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Delivering the European Green Deal for southeast Europe: Do we need a regional approach?

Mihnea Cătuţi, Irina Kustova and Christian Egenhofer

Abstract

Southeast European countries start from a different point in the transition to the European Green Deal and face systemic challenges in their energy markets and in implementing the EU's energy *acquis.* These issues could be addressed through a more regionally focused approach.

This report looks at three countries that in the past have typified a region sometimes seen as reluctant to embrace this transition: Bulgaria, Greece and Romania. The analysis considers the status of their wholesale and retail markets; interconnectivity and market coupling; the independence of national regulatory authorities, and the obstacles to the adopting the energy *acquis*.

Six main barriers might prevent more integrated and efficient markets in the region: i) high dependence on fossil fuels, often supported by policy, ii) market concentration and state intervention, iii) illiquid markets, iv) occasional poor interconnectivity and cross-border energy trade, v) poor regulatory framework and institutional design, and vi) strategies for managing the transition.

The combination of carbon-intensive energy sectors, relatively low energy efficiency, and below-EU average GDP per capita makes the transformation – of the coal regions, for example – both technically challenging and politically sensitive. The European Green Deal and the 'just transition' offer new opportunities for the region (including Covid-19 recovery funds) to develop lower carbon energy systems. But cash injections alone will not be sufficient. This report argues that the region requires additional tailored mechanisms that reflect its specific needs during the transition.

CEPS ENERGY CLIMATE HOUSE

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Delivering the European Green Deal for South Eastern Europe:
Do we need a special approach?

Mihnea Cătuţi, Irina Kustova and Christian Egenhofer

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1. Introduction

With its ambition for decarbonisation by 2050, the European Green Deal, presented by the European Commission at the end of 2019,[1] envisages a profound transformation of the economy. Achieving climate neutrality on the European continent will, for a start, require a sensible balance between risks and opportunities across member states and regions, and more importantly, significant financial resources to ensure a 'just energy transition'.[2] As a result, the European Commission has proposed the Sustainable Europe Investment Plan, including a Just Transition Mechanism and a Just Transition Fund, with the aim to leave no person or place behind. The European Commission acknowledges that the transition can only succeed if it is conducted in a fair and inclusive way, which should be reflected in policy. Following the Covid-19 economic crisis, the EU, as well as individual member states, will unleash considerable financial aid through a plethora of both existing and new instruments. A consensus is now emerging among the European institutions and the large majority of member states believes that the bulk of these EU emergency and recovery funds should reflect decarbonisation of the economy as pursued through the European Green Deal.[3]

This report looks at Bulgaria, Greece and Romania as representative examples of southeast European countries (SEE) that are also EU member states. While each has unique circumstances, there are many similarities with other EU and Energy Community member states in central and eastern Europe (CEE), most of which have been grouped under the Central and South Eastern Europe energy connectivity (CESEC) framework.[4] As with other SEE member states, the three countries discussed often face issues of a structural nature. These include the reliance on the lignite and coal prevalent in the region, and the associated difficulties of

[1] European Commission (2019), The European Green Deal COM(2019) 640 final, Brussels (https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1576150542719&uri=COM%3A2019%3A640%3AFIN).

[2] B. K. Sovacool, M. Martiskainen, A. Hook and L. Baker (2019), "Decarbonization and Its Discontents: a Critical Energy Justice Perspective on Four Low-carbon Transitions", *Climatic Change* Vol. 155, pp. 581–619.

[3] "Every euro we invest must flow into a new economy rather than old structures. We must avoid that at all costs", as stated by Frans Timmermans.

[4] Central and South Eastern Europe energy connectivity (CESEC) initiative was set up in February 2015 and includes EU member states Austria, Bulgaria, Croatia, Greece, Hungary, Italy, Romania, Slovakia and Slovenia and Energy Community members Ukraine, Moldova, Serbia, the Republic of North Macedonia, Albania, Bosnia and Herzegovina, Kosovo (in line with UNSCR 1244 and the ICJ Opinion on the Kosovo declaration of independence) and Montenegro.

reducing this dependence:[5] concerns about security of supply, the level of electricity prices, the expected regional and social implications of the transition, and a lack of transparency. The situation is further complicated by regulatory uncertainty, political risks, and a variety of persistent energy market barriers, including the slow coupling of power markets, lack of infrastructure and the absence of robust price signals in illiquid hubs.

Incomplete market reforms will continue to hinder private investment,[6] new energy solutions and the delivery of the necessary physical interconnections across the countries that are needed for implementing the electricity and gas target models, thereby slowing down or rendering more difficult the inevitable transition to a lower carbon energy system. It is hard to see how, in the absence of functioning national and regional energy markets, the energy transition and the European Green Deal can be successfully implemented in a cost-effective way in the region. For example, without a functioning energy market, carbon pricing typically means higher costs but few incentives to reduce emission. This translates into higher than necessary power prices or accumulated debts by industry.

Numerous steps have been taken in the EU to make the market fit for the low-carbon future, starting with the Third Energy Package, the formulation of network codes and the Clean Energy Package.[7] Enabled by the high-level political steering built into projects, the CESEC initiative, established in February 2015, has been instrumental in furthering infrastructure development and reducing vulnerability, encouraging more regulatory convergence. In the context of the European Green Deal and the Covid-19 recovery funds, the success of CESEC raises the question as to how the lessons from this framework can be adapted for current circumstances. CESEC could maintain its current focus on natural gas, electricity markets, renewables and energy efficiency, or perhaps be transformed into a (central and) southeast European climate group or initiative. This could focus on 'just transition' projects involving the kind of industry participation that has been notably instrumental in the success of CESEC. Regional actors would be more effectively engaged and regional challenges more closely targeted, thus providing an additional driver for the 'just transition' of the European Green Deal in a manner that could be better aligned with the region's needs.

[5] To date, with the notable exception of Greece, where 12 coal-fired units are planned to be switched off by 2023. For more details see A. (2019), "UPDATE 2-Greece's PPC wants to speed up coal phase-out, boost renewables by 2024", *Reuters*, 16 December (https://www.reuters.com/article/public-power-plan-ceo/update-2-greeces-ppc-wants-to-speed-up-coal-phase-out-boost-renewables-by-2024-idUSL8N28Q1RN).

[6] See for example, European Commission (2020), "Country Report Bulgaria 2020, Accompanying the document", Commission Staff Document, SWD (2020) 501, Brussels.

[7] The Third Energy Package established a level playing field for market participants and provided benchmarks for market functioning in gas and electricity markets across the EU. Network Codes specify detailed rules for cross-border market operations, including capacity allocation, tariffs for entry-exit zones and interoperability. In turn, the Energy Union gradually aimed at breaking up the silo mentality of the energy sector. Among others, the new electricity market design was approved within the Clean Energy Package during the tenure of the last Commission.

Whatever form such an initiative takes, by dealing with decarbonisation opportunities and risks, it would ensure that SEE countries are not left behind as the European Green Deal is implemented. There would be several benefits.

1. It could function as a reality check on how market reforms could be finalised in the region, thus acknowledging the different starting positions of SEE countries.
2. As with CESEC, it could facilitate communication between the European Commission, national governments, regional authorities and – crucially – industry stakeholders for both energy market reforms and the development of decarbonisation strategies. Better alignment with the national energy and climate plans (NECPs) in the region should contribute to the success of the new governance regulation framework.
3. A high-level forum could reinforce the stakeholder consultations foreseen under the NECPs, from utility companies to non-governmental organisations and industry, whose commitment and cooperation are paramount for delivering market reforms and decarbonisation solutions.
4. It would offer a high-level political forum for linking the market perspective, as that taken under CESEC, to the 'just transition' and the European Green Deal.
5. It could constitute a hub for dealing with coal regions, where additional stress[8] caused by the Covid-19 crisis potentially risks being tackled with calls to relax environmental and climate obligations. This report highlights the current market structures in Bulgaria, Greece and Romania, and identifies the most significant barriers to functional energy markets. In many respects, these countries are considered laggards in the EU in terms of energy market integration. At the same time, each country faces unique challenges that reflect the complexity of the region and begs the question of the necessity for individually tailored responses while complementing a regional approach. These countries have largely failed so far to deliver market reforms and will face the double challenge of both overcoming their market deficiencies and developing decarbonisation strategies for their fossil fuel-dependent economies. Addressing the decarbonisation agenda will require substantial political commitments and economic resources and an understanding of the implications, but also of the opportunities of the Covid-19 crisis both in the EU and the region.

The countries are analysed by examining their wholesale and retail markets for electricity and natural gas, the independence of their national regulatory agencies (NRAs), their level of interconnectivity and market coupling, and also the challenges they have faced implementing the Third Energy Package and the target models.

A better functioning and more transparent market would offer many benefits in return, for example energy security, industrial development, jobs and better air quality. At the same time the examined countries and the region at large have significant potential not just for wind or

[8] C. Egenhofer, J. Núñez Ferrer, I. Kustova and J. Popov (2020), "The Moment for Rapid Re-development for Coal Regions is Now", CEPS Policy Insight 2020-13, CEPS, Brussels, May.

solar, but also for bio-economy solutions, in addition to an existing qualified engineering workforce or available land from depleted mining or other activities.

The report also makes a set of suggestions for the design of a dedicated regional cooperation framework that could reinforce the efforts for market liberalisation and enable the transition towards climate neutrality.

The data is based on primary and secondary sources including Agency for the Cooperation of Energy Regulators (ACER) reports, commissioned consultancy studies, national reports of the three countries, European Commission evaluations, and informal stakeholder consultations.

2. Principal barriers to functioning energy markets and regulatory frameworks

This report identifies six main barriers to the energy transition that might prevent more integrated and efficient markets in the region. Individual country analyses follow the cross-country summary below.

High dependence on fossil fuels, often supported by policy

All three countries rely to a great extent on fossil fuels for power generation, mainly lignite and some hard coal. The timely phasing out of solid fossil fuel power plants would require substantial financial resources and strategic planning that are currently lacking in the region. In addition to the challenge posed by the reliance on fossil fuels to the decarbonisation perspectives, the significant share of natural gas that is largely covered by imports (especially in the cases of Bulgaria and Greece)[9] raises concerns about security of supply in the region, particularly in light of the limited level of interconnectedness.

Market concentration and state intervention

In all three countries, the final retail prices in electricity and gas are subject to a variety of regulations and price interventions. The countries have either regulated or parallel markets with constraints on choice of suppliers, usually exhibiting low levels of competition. Regulated and (potentially) non-cost-reflective retail prices that do not fully cover wholesale prices have been reported in Romania for electricity and Bulgaria for gas,[10] whereas in Greece the electricity market is dominated by one player and there is state intervention in electricity tariffs.[11] Difficulties in market entry overlap with incomplete unbundling and high market concentration in both gas and electricity markets, with limited sources of supply for gas and

[9] However, Greece appears more diversified in terms of upstream gas supply, particularly following the expansion of the Revithoussa LNG Terminal.

[10] The average mark up over the 2012-2018 period were negative "because the energy component of the retail prices was set at a level below wholesale energy costs". ACER (2019), Market Monitoring Report 2018 – Electricity and Gas Retail Markets Volume, p. 23

[11] See National Report 2019, by the Greek Regulatory Authority for Energy and the Monthly Report by EnEx. In certain market segments such as consumers directly connected to the HV grid, the PPC is still a monopoly.

with inflexible legacy long-term contracts. Although unbundling has been formally introduced in all three countries, markets remain largely oligopolistic.

Illiquid markets

Illiquid markets exhibit skewed price signals for both electricity and natural gas. While there are some signs for further trading activity, additional work towards the implementation of network codes is still needed to introduce all the building blocks of a functioning hub system.[12] For natural gas, markets are considered illiquid, and a number of barriers persist, such as non-transparent transmission tariffs. In the past these have often been too high,[13] although there has been recent progress. The lack of a national or regional exchange and/or of a functioning virtual trading platform, and insufficient or absent regulatory transparency, continue to impede the adequate functioning of markets. However, although the situation appears largely pessimistic, ACER noticed an increasing transactional activity on ad hoc platforms in Romania.[14]

Poor interconnectivity and cross-border energy trade

A low level of infrastructure interconnections and artificial cross-border trade distortions remain one of the principal problems in the region. Bottlenecks in gas markets persist, which lead to the development of a number of disconnected isolated markets, raising issues of security of supply. More work is needed to ensure the implementation of security of supply provisions of EU Regulation 2017/1938 to pursue more coordination of measures to address crises.[15] While the completion of the Trans-Anatolian pipeline (TANAP) and the planned Interconnector Greece-Bulgaria increase the interconnectivity in the region, gas markets remain largely fragmented. In electricity, weak or absent virtual reverse flows and cross-border cooperation between transmission system operators (TSOs) directly inhibit the implementation of the Clean Energy Package, an initiative that explicitly promotes cross-border cooperation and a more regional approach to resource adequacy, especially for addressing crisis situations.[16] Price distortions such as an export levy, an entry tariff or supplier levies aimed at balancing the renewable energy account (in the form of wholesale market uplifts) also have history in the region. This could not only distort cross-border trade but also affect the efficiency of the electricity system, resulting in a reduction of overall economic efficiency of market operation. A more integrated market including – as far as possible – neighbouring countries such as Turkey would address such shortcomings.

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[12] ACER (2017), First ACER Implementation Monitoring Report of the Network Code on Interoperability and Data Exchange.

[13] ACER Kantor Study (2017), Barriers to Gas Wholesale Trading, Final Report, p. 50.

[14] ACER (2019), Market Monitoring Report 2018 – Gas Wholesale Market Volume, p. 35.

[15] J. Bowden (2019), "SE Europe Gas Markets: Towards Integration", Oxford Institute for Energy Studies, NG 150, p. 5. (https://www.oxfordenergy.org/publications/se-europe-gas-markets-towards-integration/?v=d3dcf429c679).

[16] C. Egenhofer and C. Stroia (2017), "Is security of energy supply possible without deeper cross-border market integration? Lessons from the cold spell in South-Eastern Europe", CEPS Policy Insights No. 2017/45, December (https://www.ceps.eu/ceps-publications/security-energy-supply-possible-without-deeper-cross-border-market-integration-lessons/).

Poor regulatory framework and institutional design

Independence and capacity of regulatory agencies are essential for an adequately functioning energy sector, given their role for imposing obligations on entities with substantial market power.[17] In the region, despite existing legal formalities, there remains an "institutional comfort with existing market structure"[18] and greater independence of regulators remains to be ensured in line with ACER recommendations.[19] Various political crises and the reluctance of governments to address these issues persist in the region, inhibiting the completion of infrastructure projects. A high level of political unpredictability dominates the regulatory environment.

Managing the transition

While countries in the SEE region have attempted market reforms at various times and to different degrees, distributional issues remain politically sensitive and salient. The political reluctance to take concrete transition measures, such as the phase-down/out of lignite, reflects concerns about social risks and limited economic opportunities prevalent in carbon-dependent regions. Decarbonisation and market liberalisation will inevitably put pressure on subsidised retail prices. The subsidised prices are still perceived as a social right and consequently represent a highly contentious political question. Price interventions (aside from protecting genuinely vulnerable consumers) distort the market and compromise market signals, which are meant to underpin investment. Additional geopolitical concerns related to security of supply reinforce domestic scepticism towards a higher openness of energy markets. When combined with nationally specific, highly sensitive socio-political issues, such as vexation with debt-fuelled recession in Greece, and angst over major industrial closures reminiscent of those in post-1990 Romania, these factors mean that significant pressure for inaction is exerted on domestic decision makers. With the exception of some more recent developments in Greece, clear and rigorous energy and climate strategies addressing these perceptions have so far been missing in the region.

An additional potential challenge: the impact of the coronavirus crisis

The current Covid-19 pandemic, which has halted EU mobility and industrial production, threatens to reinforce many of the existing barriers to energy market functioning and decarbonisation in the region. There are mixed signals. On one hand, for example, the first vice president of the Romanian ruling party asked all Romanian MEPs to support the abandonment of the European Green Deal and the diversion of funds to national economies and health systems. Romania has also imposed a price ceiling on utility prices in response to the coronavirus. In the name of dealing with the immediate effects of the crisis, liberalisation

[17] P. Alexiadis and C. M. da Silva Pereira Neto (2019), "Competing Architectures for Regulatory and Competition Law Governance", Florence School of Regulation (https://fsr.eui.eu/ensuring-the-independence-of-regulators/).

[18] Julian Bowden (2019), op.cit., p. 5.

[19] ACER (2016), ACER Recommendations on ensuring the independence of the Agency for the Cooperation of Energy Regulators and of national regulatory authorities, 01-2016; Enhanced Surveillance Report, Greece, June 2019.

calendars could be scrapped, energy exports restricted, and significant political pressure exerted on NRAs. The danger is that measures adopted over the following months could cause long-lasting damage to the development of functioning energy markets and the decarbonisation of the economies of the SEE region.

On the other hand, ministers from eight member states, including Estonia, Greece, Latvia, Lithuania and Poland (some of which have very carbon-intensive electricity sectors) have explicitly asked the European Commission through a letter to focus on renewable energy value chains for unlocking new investment potential following the Covid-19 crisis. In another letter, alongside Austria, France, Germany, Italy, Luxembourg and Spain, the governments of Bulgaria, Greece and Romania (the three SEE states analysed in this report) have called for the "speeding up the decarbonisation of the European industry through the European Green Deal" and the financing of green projects by "focusing on green technologies and solutions".[20] The recent European Commission report[21] is showing the way by identifying various transition opportunities related to renewables. Renewable energy offers European countries the potential to develop industrial value chains and the promise of retaining industrial capacity linked to the carbon neutral transformation. It may also offer manufacturing opportunities now located outside Europe, with CEE member states especially well placed for this.

3. Bulgaria

Despite recent progress in market opening, Bulgaria still lacks functioning liberalised electricity and gas markets. Both markets are formally unbundled, but are currently dominated by state-owned companies belonging to the same group, and the power exchange is embryonic. For natural gas, the country depends almost completely on imports from a single supplier, which, combined with gas infrastructure limitations, exposes the country to security of supply risks.[22] Electricity is produced predominantly at the Kozloduy Nuclear Power Plant (NPP), several publicly and privately held lignite plants,[23] as well as privately owned solar and wind farms. Some of the lignite plants are old and highly polluting, but potential closures remain a politically and socially sensitive issue. Domestic mining offers relative job security for the population in

[20] Joint Statement welcoming the European Commission's Industrial Strategy, 10 March 2020, (https://www.gouvernement.fr/en/joint-statement-welcoming-the-european-commission-s-industrial-strategy).

[21] For solar alone, see K. Bódis et al (2019), "Solar Photovoltaic Electricity Generation: A Lifeline for the European Coal Regions in Transition", Sustainability 2019, Vol. 11, 3703, (https://www.mdpi.com/2071-1050/11/13/3703).

[22] The Residual Supply Index (RSI) of Bulgaria is one of the lowest in the EU, approaching 4% in 2016. The RSI determines the relationship between the sum of the supply capabilities of all suppliers except the largest source – and total demand in the market. If at any given time the RSI is equal to or greater than 1 (i.e. 100 %), the largest supplier can be replaced because the supply capability of all other suppliers is sufficient to meet demand. ACER (2015), European Gas Target Model –review and update. Annex 3. Calculation Specification for Wholesale Market Metrics.

[23] It must be acknowledged that some facilities have either been more recently commissioned or have undergone significant environmental refurbishments, resulting in less polluting production.

the mining regions and there are no immediate plans to close mines or lignite plants. Regular public demonstrations show that the sector is still important to Bulgarian citizens.[24]

Derogations and financial support for many coal power plants are usually justified by security of supply and social impact concerns.[25] So the derogation provided in accordance with the ETS directive, which will continue – albeit with amendments – through phase IV, may leave room for the continued operation of coal plants. However, the new Regulation for EU Electricity Market Design imposes stricter emissions limits, for example on capacity mechanisms, so the country will need to address the future of coal-fired plants. This corresponds with the situation of the Maritsa East 2 coal power plant, the Balkan's biggest, which is losing large amounts of money. In 2019 alone, it reported a loss of over €100 million, bringing the accumulated loss to over €410 million. The loss for the first quarter of 2020 alone was €32 million. Combined with the fact that Bulgaria has good potential for hydro storage as well as wind and solar, which could replace lignite, the draft NECP's reluctance to address a phase-out of lignite beyond 2030[26] seems surprising.

Regular governmental interventions and changes in the regulatory environment have reduced the stability in the energy sector and caused private investors to hold back from entering the Bulgarian energy market.[27] The export ban for Bulgarian electricity during the early 2017 cold spell is an example of how short-term government intervention undermines the working of markets and regional interconnections.[28]

Wholesale markets

The highly regulated Bulgarian electricity market is dominated by a few major players. The National Electricity Company EAD (NEK)[29] and the Bulgarian Energy Holding (BEH), a state-owned company, owns, among others, the Maritsa East 2 lignite-fired power plant and the Kozloduy NPP. There are also several private thermal plants, including AES Galabovo, also known as Maritsa East 1, owned and operated by AES Corporation, and Maritsa East 3, with a

[24] Novinite (2013), "Thousands of Miners Rally for Protest in Bulgarian Capital Sofia", 5 March, (https://www.novinite.com/articles/148404/Thousands+of+Miners+Rally+for+Protest+in+Bulgarian+Capital+Sofia) Financial Post (2018), "Bulgarian miners protest to demand job security, 29 November, (https://business.financialpost.com/news/bulgarian-miners-protest-to-demand-job-security).

[25] G. Kondarev (2017), "Will the EU move at the pace of its slowest members?", *Euractiv*, 28 April, (https://www.euractiv.com/section/energy/opinion/will-the-eu-move-at-the-pace-of-its-slowest-members/) Association of Traders with Electricity in Bulgaria (2019), "Large electricity consumers will be subsidized from the revenues for emission allowances", 25 October, (https://ateb.bg).

[26] Summary of the Commission assessment of the draft National Energy and Climate Plan 2021-2030, p. 3.

[27] European Commission (2020), "Country Report Bulgaria 2020, Accompanying the document" Commission Staff Document, SWD (2020) 501, Brussels.

[28] C. Egenhofer and C. Stroia (2017) op. cit.

[29] NEK is part of Bulgarian Energy Holding (BEH) and historically last resort supplier and coordinator of special balancing groups. It owns 80% of hydropower plants in the country.

majority share owned by Contour Global. The distribution grid is privatised and maintained by three distribution system operators: CEZ, Energo-Pro and EVN.

The wholesale market is a structured institution that functions as a regulated and free market in parallel, with clear limitations in terms of choice and competitive pressures. The government committed to spot markets (day-ahead and intra-day) in 2016, following the European Commission's investigation, and the Independent Bulgarian Energy Exchange (IBEX) was created. Volumes trading on IBEX have been gradually increasing and represent about 30% of the total load in 2020.[30]

In recent years, the electricity market in Bulgaria has been undergoing changes, including the introduction of new rules for renewable energy producers, the abolition of the electricity export levy, and market coupling projects with neighbouring countries. In April 2019, Bulgaria adopted a set of amendments to the Energy Act, which entered into force on 1 July 2019. One of the requirements was that all renewable energy producers with a capacity from 1 MW to 4 MW sell their electricity on the free market, freeing about 750 MW to the market.[31] This is a step towards market opening; prior to this electricity was bought by NEK and sold on the regulated market.

Renewable energy producers with 1 MW to 4 MW capacity are selling the produced energy at market prices on the IBEX and are being compensated for the difference between the 'reference price' determined by the regulator for each regulatory period (from 1 July to 30 June) and the preferential prices granted in 2010, 2011 and 2012 (which is paid by a special state energy security fund). A similar scheme was also approved in 2018 to send all renewable capacity above 4 MW to the free market, in exchange for a contract for premium. Additionally, the abolition of the export levy since July 2019 of around €5/MWh has facilitated electricity exports.

The Bulgarian gas demand is relatively small (around 3-3.5 bcm/year, which amounts to around 13% in the energy mix) and highly concentrated with almost all volumes contracted under long-term contracts. However, new opportunities are emerging including LNG supplies via Greece. Until now, opening the domestic gas market faced continuous resistance from the Bulgarian authorities, who cited energy security issues,[32] quarterly prices set by the regulator, and regular interventions. The share of the dominant supplier remains high at 89%. Bulgartransgaz, the transmission system operator, applied interim measures between 2015 and 2019 in response

[30] IBEX (2020), "Day-ahead market March 2020", March (http://www.ibex.bg/bin/documents/1286_file.pdf).

[31] There are 372 plants ranging between 1 MW and 4 MW, half of which are solar, with a total installed capacity of 750 MW. This accounts for around 7% of available capacity and 5% of total installed capacity in the country.

[32] In December 2018, the European Commission imposed a €77 million fine on the state-owned Bulgarian Energy Holding (BEH) company for blocking access to key natural gas infrastructure in the country. See G. Gotev (2018), "Fact-check: Did EU gas liberalisation rules put Bulgaria's national security at risk?", *Euractiv*, 20 December (https://www.euractiv.com/section/energy/news/factcheck-did-eu-gas-liberalisation-rules-put-bulgarias-national-security-at-risk/).

to the share of the dominant supplier, market size, the structure of gas imports, and lack of diversification.

In 2019, some further changes were implemented. The Gas Release Programme was developed as part of the energy sector reforms. Accordingly, the public supplier is obliged to offer certain volumes of natural gas through the organised gas market: 7% in 2020, rising to 35% in 2024.[33] Public consultations on a gas trading platform were organised in the autumn of 2019 and on 9 December the first auction was held. These changes may be explained, inter alia, by the country's aspirations to become a regional gas hub. Thus, in 2019, the concept of the Bulgarian Gas Hub was elaborated and amendments to reform the gas market towards greater opening were adopted.

Retail markets

In theory, companies and households are eligible to purchase electricity from the liberalised market, but in reality there are multiple barriers to consumers buying electricity on the free market. Moreover, since the prices on the regulated market are lower, there are few incentives to move to the free market. Full market liberalisation remains a hot social and political issue, because the retail market and end-user price deregulation could also increase price volatility, possibly provoking protests and strikes against a price increase, as has happened in the past.[34]

In the household retail sector, NEK, a subsidiary of state-owned Bulgarian Energy Holding, supplies nearly 100% of households; additionally, the three top suppliers in the non-residential sector hold around 80% of market share. The non-household retail sector has seen market opening with around 52% of non-household demand served under freely negotiated prices in 2016. Even this segment, however, shows high levels of concentration and limited competition.

NRA independence

In the past year, Bulgaria has implemented several reforms in the energy sector. Some of the measures aimed for the regulator to become independent of government influence by shifting the power to appoint the agency's senior staff from the prime minister to the parliament.[35] With the idea of reflecting the strengthened independence of the energy regulator, the State Energy and Water Regulation Commission (SEWRC) was renamed the Energy and Water Regulation Commission (EWRC). However, while the amendments provide more independence for the regulator, political pressure still continues to make independent operation somewhat difficult.

[33] Association of Traders with Electricity in Bulgaria (2019), "EWRC organizes a public consultation on the natural gas trading platform", 6 November (https://ateb.bg/).

[34] G. Gotev (2018), "Power grid sale upsets Bulgarian, Czech governments", Euractiv, 28 February, (https://www.euractiv.com/section/elections/news/power-grid-sale-upsets-bulgarian-czech-governments/).

[35] S. Carney (2014), "Bulgaria's Interim Cabinet Plans Energy-Regulator Reform", *The Wall Street Journal*, 8 October (https://www.wsj.com/articles/bulgarias-interim-cabinet-plans-energy-regulator-reform-1412783469).

Interconnectivity and market coupling

The Bulgaria electricity interconnection is above the 2020 target of 10%. A prospective new line to Greece will increase this cross-border capacity. The abolition of the export levy from July 2019 may enable exports to neighbouring markets. In 2019, TSOs from Bulgaria, North Macedonia and Albania signed a memorandum of understanding envisaging day-ahead market coupling.[36] In February 2019, Bulgaria, Croatia and Serbia initiated a trilateral power market coupling project. This has the potential to substantially increase interconnections by addressing the kind of shortcomings exposed for example during the cold spell of early 2017, when the countries in the region acted unilaterally and with little coordination.[37] A key challenge will be to advance the market coupling with Romania and other CEE countries.

The Bulgarian gas market has always been rather isolated, but the country has been a transit route for Russia's supplies to Turkey. The new Interconnector Greece-Bulgaria, which has been pending for many years, should finally become operational by 2020.[38] While a low adequacy of gas interconnection with neighbouring countries persists, the CESEC initiative has unlocked several projects, including the reinforcement of the Bulgarian gas grid and the opening in 2016 of reverse flows from Greece that has enabled supplies to be imported from Revithoussa LNG terminal in Greece.[39] In light of these new opportunities, Bulgaria decided to acquire 20% of the LNG terminal near Alexandroupolis in Greece.[40] The TurkStream project, designed as an alternative to the disbanded South Stream, is meant to become operational in the early 2020s. It offers an alternative route to supplies from Russia, and reverse flows on the TransBalkan pipeline, and would add flexibility in the future. With an ambition to establish the Balkan Gas Hub, the concept for the construction of the gas distribution centre was developed in January 2019, aiming to create an electronic platform for hosting a variety of transactions.[41] Progress on this will depend on, among other things, developments regarding TurkStream.

Obstacles to implementation

Although Bulgaria formally transposed the Third Energy Package into national legislation, genuine market reforms have faced numerous obstacles and drawbacks. Despite all the commitments, Bulgaria was reluctant to facilitate reforms and only acted in response to the

[36] Balkan Green Energy News (2019), "Bulgaria scraps electricity export fee, enabling market coupling with North Macedonia", 14 May (https://balkangreenenergynews.com/bulgaria-scraps-electricity-export-fee-enabling-market-coupling-with-north-macedonia/).

[37] C. Egenhofer and C. Stroia (2017), op.cit.

[38] Euractiv (2019), "Bulgaria says it will be gas independent from Russia in 2020", 12 November, (https://www.euractiv.com/section/politics/news/bulgaria-says-it-will-be-gas-independent-from-russia-in-2020/) The interconnection agreement between DESFA and Bulgartransgaz on the existing pipeline was only signed on June 28th 2016, as a result of the strong involvement of CESEC.

[39] Lngunlimited (2020), "Bulgaria Emerges as Europe's Latest LNG Buyer", 15 January (https://lngunlimited.com/bulgaria-emerges-as-europes-latest-lng-buyer/).

[40] BNT News (2020), "Bulgaria buys 20% of the shares of LNG terminal near Alexandroupolis", 8 January (https://www.bnt.bg/en/a/bulgaria-buys-20-of-the-shares-of-the-lng-terminal-near-alexandroupolis).

[41] EWRC (2019). National Report to the European Commission (Summary), July 2019.

European Commission's inquiries. In 2015, the BEH Group was investigated about abusing its dominant position on the market for the wholesale supply of electricity on the non-regulated market.[42] The BEH Group committed to offer certain volumes of electricity on an independent power exchange, IBEX, which became operational in 2016. In 2018, the European Commission fined the BEH Group for breaching EU antitrust rules by blocking access to gas infrastructure and continuing to abuse its dominant market position.[43] This was met with resistance from the Bulgarian government to paying the fine, as well as refusing the Commission request that, according to the Bulgarian government, would have led to the privatisation of Bulgartransgaz.[44] NEK was also sanctioned for abusing its dominance on the balancing market for renewables.[45] In early 2020, the Bulgarian Commission for Protection of Competition (BCPC) issued a fine for unfair trading conditions for renewables producers. It found that NEK unilaterally and unjustifiably modified the hourly forecast schedules submitted by renewables energy producers, who are members of the special balancing group of NEK, and allocated additional unreasonable costs for imbalances to them.[46]

In July 2019, the European Commission decided to refer Bulgaria to the Court of Justice of the European Union (CJEU) for its poor air quality record in south eastern Bulgaria, where the largest thermal power plants in Bulgaria are located.[47]

Barriers for investments in new renewable projects still date from past retroactive measures. The 5% turnover tax for energy producers, which was introduced in 2013 to balance the energy system financially, remains in place. Similarly, a 5% revenue also applies for all new energy investment projects. Removal, ideally for new and existing projects, will stimulate new merchant renewables projects, essentially for self-consumption and all financed without subsidies.

[42] European Commission (2015), Antitrust: Commission accepts commitments by Bulgarian Energy Holding to open up Bulgarian wholesale electricity market, Press Release, 10 December (https://ec.europa.eu/commission/presscorner/detail/en/IP_15_6289).

[43] European Commission (2018), Antitrust: Commission fines BEH Group €77 million for blocking access to key natural gas infrastructure in Bulgaria, Press Release, 17 December (https://ec.europa.eu/commission/presscorner/detail/en/IP_18_6846).

[44] G. Gotev (2018), "Fact-check: Did EU gas liberalisation rules put Bulgaria's national security at risk?", *Euractiv*, 20 December (https://www.euractiv.com/section/energy/news/factcheck-did-eu-gas-liberalisation-rules-put-bulgarias-national-security-at-risk/).

[45] E. Mateina and A. Grunova (2020), "The Bulgarian National Electricity Company sanctioned for abuse of dominance on the market of balancing energy of renewables", Kluwer Competition Law Blog, 7 January (http://competitionlawblog.kluwercompetitionlaw.com/2020/01/07/the-bulgarian-national-electricity-company-sanctioned-for-abuse-of-dominance-on-the-market-of-balancing-energy-of-renewables/).

[46] https://energypost.eu/the-balkans-biggest-power-station-why-thinking-beyond-maritsa-east-2-matters/

[47] European Commission (2019), July infringements package: key decisions, 25 July (https://ec.europa.eu/commission/presscorner/detail/en/inf_19_4251).

4. Greece

Compared to other EU member states, Greece has a relatively isolated energy system that lags behind in terms of connectivity to the regional energy markets. Greece covers about 10% of its aggregated consumption through imports, a share that can rise as high as 25% at times because of the price differences between Greece and the rest of SEE. The country experienced severe delays of over five years in implementing the gas and electricity target models, which are now expected to be implemented in 2020.[48] Currently, Greece lacks functioning intra-day, forward and balancing markets for electricity and has no balancing market for natural gas. The energy-related provisions of the Memorandum of Understanding (MoU) signed in 2015 with the European Commission were designed to overcome such deficiencies in the adoption of EU legislation and market design.

Many of the challenges faced by the Greek energy markets stem from the high market concentration in the power sector (until recently also in the natural gas sector). The electricity market is dominated by the state-owned Public Power Corporation (PPC), which exerts quasi-monopolistic control over both the wholesale and retail markets. PPC accounts for about 50% of electricity generation[49] and approximately 70% of the retail market.[50] Some have claimed that the reluctance of Greek authorities to adopt meaningful market reforms can be attributed, to a certain extent, to the desire to protect the dominance of the PPC company and the low prices of electricity that it offers for the population.[51] Nonetheless, the market share of PPC is slowly being reduced, which should open the way for increased competition in both the wholesale and retail markets. By 2004, the European Commission had launched an infringement procedure with the purpose of ending the "privileged rights to PPC for the exploitation of lignite in Greece, therefore creating inequality between economic operators".[52] However, more than 15 years later, the case remains open, albeit less relevant given the plans for swift lignite phase-out included in the NECP, the European Green Deal and current (and future) prices of CO_2. Following a failed attempt in 2019 to divest lignite-fired power plants and mines, Greece has engaged in discussions with DG Competition of the European Commission

[48] European Commission (2020), Enhanced Surveillance Report – Greece, Institutional Paper 123, February (https://ec.europa.eu/info/sites/info/files/economy-finance/ip123_en_0.pdf).

[49] Though '*At the wholesale level, PPC is still responsible for about 70% of generation, excluding renewable energy sources which do no exert competitive pressure on the wholesale market as they benefit from priority dispatch*;' see European Commission (2019). Enhanced Surveillance Report – Greece, Institutional Paper 116, November (https://ec.europa.eu/info/sites/info/files/economy-finance/ip116_en.pdf).

[50] European Commission (2019), Commission Recommendation on the draft National Energy and Climate Plan of Greece covering the period 2021-2-3, SWD (2019) 261 final (https://ec.europa.eu/energy/sites/ener/files/documents/gr_rec_en.pdf).

[51] E. Diamantopoulou (2019), "The capacity mechanism Greece wants is a boon for fossil fuels", *ClientEarth* (https://www.clientearth.org/the-capacity-mechanism-greece-wants-is-a-boon-for-fossil-fuels/).

[52] European Commission, Antitrust/Cartel cases (https://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=1_38700) The most recent decision on this case was issued in 2018 'CASE AT.38700 – Greek lignite and electricity markets' (https://ec.europa.eu/competition/antitrust/cases/dec_docs/38700/38700_2053_3.pdf).

on a proposal for alternative remedies.[53] In the gas market, the Public Gas Corporation of Greece (DEPA) has been broken down in order to follow transmission unbundling legislation; in line with MoU recommendations, the pre-existing monopolies in gas retail were abolished in 2018 and unbundling of distribution activities has been achieved.

The recent final Greek NECP may also signal a change in perspective, namely through the commitments to the implementation of the EU energy acquis. As well as plans for increasing the uptake of RES generation through both ambitious targets and simplified procedures for the licensing of new capacities, it is also committing to a coal phase-out calendar. Initially, Greek Prime Minister Kyriakos Mitsotakis pledged to phase out all coal-powered electricity production by 2028. The Greek NECP suggests leaving only 660 MW in lignite capacity after 2023. Alongside the plans for new interconnectors and renewables development, more recent developments reveal a significant change of pace regarding decarbonisation.

Wholesale markets

The design of energy markets around the principles of liberalisation and implementation of the target models only began in earnest in 2017. Currently, transactions are conducted exclusively through the mandatory pool system. There are concerns about the transparency and supervision of future over-the-counter (OTC) transactions, which currently represent the majority of sales in other member states.[54] At the proposal of the Regulatory Authority for Energy (RAE), the national regulator, the new Hellenic Energy Exchange, was established in 2018. This was expected to operate the derivatives, day-ahead and intra-day market by April 2019 but was delayed. Additionally, the TSO was expected to be responsible for the balancing market, which is also pending.

Therefore, the existing mandatory pool model is yet to be replaced by the target model.[55] So far, compulsory auctions of electricity have been obligatory under the mandatory pool model for any participant wanting to be active in the wholesale market. In view of the lack of properly functioning markets, the transitory flexible remuneration mechanism (TFRM) compensated the provision of flexibility services until the suspension of the mechanism at the end of March 2019, precisely because Greece had failed to implement the target model in a timely way. Given that these services are still not being remunerated from the market, the Greek authorities are in the process of recommencing the scheme as soon as possible.[56] This is likely to continue to function during the early implementation of the target model to allow participants a period of adjustment.

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[53] See European Commission (2019). Enhanced Surveillance Report – Greece, Institutional Paper 116, op.cit.

[54] See The Hellenic Power Exchange, Institute of Energy for South-East Europe (https://www.iene.eu/the-hellenic-power-exchange-p4548.html).

[55] IENE (2019) 'The Greek Energy Sector: Annual Report 2019', Institute of Energy for South-East Europe (https://www.iene.eu/articlefiles/executive%20summary%201.pdf).

[56] https://energypress.eu/tag/flexibility-mechanism/

The functioning of the wholesale market may have also been hampered by the practices of PPC. Given PPC's 'net-buyer' position in the market – its retail share by far exceeds its own generation and imports – and taking advantage of its market dominance, the company prevents scarcity pricing and influences wholesale prices.[57] PPC also continues to exert significant pressure on ADMIE, the Greek independent power transmission operator, even after having agreed in 2017 to transfer 51% of its stake in the company. Additionally, PPC continues operation of certain lignite-fired plants in apparent violation of the emission limits set by the Industrial Emissions Directive (2010/75/EU).[58] In 2018 and 2019, negotiations were held for the privatisation of some of PPC's lignite generation assets, in order to increase the competition in the wholesale and retail market in implementation of the Commission's antitrust Decision of 5 March 2008.[59] Greece is currently negotiating with the Commission's DG Competition on alternative proposed remedies.

In the natural gas sector, the Greek market still functions through the execution of bilateral contracts between the suppliers importing natural gas. Since the execution of the interconnection agreement between DESFA and Bulgartransgaz in 2016, the market gradually opened up to competition and is no longer dominated by the historical incumbent DEPA. In 2016, DEPA imported 90% of the total natural gas in Greece, share which has now dropped to roughly 30%. Law 4425/2016 established the basic principles of wholesale market with developed spot, day-ahead and forward markets,[60] and set the responsibilities of the operators, but they are not yet operational. The recent expansion of the Revithoussa LNG Terminal[61] has allowed further development of liquidity and competition in the wholesale market.[62]

Retail markets

In theory, electricity consumers have been able to choose between alternative suppliers since 2007. However, the market remains highly concentrated – PPC currently amounts to about 70% of the retail market, with the remaining market share being split between 25 private

[57] A. Dagoumas (2019), "Impact of Bilateral Contracts on Wholesale Electricity Markets: In a Case Where a Market Participant has Dominant Position", *Applied Science*, Vol. 9, pp. 382-393.

[58] Letter of Formal Notice addressed to Greece by the Commission in July 2019.

[59] COMP AT 38700 and court case T-169/08RENV.

[60] RAE (2019) 'National report 2018' (http://rae.gr/site/file/system/docs/ActionReports/national_2018).

[61] DESFA (2018), "Greece is becoming a gas hub in Southeastern Europe by inaugurating the upgrade of the LNG Terminal Station in Revithoussa", 22 November (https://www.desfa.gr/en/press-center/press-releases/h-ellada-anadeiknyetai-se-kombo-fysikoy-aerioy-gia-th-notioanatolikh-eyrwph-me-thn-egkainiash-ths-anaba8mishs-toy-termatikoy-sta8moy-yfa-sth-reby8oysa).

[62] P. Sykes (2019), "INTERACTIVE: Greece's MYTILINEOS leapfrogs incumbent DEPA as top LNG buyer", *ICIS*, 6 August (https://www.icis.com/explore/resources/news/2019/08/06/10401426/interactive-greece-s-mytilineos-leapfrogs-incumbent-depa-as-top-lng-buyer); Stuart Elliot (2020), "Low LNG prices lead to major shift in Greek gas market dynamics: DEPA", *S&P Global Platts*, 21 April (https://www.spglobal.com/platts/en/market-insights/latest-news/natural-gas/042120-low-lng-prices-lead-to-major-shift-in-greek-gas-market-dynamics-depa).

companies.[63] PPC has allegedly cross-subsidised its low-voltage consumers, mainly consisting of households and small businesses, by passing costs to medium and high-voltage consumers.[64] The company also needs to recuperate over €2.3 billion in debt from its customers, €1.7 billion of which is owed by the low-voltage consumers.[65] The market dominance of PPC, its alleged practices of keeping prices artificially low for household consumers, in addition to a history of regulated tariffs and other state interventions aimed at preventing price hikes for consumers, have stalled the emergence of significant competitors in the retail market.

To address this problem, the NOME system of auctions was introduced in 2016; this obliged PPC to sell, via auctions, electricity produced from its lignite and hydropower capacities to its competitors at prices reflecting the costs of production to mitigate exclusive access of PPC to a diversified generation portfolio and introduce a hedging tool for suppliers. The goal of this system was to reduce the share of PPC from over 95% in 2015 to 50% in 2020. The NOME system of auctions has indeed resulted in PPC's retail market share dropping considerably – it is currently at about 70% – but is unlikely to be achieving the objective of the implemented interim measure.[66] The NOME auctions were abolished by the Greek Government in autumn 2019; nonetheless, owing to the evolution of CO_2 and gas prices and the corresponding drop in system marginal prices, the NOME products currently appear far less appealing to suppliers.

When it comes to natural gas, from 2017 the three regional integrated distribution and supply companies have separated their operations as a result of unbundling requirements. The monopolies of EPA Attikis and EPA THESS were lifted in 2018 to allow retail customers to freely choose suppliers in three Greek regions. Nonetheless, the incumbents still hold a dominant position in the retail market and in the rest of the country there is no retail market competition. The majority of these consumers are supplied with natural gas by the DEPA company, which has complete monopoly in the areas where it operates. Competitive retail markets are regionally restricted and full unbundling is slow to materialise. Price regulations also continue to exist. Under the universal service obligation, regulated tariffs are offered to consumers that have either not chosen a supplier or are unable to conclude a contract because of poor payment record. As a result, consumers pay distorted prices through the application of social tariffs established (in theory) to address energy poverty concerns.[67]

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[63] The five larger independent suppliers represent roughly 20% of the retail market.

[64] N. Danias, J. Swales, P. McGregor (2013), "The Greek Electricity Market Reforms: Political and Regulatory Considerations", *Energy Policy*, Vol. 63, pp. 1040-1047.

[65] EnergyPress (2018), "European Commission advises PPC to intensify debt hunt", 22 November (https://energypress.eu/european-commission-advises-ppc-to-intensify-unpaid-receivables-hunt/).

[66] The success of the NOME system of auctions in bringing down PPC's market share was partly compromised by the export of significant volumes of NOME-bought electricity, PPC's tariff policy, including aggressive discounts and state introduced 'distortive' supplier charges aimed at preventing the increase of the RES levy paid by consumers; said suppliers' uplifts were not passed on to consumers by PPC, thus further eliminating its own margins and those of competitors. EnexGroup (2020), "ForwardElectricity Products Auctions Systems. Monthly Wholesale and Retail Penetration and Market Share Report", January (http://www.enexgroup.gr/fileadmin/groups/EDSHE/FEP/MonthlyReports/FEPAS_MonthlyReport_202001_EN_V01.pdf).

[67] Around 29% of end consumers are believed to be in energy poverty.

NRA independence

In the past, the Greek regulator RAE lacked sufficient power to independently adopt important decisions, which were imposed by the government.[68] A recent study published by the European Commission highlights some concerns that RAE "(systematically) follows guidelines from the minister".[69] RAE has been viewed by some local actors as a block to genuine competition in Greek energy markets, whereas, in a recently published enhanced surveillance report,[70] the European Commission raised some concerns about the regulator's "willingness and capacity to oversee market reforms and make the necessary regulatory decisions in a timely and transparent manner". There are discussions about increasing its independence and administrative capacity, but concrete measures are still to materialise.

Interconnectivity and market coupling

The interconnectivity level in 2017 was 9.3%, with the country being expected to reach the 10% interconnectivity target for 2020.[71] Currently, Greece imports electricity from Bulgaria, North Macedonia, Italy, Turkey and Albania. While some groundwork has been conducted for coupling the Greek energy markets with other European countries, this measure has been put on hold. Since 2018, the Greek power exchange is part of the price coupling of regions (PCR) initiative,[72] but the first coupling is not expected before 2020 or even 2021. Italy will be the first market that Greece is coupled with, followed by Bulgaria and North Macedonia. Given the current capacity deficit, the coupling is an important initiative for increasing competition and eventually leading to more market-driven wholesale prices, for the benefit of both consumers and producers.

Building interconnection with its largely autonomous island system is a very important project for Greece. The target is for all remaining 29 autonomous island electricity systems to be connected to the national grid. The Greek TSO plans to interconnect all islands by 2030, but some domestic actors argue that these projects could be completed by 2026.

Given the dependence on imports for its internal natural gas consumption, Greece already has a strong network of natural gas interconnections. Recent attempts at regional cooperation are

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[68] N. Danias, J. Swales, and P. McGregor (2013), op. cit.

[69] European Commission (2019), "Assessing the independence and effectiveness of national regulatory authorities in the field of energy" (https://op.europa.eu/en/publication-detail/-/publication/e5f886d6-917d-11e9-9369-01aa75ed71a1/language-en).

[70] European Commission (2019), Enhanced Surveillance Report – Greece, Institutional Paper 103, June (https://ec.europa.eu/info/sites/info/files/economy-finance/ip103_en.pdf).

[71] European Commission (2019), Assessment of the National Energy and Climate Plan of Greece Accompanying the document Commission Recommendation on the draft integrated National Energy and Climate Plan of Greece covering the period 2021-2030, p. 10, (https://ec.europa.eu/energy/sites/ener/files/documents/gr_swd_en.pdf).

[72] Price Coupling of Regions is an initiative of seven European power exchanges to develop a single price coupling solution for calculating electricity prices across Europe, and for allocating cross-border capacity on a day-ahead basis.

contributing to its further development. The new interconnection with Bulgaria, a project that had been stuck for 10 years, has been revitalised under the CESEC framework following the execution of the interconnection agreement on the existing pipelines in the summer of 2016.[73]

To further diversify its sources of supply, Greece is currently working on establishing the Hellenic trading point (HTP) for the natural gas market, developing projects for LNG terminals, and the Trans Adriatic Pipeline (TAP) that will deliver natural gas from the Caspian Sea. The construction of TAP started on the Greek territory in 2016 and is expected to be completed in 2020.

Obstacles to implementation

Greece has been slow to adopt the EU energy market reforms since the early stages of liberalisation. To overcome the initial delays and accelerate implementation, specific energy-related provisions were introduced in the MoU signed with the European Commission in 2015, in the context of the ESM stability support programme. One of the objectives of this agreement was to "reduce monopolistic rents and inefficiencies, promote innovation, favour a wider adoption of renewables and gas, and ensure the transfer of benefits of all these changes to consumers".[74] The European Commission 2019 Enhanced Surveillance Report, following the completion of the aforementioned memorandum, warned of a slowdown in the adoption of market reforms and the subsequent delay in meeting the agreed major commitments.[75] The Commission's recommendation on the draft NECP further highlighted the lack of ambition in the fields of market integration, market functioning, implementation of target models and the reduction of PPC concentration in wholesale and retail markets. Some positive recent steps include the fact that ADMIE and the gas TSO and DESFA were partly privatised in 2018. PPC agreed in 2015 to both reduce its market dominance and to sell its majority stake in ADMIE.[76] Further privatisations are planned for assets owned by PPC, DEPA and the Hellenic Petroleum Group.[77] The Mitsotakis government has stated it will progressively address remaining obstacles.

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[73] Lngunlimited (2020), op. cit.

[74] 'Memorandum of Understanding between the European Commission acting on behalf of the European Stability Mechanism and the Hellenic Republic and the Bank of Greece' (https://ec.europa.eu/info/sites/info/files/01_mou_20150811_en1.pdf), p. 25.

[75] European Commission (2019), Enhanced Surveillance Report – Greece, February 2019 (https://ec.europa.eu/info/sites/info/files/economy-finance/ip103_en.pdf) p. 57.

[76] See SouthEUSummit (2017), "Greece's Largest Electric Power Company Revamps its Business Structure from Monopoly to Competitive Market Player", 14 December (https://www.southeusummit.com/europe/greeces-largest-electric-power-company-revamps-business-structure-monopoly-competitive-market-player/).

[77] HAEE (2019), "Greek Energy Market Report 2019" (https://www.haee.gr/media/4858/haees-greek-energy-market-report-2019-upload-version.pdf).

5. Romania

As with other countries in the region, the liberalisation of the Romanian energy markets has been a slow process. In 2012 plans were laid out to liberalise wholesale gas prices by 2015, with the residential sector continuing to have a certain degree of regulated prices until 2021. The electricity market was reformed as of 2018 and regulated tariffs were eliminated in the wholesale market following a liberalisation calendar adopted in 2012.[78] The country has a functional centralised market for bilateral contract, day-ahead, intra-day and the balancing market. The electricity market is fairly competitive, with a wide range of electricity producers from which suppliers can buy in a competitive setting, although the majority of producers are state-owned companies and numerous household consumers are still covered by regulated tariffs if they have not opted to participate in the competitive market.

The evolution of the natural gas market towards liberalisation has been more difficult. While imports are needed for only 15% of demand, two companies – OMV Petrom and Romgaz – dominate the wholesale market with 95% of domestic production. Gas is supplied in both regulated and competitive market segments. Romania was meant to follow a schedule for the complete liberalisation of its natural gas market, but the process has been suspended for three years, halted by the Governmental Emergency Ordinance (GEO) 114/2018. This measure, which also affects the electricity market, introduced a 2% turnover tax on energy companies, put a price cap on domestically produced gas, and reintroduced regulated prices for three years from March 2019.

The measures have been recently revised as a result of a change of government, but the effects of the Ordinance had already caused both the liberalisation measures that came into force in 2017 to regress and severe delays in market liberalisation. According to the recent revision, the electricity markets will be fully liberalised as of 1 January 2021 and the gas market from 1 July 2020. The Romanian government also plans to define the vulnerable consumer and propose a support mechanism until the end of 2020, to enable the full market liberalisation.

Romania is also home to the biggest onshore wind farm in the EU and generally has good potential for offshore,[79] possibly in the Black Sea, according to the International Renewable Energy Agency (IRENA), in addition to significant potential for solar PV installations, including in coal regions.

Wholesale markets

[78] The liberalisation measures contained a combination of regulated prices and quantities set by the Romanian NRA, as well as a competitive market component. For a more detailed explanation see Andrei Covatariu (2016), "The household energy market in Romania is in a process of liberalization. Or is it?", *Energy Policy Group*, March (https://www.enpg.ro/wp-content/uploads/2017/10/EPG_2016-03-15_Andrei-Covatariu_The-household-energy-market-liberalization-process.pdf).

[79] Recently, Romanian Hidroelectrica has announced its long-term plan to enhance renewable development, among others offshore wind to reach 300 MW capacity by 2026.

The wholesale electricity markets are competitive and benefit from the participation of a wide range of producers. Three state-owned companies, Hidroelectrica, CE Oltenia and Nuclearelectrica, together provide approximately 69% of the electricity produced. Regulated wholesale market prices were phased out from the beginning of 2018. There are problems, however, with the available production capacities. On paper, Romania has over 24 GW of installed capacity, but the real net power generation capacity is more likely to be around 11 GW, given the large chunks of installed capacity that are either completely or largely unavailable.[80] The National Energy Regulatory Authority (NERA) is currently reviewing the licences for available capacities, having already identified more than 8 GW that are not physically available, and removed licences for 3.8 GW.[81] The vulnerability and price exposure of the current system were revealed in September 2019, when a nuclear reactor had to be temporarily shut down for unforeseen repair works. Both the daily and day-ahead prices skyrocketed to twice the value of the price-coupled markets of Hungary, Slovakia and the Czech Republic.

All trades in wholesale markets must currently be conducted through the centralised exchange. Transactions are organised through the centralised market for bilateral contract, the day-ahead market, the intra-day market, the balancing market, the centralised market for universal service and the technological system services market. The predominant trading is done on centralised bilateral electricity contract markets organised on the OPCOM platform, followed by the day-ahead market.[82] A downside of this obligation to only trade electricity through the centralised market is that no power purchase agreements (PPAs) could be established. This represents a barrier to investors in new renewables capacities and a conflict with the EU Electricity Regulation, which entered into force in 2020. This situation is in the process of being revised through a new governmental emergency ordinance.

In contrast, the natural gas wholesale market is characterised by very low liquidity, even though gas can be traded on three separate platforms, namely OPCOM, BRM and STEG. There are eight domestic producers, but as previously mentioned, 95% of the domestic production is dominated by two companies. GEO 114/2018, which introduced regulated tariffs and a 2% tax on energy companies' turnover, was one of the main causes for an indefinite suspension of the exploration of the Neptun Deep project, a large deepwater gas reservoir. ExxonMobil, the cooperator of this field, is reported to be seeking to abandon the project.[83] At least part of its

[80] The precise numbers are still unknown. The national regulatory agency has, however, already started eliminating licences for inexistent capacities. See https://financialintelligence.ro/anre-va-retrage-in-acest-an-licentele-de-producere-a-energiei-pentru-capacitati-de-3-800-de-megawati/.

[81] A. Mosoianu (2019), "Statul a lansat demontarea "ficțiunilor" din sistemul energetic românesc. ANRE a șters din statistici capacități de producție disponibile de peste 400 MW", (https://www.profit.ro/povesti-cu-profit/energie/statul-a-lansat-demontarea-fictiunilor-din-sistemul-energetic-romanesc-anre-a-sters-din-statistici-capacitati-de-productie-indisponibile-de-peste-400-mw-19136787).

[82] NERA (2019), 'National Report 2018' (https://www.ceer.eu/documents/104400/6693346/C19_NR_Romania-EN-Summary.pdf/563d871e-a29e-9998-f847-c05137da019c).

[83] R. Dudau and M Catuti (2019), "The Decarbonisation Challenge of Southeast Europe: A Case Study of Romania", *Intereconomics*, Vol. 6, No.54, pp. 341-346.

share in the reservoir is likely to be purchased by one of the two domestic giants. According to a recent decision by the national regulator, OMV Petrom and Romgaz will be obliged to auction, through monthly offers, 30% of their production over the next three years through the centralised markets.[84]

From 1 April 2017 the sale price for the natural gas from domestic production was liberalised, within the competitive market. However, the wholesale market showcases poor liquidity. The price cap of 68 RON/MWh (approximately €14.5 /MWh), introduced through GEO114/2018 for a substantial part of the volumes traded on the wholesale gas market, only further hindered the development of the centralised market, thereby further consolidating the lack of liquidity.[85] As the cap only restricted domestically produced natural gas, it also led to a sudden increase in imports.

Retail markets

Romania was the first country in the region to liberalise the electricity market for all consumers. Since 2018, no more household price regulations have been permitted by NERA. This was the result of a long deregulation process that started in 2007. For non-household consumers, the prices have been liberalised since 2014 and for household consumers since 2018. Nonetheless, consumers can still use the universal service market, irrespective of whether they have previously participated in the competitive market or not. This system was outlined in the 2012 Memorandum, which established a roadmap for the elimination of regulated tariffs until 2018. There are two types of suppliers of last resort-bound suppliers, one for each grid area, and optional suppliers, of which there can be an unlimited number.[86] For each grid, NERA calculates the maximum price for the universal service provided by the suppliers of last resort.

About 7.5 million consumers are currently covered by the universal service regime, a number that has been steadily diminishing. These are consumers that have not secured supply from a competitive source. According to NERA, there are 97 licensed electricity suppliers, of which five are suppliers of last resort. The largest supplier has a market share of 17%. Of those suppliers of last resort, four of them (Enel, Electrica, CEZ and E.ON) have accumulated financial losses of over €50 million, to be recuperated from the consumers through bills by 30 June 2020.[87] Suppliers of last resort received a proportion of the electricity at fixed prices from Hidroelectrica and Nuclearelectrica, having to buy the remaining electricity on the competitive

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[84] See https://www.profit.ro/povesti-cu-profit/energie/confirmare-omv-petrom-romgaz-obligate-oferteze-30-productia-interna-pietele-centralizate-pretul-maxim-licitare-combinatie-intre-media-preturilor-bursa-austriaca-cegh-cea-interna-19360815

85 Emerton (2019), "The Natural Gas Market in Romania: how do we guarantee the security and competitiveness of the sector", May (http://www.emerton.co/app/uploads/2019/09/Studiu_GasMarketDesign-Emerton_ENG.pdf).

[86] NERA (2019) 'National Report 2018' (https://www.ceer.eu/documents/104400/6693346/C19_NR_Romania-EN-Summary.pdf/563d871e-a29e-9998-f847-c05137da019c).

[87] M. Nicut (2019), "Legea energiei electrice și a gazelor se schimbă. Iată modificările, punct cu punct – proiect" *Energia.ro*, (https://e-nergia.ro/exclusiv-legea-energiei-electrice-si-a-gazelor-se-schimba-iata-modificarile-punct-cu-punct-proiect/).

market. Given the earlier liberalisation of the wholesale market, the suppliers of last resort could not buy sufficiently cheap electricity on the competitive market to be able to meet the prices established by NERA for the universal service, so they accumulated losses.

Natural gas supply is conducted through both liberalised and regulated markets, which have different degrees of concentration. As with the electricity market, according to the Law on Electricity and Natural Gas no. 123/2012, as amended and supplemented, the Romanian natural gas sector is structured as two segments: the regulated market and the competitive market. Since 1 January 2015, the domestic gas market has been completely liberalised for non-household customers, but not for households. In the liberalised segment, four companies control 70% of the market share, while 90% of the regulated market is controlled by two companies. There are 80 registered suppliers, 35 of which are active on the regulated market. In 2018, there were 424,387 consumers supplied in a competitive regime, out of more than 3.8 million total final consumers.

In Romania there are still no adequate targeted measures for protecting vulnerable consumers, which are necessary for allowing the full elimination of regulated prices. The national regulator introduced some stipulations at the end of 2019 through the 235/2019 Ordinance, created to establish which consumers are vulnerable based on income and health or old age. According to the modification of GEO 114, the government should provide a framework for dealing with the vulnerable consumer and the means of finance by 31 December 2020.

NRA independence

NERA, the Romanian national regulatory authority, conducts its activity under parliamentary control but is self-financed through a revenue tax on energy companies. Recently, there has been a call by Romanian and international market participants to investigate the independence of the NRA.[88] The agency was accused of being prone to political interference and following direct instructions from the government. One example is the market-distorting GEO 114/2018. This contravenes EU legislation, but NERA implemented it nonetheless and collected significant tax revenues as a result of the 2% tax on the revenues of energy companies. The government has since stripped NERA of the revenue collected from this tax.

Interconnectivity and market coupling

Romania and Slovenia are the only SEE countries that are integrated into the European power market. The day-ahead market has been coupled since 2014 with the Czech Republic, Slovakia and Hungary under the 4M Market Coupling project. The current interconnection capacity of Romania is 7%, and is expected to increase beyond 9% by 2020, thereby nearing the 10% objective.

[88] A. Sabadus (2019), "Romanian regulator faces political influence claims", *ICIS*, 6 November (https://www.icis.com/explore/resources/news/2019/11/06/10440676/exclusive-romanian-regulator-faces-political-influence-claims).

Meanwhile, the Romanian gas market is relatively isolated. While the national gas network is interconnected with Hungary, Bulgaria, Moldova and Ukraine, only 15% of the country's interconnection capacity is with other EU member states. In 2017, a stress test conducted by ENTSOG showed that the Romanian gas market is one of the most vulnerable in the EU if Russian gas supplies are disrupted. The export capacity is almost non-existent.

While plans for multiple additional interconnectors exist, few are being developed on the ground.[89] One example is the BRUA gas corridor, linking Bulgaria, Romania, Hungary and Austria, that is currently being developed as part of the third list of Projects of Common Interest (PCIs) of the European Commission. However, without the extraction of natural gas from the Black Sea, the pipeline's export capacity will remain underused and essentially marginal.

Obstacles to implementation

Besides the requirements of EU legislation, Romania committed itself, through the 2012 Memorandum established with the EU, the World Bank and the IMF, to follow a timetable for eliminating regulated gas prices by 2015 for non-household consumers and by 2018 for household consumers. Regardless, in 2014 it decided unilaterally to postpone the gas market liberalisation until 2021. A new calendar was sent to the Commission, but less than a year later, the government completely froze the liberalisation process through GEO 114/2018. This led to the Commission launching an infringement procedure against the price caps and obligations imposed on producers to sell at regulated prices. Consequently, the process of liberalisation has been relaunched, with a proposal of a new phase-out calendar of regulated prices.

6. The way forward: a deal between the EU and the SEE through a new framework for regional cooperation?

The implementation of the European Green Deal will require some sort of regional cross-border approach. The potential for successful cooperation seems possible, judging from progress achieved in market organisation and regulation and through initiatives such as CESEC. The cooperation clause under the Governance Regulation will provide additional impetus, especially as, to date, the neighbourhood rivalry mentality still remains an obstacle to cooperation and cooperative planning. A climate-neutral continent will require, by definition, cooperation between the EU, the Energy Community and neighbouring countries such as Turkey. Climate neutrality over time will also raise the issue of (regional) carbon leakage.[90] A regional approach is important to ensure that the transition occurs simultaneously throughout the region in order to avoid, for example, the risk that more ambitious countries replace domestic higher carbon electricity production with other carbon-intensive imports from neighbours.

[89] J. Bowden (2019), op.cit.

[90] For example, increased electricity imports from Turkey and western Balkan countries.

The potential for renewable energy in southeast Europe, including the wider Black Sea region, has been repeatedly documented, for example by IRENA and the World Bank.[91] At the same time, there is ample of evidence that a combination of energy shortcomings and in particular electricity market organisation and regulation – and sometimes the lack of political will – has posed unsurmountable barriers to the decarbonisation of the energy mix, for example the integration of renewables, energy efficiency, storage solutions or nuclear. The persistent challenge overall is the lack of regional strategies and the competition for regional leadership, especially since only limited high-level interactions have been present in the region. CESEC has achieved several significant regional goals and this may indicate an appetite for bringing more interested parties together to overcome the adversarial mentality in the region. A potential expansion of the initiative beyond EU borders, for example Black Sea offshore renewables development, possibly alongside hydrogen or electricity grids, may become a crucial political platform for further enhancing the dialogue for strategic steering and policy guidance, along decarbonisation objectives. The experience from existing regional initiatives can be used to further promote market opening and better prepare the region for the energy and climate transition.

The energy transition should be not only target- but also business-driven, through the meaningful mobilisation of private investment. This would require substituting the 'compensation' discourse prevalent in the region's transition discussion with a discourse on opportunity, for example around low-carbon value chains such as renewables, storage, hydrogen and IT. This could be helped by a greater involvement of regional businesses in the negotiations and discussions at the EU level. Results from the CESEC initiative were facilitated when private companies and other non-state stakeholders were invited to actively coordinate with the European Commission to overcome long-persisting regulatory and market deficiencies. Active participation of civil society in this process is equally important. Non-governmental actors are essential to drive stakeholder engagement. Participatory processes related to the National Climate and Energy Plan could become a vehicle to achieve this.

The potential EU climate-neutrality target for 2050 is unprecedentedly ambitious, especially for this region. While all member states will face challenges in delivering the required transformational changes under the European Green Deal, it would do well for the EU to continue paying special attention to the SEE region. Given the different starting points of these countries, the state of the market and their political discourses, actual and practical solutions are needed for overcoming the existing energy market dysfunctionalities.

A revised high-level initiative such as CESEC might be able to provide the organisational structure for additional regional efforts. Such an initiative may lay the conditions for a 'New Deal' between the EU and the Energy Community member states for a future-proof sustainable future. Such a deal would require tailor-made solutions jointly developed by the governments in the region and the European Commission, to be implemented as part of 'EU Next

[91] See for example: IRENA (2019), "Renewable Energy Market Analysis. Southeast Europe", IRENA, Abu Dabi, (https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2019/Dec/IRENA_Market_Analysis_SEE_2019.pdf).

Generation'. For this to become real, efficient energy markets will be a precondition, even if it may be necessary to take into account the specificities of these markets as described above.

Additional leverage is provided by the Covid-19 recovery funds. A larger Just Transition Fund should be able to provide necessary support – both financial and know-how – for overcoming the challenges faced by SEE and other member states in their efforts to grow their economies in future low-carbon value chains.

A systematic engagement with SEE countries, possibly within CESEC, might be the best way to embed the transition to the low-carbon economy in the region, thereby accelerating the entire EU decarbonisation effort and realising the huge untapped potential that exists in this part of Europe. This could, for example, include regular meetings of the regulators and TSOs in the three countries and the wider region, the EU, the Energy Community and beyond. The process could start with general coordination meetings or analysis such as joint-demand forecasts to create transparency and understanding. Facilitated by the European Commission, it might gain as much appeal as CESEC. It could build on specific projects such as the development of the regional renewable energy potential, for example in the Black Sea, or infrastructure projects for electricity and hydrogen. A semi-formal structure could develop into a driver for regional integration within the EU and the Energy Community as well with other neighbouring countries.

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