14TH SE Europe Energy Dialogue

25 & 26 May 2023
Thessaloniki

Conference Overview and Conclusions -

Rapporteur's Report by John Roberts

Athens June, 2023

The 14th South East Europe Energy Dialogue held in Thessaloniki on 25 and 26 May 2023, opened in an environment shaped by two forces: the need to tackle the energy consequences of Putin's invasion of Ukraine and to requirement to combat the onward rush of adverse climate change.

The war in Ukraine naturally prompted extensive discussions on the strategic importance of energy suppliers in the Eastern Mediterranean and the Caspian, as well as LNG exporters further afield and on the role of the European Union and the Energy Community in boosting regional solidarity. In addition, there was a substantial focus on the strategic importance of Southeast Europe itself as a market and on the need for both regional solidarity and much broader European solidarity.

Within this context speakers considered elements that jointly as well as individually help resilience, notably interconnectors, the development of hydrogen corridors, regional power generation, and, in transportation, and the application of new technologies to produce low carbon fuels. And, persistently, there was the issue of the balance of fuels in energy supply and the repeated refrain that there was still a requirement for fossil fuels and that gas, in particular, would retain its importance; that it should not necessarily be considered as just a transition fuel on the path to a fossil-fuel free future. And to cope with crises, a host of speakers – including Ambassador Lodge, Amit Mor, Tassos Vlassopoulos, Atonis Koumpias, Katja Yafimava, Gokhan Yardim, Eugenia Gusilov, Efi Millioni, Pandelis Biskas, Katerina Sardi, Muhsin Mazman and, almost certainly, other participants as well – all stressed the importance of energy storage.

In terms of climate change and the need to intensify measures to limited global warming and bolster sustainable energy development, it was noteworthy that the conference opened on the day that the International Energy Agency announced its latest annual study on global energy investment. This projected that in 2023 no less than $1.7 trillion would be spent on clean energy, including renewables, electric vehicles, nuclear energy, energy efficiency, heat pumps and emission measures. At the same time, expenditures on coal, gas and oil would total just $1 trillion. There would also be more investment in solar power than in oil. With investments in renewables generally yielding faster returns than investments in conventional fossil fuels, this constitutes a truly remarkable change in the pattern of energy investment.

On the first day, the Ambassador's Forum highlighted the core issues, with the UK Ambassador to Greece, Matthew Lodge, directly linking both facets of the current energy dilemma. The world is facing an energy crisis aggregated by the invasion of Ukraine, he said. The need for access to uninterruptible, reliable and affordable energy was more important than ever. "Energy security must go hand in hand with climate action," he argued. What was required was a global solution and global collaboration – "or at least as global as we can manage."

Lodge said the UK's priorities were building strategic partnerships with a particular focus on shared democratic values and responsibilities. He said the direction of travel for the UK trajectory towards an energy transition was clear. The integration of solar-reliant hydrogen with battery storage was one way forward and, he noted, BP was already working on large scale battery storage in Greece.

Eric Holmgren, the US commercial attaché, noted that the East Mediterranean was of strategic importance to the United States. He spoke of the need to de-leverage Russia's Gazprom and the need for Europe "to get out of Russian gas." He stressed Greece's role as an emerging energy hub. As for the United States, Holmgren argued that while it was providing LNG, there was more demand for LNG than it could supply. More broadly, however, the growth of LNG worked both for European energy security and for US jobs.

With regard to pipelines in the Eastern Mediterranean, Holmgren noted that such projects as the idea of connecting Egypt to Greece were elegant solutions when looked at on the map. But, he stressed: “We don't pick projects. We let the market decide that.” However, he cautioned, “China and Russia don't share our market principles.”

Michael Christides, the former Secretary General of the Black Sea Economic Corporation Group, stressed the need for regional cooperation. If you didn't have this, he said, then, “post-2030, today's investments in oil and gas may turn into useless relics we all wish to forget.”

It was important to remember that Greece needed to satisfy not only its own requirements but those of its neighbours. And Greece, he said, was indeed establishing connections with all its neighbours. In this regard Christides cited the concept of developing a reverse version of the long proposed Alexandroupolis-Bourgas oil pipeline to carry oil to Bulgaria from Greece, in contrast to the original “Bosphorus bypass” concept of a line carrying oil from the Black Sea to the Mediterranean.

Along with many other speakers, Christides stressed the need to tackle the climate challenge, saying this could only be solved by coordinated action throughout the whole region. But he warned this also required a solution to the Cyprus problem.

Dr. Yurdakul Yigitguden (Independent Energy Advisor and Former Coordinator of OSCE Economic and Environment Activities, Organization for Security and Co- operation in Europe) stressed the importance of social acceptance for new forms of energy.

The Ambassadors’ Forum followed opening presentations on the Global Energy Scene and Regional Perspectives, by Tthe IEA’s Apostolos Petropoulos, (Energy Modeler, IEA, Paris, France , delivered online) and by Professor Komninos Komnios, (Associate Professor in Evidence Law, Digital Technology & Alternative Dispute Resolution, Member of Greece’s Regulatory Authority for Energy) and Dr. Panagiotis Papastamatiou, (Director, ENTEKA & CEO of Hellenic Wind Energy Association ELETAEN/HWEA, Greece).

Mr Apostolos Petropoulos began by saying that China is the largest single partner in all major clean technology supply chain steps. However, he did note that the European gas share of global heat pump manufacturing is set to double by 2030. Equally important were the comments by Professor Komnios, who said not only that Greece was developing five LNG terminals, but who focussed in particularly on how to empower consumers and how to champion the public interest sector, particularly in the context of the European Green Deal. He argued there needed to be a whistleblowing platform and he spoke of the need to have price comparison tools in order to estimate the amount of consumption required by existing household appliances.

In this context, the conference Chairman, Mr. Costis Stambolis, noted the pioneering of consumer friendly practices regarding wind power. For his part, Dr. Papastamatiou noted that wind already accounts for around 17% of routine EU and UK electricity demand , with a capacity totalling around 225 gigawatts. This wind power, he argued, was particularly important for island interconnections, and he noted the way in which Greece was focusing on connecting outlying islands, including Crete and the Dodecanese.

The session on country reports was particularly notable for the emphasis on LNG import terminals, including five each in both Greece and Turkey. But there was also a significant new element to the regional energy balance: the prospective development in Romania of small scale modular units for nuclear power generation.

Mr. Stavri Dhima, (Independent Energy Consultant, IENE Partner, Albania) spoke of the prospective expansion of the Trans Adriatic Pipeline (TAP) and of Shell's efforts to increase Albania's own energy supplies through drilling, notably at the highly promising Shpirag oilfield. In addition, Albania was working to add around 1 GW in solar power capacity with three competitive procedures currently under way intended to yield 100mW each for a total of 300 mW.

Amit Mor (CEO of Israel's EcoEnergy Financial & Strategic Consulting) noted that no less than 70% of Jordan's electricity supply was routinely powered by Israeli gas – and that sometimes the level reached 90%. He considered that although Israel's offshore gas resources were growing, there were limited options for additional long-distance gas exports since Israel's domestic market required access to 60% of its gas reserves for next 25 years. Israel was working to secure a floating LNG production plant but there was no prospect of a full-scale East Mediterranean Pipeline to Greece and Italy, as proposed some analysts and commentators.

Israel's domestic requirement for gas was currently fairly stable, although it was expected eventually to fall from around 70 TWh in 2018 to around 60 TWh in 2050. Renewables would account for more than 50% of market by 2050. Israel was also investigating prospects for both carbon sequestration and storage (CCS) and for hydrogen development.

Mr. Mirsad Sabanovic (Independent Energy Consultant, IENE Partner, Bosnia and Herzegovina - online) said that Bosnia and Herzegovina had a continual annual surplus of around 25% of its electricity. The contribution from thermal power plants was falling as renewables came on stream. The country was currently commissioning more than 2,000 MW of renewables-based power with photovoltaic plants accounting for no less than 1,500 MW. However Bosnia's ability to cornubite to regional solutions was limited by the existence of just one gas interconnector, although three were studies for new interconnectors to both the east and south.

Slavtcho Neykov, Chairman of Bulgaria's Energy Management institute (EMI), noted that Bulgaria was now receiving gas from Azerbaijan, but that the country still lacked a national energy strategy and clear policy direction.

Mrs Toth Borbala, Senior Analyst with Hungary's REKK, noted the combination of energy poverty and lack of price signals that might promote greater energy efficiency – and also the apparent inconsistencies regarding renewables development. She began by observing that 91% of Hungarian households use gas in some form and that Hungary was "contracting even additional quantities from Gazprom in 2022-23". Modelling By her own institution, REKK, indicated that so long as there was enough gas in Europe as a whole, then there would be enough gas in Hungary. At present, she said, Hungary relied on Russia supplying 11 bcma, with 5 bcma required for heating.

Mrs Toth added, however, that low energy efficiency in the country's housing stock is "a widespread problem"; that there are no direct price signals to consumers, who were shielded in 2020-21 from the energy cost increases; and that financing in the state budget was preventing investment into energy efficiency and had led to poor building stock condition. There was some change in August 2022, with a modification of pricing structures including the price of both natural gas and electricity. But energy poverty is a problem, and, in general, Mrs Toth considered that price support should be replaced by energy efficiency support.

As for Hungary's power sector, demand was stagnant, there was an effective ban for wind power connections; and an effective ban for small-scale household photovoltaic connection. Nonetheless, renewables had

secured a "steep penetration" of the Hungarian market in recent years and were now responsible for more than 4GW of capacity and were targetting 10-13 GW.

In contrast, Prof Aleksandra Krkoleva Mateska, (Professor at North Macedonia's UKIM/FEIT) highlighted how North Macedonia was using renewables and price mechanisms to tackle the continuing energy crisis. The crisis provide the motive for increased investment in renewables with no less than 267 new renewables-based plants installed in 2022. So far, she said, the total capacity of new renewables plants amounted to 144.4 MW, with photovoltaics accounting for 99.2 MW, wind for 36 MW and small hydro for 7.2 MW. Professor Mateska also noted the Introduction of a block tariff system to encourage customers to save electricity and reduce bills while she also spoke of "Increased transparency owing to competition between a universal supplier and other suppliers."

Ms Lidija Bozic (Head of Production Department, Croatian Hydrocarbon Agency - Online) noted Croatia's relatively strong domestic energy supply, saying that, until recently, 70% of the country's gas needs were covered domestically, notably from fields in the northern Adriatic.

Fadil Ismajli (CEO of the New Kosovo Energy Corporation - online) spoke of the problems of developing an energy policy at a time when there was a rapid turnover of governments. The key issue was that Kosovo needed to move on from reliance in coal-fired power plants.

Aleksandar Mijuskovic (Chairman of Montenegro's CGES) noted the increase of the country's solar capacity, with seven solar plants in operation as of end 2022.

Ms. Eugenia Gusilov (Director of the Romania Energy Centre in Bucharest - online) spoke of a new programme to provide 10 GW of renewables, noting that "we will overshoot our climate target for the share of renewables in power production." Moreover, she added, "in May, for the first time, we have had negative energy prices." Romania had also started work on its first storage project, with a 2 GW capacity, she said.

But perhaps Ms Gusilov's most striking contribution concerned the potential for a breakthrough in the provision of power from small modular nuclear reactors. Just five days earlier, at the G20 summit in Hiroshima – the once-devastated site of the world's first atomic bomb attack – the US. Japan, South Korea and the United Arab Emirates had jointly agreed a $275 million aid package to enable Romania to build its first modular reactor on the site of the former coal-fuelled power plant at Doicesti.

Mihailo Mihailovic, Independent consultant, Serbia., held to the mantra "Hope for the best; prepare for the worst," as he bracketed his remarks on Serbia's progress in harmonising a green transition with images of a radical reshaping of global geopolitics and European maps that envisaged a very different set of international relations to those existing today.

One of the most detailed presentations in the country section came at the end, when Mr Gokhan Yardim (Partner and Manager, Anadolu Natural Gas Company, Turkiye - online) noted the dominance of renewables in Turkish electricity generation. The shares of electricity production in 2022, he noted, were: renewables 39%; coal 34.6%; natural gas 22.2%. Total gross generation was 326 billion kwh, down 1.7% on the 2021 total of 331 billion kwh.

By the end of 2022, Turkiye's renewable energy-based installed power had reached 56.393 megawatts, accounting for 54.32% of total installed power of 103,809 megawatts. He added that one of the largest solar

power plants in Europe, the 976-megawatt capacity YEKA GES-1 power plant at Konya Karapınar, was now in service.

Subsequent sessions ranged widely. In a session on oil and gas exploration, Professor Stavri Dhima (Independent Energy Consultant, Albania) stressed Albania's need for gas. Canada's George Kovacacic, (Croscorp International – online) delivered one of the most worrisome observations when he noted that France's President Macron had called for a "green pause" because of the risk of industry moving elsewhere. He also argued that because of its relative energy poverty, South East Europe needed to develop its local oil and gas resources.

Victor Mocanu (Professor of Geophysics at the University of Bucharest, Romania) described the news about small modular nuclear reactors as "very good" whilst noting the need to remember countries where many people still do not have reliable electricity supplies. Mocanu also said: "In business we need all types of synergies; fossil and non-fossil will be together for at least the next generation."

Tassos Vlassopoulos (CEO Helleniq Upstream, Helleniq Energy, Greece) made his point about linkage between fossil- and non-fossil fuels even more strongly when he said there was a need for more oil and gas exploration "even while we are working to decarbonise." He also emphasised the need for storage capacity in SouthEast Europe and the Mediterranean.

Mr Efthimios Tartaras (Head of Geoscience & Advisor to the CEO of Greece's Herema) spoke of Herema's accelerated exploration programme, saying that drilling would start in one block of the Ioannina field around the end of 2023 or in early 2024.

Amit Mor declared that carbon taxation constituted an effective way of facilitating the energy transition, but also called for utilisation of CCS. He added: "We need everything; (including) nuclear. And most important: energy conservation through saving."

Mor also argued simply " We need further exploration of oil and gas", and that we had to retain "the security of goals for achieving security of supply whilst also meeting net zero target by 2050." He considered that an East Med pipeline could be developed based on Cypriot gas, but noted that, in effect, Cyprus was hostage to Turkey.

In a session on Energy and Geopolitics, Charles Ellinas (Senior Fellow with the Atlantic Council) cautioned on the prospects for an East Med pipeline. In terms of participation, he said "Turkey insisting it must be involved in the East Med gas pipeline" constituted an issue that would pose significant problems for Cyprus. "Let's hope, but let's be realistic," was Ellinas's verdict on the East Med line.

In terms of supplies for the line, there were also problems. There was, he said, no gas available from Chevron, the major developer of gas in Israel, to go to Europe. Greece's Energean, he said, has made some small discoveries - reserves of 31 bcm, "a tiny amount". Still considering some work with Cyprus but no interest in any further investment. It was considering exporting such gas as it had found already to Egypt.

As for Egypt itself, its own production was going down, with its major offshore field, Zohr, having water problems. There had been, Ellinas said, "no major discoveries since Zohr," while "a new small field will be fast-tracked, because of shortage of gas domestically." Egypt's LNG production facilities, operated by Italy's Eni, were still under-utilised.

Regarding Cyprus, Ellinas said it needed gas to bring domestic energy prices down. At Aphrodite, the first Cypriot field to be discovered, drilling was at a critical phase. He said: “The key is the centre of the three formations. Until there is clarity there, we don’t know how much they really have.” Ellinas also discussed two of the other majors engaged in offshore Cypriot development. Exxon’s plans, he said, “are longer term” with Exxon essentially waiting for more discoveries, while Italy’s Eni was exploring the possibility of transporting its gas to Zohr, and then on to the Egyptian plant at Damietta for liquefaction there.

Antonis Koumpias (KG Law, Athens) considered, however, that Exxon’s activities seemed to demonstrate that the East Med pipeline project “seems to be gaining momentum.” Koumpias effectively highlighted the need to ensure the alignment of commercial and governmental interests. There was, he said, “ a complex interplay between economic technical and political elements.” Koumpias spoke of the EU principal of solidarity, backed by a €1.3 bn programme of which €500m was being made available for new infrastructure. In Greece, key projects included development of the Revithoussa LNG import terminal and of underground storage facilities at Kavalla.

Slavtcho Neykov asked a key – if somewhat rhetorical – question: “ How do we construct a nuclear power station dependent on Russian technology and Russian finance in a period of Russian sanctions?”

Professor Ionut Purica.(Member at Prime Minister’s Advisory Council for Sustainable Development, INCE-Romanian Academy) was pleased that Romania would be developing small modular nuclear power as well as wind parks and photovoltaic parks. But, he cautioned: “We should not shut down coal. We should develop technology for clean coal.”

Yurdukal Yigitguden (Energy Advisor and Former Coordinator of Economic and Environment Activities for the Organization for Security and Co-operation in Europe OSCE) provided a comprehensive briefing on Turkey’s ability to contribute to regional energy security, particularly with regard to gas. He anticipated that the offshore Sakarya field in the Black Sea would enter production in October 2023, with an initial output of around 10 mcm a day. Phase Two, to produce a further 30 mcm a day, was due to be completed in 2028. As for Phase Three, to produce an additional 20 mcm a day, no contracts had yet been signed.

Yigitguden also addressed Turkey’s role in energy transit. He noted Azerbaijan was intending to supply some 6 bcma to Bulgaria and Romania. But while Iraq possesses a resource base, it could not be counted on as a supplier right now. “We’re still waiting for Iraqi gas”, Yigitguden said; no less than 16 or 17 bcma was being flared. He also noted that Turkey’s own nuclear development was proceeding, with the Russian-developed Akkuyu plant expected to generate its first electricity towards the end of 2024 or in early 2025. The contract, he noted, provides for power to be supplied by June 2025.

Gokhan Yardim likewise referenced the development of the Sakarya gasfield. Turkey was well placed, he argued, to act as a country for delivery of onward gas supplies to Bulgaria, Macedonia, and as far as Ukraine. Yardim also spoke of Turkey's renewable resources, and of its development of underground storage facilities and its increased development of LNG import terminals.

Katja Yafimava initiated an extremely good session on Energy Security and the Strategic Role of Gas by noting that the collapse of Russian gas exports to Europe was much faster than anyone had expected. Gazprom pipeline deliveries were now down to less than 20% of their pre-crisis level. Larger and faster than the European Commission had expected or prepared for. And while Turk Stream and Blue Stream were continuing

normally, flows through, the Yamal pipeline had been stopped completely since May 22 while flows through NordStream, of course, had stopped on September 22.

Ms. Yafimava spoke of EU plans for a joint purchasing platform to aggregate purchases by various EU members, a move that would help import gas from countries that find it difficult to cope with Western market methods such as Turkmenistan.

She also noted an acceleration in hydrogen infrastructure build-up, although hydrogen still seems to be a more distant solution to current energy shortages.

She drew specific attention to the threat posed by the possibility of a harsh winter in 2023-24, particularly to Central Europe. There were infrastructure constraints that limited the ability of non-Russian gas to reach consumers. In this context, Germany would play a key role as gatekeeper for LNG imports for other countries in the central European region.

She noted that the European Union's plans for a 50% reduction in gas demand only required voluntary adherence in 2022-23, but they could be triggered in the winter of 23-24, If there was a significant deviation from normal winter weather. However, implementation would be extremely difficult.

On the other hand, at least at present, there were some positive signs. For instance, the amount of gas in EU storage at the end of the first quarter of 2023 was 58.5 bcm, compared with just 31.1 bcm at the end of the first quarter of last year. Ms Yafimava was concerned that if there was a hard winter in 1923-24, then EU solidarity would only have a limited impact. The conclusion of new long-term contracts for LNG that would enable the next generation of LNG supplies to reach Europe was proving difficult.

Nonetheless, she expected the European market to rebalance by 2026-27.

In this regard, John Roberts said repeatedly that even though we could not forecast likely weather conditions, Europe still had to be prepared for a potentially difficult winter in 2023-24. In 2022, LNG supplies were augmented considerably by a range of new or refurbished LNG production projects while Gazprom had continued to pump gas to Europe in the first half the year. Above all, Europe had benefitted from an extremely mild winter in 2022-23. But in 2023 there was very little fresh LNG coming on line although Europe was lucky that, because of the mild winter, it had so much gas is already in storage. But the impact of high levels of investment in renewables and energy efficiency in 2022 and 2023 should mean that while the scale of demand destruction during the winter of 2023-24 could potentially be very considerable – everything depends, of course, on how severe the winter actually proves to be – there should be a steady improvement in overall energy conditions thereafter. In his concluding remarks, Roberts said: “We are going to get a European rebalancing. Katja was thinking it would come about 2026. I think it's going to come a bit earlier than that.”

Mr. Max Vauthier, (Managing Director, LNG Value, France - online) drew attention to the necessity of long-term contracts to support to secure financing. He also noted the challenge of infrastructure referring to the capacity of unused pipelines and the need, in particular, to expand North South corridor connections in Europe.

Nicos Katsis, Chief Officer of Asset Management at Greece’s DESFA, drew attention to Greece's own development of no less than five LNG import terminals and the expansion of existing infrastructure, including

duplication of the 215 km Karperi-Komotini pipeline which DESFA has said will be 100% ready to carry hydrogen when completed. Katsis drew attention to the dearth of support for the European hydrogen backbone, the project to create corridors to carry hydrogen.

Throughout the region. Vassilis Gaganis (Project Development Expert Supply & Trading Natural Gas) noted that plans for the Dioriga LNG import terminal at Corinth were now in the final stages of a final investment decision. This terminal will be able to provide useful backup for both for Revithoussa and for the Motor Oil refinery nearby .

Milan Zdravković (DSO executive director, JP Srbijagas, Serbia) stressed the importance of gas Interconnectors, notably saying that the170-km Interconnector Bulgaria-Serbia should be finished in operational later this year. He emphasised the role played by other interconnectors, notably Macedonia-Serbia and Greece-North Macedonia. Gas, he argued was not just a transition fuel, but had a much longer-term role.

Questions were raised from the floor concerning whether it was reasonable to expect a return of Russian gas as and when the Ukraine crisis came to an end, Ms Yafimava responded that much would depend on how and when the Ukraine war would be ended – she thought it would “take some time”, but there was unlikely to be a return to the scale of pre-war Russian gas supplies with imports limited to levels that do not endanger national security.

The fate of long-term Gazprom contracts remained uncertain. Charles Ellinas said gas would continue to be a fuel for the next 15 to 20 years.

There was an impassioned plea from Milos Mladenovic (Managing Director of the Southeast European Power Exchange, Serbia,) for the coupling of electricity markets, while both Mr. Antonis Kontoleon, (Secretary of BoD Hellenic Union of Industrial Consumers of Energy – UNICEN - Greece -online) and Mr. Arben Kllokoqi, (Director for Electricity Market Design, European Federation of Energy Traders - EFET - online) stressed the need for market efficiency and practical measures. Kllokoqi spoke of the need to integrate the Western Balkan states into the wider Southeast Europe electricity markets.

The need for regional operational cooperation was stressed by several speakers, including Dr. Yannis Kabouris (Chairman and CEO, Southeast Electricity Network Coordination Center, Greece).

While Ms. Efi Millioni, (Market Analysis & Back Office Department Manager, ELPEDISON S.A, Greece) stressed the importance of gas storage, Professor Pandelis Biskas (Associate Professor in the Department of Electrical and Computer Engineering, Aristotle University of Thessaloniki (AUTH), Greece) questioned the issue of storage. It was, he said, as much a question of storage power as a storage capacity. Dr. Entela Fico Shehaj (Energy Consultant, SEA Consulting, Albania) spoke of Albania's extreme dependence on weather conditions. Electricity was 99% on high dependent on hydropower, so consumption exceeded generation during dry summers. There was, however, a steady growth in capacity, mainly due to private investment in hydropower. He specifically addressed the issue of pricing, noting the introduction of day and night pricing in Kosovo and North Macedonia.

Professor Aleksandra Krkoleva Mateska (Professor at UKIM/FEIT, North Macedonia) drew attention to the risks of supply, cyber attacks, physical attacks and market disruption. These all required an improvement of

resilience, she said. There was a need to develop new tools and systems to improve resilience amongst regional in the region.

Mr. Antonis Kontoleon, Secretary of the Hellenic Union of Industrial Consumers (UNICEN), spoke on the electricity and gas dynamics of the SEE region. Focusing on Greece's electricity market he pointed out that it still retains the characteristics of an oligopoly. He emphasised that the energy crisis magnified the structural deficiencies of the design and operation of the market especially since 100% of energy trades pass through the Day Ahead Market (DAM) at the EnEx.

Mr. Costas Theofylactos, Secretary General of IENE and head of the Institute's Energy Efficiency Committee, referred to the key energy issues of the region especially in relation to power generation and decarbonisation and how increased use of renewable energy sources and energy efficiency can help address the pressing environmental issues. In this respect Mr. George Spyrou, Executive Director of Terna Energy SA, Greece's leading renewable supplier, emphasised the huge economic, financial, investment and technical challenges (read energy storage) facing the further expansion of RES in SE Europe. In the same vein Dr. Mushin Mazman, Director of the Energy Storage Division of TDinamik Energy of Türkiye, spoke of the technical challenges facing the energy transition to clean fuels. With more than 54 GW of installed RES capacity, corresponding to 51,5% to the country's total electricity capacity, the role of energy storage, especially batteries, is paramount and this is where a lot of work is currently being carried out.

Dr. Stelios Loumakis, President of Greece's Photovoltaic Producers Association (SPEF) spoke on the key issues facing the further expansion of photovoltaics especially those associated with grid congestion and the adequate functioning of the electricity distribution grid, which are common in all countries in the region. Mr. Kaloyan Staykov, Chief Economist of the Energy Management Centre (EMI) of Bulgaria spoke of the socio economic challenges faced by Bulgaria on its path towards energy transition to clean fuels. Dr. Margarita Dareioti, Hydrogen and Biomethane Deputy Project Manager, of DEPA Commercial spoke on the importance of Biomethane production and its input into gas grids as part of the overall effort to decarbonise gas use in Europe and SEE in particular. She expanded on the biomethane potential of Greece and the available technical solutions.

Mr. Roman Matkiwsky, Director Energy & Infrastructure, of the Thessaloniki based Black Sea Development Bank, spoke of the World Energy Trilemma, ie energy security, energy equity and environmental sustainability, and the implications for the Black Sea Region, especially in terms of energy security and vulnerability, with the Black Sea being a focal area for gas transmission infrastructure affecting the whole of Europe.

Mr. Konstantinos Chatzifotis (EU Affairs Manager, Motor Oil, Greece) spoke of the need to develop a circular economy, including hydrogen – whether green or blue – as well as the need to develop CCS. Mrs. Katerina Sardi (Country Manager and Managing Director - Energean) echoed this talking about the need for CO2 storage while Ms. Marta Hugo (Policy Executive, Fuels Europe, Brussels - online) discussed ways of enabling transport fuels to become low-carbon.

Ms. Marta Yugo, Policy Executive, at Fuels Europe in Brussels discussed the tremendous challenges faced by European refiners in their quest to supply alternative, green fuels, over the next few years and adapt their existing operational framework in order to meet the strict environmental targets adopted by the EU. Mr. Alexandros Lagakos, COO, of Blue Grid, described his company's efforts to deliver small scale LNG to a growing regional network within Greece and Mr. Philippe Vageel, Secretary General of AVERE in Brussels

spoke of the vital role of electro mobility as part of the overall effort to decarbonise Europe and attain EU's goals. He emphasised the smart charging and future bi-directional charging capabilities of electric vehicles and their importance in balancing the electricity grid and promoting the further penetration of RES. "This creates a virtuous circle and help reduce the life-cycle emissions by promoting the adoption of greener electricity grid", he noted.

CONCLUSIONS

It's impossible to conclude such a report without thanking the IENE team for preparing the ground for such an excellent event with their Background Paper: Key Energy Issues in SE Europe: Current Challenges and Prospects. The paper's listing of six key points that hinder a sustainable energy transition (see Page 14) helped serve as a guide to much of our discussion.

Likewise, our thanks are extended to Mr Costis Stambolis for his untiring chairmanship, moderation and commentaries throughout the event.

Overall, there were two key lines that summed up the complexities of the energy dilemma which Europe as a whole, and southeast Europe in particular, face as they tackle both the climate crisis and the energy shortages stemming from Putin's assault on Ukraine.

The first came from Katja Yafimava. When discussing Europe's reduction of dependence on Russia she said: "The EU is not in control of either the timing or scale of this process." The implication: everything is changing must faster than we comprehend.

The second came from Amit Mor when he said: "We need a balance between achieving security of supply and also achieving net zero by 2050." Getting those twin targets right will not be easy.

So this report ends with the Rapporteur's own conclusion, which echoes both Katja Yafimava's and Amit Mor's remarks. As the Rapporteur said in his original spoken conference summary. "I have a feeling that one of the paradoxical consequences of Mr. Putin's invasion of Ukraine is that it has actually accelerated the process, so that we're not talking of energy transition any more but of a far more rapid energy transformation. I think the invasion of Ukraine has really brought forward the development of a renewables-based energy economy in much of Europe. And I know of nowhere that needs it more than Southeast Europe."