact that we just don't have any time left. The big bang we need now poses a central challenge to the political left which suffers from historical amnesia. We are leftists because we cherish democracy in all different forms. Strangely enough, we forgot in the last decades to discuss democracy for our economic systems on a large scale. We don't dare to dream that people can manage the means of production in a democratic way. We need to dare to dream again.

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