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Gas Markets in Transition in SE Europe

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GAS MARKETS IN TRANSITION IN SE EUROPE



BACKGROUND PAPER FOR THE JUNE 8 IENE WEBINAR ON GAS
MARKETS IN TRANSITION IN SE EUROPE

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Introduction

Today, global and European energy and environment strategy is to a large extent guided by concerns over climate change and an emphasis on sustainable energy systems of zero or low CO₂ emissions. The energy sector appears to be in a dynamic mode as a result of its transformation, based on efficient and sustainable energy systems, with direct impact on market operation. But energy market transformation has a long way to go during the 21st century. New ideas and innovative technologies combined with skilled human resources will undoubtedly pave the way to cleaner and affordable energy for the next generations.

It is widely assumed that actions in promoting renewable energy sources (RES) and energy efficiency will lead to clean energy and sustained, pollution free, economic development. Electricity is emerging as the main energy carrier in Europe with new areas of applications, as almost everything becomes electrified, such as transport, heating and cooling. RES and decentralized power generation combined with provision for storage facilities are rapidly changing the electric grid with transformation of networks and the market, where grid operators must respond to new challenges.

Natural gas plays many different roles in the energy sector as in the case when it replaces more polluting fuels and so helps reduce air pollution and limit emissions of carbon dioxide. IEA's World Energy Outlook 2020 study (1) found that switching to natural gas has already helped to limit the rise in global emissions since 2010, alongside the deployment of renewables and nuclear energy and improvements in energy efficiency.

The contribution of gas to energy transitions varies widely across regions, between sectors and over time. IEA's study highlighted the limits of this contribution: "gas cannot, of course, do it all. It can bring environmental benefits, but it remains a source of emissions in its own right and new gas infrastructure can lock in these emissions for the future". Hence, there is homework to do for the gas industry over the next decades. The near-term priority is to minimise emissions all along the chain from gas production to consumption, with a particular focus on methane emissions. For the longer term, the industry needs to explore seriously the possibilities of reducing further the emissions, intensity of gas supply via biomethane or low-emissions hydrogen.

Still, natural gas is a relatively new fuel for the SE European region, while a number of countries, especially in the West Balkans, do not yet include gas in their energy balances or they are using only minimal quantities. In two key countries of the region, in terms of infrastructure and consumption, gas was introduced as late as 1996 in the case of Greece and in 1989 in the case of Turkey. But also in the case of the ex-COMECON countries of SE Europe, gas markets have been largely fragmented.

There appears to be a huge imbalance in terms of gas demand and market dynamics as on the one hand we have Turkey, with a market which roughly corresponds to all others put together (see Table 1) and then, on the other hand, we have the various small to medium size markets in the Balkans. In West Balkans, we have pockets - Albania, Kosovo, Montenegro, Bosnia and Herzegovina - with minimal or no gas use at all. Then, we have LNG, which is also scarce as a supply alternative in the sense that only Turkey and Greece and lately Croatia, have LNG import facilities. But it is the legacy of little or no interconnectivity, which appears at the root of the region's current problems: slowness in completing the internal gas market requirements of the Energy Union, together with difficulties in ensuring a high degree of security of gas supply.

Table 1: Gas Production and Consumption in Selected SEE Countries, 2008, 2018 and 2025e

Country	2008		2018		2025e	
	Gas production (bcm/y)	Gas consumption (bcm/y)	Gas production (bcm/y)	Gas consumption (bcm/y)	Gas production (bcm/y)	Gas consumption (bcm/y)
Albania	0.02	0.02	0.1	0.09	0.01	0.22
Bosnia and Herzegovina	0.0	0.31	0.0	0.24	0.0	0.45
Bulgaria	0.31	3.5	0.01	3.04	0.21	4.3
Croatia	2.03	3.1	1.28	2.48	1.52	3.3
North Macedonia	0.0	0.05	0.0	0.18	0.0	0.6
Greece	0.0	4.25	0.1	4.87	0.0	6.0
Kosovo	0.0	0.0	0.0	0.0	0.0	0.0
Montenegro	0.0	0.0	0.0	0.0	0.0	0.0
Romania	11.2	16.9	10.26	11.97	10.02	14.1
Serbia	0.25	1.92	0.45	2.93	0.51	2.8
Slovenia	0.0	0.51	0.0	0.8	0.0	1.07
Turkey	1.03	36.9	0.51	49.64	0.73	56.0
Total	14.84	67.46	12.71	76.60	13.00	88.84

Sources: IENE, TYNDP TSOs

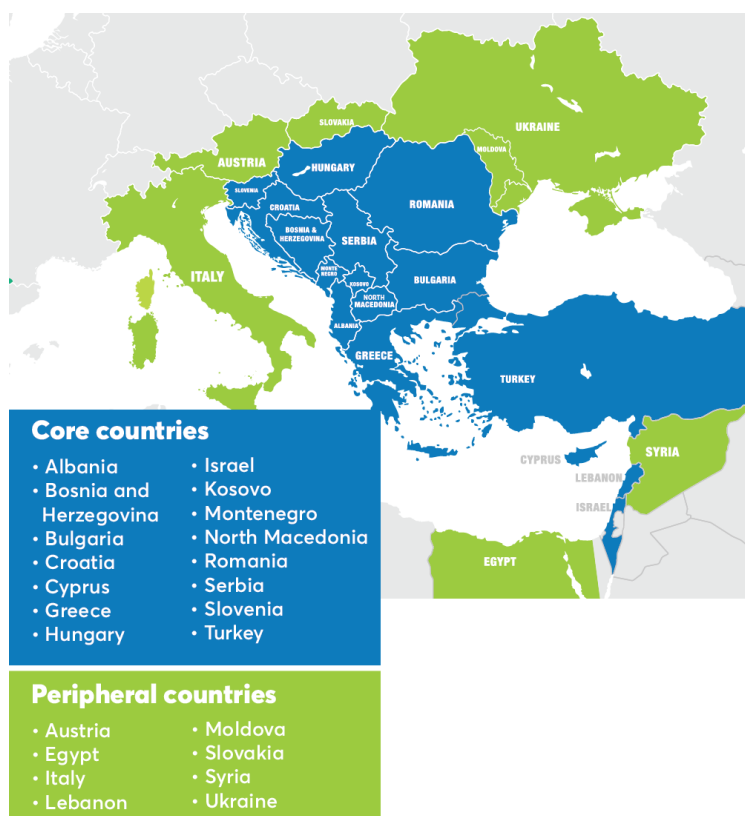
Now, as EU's all green strategy gains momentum, the SEE region is facing one more serious challenge as it is obliged to move a step further in its decarbonization path and examining the use of hydrogen, initially in conjunction with gas (blue hydrogen) and more importantly as an entirely new energy supply source through green hydrogen.

1. The SE European Region as Defined by IENE

As the economies of SEE countries are developing with the view of catching up with those of the rest of Europe, energy plays an important role both from financial/investment perspective, but also in terms of market development (i.e. liberalization, competition, etc.). The region of SE Europe, as defined and covered by IENE, includes 15 countries from Slovenia in the North-West to Israel in the South-East, 12 countries of the Balkan Peninsula, plus Turkey, Cyprus and Israel (see Map 1). From these countries, 7 are EU member states, 8 are NATO members, 5 are OECD members and only 3 are members of the Paris-based International Energy Agency (IEA), including Greece, Hungary and Turkey.

Although politically, culturally and economically diverse, these countries are related and bound in different degrees each to EU energy strategies, policies and objectives. Their economies appear widely divergent in terms of structure and level of development, but they share several challenges, which appear to be common to all. Among them, it is the priority they all give to the development of the energy sector, both in terms of infrastructure, energy mix and market operation. Six countries in the Western Balkans, known as WB6, are contracting parties of the Energy Community and hence in the process of fully adapting their energy legislation to EU Directives, while Turkey had made significant progress in adapting its legislation and market operation to EU requirements.

Map 1: The SE Europe Area Defined



Source: IENE

2. Latest EU Energy and Environmental Policies and Regional Priorities

For reference purposes, the current key EU Climate and Energy targets for 2030 are summarized as follows (2):

- At least 40% cuts in GHG emissions (from 1990 levels)
- At least 32% share for renewable energy
- At least 32.5% improvement in energy efficiency

The EU has now moved further and recently adopted new more ambitious targets to curb climate change, with a pledge to make them soon legally binding. Under a new EU Climate Law agreed between member states and the EU Parliament on April 21, 2021, the bloc will cut carbon emissions by at least 55% by 2030, compared with 1990 levels. The EU parliament had pushed for a higher target of a 60% reduction (3). Hence, the EC will soon have to revise upwards the aforementioned key targets.

According to European Commission's thinking and in order to meet the EU's climate and energy targets for 2030, in line with the European Green Deal, it is important to direct investments towards sustainable projects and activities. "The current COVID-19 pandemic has reinforced the need to redirect capital flows towards sustainable projects in order to make our economies, businesses and societies, in particular health systems, more resilient against climate and environmental shocks and risks with clear co-benefits for health", underlines the EC. (4)

Figure 1: Currently Applicable 2020 and 2030 EU Agreed Climate and Energy Targets

	GREENHOUSE GAS EMISSIONS	RENEWABLE ENERGY	ENERGY EFFICIENCY	INTER-CONNECTION	CLIMATE IN EU-FUNDED PROGRAMMES	CO2 FROM:
2020	-20%	20%	20%	10%	2014-2020 20%	
2030	≤ -40%	≤ 32%	≤ 32.5%	15%	2021-2027 25%	CARS -37.5% Vans -31% Lorries -30%
Upwards revision clause by 2030						

Source: European Commission

To achieve these ambitious targets, a common language and a clear definition of what is “sustainable” is needed. This is why EU’s action plan on financing sustainable growth called for the creation of a common classification system for sustainable economic activities, otherwise known as “EU taxonomy”.

2.1. What is the EU Taxonomy?

According to the European Commission, the EU taxonomy is a classification system, establishing a list of environmentally sustainable economic activities. The EC believes that its taxonomy is an important enabler to scale up sustainable investment and so implement the European Green Deal. Notably, by providing appropriate definitions to companies, investors and policymakers on which economic activities can be considered environmentally sustainable, it is expected to create security for investors, protect private investors from greenwashing¹, help companies plan the transition, mitigate market fragmentation and eventually help shift investments where they are most needed.

Taxonomy Regulation and Delegated Acts

The Taxonomy Regulation² was published in the Official Journal of the European Union on 22 June 2020 and entered into force on 12 July 2020. It establishes the framework for the EU taxonomy by setting out four overarching conditions that an economic activity has to meet in order to qualify as environmentally sustainable.

The Taxonomy Regulation establishes six environmental objectives:

1. Climate change mitigation
2. Climate change adaptation
3. The sustainable use and protection of water and marine resources
4. The transition to a circular economy
5. Pollution prevention and control
6. The protection and restoration of biodiversity and ecosystems

Different means can be required for an activity to make a substantial contribution to each objective. The Taxonomy Regulation tasks the Commission with establishing the actual list of

¹ Greenwashing is considered an unsubstantiated claim to deceive consumers into believing that a company's products are environmentally friendly.

² https://ec.europa.eu/info/law/sustainable-finance-taxonomy-regulation-eu-2020-852_en

environmentally sustainable activities by defining technical screening criteria for each environmental objective through delegated acts.

Currently, there appear to be two energy subsectors, namely nuclear power and natural gas, whose status as environmentally sustainable forms of energy remain in doubt and hence classification is at stake.

Figure 2: The Global Goals for Sustainable Development



Source: globalgoals.org

Assessment of Natural Gas

The European Union plans to label some gas-fired power plants as sustainable investments, after an initial proposal to deny them a green label faced a backlash from a group of 10 EU member states. In response, EC bureaucrats were forced to partially revise the wording and allow limited use of natural gas under strict conditions.

The European Commission's new proposal, shared with EU countries on March 20, would class gas-fueled plants that generate power plus heating or cooling as a green investment if strict conditions on emissions are met and they are operating by 2025. EU countries are split between those who say that such a decision would imply greenwashing, and those who see gas as crucial for them to quit more-polluting coal. The Commission looks set to delay its decision, after multiple draft proposals failed to bridge that divide. (5)

The EU's aim is to steer more capital into environmentally friendly projects to help it deliver on its plan to rapidly slash the greenhouse gas emissions causing climate change. But the taxonomy has become mired in disputes between EU countries over how to treat investments in natural gas, forcing the Commission to rewrite its original proposal from November. Given EU's so far negative assessment of natural gas and the EIB's binding decision to suspend funding to all gas related projects from 1 January 2021, the question surrounding gas suitability as an environmentally sustained form of energy acquires new importance and its role in minimizing GHG emissions.

Natural gas, a fossil fuel, produces roughly half the carbon dioxide emissions of coal when burned in a power plant and countries, such as Poland, Germany and Greece, plan to use gas to wean themselves off the more polluting fuel. This approach appears to serve the needs of

most SEE countries, which use coal and/or lignite as basic source for electricity generation and which will try to slash emissions by 2030. Substituting solid fuels with gas is undoubtedly a fast-track solution. But gas is not emissions-free and there are growing concerns that leaks of potent planet-warming methane from gas infrastructure could cancel out the benefits of switching to gas from coal. This is obviously not an immediate concern for SEE countries and such philosophical questions should occupy them at a later stage, once they manage to phase out solid fuel plants.

Seen in a broader context, the switch from coal to gas for power generation offers the single most important step to halve power generation's emissions and this constitutes a bold move towards GHG emission reduction. This is particularly important for SE Europe, where coal and lignite still have dominant role in power generation and gas appears as the only quick way to reduce substantially GHG emissions, if we assume that this is the desired (by the EU) goal.

Strict Conditions

Under the draft plan, gas plants that generate power and also provide heating or cooling can be classed as a green investment if they replace a high-emitting fossil fuel-based facility and result in a cut in greenhouse gas emissions of at least 50% per kWh of energy produced.

The gas plant must be operating by 2025, have the potential to use low-carbon fuels in future (e.g. biomass, geothermal) and emit no more than 270 grams of CO₂ equivalent per kWh of energy. For plants only producing power or those that also provide heating or cooling but do not replace a more polluting plant, the Commission stuck to its plan to restrict the green label to plants with life-cycle emissions below 100g of CO₂ equivalent per kWh, according to the draft document. That means gas-fired power plants operating now would need to add technology to capture their emissions in order to qualify.

2.2. Policy Inconsistencies Concerning Gas Use in SE Europe

If we are to take EC stated energy and climate policies and strategic directions with respect to 2030 targets at their face value, there is a clear prejudice against any further investment in gas infrastructure in view of the prospect of its full abandonment over the next 10-15 years and its substitution with hydrogen and RES. Meanwhile, all countries in SE Europe have firm plans encouraging further gas use for power generation, industrial and commercial use and for domestic applications.

Almost all governments in SE Europe consider gas use as the fastest and most efficient way for decarbonization. Already we witness much increased gas use in the region. Hence, there appears to be a strong inconsistency in the region between pursued EU policy targets with regard to gas use – with EU arms such as EIB and EBRD already implementing negative investment decisions towards new gas infrastructure projects – and locally applied energy policies, which very much favor further gas use. Sooner or later, the EU will have to address this serious policy discrepancy and decide on strategy correction and associated medium- and long-term action plans. In other words, to what extent is Brussels willing to prohibit gas use and what fuels is ready to propose as alternatives? Is hydrogen a real alternative and how is it going to replace gas at competitive cost?

It is no coincidence that last May a group of eight EU countries from the Balkans and the East joined forces to defend the “role of natural gas in a climate-neutral Europe”³. In a joint paper, the group of eight calls for “combined electricity – gas solutions” in the transition to net-zero emissions by 2050. “A transition based solely on renewable energy sources does not consider the need for a diversified energy mix in the EU,” says the paper.

The paper – titled “The role of natural gas in a climate-neutral Europe” – is signed by Bulgaria, Czech Republic, Greece, Hungary, Lithuania, Poland, Romania, and Slovakia. It makes the case for fossil gas in the transition away from coal power, which is a dominant form of electricity in many eastern EU member states. “When replacing solid fossil fuels, natural gas and other gaseous fuels such as bio-methane and decarbonised gases can reduce emissions significantly,” the paper argues.

The European Commission reckons that electricity will meet 53% of the bloc’s energy demand by 2050 as the bloc moves towards reducing emissions to net-zero. That leaves at least 40% for other energy carriers such as gaseous fuels that Brussels says will have to be fully decarbonised in order to reach the EU’s stated goal of becoming climate neutral by 2050. Natural gas has been a major driver of Europe’s rapid transition away from coal power and is also proving a valuable back-up for variable renewable electricity generation from wind and solar power.

3. The Expanded South Corridor

As European energy demand is likely to grow over the next few years, there will be a need for increased imports as indigenous oil and gas production has reached its limits and is already declining. In 2019, EU-27 was more than 60.7% energy import dependent (6), with this figure likely to increase in the years ahead; in addition to oil and gas, there is going to be a further decrease in locally produced coal and lignite in view of stringent environmental considerations. The South Corridor will play a pivotal role as an alternative entry gate for gas which will help Europe diversify both its energy supplies and its energy routes. Hence, the South Corridor is expected to strengthen EU’s energy security in terms of providing diversified energy routes.

The TANAP-TAP gas pipeline system is the foundation of the South Corridor. A number of alternative plans for channeling this gas to SEE countries, especially Greece, Bulgaria and Albania, are now being implemented with gas to be used for domestic consumption. These plans now include additional gas pipelines and FSRU terminals to be tied up into the TANAP-TAP system.

Another option, apart from the TANAP-TAP system, is the East Med pipeline which again, due to the significant technical and commercial challenges, could only accommodate limited gas quantities in the region of 8 to 12 bcm per year. Meanwhile, EC is actively exploring the possibility of massively increasing the member countries’ LNG capabilities as part of Energy Union priorities.

The Turk Stream is also considered as a vital gas supply route. Furthermore, the Turk Stream, especially in its 2nd phase, raises the prospect for the stalled ITGI (Interconnector Turkey-Greece-Italy) resurfacing and actually being developed.

³ Simon, F. (2020), “Eight EU states back ‘natural gas’ in net-zero transition”, *Euractiv*, <https://www.euractiv.com/section/energy-environment/news/exclusive-eight-eu-states-back-natural-gas-in-net-zero-transition/>

Alongside of the East-West route, the Vertical Corridor is a gas system that will facilitate the connection between existing national gas grids and other gas infrastructure in the East Balkans in order to secure easy gas transiting, thus contributing to energy security and market liquidity. Such a gas system (which will bring together national grids, underground gas storage facilities, interconnectors, LNG terminals) will form an important new corridor from South to North whose operation will be fully aligned with EU Directives and European energy policy.

As IENE has already pointed out, in view of several new projects in the region, it is time to redefine the South Corridor by including these new and potential gas supply sources and routes. Therefore, an Expanded South Corridor should be considered and defined as such, to include all major gas trunk pipelines and terminals which will feed gas into the system that will then be directed towards the main European markets (see Map 2). Finally, an Expanded South Corridor with its multiple of gas entry points and linked underground gas storage and LNG facilities will provide the necessary background for the operation of regional gas trading hubs.

Already there is a change in gas market dynamics in SE Europe, as TAP commenced its commercial operation since November 2020 and the new Krk FSRU terminal in Croatia began operating commercially in January 2021 (7). The key question now arises is at what extent isolated countries in the region, such as Albania, Kosovo and Montenegro that do not have a gas market yet or North Macedonia and Bosnia and Herzegovina, which have limited access, can benefit from these major developments in gas infrastructure projects over the next years.

Map 2: An Expanded South Gas Corridor



Note: The TANAP, TAP and Turkish Stream have been completed, while BRUA and IGB are under construction. The IAP, the IGI Poseidon in connection with East Med pipeline and IGIM are still in the study phase. Blue Stream and Trans Balkan are existing pipelines.

Source: IENE

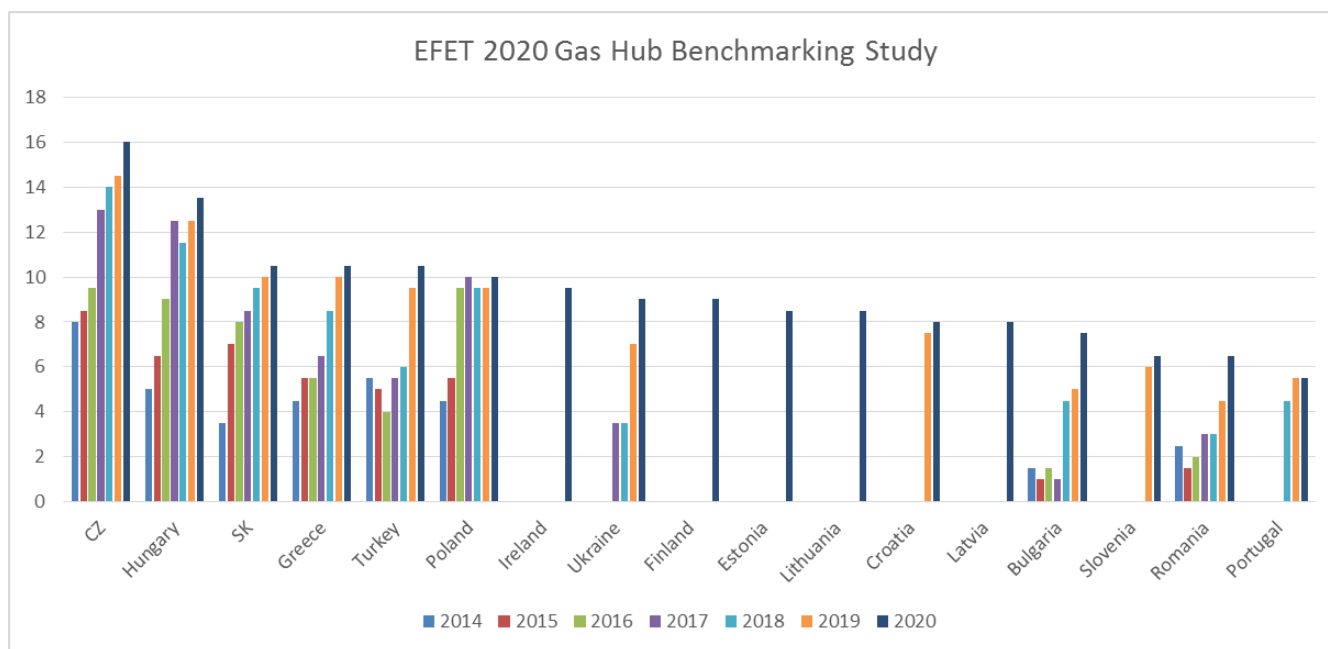
4. The Emergence of Gas Trading Hubs in SE Europe

There is a definite trend in European gas markets for gas volumes to be traded through gas hubs, several of which have been established and are operating successfully in many EU countries. Already fourteen (14) such hubs are in operation and more are planned over the next few years.

Today, there is not one gas trading hub (or hubs) serving the needs of the SE European region. The Vienna-based CEGH is the nearest such hub which at present serves the needs of Central European countries. Vienna's CEGH, in view of its geographical position and trade volume and origin, can play pivotal role in enhancing gas trading in SE Europe and also act as a benchmark (to the regional gas hub(s) to be developed).

The background is already set for the planning and establishment of a number of gas trading hubs which will serve the needs of the broader SE European region enabling market participants in Greece, Bulgaria, Romania, Serbia, Croatia and Turkey to actively participate in gas trading activities. Already, there is a number of nascent gas trading hubs in SE Europe, which include those in Greece, Turkey, Bulgaria and Romania. According to the EFET's Annual Scorecard 2020 (8), Greece, through the Hellenic Trading Point (HTP), is the frontrunner in SE Europe in its attempt to establish a regional gas trading hub.

Figure 3: 2020 Gas Hub Benchmarking Study



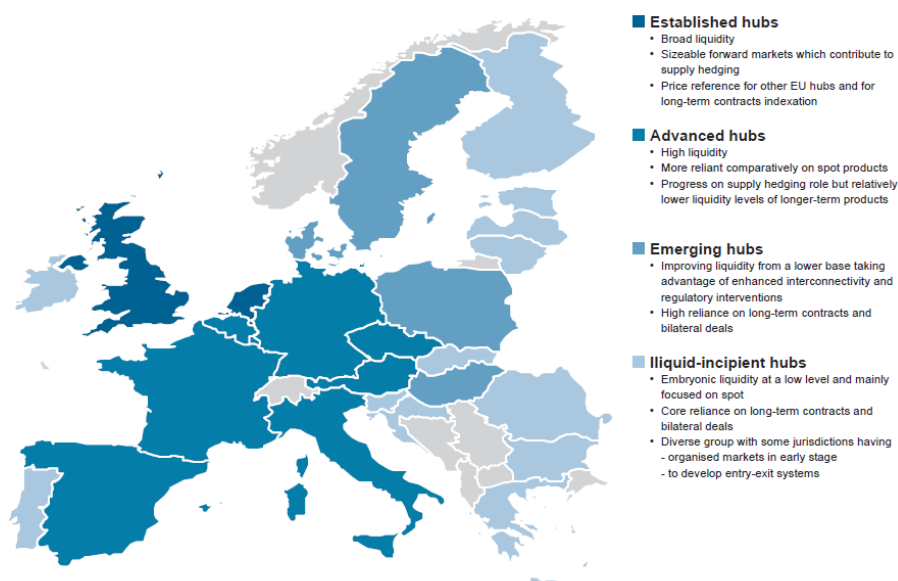
Source: EFET

Research undertaken by IENE (9) concludes that several and not a single regional gas trading hub will emerge in the medium term. Inevitably, competition between gas hubs in the region will ensue and successful gas trading hubs will be able to attract business on account of their ability to provide cost-competitive and high-quality services. Gas trading hubs can play an important role in facilitating regional market integration and trading activity in general.

5. Regional Gas Market Integration

As it is evident from Map 3, we are still facing a highly fragmented landscape for gas market development in SE Europe, with effectively very limited or no cross border trading as yet, which is very difficult to support the development of competition and of liquid market trading, despite the high interest by several SEE countries to become gas trading hubs⁴. In this environment, it is too difficult to imagine how the pan-European vision of a Gas Target Model would be implemented within a reasonable time frame. Interestingly enough, some analyses show that, despite this fragmentation of the markets, there are elements of national gas market legislation and regulation that would allow the development of gas trading in the way performed in the more mature gas hubs of Europe and the USA.

Map 3: Ranking of EU Hubs Based on Monitoring Results – 2019



Source: ACER⁵

These analyses reveal that the only way forward for the appropriate development of the gas market in the region is the consistent and rapid implementation of the provisions of the Third Energy Package, at least to the extent that the countries have committed to implement it in a legally binding way, i.e. the EU Member States and the Energy Community Contracting Parties.

As for Turkey, plans are rather ambiguous, in the sense that efforts are being made to enhance competition domestically, at least at the level of wholesale supply and, to some extent, also at retail level. However, Turkey reveals a scepticism in implementing radical legal reforms that would allow its gas market, which is by far the largest and most dynamic in the region, to genuinely open to competition from the outside, by, for example, joining the Energy Community or, as an alternative, implement crucial parts of the legislation for market liberalization that most of the countries in the region have already committed to implement.

⁴ IENE (2019), "Prospects for the Establishment of Gas Trading Hubs in SE Europe", *IENE Study M49*, <https://www.iene.eu/articlefiles/working%20paper%20no28.pdf>

⁵ ACER (2020), "Market Monitoring Report 2019 –Gas Wholesale Markets Volume", <https://www.acer.europa.eu/en/Electricity/Market%20monitoring/Pages/Current-Edition.aspx>

As long as Turkey refrains from taking such bolt steps, its gas market will remain practically closed as no gas can be exported or imported freely due to existing restrictions.

The setting up and operation of one or more regional gas trading hubs will undoubtedly have some economic implications for the countries involved. However, the precise impact of an operating gas trading hub on market conditions is hard to predict at this stage and even harder to quantify. The reason is the introduction of a completely new approach, together with a new and inclusive price-setting regime into a market where none existed before; other than bilateral agreements based on strict oil-indexed contracts. These bilateral arrangements still determine, to a large extent, gas prices in SE Europe (e.g. Bulgaria, Serbia, Romania, Greece and Turkey), which is predominantly supplied via pipelines.

The Case of Greece

In order to discuss the economic implications from the operation of a proposed fully-fledged regional gas trading hub, let's say, based in Greece, a number of assumptions need to be made in terms of geography, infrastructure and cost, prospective gas supplies and their origin and anticipated trading conditions. These assumptions are summarized as follows:

- (1) In terms of geography, trading (with the exception of LNG imports) will initially take place between market participants in Greece, Bulgaria, Romania and Turkey.
- (2) In order for cross-border trading to evolve, the following infrastructure should be in place by 2023:
 - I. The Greek-Bulgarian Interconnector (IGB)
 - II. The TANAP-TAP pipeline system, linking Turkey, Greece, Albania and Italy (already operational)
 - III. The gas interconnection between Greece and North Macedonia (IGNM)
 - IV. The underground gas storage facility in South Kavala
 - V. At least one floating LNG storage and gasification unit (FSRU), such as the Alexandroupolis FSRU or the Motor Oil FSRU (i.e. Dioryga Gas) in Agioi Theodoroi

The cumulative cost for these projects, based on company information, can be estimated as follows:

Table 2: Cost of Planned Gas Infrastructure Projects

Natural Gas Project	Status	Cost
IGB	Under construction	€220 million
TANAP	Completed	€805 million (with TANAP's cost corresponding only to Turkey's European ground route)
TAP	Completed	€4.5 billion
IGNM	Under planning	€50 million
South Kavala UGS	Under planning	€350 million
Alexandroupolis FSRU	FID	€380 million
Total		€6.305 million

Source: IENE

We must point out that the above cost estimate is specific to the nascent regional gas trading hub based in Greece and is not characteristic of infrastructure costs in general for the setting up of gas trading hubs in the broader region. We should also point out that most of the above infrastructure is already in place, while the rest is under various stages of completion.

(3) The origin of natural gas will be as follows:

- I. **For pipeline gas:** This originates in Russia (via Turk Stream) and in Azerbaijan and transported, through the TANAP-TAP system.
- II. **For LNG:** Suppliers include Qatar, Nigeria, Algeria, Norway, USA, Egypt, Russia, etc.

(4) In view of currently available information concerning gas volumes corresponding to long-term contracts through the TANAP-TAP system, the existing capacity of the pipelines involved (i.e. IGB, IGT) and gas demand projections for 2030, one could safely assume that some 0.5 bcm of gas will become available for trading as early as 2021, rising to 2.0 and possibly to 3.0 bcm and more by 2025. In addition to that, one should take into consideration a realistic churn ratio of, let's say, 1.0 to 2.0; however, hard this may be to predict. Given the experience of European trading hubs, churn ratios may vary from 1 up to 20.

(5) Additional gas quantities for trading at the Hellenic Trading Point could become available from other sources such as Russian gas (via Turkish Stream), from Turkey's system (Turkish basket) and LNG until 2025.

Discussion

Irrespective of the international and other exogenous parameters that would positively affect the developments of the gas markets in SE Europe in the medium to long term, on a national and regional basis, the progress really achieved in the gas markets of the region during the last decade is rather poor. The nature of the gas markets of the region remains predominantly national, with very little, if any, cross border trading taking place, other than the one implemented through the long term supply agreements national incumbents have with their traditional suppliers.

With the exception of Croatia and Romania, with indigenous production covering almost 60% and 80% respectively of their domestic demand, all other SEE countries that have a gas market are solely depending on Russian imports. Albania, Montenegro, Kosovo and Cyprus still have no gas market, while only Greece, Croatia and Turkey possess LNG gasification terminals, representing the only LNG import points in the whole region.

In addition, the whole region is characterized by the lack of sufficient interconnectors which would allow the development of gas trade between the countries. In practice, the only pipelines that link the countries of the region are the traditional transit pipelines, which have been developed to serve the long term contracts signed several decades ago, mainly in implementation of Intergovernmental Agreements (IGAs). In most of the cases, these pipelines are subject to long-term capacity reservation through ship or pay transit contracts. Since the validity of all those transit agreements, concluded prior to the accession of the corresponding countries to the EU, as, for example, is the case for Romania and Bulgaria, supersedes the legal obligations arising from the European Acquis on energy, access to the corresponding pipelines, is, in principle, prohibited, until the corresponding Intergovernmental Agreements expire.

In SE Europe as of late, there is a momentum of gas infrastructure projects build up (including gas pipelines, FSRUs, LNG terminals and underground gas storage facilities), in various stages of planning or construction. However, several issues and challenges remain, in particular on their financing options in terms of EU Energy Taxonomy and wider European energy and climate policy perspective, as analysed in this Background Paper. Hydrogen introduction looms large as a major challenge ahead for most countries in SE Europe, more as a threat than salvation as they have not yet managed to develop their gas markets.

Whether there can be a fully functioning regional gas market by 2025 is still doubtful, but certainly the completion of several of the CESEC⁶ priority projects will create one of the essential preconditions for a sustainable gas trading and pricing hub – good interconnectivity to enable supply diversity and the transfer of price signals from market to market.

On the basis of existing long-term contracts and in view of the emergence of gas trading hubs, the SE European region will retain, if not enlarge, its transit function. The Trans Balkan Pipeline is likely to become redundant as Russia increases volumes through Turk Stream, but moving Turk Stream's gas through SE Europe will require new capacity and this at present is planned through Bulgaria and Serbia. Additionally, new gas volumes through the Southern Corridor are piling up (e.g. TAP to Italy), while additional ones (e.g. via East Med) could become available before 2030. At the same time, more LNG inputs are planned as capacity builds up in Greece and Turkey.

There is enough activity throughout the SE European gas chain to suggest that its importance to Europe, especially as the Energy Union becomes consolidated, will increase even further. Especially since additional supply points develop as for example in the Black Sea. The main question is whether natural gas can still be characterized as a transit fuel and thus, new gas infrastructure projects can be justified, let alone, be implemented over the next years, or EU's powerful green lobby, still looking for pretexts, will manage to sideline it.

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⁶ Central and South Eastern Europe energy connectivity (CESEC) works to accelerate the integration of central eastern and south eastern European gas and electricity markets. The CESEC high-level working group was set up by Austria, Bulgaria, Croatia, Greece, Hungary, Italy, Romania, Slovakia and Slovenia and the EU in February 2015. They were joined later by eight Energy Community contracting parties: Ukraine, the Republic of Moldova, Serbia, the Republic of North Macedonia, Albania, Bosnia and Herzegovina, Kosovo and Montenegro.

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