

— 5TH HAEE —

ENERGY TRANSITION

SYMPOSIUM

SYMPOSIUM'S REPORT

HYBRID EVENT

30 SEP - 2 OCT, 2020

ATHENS, GREECE

THEOXENIA PALACE HOTEL



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Contents

| | |
|---|-----------|
| Introduction..... | 4 |
| The Symposium in numbers..... | 5 |
| Day 1..... | 8 |
| Welcome Address..... | 9 |
| Opening Remarks..... | 11 |
| Opening Session..... | 13 |
| The EU Green Deal and the Landscape of Green Energy Markets..... | 15 |
| Target Model: The New Era of the Green Energy Markets..... | 18 |
| The Future of RES: Aggregators and Opportunities..... | 21 |
| The Eastern Mediterranean Energy Projects and Security Issues..... | 24 |
| The Future of Green Shipping..... | 26 |
| Towards A Green Energy Transition..... | 28 |
| Day 2..... | 30 |
| RES: The Greek Potential..... | 31 |
| Regulatory Authorities..... | 33 |
| RES Investments: Big Scale Projects..... | 35 |
| Natural Gas Networks: The New Landscape in Greece..... | 37 |
| Report Presentation: “The Potential Contribution of Natural Gas to East Mediterranean Economy.”..... | 39 |
| East Mediterranean Markets: Regional Gas Prospects and Small-Scale LNG Applications..... | 40 |
| A Climate Neutral EU by 2050: The Challenges for Natural Gas..... | 43 |
| Day 3..... | 45 |
| Opening Keynote Address..... | 46 |
| Circular Economy and Smart Cities..... | 49 |
| Untapping the Value of Networks Through Privatization..... | 51 |
| Ecomobility and Microgrids at the Forefront of Green Development..... | 53 |
| Hydrogen, Innovation and Technology..... | 56 |
| Hybrid Systems in Islands – New Energy Solutions Optimized for Islands..... | 59 |
| Book Presentation: “The Southern Gas Corridor and Its Importance for South-East Europe: The New Era of Energy Transition”..... | 62 |
| Speakers..... | 65 |
| Keynote Speakers..... | 66 |
| Ambassadors..... | 70 |
| Speakers..... | 72 |
| Moderators..... | 99 |
| Annex I - 5th Energy Transition Symposium Agenda..... | 106 |

Introduction

The 5th Energy Transition Symposium was the latest milestone in a series of conferences and events held by the Hellenic Association for Energy Economics in 2020. In the midst of Covid-19, HAEE's landmark event provided a top-of-the-line international platform for academics, policy-makers and business leaders, who had the opportunity to exchange ideas, present remarkable energy data and discuss all critical energy issues in a politically neutral environment.

A total of 273 people participated in the Symposium, including 50 Greek and multinational enterprises, 24 local and global organizations, representatives from 15 local and foreign academic institutes, as well as 21 national and international academic paper presentations.

The Symposium addressed key regional and global energy issues and provided a complete overview of the energy-related concerns, opportunities and challenges for countries, industries, professionals and academics in Greece and the broader region of South-Eastern Europe.

The Symposium's Agenda is available in ANNEX I.





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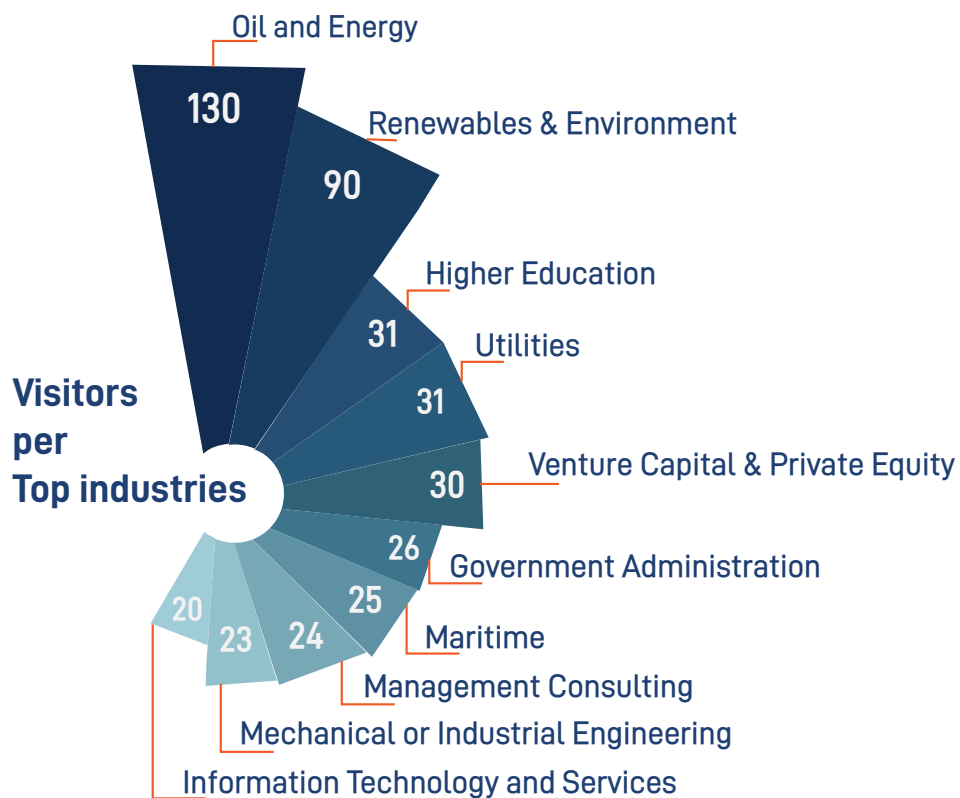
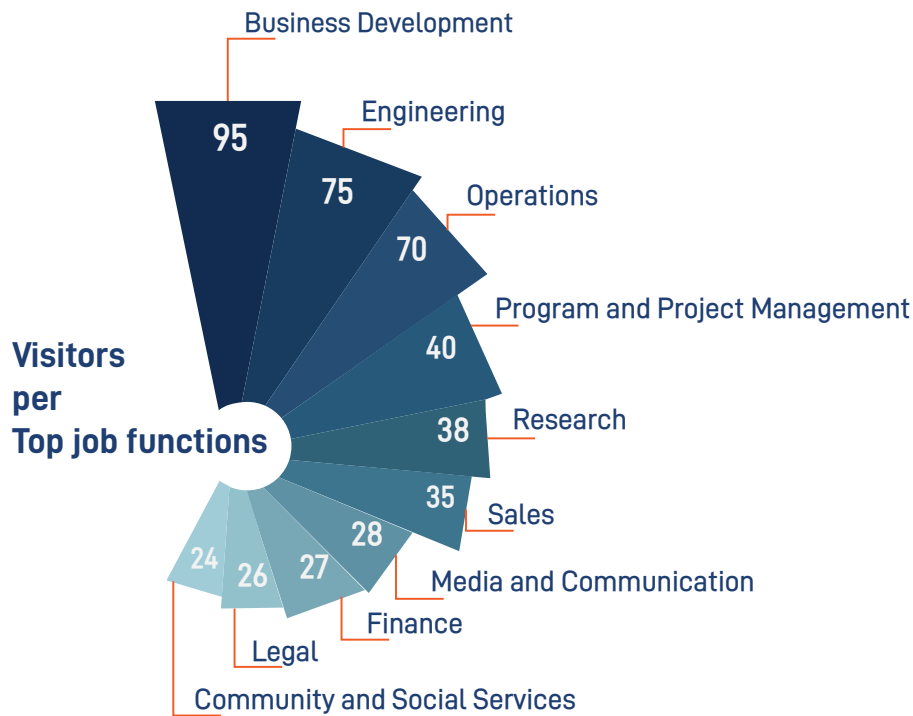
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Day 1

Wednesday, September 30, 2020

PROCEEDINGS

Welcome Address



**Spiros
Papaefthimiou**

Spiros Papaefthimiou, President of the Hellenic Association for Energy Economics, Assoc. Professor in Energy Management Systems and Energy Efficiency Technologies, Technical University of Crete

The opening speech of the Symposium was addressed by the President of the Hellenic Association for Energy Economics, Professor Spiros Papaefthimiou.

"Ladies and gentlemen,

The new decade started with a "big bang", or in other words the Covid-19 pandemic, and as a result we are witnessing unprecedented upheaval in the economy and consequently in the energy sector.

Consumption has declined; supply chains have been disrupted; new or already planned projects have been delayed; investment programs have been altered; and specific energy sectors, such as oil, have been significantly affected.

Even without the pandemic, 2020 would have been a pivotal year, since the new European Commission published its new Green Deal in January, with a view to accelerating the energy transition towards 2030 and beyond. The EU has decided that green investments will spearhead economic recovery and constitute a significant part of the recovery package, alongside specific requirements. Therefore, the drive for increased renewables, new power grids, storage, hydrogen and energy savings is now more powerful than in the past decades.

Thankfully, Greece is not a passive outsider when it comes to all these interesting developments. The new Greek National Energy and Climate Plan has been described as a modern policy document with ambitious goals of at least 35% renewables in primary consumption, 38% improvement in energy savings, and 42% reduction in GHG emissions; all these compared to 1990.

Using this Energy Plan and the Green Deal as a backbone, the Greek government will attempt to navigate through a complex landscape presenting many different challenges. An obvious starting point is the famous decarbonization plan, which specifically aims at the so called "lignite regions" and entails the obligation to provide a "helping hand" to the affected geographical areas in order to switch their focus to mainly new "green" economic activities. The master plan that was announced recently, along with relevant European funds, is a good starting point, but there is a lot of work to be done in order to turn theory into real projects and investments.

Similarly, the continuous installation of renewables is a prerequisite for the upcoming decade. The simplification of the licensing procedures was a step that increased the installation time and, according to the latest tenders, there is adequate competition and a drop in prices. Now, attention is turned towards maintaining the best possible structure, timetable and terms for the tenders, as well as gradually expanding the regulatory scope to new technologies, such as storage, hybrid systems, offshore wind and green hydrogen.

At the same time, the introduction of the Target Model and the new emerging markets will also bring tremendous changes and require careful coordination and monitoring, continuous feedback and bold adjustments in order to ensure meaningful and fair operation for all participants.

Natural gas is another energy sector with tremendous changes, as this year we have witnessed a rapid rise of gas share in power production, and LNG imports exceeded the volume of pipeline imports. Furthermore, the gradual completion of international projects, such as TAP, IGB and Alexandroupolis FSRU, will finally provide our country with the opportunity and potential to become a regional energy hub.

Last but not least, the ongoing efforts to explore potential hydrocarbon reservoirs in our waters are threatened as a result of low oil demand and descending prices, which significantly affect relevant investments. However, our exploration program is perhaps now more important than ever given Turkey's provocative actions in the Eastern Mediterranean region.

Ladies and gentlemen, we are now entering the energy era that we once spoke about. High levels of renewables, energy saving and decarbonization are no longer future goals, but an imminent reality. Nowadays, energy-related professionals and academics must prepare themselves for the "upcoming future" and the new technologies, methods and mindsets that accompany it.

All the members of the Hellenic Association for Energy Economics consider the 5th Energy Transition Symposium as a prime opportunity to discuss all these interesting topics. With these words, I would like to welcome you all and say that we look forward to a great Conference that will foster a great exchange of ideas over the next three days.

Finally, I would like to express our gratitude to our Platinum Sponsor – Hellenic Petroleum and our Gold Sponsors, Hellenic Electricity Distribution Network Operator S.A. & Hellenic Energy Exchange S.A. for their generous support".

Opening Remarks



**Sokratis
Famellos**

Sokratis Famellos, Member of Parliament Thessaloniki B, Director of Environment and Energy Sector, SYRIZA

In his introductory address, Mr. Sokratis Famellos, referring to the fossil fuels, stated that there would be an even greater reduction in the energy mix in the coming years, but we would have to face a few major challenges. These challenges are not just about technology and economy, but the entire system that needs to be changed.

In addition, concerning the 2020 national targets of RES and their integration into the Greek energy mix, penetrating the market and accounting for 18% of the total electricity production, Mr. Famellos suggested that we had achieved them two years earlier, while there had been a major overhaul of the institutional framework during the period 2015-2018, that led to the segmentation of the energy market, the creation of HENEX, and there were processes related to RES and their competitiveness that helped reduce production prices.

Mr. Famellos also pointed out that Greece needed to have low energy prices because they were competitiveness and sustainability factors, but at the moment our country lacked both the regulatory framework and the political will, to follow the very large drop in energy costs and the doubling in the wholesale price and the system price limit. While the average energy cost and marginal price reached 41 Euros/MWh in the first half of 2020, PPC has continued to sell at 110 Euros/MWh and, after the consistency discount, the price drops to 104.5 Euros/MWh, allowing a half-yearly margin of 170% above the wholesale trade compared to with previous periods, which is too large.



**Giorgos
Arvanitidis**

Giorgos Arvanitidis, Member of Parliament Thessaloniki B, Director of Environment and Energy Sector, KIN.AL.

In his opening remarks at the 5th HAEE Energy Transition Symposium 2020, KIN.AL's Director of Environment and Energy Sector declared that we were in a transitional period where there was no normality, as we used to know it until a few years ago at both local and global levels. The three-consecutive economic, climatic and health crises had irreversibly given rise to a new normality - unfortunately without return- to which we had to adapt as soon as possible. Globalization thus far and the rapid digital transformation of the economy, due to the pandemic, on the one hand led to a significant increase in the wealth produced for a few, and on the other hand increased inequalities and intensified regional conflicts thus leading to larger migration flows.

At the same time, he referred to the fact that we have not been on track towards our goal to keeping the global temperature rising below 2 degrees Celsius by 2050 with the rivalry between the USA and China peaking in this field, as well. In addition, he considers that, in Greece, we have a problem in effectively implementing integrated, cohesive policies; a problem with the timeless persistence and patience to work on a plan and wait for the positive results.

In his closing his speech, Mr. Arvanitidis proposed that with regard to the Greek energy plan, 20% of the money from the recovery program should be allocated to the completion of public social infrastructure within three years. He also stressed that with new infrastructure quality, we can have balanced and sustainable development, as well as being able to changing the model of life and production, taking as an example the energy saving and storage, where effective tax incentives and additional infrastructure projects to combat energy poverty should be created. In renewables, we need a new model of development with decentralized energy production, including production from ordinary citizens who will be transformed from consumers into green energy producers and will eventually help to shape the energy transition.

Opening Session



Andreas Shiamishis, CEO, Hellenic Petroleum S.A.

IN DISCUSSION WITH (IN GREEK LANGUAGE)

Thodoris Panagoulis, Editor in Chief, energypress.gr

In his introductory remarks, HELPE CEO Mr. Andreas Shiamishis gave a brief overview of the Group's current activity and the initiatives strategically undertaken in energy and gas production. Mr Shiamishis stressed that the crisis caused by the pandemic added to the crisis that had begun in the oil market 1-2 months previously with opec, opec +, etc., and discussed a radical restructuring of the oil market, underlining the evolution of demand for aviation fuel, which at some point dropped to -80%, predicting that a similar performance can be expected for the upcoming 6-12 months.

Replying to a question from Mr. Panagoulis regarding the Group's strategy and whether it has been reviewed due to the crisis and its impact, the CEO of Hellenic Petroleum said that the Group had already started redefining its strategic issues as early as 2019, aiming to include cleaner forms of energy in its portfolio. Energy transition and a change in the Greek economy's economic model is only a matter of time, stressing that the crisis affected the speed of implementation but not the strategic direction.

In the course of the discussion and specifically as regards HELPE's vision and aims in relation to RES, Mr. Shiamishis underscored that for a group like HELPE, energy transition is a multi-dimensional endeavour since it is not only about replacing lignite with RES. Given that 50% of energy needs internationally will continue to be covered by liquid fuels, HELPE primarily seeks to integrate clean forms of energy into the existing portfolio, to make its final goal more easily and quickly attainable.

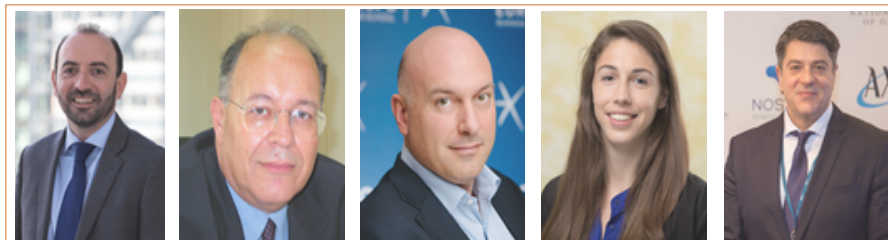
"When you want to make important changes, these must be made in big steps."

Mr. Shiamishis went on to say that Hellenic Petroleum, the largest energy company in the broader sense, has made the decision to penetrate the RES sector. He referred to the 204 MW project in Kozani, the largest solar park in Greece and among the 5 largest in Europe, which will be completed in the next 18 months.

In addition, Mr. Shiamishis stressed that the energy transition debate should also include more environmentally friendly technologies in refineries and in the production of cleaner fuels, as well as the ability to expand to new technologies such as biofuels where we see constant advancement and applications for many sectors, such as agricultural production. Finally, he noted that it is important to have a level playing field in the management of liquid fuels compared to others. Liquid fuels should have the same opportunity to participate in attaining the goal, since they are part of the solution and not part of the problem.

He also focused on the Group's actions to improve the energy efficiency of its facilities and further reduce the company's energy footprint up to 50% by 2030, stressing that the cleanest energy is the one that does not need to be produced.

Concluding, he referred to the main uses of natural gas in our country right now and highlighted the role of natural gas in the energy transition, pointing out that gas is not only a bridge fuel in the next 4-5 years, but will still be part of the energy chain for the next 20-30 years. He also stressed the company's strategy to grow in the right direction based on energy transition, with new technologies, RES, and more natural gas.



Georgios
Gkiaouris

Pantelis
Capros

Kostas
Andriosopoulos

Katherine
Poseidon

Manolis
Souliotis

SPEAKERS

Georgios Gkiaouris

Associate Director, Regional Head, Energy EMEA, EBRD

Pantelis Capros

Professor of Energy Economics, NTUA

Kostas Andriosopoulos

Professor of Energy Economics, ESCP Business School

Katherine Poseidon

Associate, EMEA, Energy Transition, Bloomberg New Energy Finance

MODERATOR

Manolis Souliotis, Associate Professor, Department of Chemical Engineering, University of Western Macedonia, HAEE's BoD Member

Mr. George Gkiaouris, took the floor first and spoke about the New Green Energy Transition Approach, recently approved by EBRD's BoD. The bank has set the very ambitious target to increase its green financing to more than 50% by 2025, which translates into a greenhouse gas emissions reduction of 20 – 40 million tons.

Mr. Gkiaouris, also, highlighted that over the last 5 years, EBRD has had granted more than 100 million euros, mainly for photovoltaics, to Greece. Moreover, the bank is strengthening all regions of the country with the planning of RES tenders and the relevant framework, at a time when there is a significant drop in the cost of RES projects. As an example, Mr. Gkiaouris brought up a recent tender in Albania where prices for PV had reached 2.5 cents per kilowatt/ hour and expressed the view that by supporting the scaling up of renewables these days, there could be significant savings for the energy systems.

Recognizing the importance of state-owned enterprises and utilities on this decarbonization effort, EBRD selectively works with state-owned enterprises linked to this reform. As an example, Mr. Gkiaouris mentioned the transaction with PPC that had been concluded early in the summer of 2020, where EBRD supported PPC with a large working capital facility, as well as by implementing important reforms aiming to improve the climate risk reporting and governance.

Professor Capros addressed the plenary session and explained the importance of understanding the very recent, extremely ambitious proposal of the European Commission to increase the 2030 targets.

The Professor and his team performed the quantitative analysis of this proposal on behalf of the European Commission and all member states, using NTUA's mathematical model, known as Primes Model Scenarios for the EU's Green Deal.

Prof. Capros did not omit to mention that The National Energy and Climate Plan, which was very well elaborated and accepted in Brussels, had to be extensively revised in order to address the new enhanced ambition of the European Commission. Primarily, the ambition mainly concerns the upscaling of renewables, namely renewables should account for 85% of electricity by 2030 vs 62% that had been set in the previous plan and secondly, the savings in buildings.

Summing up, Professor Capros stressed that the transformation that needed to be done, including the enhanced ambition, was also affordable for Greece. There is absolutely no need to increase electricity prices to accommodate the considerable amounts of renewables to be integrated into the system together with storage. It is feasible, affordable and a great opportunity for Greece to attract industrial investment, innovation, start-ups and services to support the transformation that becomes very ambitious after the Green Deal Proposal of the European Commission.

Professor Andriosopoulos took the floor and presented the second edition of the Greek Energy Market Report 2020, which reviews all latest developments related to the Greek energy sector, by providing the most recent available data as well as global & European energy trends. The report is published by the Hellenic Association for Energy Economics and is powered by the National Bank of Greece. He then gave an overview of the five major global trends that affected developments, namely digitization, circular economy, RES, savings, and climate change. At the same time, he stressed that the trilogy of energy security, energy sustainability and energy equity was of great concern for Greece.

Moving on to his presentation, the professor analysed in depth the report's content, which included a total of nine chapters with detailed data and statistics regarding the Profile of Greece; Energy Transition; the Energy Exchange and Target Model; the Electricity Market; the Natural Gas Market; Renewable Energy Sources; Oil and Refining; Energy Efficiency and Investments.

He also highlighted the following:

- The Greek economy is forecasted to decrease by 10% in 2020 and return to a 5.1% growth in 2021
- Gross energy consumption in Greece is projected to drop by 11% in 2020 due to COVID-19 impact
- The increased penetration of RES continues in Greece representing 48% of primary energy production for 2019 compared to the 40% achieved in the previous year.

Ms. Katherine Podeidon, made a remarkable presentation on the results of Bloomberg NEF's long-term economics-driven outlook for Greece's power sector through 2050, using their New Energy Outlook methodology.

The main points and key messages that emerged from Ms. Poseidon's presentation are outlined below.

- New European targets will drive more aggressive transition
- Cheap wind and solar sources drive Greece's power transition and will enable Greece to meet its renewable energy targets by 2030
- The consequences for Green Deal are being significant as wind becomes the dominant source of electricity generation by 2025 whereas 68% of renewables share is reached by 2030
- Economics are hurting lignite generation, while gas can only profit in the short to medium term
- Until 2030 the 17GW of new capacity represent 12 billion euros in new renewables investment
- Between 2020 and 2050, 31 billion euros of new investments goes to power generating assets
- The emissions of the power sector fall 72% by 2025 and are slashed by 98% in 2050, where 86% of installed capacity is low carbon.

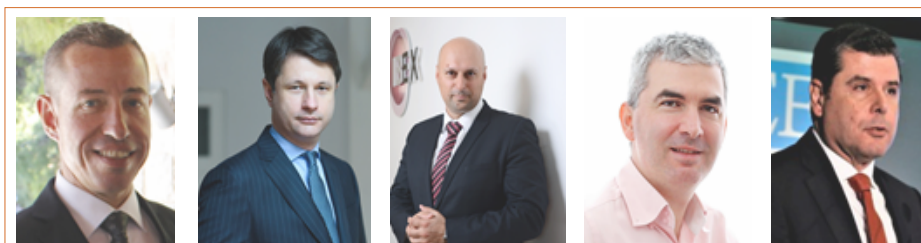
Moderator's Conclusion

Manolis Souliotis, Associate Professor, Department of Chemical Engineering, University of Western Macedonia, HAEE's BoD Member

"The EU Green Deal is anticipated to transform the energy market in a more green and sustainable way by providing the needed acceleration towards energy transition. In order to achieve that, the government authorities should prioritize their actions and that's the main scope of the National Energy and Climate Plans (NECPs) of the Member States. No matter what the actions from the other side of the globe are, EU is and should continue to be the strategic leader for a greener planet".

Target Model: The New Era of the Green Energy Markets

Day 1



George
Ioannou

Victor
Grigorescu

Konstantin
Konstantinov

Septimiu
Rusu

Nikos
Frydas

SPEAKERS

George Ioannou, CEO, Hellenic Energy Exchange S.A.

Victor Grigorescu, Former Minister of Energy, Romania
(digital)

Konstantin Konstantinov, CEO, Independent Bulgarian Energy Exchange

Septimiu Rusu, Development Manager, Romanian Commodities Exchange (digital)

MODERATOR

Nikos Frydas, Principal – Energy, Grant Thornton Advisory

George Ioannou, CEO of the Hellenic Energy Exchange S.A. in his presentation focused on the parameters, features, and goals of the Target Model, the implementation of which aimed to create a seamless and borderless internal energy market. Mr. Ioannou, the CEO of the Hellenic Energy Exchange, ensured us that his company was ready for this adjustment and the long-awaited transition that was finally taking place, and said a few things about EnEx and its establishment.

Mr. Ioannou underlined the sequence of events in the Target Model as well as the markets included in all phases and presented a matrix of the different markets in the context of the business model that had been also adopted. EnEx contribution to this model is significant. After analysing the content of Day-Ahead Scheduling (DAS), which consists of the company's current market and the core of the model, he focused on the upcoming transition process from DAS to Day-Ahead Market (DAM). Of course, the exchange also has a custom market platform, developed by ATHEX. He also highlighted the benefits in the terms of DAM, Intraday market, and Derivatives market and pointed out the importance of the interconnection sector, which was in line with the main idea of the target model: a pan-European electricity market, as well as its implementation plan.

After a brief review of the EnEx targets and goals, Mr. Ioannou concluded by sharing the key dates, concerning the target model, markets, coupling potential, etc. According to him, a lot is going to take place in 2021. These are years of energy and his group is looking forward to facing the challenges of the future.

Mr. Konstantin Konstantinov, CEO of Independent Bulgarian Energy Exchange, focused on the exchange market sectors in Bulgaria and the coupling potential in terms of the Target Model. He started with a brief review of IBEX, the Bulgarian exchange operator, which is controlled by the ministry of finance, and pointed out the main physical delivery screens of the operator running the financial products. Afterward, he referred to the most significant parameters of each exchange, such as members' trust and transparency, as well as the liquidity generated by the volumes traded through the platform of DAM. The speaker focused on the situation of the head of market coupling projects, mainly between Bulgaria, Greece, and Romania, and the potential of synergies with other borders, such as the so-called Italian border. As for the intraday coupling, in order to highlight the overall importance of coupling for liquidity, market trust, and prices sector, he emphasized the intraday coupling projects and, in particular, the successful coupling between Bulgaria and Romania. Mr. Konstantinov called all the energy market participants to stay united and make sure that the up-coming integration in the terms of the Target Model will be a success.

Mr. Septimiu Rusu represented the Romanian Commodities Exchange. As the development manager, he shared some facts about the company and the future of the Romanian electricity market, including potential synergies. Romanian Commodities Exchange is the leading company in the local gas market and has been trying to also drive the electricity sector over the past years. The company is also active in other fields, such as the physical delivery of products.

Mr. Rusu presented the range of products provided by the company with emphasis on natural gas. There are commodities in the energy sector, including mainly natural gas, but also in the electricity and other sectors such as agriculture and petroleum. The group of Romanian Commodities Exchange has also launched the spot market. Concerning the post-trading infrastructure, the group has established, under the local regulators, the internal clearinghouse, which operates in and clears the increasingly active spot market, as well. The speaker also pointed out the volumes of the retailing and wholesale markets in the electricity and natural gas sectors. He also referred to the price evolution natural gas and other commodities.

The speaker shared his opinion about the importance of integration in order to step up the benefits at the regional level and underpinned this in his conclusion by introducing some ideas about possible synergies.

Mr. Victor Grigorescu, on behalf of the Romania's Minister of Energy, gave his own perspective of the Target Model and focused his presentation on the wider scope of the European Union's energy policy together with the regional integration initiatives. He went on to explain how this integration is translated into the idea of creating a better regional market, mainly in Greece, Bulgaria and Romania.

A key factor, in the context of the Target Model, is the integration. According to the speaker, all the countries should put more effort to move towards this coupling, firstly at the national level with increasing cooperation between the market operators, and secondly, through the integration between the governments. At this point, the speaker highlighted the importance of targeted support from the European Union and stressed the necessary conditions that will assist the integration process. The fact that all this requires additional regulation, demonstrated the political impact of the Target Model. After referring to the current early process of integration between the three countries, the interconnections, and the level of interest in this area, the speaker analysed the difficulties that may arise during the transition and the resulting costs, which constitute a key factor.

On one last point, Mr. Grigorescu underlined the significance of exercising more pressure on the European Union, so that the governments may get the financial support required to achieve the goals of potential carbon neutrality and energy unity. There are still important steps to be taken when it comes to policy and allocating the proper resources, but the future looks bright due to the clients' increased interest and the efforts made by the European Commission.

Moderator's conclusion

Nikos Frydas, Principal – Energy, Grant Thornton Advisory

"Target Model describes the transposition of the EU's vision for the seamless, borderless, competitive, transparent, and liquid energy market. When implemented successfully it leads to substantial benefits, like the market fit for cleaner energy technologies and the reduction of wholesale prices. We anticipate to see all the above-mentioned advantages starting with its imminent implementation on November 1st in the Greek Energy market and I am quite optimistic that this new energy market model will bring new opportunities for investments and growth for the Greek economy".

The Future of RES: Aggregators and Opportunities

Day 1



Yiannis
Yiarentis

Konstantinos
Tomaras

Vassilis
Spiliotopoulos

Panagiotis
Papastamatiou

Elias
Eliadis

Giannis
Panagis

Filippos
Ioannidis

SPEAKERS

Yiannis Yiarentis, President and CEO, DAPEEP

Konstantinos Tomaras, General Director, Spyropoulos S.A.

Vassilis Spiliotopoulos, Managing Director Greece, Cyprus, Siemens Gamesa Renewables Energy S.A.

Panagiotis Papastamatiou, Director, ENTEKA; CEO, Hellenic Wind Energy Association

Elias Eliadis, Director Investment Promotion & Facilitation, Enterprise Greece

Giannis Panagis, President, POSPIEF

MODERATOR

Filippos Ioannidis, Energy Market Analyst; PhD Candidate, Aristotle University of Thessaloniki

Yiannis Yiarentis, President & CEO, DAPEEP, referred to the targets set by Greece through the National Energy and Climate Plan, i.e. to have 19 GW of energy produced by renewables by 2030. So far, we are producing 10.5 GW, therefore an additional 850 MW/year needs to be installed, in order to achieve our goals. At the same time, there are almost 11.000 projects related to energy generation from RES and the respective investment interest in these projects, which are more than enough to help Greece achieve its targets. Strong investment interest combined with the tender tool, has led to increased price competitiveness. RES will cease to be a regulated market protected by the system and should operate under competitive conditions as in most European countries. Through the New Target Model, the Intra-day and the Day-ahead market, RES producers, represented by an Agency for the Cumulative Representation of Renewable Energy Stations, will be able to agree on a day price based on the weather forecast for the following day, and make minor adjustments and revisions of their offer on that day, in order to prevent losses due to daily weather changes.

Konstantinos Tomaras, General Director, Spyropoulos S.A., focused on the growth trends of RES and referred to the development of his company in this area in recent years. He pointed out the positive indicators and signals in the PV and RES in general, based on the projections that the already declining costs for renewables were expected to further drop in the following years. This is a result of supply and demand and the tendering process, which helps to reduce prices. At the same time, the projects need to be more competitive and materials less expensive, the labour costs have to drop, and the performance and the revenues should remain high. In addition, he mentioned that placing a price on carbon, would send an investment signal for future projects, and further increase the relative attractiveness of low carbon technologies. He also analysed his proposals on improving the regulatory framework and licensing process, in order to increase investment interest, such as the implementation of an "One stop Energy spot" for the whole licensing and "online" information about current applications per region and capacity at line level.

Vassilis Spiliotopoulos, Managing Director Greece and Cyprus, Siemens Gamesa Renewables Energy S.A., indicated the favourable trends for renewable sources that have been stable and unchanged, despite the COVID-19 crisis, and have shown very high resilience to demand despite the conditions. At the same time he expects them to play a key role in the economic growth. He added that, according to global data, it seemed that RES would be the only energy source experiencing increasing demand in 2020. Moving forward, he referred to the fact that the global supply chain has been restored to a considerable extent and prices have almost returned to pre-pandemic levels. He also pointed out the importance of maintaining the investment interest and momentum by investing in RES. Finally, Mr. Spiliotopoulos is concerned about the significant delays of the institutional framework for energy and storage hybrids, which is necessary for the further penetration of renewables into the energy markets.

Panagiotis Papastamatiou, Director, ENTEKA and CEO, Hellenic Wind Energy Association, said that the most critical and important factors in the discussion about the next steps of the energy market, and especially of RES, were that the prices reflect the costs, there were no overcompensations and the right messages were sent to market players. Moving forward, he stated that this has been achieved through the tender process of RES, but he was uncertain whether the market will have the possibility or prospect of creating bilateral agreements in the future in Greece and whether these agreements will be able to ensure low prices for consumers and to pursue its energy targets. Finally, he stressed that we needed technologically specific tenders rather than the standard ones. This way, competition would be ensured and, therefore, prices would fall. He urged the Independent Power Transmission Operator to conduct a study on the optimal mix of the system, the results of which could both send the right messages to the market and provide more comprehensive directions.

Elias Eliadis, Director Investment Promotion & Facilitation, Enterprise Greece, in his address emphasized the potential of RES development in Greece. Speaking with numbers, electricity market deregulation, and the redefined generation mix are significant factors nowadays, allowing room for newcomers into the market competition. This race also occurs in our country, which is well endowed with RES potential for solar-wind project development. Actually, according to Mr. Eliadis, Greece is on track to meet the RES targets and is expected to increase its installed capacity and power generation contribution by more than double by 2030, according to the national plans. This goal is going to be achieved with new framework arrangements such as the RES Licensing simplification. After spotlighting the photovoltaic and wind market development levels and making a brief review of the key players, he pointed out several important reasons to invest in Greek RES markets, including the decarbonization state commitment with specific targets; the successful operation of a feed-in premium scheme; the large-scale investment framework; and the mature portfolio of private investment opportunities.

In conclusion, Mr. Eliadis said a few words about Enterprise Greece, a Greek national agency that aims to showcase Greece as an outstanding destination for investment and to promote internal competitive products for export, by providing a set of integrated investment promotion and support services as well as business services.

Giannis Panagis, President of the Hellenic Federation of Photovoltaics (POSPIEF), stated that the PV market contained a constantly growing and ever-changing market, which obviously affected mostly medium businesses. Mr. Panagis shared his thoughts about the Greek RES future, regarding the current framework and everyday issues. He expressed his concerns about the uncertainty of tomorrow and the current instability in the context of the Greek energy investment field. It is a fact that there is a large number of RES applications pending since 2018. This worrying situation, caused by the lack of infrastructure and human resources of the competent agency, HEDNO (Hellenic Electricity Distribution Network Operator), has to come to an end. Before giving investment opportunities, the government must tie up all the loose ends, get better organized, and ensure that the market is ready for investment.

The speaker focused on the fundamentals of the RES market, which strategies and technologies should be put in place, what should be the competent body, other than HEDNO, and would be the leading players. First thing first, the right priorities must be set in order to move forward to a new RES era with the right framework, real potential, and opportunities.

Moderator's Conclusions

Filippos Ioannidis, Energy Market Analyst; PhD Candidate, Aristotle University of Thessaloniki

"Target Model is anticipated to be introduced by the end of 2020 and this is generally considered as a positive development. However, major doubts regarding market readiness were expressed by the participants. In parallel, the strong investment interest in the RES sector, which gives considerable momentum to the market, was highlighted by all the speakers. Besides, the existing regulatory framework provides a sufficient "road map" towards the new model. Most of the speakers expressed the view that the transition period should be clear for everyone with a view to ensuring future investments in the sector.

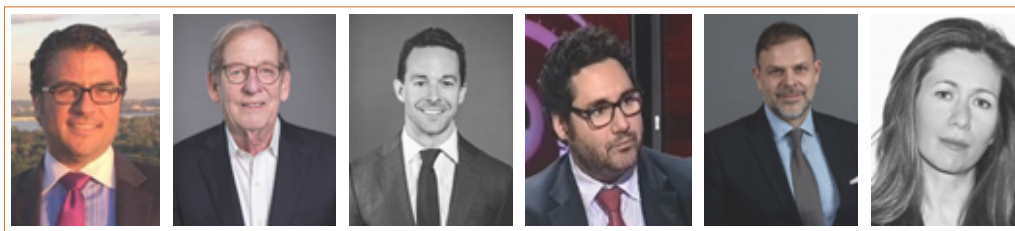
Finally, an interesting observation concerns the way of dealing with imminent problems. It is crucial not to solve them by creating new distortions, but rather employing tools and methods that will ensure an efficient transition."

The Eastern Mediterranean Energy Projects and Security Issues

Day 1



POWERED BY
 Atlantic Council



Joshua
Volz

Richard
Morningstar

David
Livingston

Theodoros
Tsakiris

Aristofanis
Stefatos

Katerina
Sokou

SPEAKERS

Joshua Volz, Acting Director, Office of Europe and Eurasia, U.S. Department of Energy ([digital](#))

Richard Morningstar, Founding Director and Chairman, Global Energy Center at the Atlantic Council; Former US Ambassador to the Rep. of Azerbaijan, Former US Ambassador to the EU ([digital](#))

David Livingston, Senior Analyst, Eurasia Group; Senior Fellow, Global Energy Center, Atlantic Council ([digital](#))

Theodoros Tsakiris, Assoc. Professor of Geopolitics and Energy Policy, University of Nicosia's Business School

Aristofanis Stefatos, CEO, Hellenic Hydrocarbon Resources Management

MODERATOR

Katerina Sokou, Nonresident Senior Fellow, Future Europe Initiative, Atlantic Council ([digital](#))

Joshua Volz, Acting Director, Office of Europe and Eurasia, U.S. Department of Energy commented on the potential burgeoning economic and political cooperation in the region of South East Europe and the Mediterranean, underpinned by the discovery of resources. He underscored the fact that the United States remained deeply committed to the principles of peace, security and prosperity in the eastern Mediterranean. In addition, he stated that the Turkish provocations surrounding the development in the Eastern Mediterranean energy resources have had a chilling effect on the development and investment in the region, but it would remain a very hopeful and positive region for economic integration and prosperity, despite the conflicts. It is important that IOCs, such as Chevron, ExxonMobil and Total, continue to acquire Eastern Mediterranean energy resources and assets.

Richard Morningstar, Founding Director and Chairman, Global Energy Center at the Atlantic Council; Former US Ambassador to the Rep. of Azerbaijan, Former US Ambassador to the EU, referring to the recent tensions in the Eastern Mediterranean, stated that they have de-escalated, at least for the time being, which could enable all parties to negotiate. He assessed that there was room for a solution through negotiations and that the issues of maritime zones delimitation were always challenging internationally. Commenting on the energy front, he stated that demand has been down and would keep at those levels for at least over the next two or three years. Closing his speech, he indicated that the fact that multiple private companies were interested in the region, could lead us to conclude that projects were believed to be commercially viable in the region.

David Livingston, Senior Analyst, Eurasia Group; Senior Fellow, Global Energy Center, Atlantic Council, after analysing the gas markets and the situation of the sector for Eastern Mediterranean countries, he concluded that the region itself is a complex puzzle of different actors, interests, opportunities and challenges, as there are prolific energy reserves in the basin. These need to be taken into account and fit into the broader picture of an increasingly globalized LNG market with changing gas demand profile of countries around the world. He concluded mentioning the importance of United States which played a constructive role in the Greek-Turkish issue for a lasting solution and gave his view on Greece's energy policy and de-lignification.

Theodoros Tsakiris, Assoc. Professor of Geopolitics and Energy Policy, University of Nicosia's Business School, discussed about the geopolitical risk of the region, which is clear and present as well as increased, as a result of Turkey's revisionist actions and the presence of Iran in the Eastern Mediterranean. However, as he commented, the level of acrimony and geopolitical risk have not yet paralyzed or decreased the interest of international oil companies in entering the region and acquiring acreage of potential significance in the Cypriot, Egyptian and Israeli exclusive economic zones. Last but not least, he referred to Cyprus and the fact that, despite Turkey's provocations, there is a clear schedule in the Cypriot exclusive economic zone to move forward with drills by Exxon and Total in blocks six, seven and ten, even though this has been unavoidably postponed, due to the pandemic.

Aristofanis Stefatos, CEO, Hellenic Hydrocarbon Resources Management, presented the latest developments regarding the hydrocarbon exploration program in Greece and focused on the challenges and opportunities that opened for Greece. In addition, he referred to the future infrastructure that would be developed through the projects that would take place in the following years, such as the Alexandroupolis FSRU, UGS of South Kavala, and the major TAP, IGB and East-Med pipelines, providing a unique opportunity to monetize our natural gas resources. Furthermore, as he stated, investors were willing to invest into the transition fuel, natural gas, and capitalise on it in the best interest for the country, which would not only strengthen the strategic options of Greece, but also help accelerate very important national agendas.

Moderator's conclusions

Katerina Sokou, Nonresident Senior Fellow, Future Europe Initiative, Atlantic Council

"From my perspective, this fruitful discussion shaded some light about the current status and the perspectives for energy projects in the Eastern Mediterranean region. After Secretary's Pompeo visit in Greece clarifying the support of the United States and the unprecedented cooperation among countries in the region seems that security issues and diversification are well on track."

The Future of Green Shipping

Day 1



Arthur Richier

Charlotte Bucchioni

Panagiotis Mitrou

SPEAKERS

Arthur Richier, Senior Freight Analyst, Vortexa (digital)
Charlotte Bucchioni, Tankers Editor, S&P Global Platts (digital)

MODERATOR

Panagiotis Mitrou, Global Gas Segment Manager, Lloyd's Register Marine & Offshore (digital)

Arthur Richier, Senior Freight Analyst, Vortexa, talked about IMO's (International Maritime Organization) referred to the goals of decarbonising shipping, which would necessitate industry coordination, commitment, sector research, and the right infrastructure and budget. These goals are not easy, as the studies show, and the shipping industry may face multiple challenges that require the right solutions, such as scrubbers and alternative fuels.

Also, the speaker presented two case studies, to highlight these challenges and their solutions. The first one is The global Tanker Fleet case study, that included a map screen with Vortexa Vessels and two data sets: one showing the number of scrubber and non-scrubber vessels, and one that he brought more attention to, the aging fleet profile which raised the question of What is the energy commodity of the future. LNG Tankers, which are going to get doubled by 2030, may be a great solution, as he said. The second case study, Alternative Fuels and their Availability, started with a presentation of cargo flows data, that showed that LNG (Liquified Natural Gas) was one step ahead of fuel oil. The speaker focused on the fuels of the future along with the upcoming limitations that may occur from using them, such as low energy density.

Mr. Richier reached a verdict that the only thing required by the Industry and the science community to solve the climate challenges, was to set climate change as a priority.

Charlotte Bucchioni, Tankers Editor, S&P Global Platts, during her speech highlighted the importance of green shipping for the next years. She focused on the main factors, that could help this sustainable transition process. First, she referred to policymaking and the necessity of taking the right steps, such as ensuring fair treatment for all the first movers across the supply chain, creating economic viability, and harmonizing regulation and infrastructure constitute. She also suggested that any solution should be global because of the industry's nature and the need to change. In terms of fuel race, she analysed alternative fuel solutions. As she said, LNG seems to be the most promising solution for now, but we should consider what is next, referring to wind-assisted propulsion and Liquified Hydrogen. She gave the example of Suiso Frontier, the first Liquified Hydrogen Carrier, which led to the next subject area: pricing and sustainable alternatives. S&P Platts was the first to launch price assessments for three types of hydrogen: Grey, which is what Suiso Frontier carries, blue and green hydrogen, which is the most expensive and green option. In her conclusion, Ms. Bucchioni sounded optimistic about the future of Green Shipping. This area is attracting more and more investment, it is "booming" and Platts' team is looking to expand its innovative ideas all over the world.

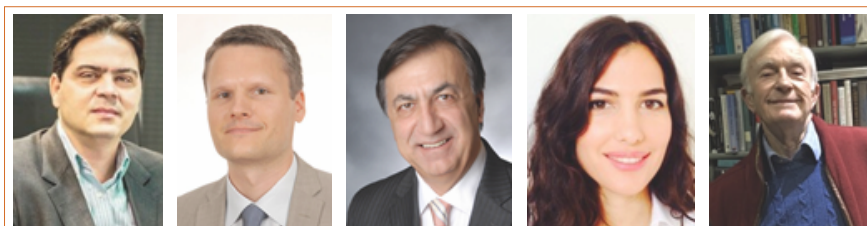
Moderator's Conclusions

Panagiotis Mitrou, Global Gas Segment Manager, Lloyd's Register Marine & Offshore

"The energy transition in shipping is going to be an incredibly challenging process. Investing in alternative zero carbon fuels is to be undertaken under great uncertainties about pricing, demand, regulatory developments, and technology risks. Unless this effort gets substantially incentivized, the attained outcomes will prove inferior to ambition."

Towards A Green Energy Transition

Day 1



Ricardo Gorini

Ulrich Laumanns

Menelaos Ydreos

Marina Economidou

Michael Jefferson

SPEAKERS

Ricardo Gorini, Senior Programme Officer - Remap, IRENA (digital)

Ulrich Laumanns, Project Manager, Deutsche Gesellschaft für Internationale Zusammenarbeit

Menelaos Ydreos, Executive Director, Energy Vantage Inc. (digital)

Marina Economidou, Scientific Officer, Institute of Energy and Transport, Joint Research Centre, European Commission (digital)

MODERATOR

Michael Jefferson, Frm. senior editor of 'Energy Policy'; Affiliate Professor at ESCP Business School; Senior Fellow, Department of Economics and International Studies, University of Buckingham; Frm. Chief Economist, Shell (digital)

Ricardo Gorini, Senior Programme Officer - Remap, IRENA, presented the "Transforming Energy Scenario" of IRENA, providing a perspective on the energy system developments based on governments' current energy plans and other planned targets and policies. He talked about the need for renewable energy sharing in every sector, such as industry and transport, and highlighted the importance of electrification. He also focused on the need for power system flexibility with the use of wind and solar energy, coupling solutions, electrification of transport, the use of batteries, and other future solutions like hydrogen, which could play an important role in decarbonization, as well. Concerning decarbonization, he believes in a Deeper Decarbonization Perspective (DDP). The numbers show that this goal is not easy to be achieved by 2050 because of the remaining emissions from industry and transport. However, the speaker gave us several alternative ways to go to "zero" and did not exclude the possibility of success. Electrification with levels and energy efficiency may be the key factors that will lead us to a system-wide transformation with the hand of investment and the right policy.

Ulrich Laumanns, Project Manager, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) gave his perspective on the energy transition in Germany, deep diving into the governance of the energy transition, explaining that it is a multi-layered system starting with a federal and state coordination at the top level, with all the ministries involved and the different federal states. In addition, he indicated that the federal ministry for economic affairs and energy was in charge of coordinating the energy transition and their regular stakeholder dialogues, using the example of the electricity grid on electricity market design which is organized in Germany at the national level.

Closing, he referred to the fact that there was a strong engagement of the society and the private sector in the promotion and the implementation of the energy transition, all of them supported by a dedicated monitoring system consisting of annual monitoring reports, which had been published since 2012, on the progress of the energy transition based on key indicators and supported by an independent commission of experts.

Marina Economidou, Scientific Officer, Institute of Energy and Transport, Joint Research Centre, European Commission expressed her belief that the sustainable energy transition would shape the future world. So, this area of the subject has to be a priority of the current Commission, which has already set the goal to achieve a neutral climate economy by 2050. The European Green Deal is the main policy vehicle that is going to make this a reality, together with the contribution of the Recovery Plan.

She also stated that action should be taken in all aspects of life and industry and not only in the most common – the energy sector. She placed emphasis on the building renovation wave initiative, as buildings represent a great opportunity and challenge, considering the current rates of energy consumption and greenhouse emissions. So, the key focus of the European Commission at this particular time is on encouraging building renovation, which gives a major opportunity for energy sustainability and economic growth. Of course, we should not forget the role of financing. Smart financing for smart buildings could promote initiative and private finance, unlock investments and, in this way, serve the goal of energy efficiency and green energy transition.

Menelaos Ydreos, Executive Director, Energy Vantage Inc. built his presentation around a recent report of the International Geographical Union and Boston Consulting Group, explaining the role of gas technology and innovation for a sustainable energy future. Critical to this explanation, as he said, was the fact that we should look at the economic competitiveness and the economic potential of gas, relative to other energy sources with the climate action and sustainability goal in mind. The key findings that came out of this specific analysis are the tremendous potential for gas technologies to address climate change and enable climate action. Moving forward, the conclusion was that up to 30% of the current global GHG emissions could be abated by the economic potential of these technologies. In addition, they found that across all the categories, the most gains could actually occur in the short-term, coming particularly from technologies enabling fuel switching in the power and industrial sectors.

Moderator's Conclusions

Michael Jefferson, Frm. senior editor of 'Energy Policy'; Affiliate Professor at ESCP Business School; Senior Fellow, Department of Economics and International Studies, University of Buckingham; Frm. Chief Economist, Shell

"Participants were reminded that almost thirty years after the Rio Earth Summit, renewable energy (excluding traditional biomass) still only provides 12% of World Primary Energy Consumption and 26% of World Electricity Generation. Despite much optimistic rhetoric and exaggeration, a green transition is severely challenged. One speaker was reminded that his organisation has suggested wind energy can achieve capacity factors exceeding the Betz coefficient technical limit. Another pointed out Germany is only really windy in the North and sunny in the South. A third highlighted problems with Europe's building stock. Finally, came the reminder that natural gas remains crucial."

Day 2

Thursday, October 1, 2020



**Adonis
Georgiadis**

**Patrizia
Falcinelli**

**Patrick
Maisonnave**

**Eric
Scotto**

**Aristotelis
Chantavas,**

**Dimitris
Pefanis**

SPEAKERS

Adonis Georgiadis, Minister of Development and Investments, Hellenic Republic

Patrizia Falcinelli (recorded video), Italian Ambassador to the Hellenic Republic

Patrick Maisonnave, French Ambassador to the Hellenic Republic

Eric Scotto, Chairman and Co-Founder, Akuo Energy

Aristotelis Chantavas, Head of Europe area, Enel Green Power; President, SolarPower Europe

MODERATOR

Dimitris Pefanis, Director, insider.gr

Adonis Georgiadis, Minister of Development and Investments, Hellenic Republic, started his speech commenting on the rapid reaction of the Greek government to initiate the coal phase-out plan and to set the target of closing all the lignite plants in Greece up by 2023. This was not an easy decision, because many cities of the country, such as Megalopolis in Peloponnesus, had an economy totally dependent on lignite plants for many decades. With the simplification of our legislation, the implementation of incentives to the regions, and with the energy needs we will have in our market as a result of closing the lignite plants, we are establishing a business-friendly environment that will attract a lot of investment across the country. In addition, as he stated, the main ambition of the government is to transform Greece over the next three years into the most business-friendly country of the EU.

In addition, concerning the Greek economy, he pointed out that even though in the beginning of the crisis, all the foreign institutions including the IMF and the European Commission, had predicted that Greece would have the worst economic performance than any other European country, due to its dependence on tourism, 6 months later, the Commission has revised its prediction twice, because Greece achieved a recession of 15% in the second quarter instead of 25%.

Patrizia Falcinelli, Italian Ambassador to the Hellenic Republic, referred to RES, which, as she said, are at the base of any energy and climate strategy aimed at countering climate change and achieving sustainable development goals. She commented that in the last years RES have increased their competitiveness, having become more and more efficient, and have shifted from being niche resources to crucial factors for environmental sustainability. At the same time, she focused on the actions of Italy for the development of RES and the achievement of its goals. Italy is implementing a strategy aiming to reach a carbon neutral economy by 2050. Moreover, the national integrated plan for energy and climate that has been adopted at the beginning of the year, tracks the path to 2030 and lays down incentives and procedures to promote efficiency and sustainability of energy uses. Finally, she mentioned the importance of the presence of Enel Green Power, an Italy based multinational power company and an integrated operator in the global gas and renewables market, in the Greek market, as it has installed the largest wind farm in the country with capacity of 154 MW.

Patrick Maisonnave, French Ambassador to the Hellenic Republic, argued that states should prepare for the energy revolution. One of the major challenges of modern times is the movement towards alternatives to carbon energies, on which the future of humanity relies. In addition, he mentioned that we are at a crossroads, and it is obvious that moving to a post-carbon era will be a long way, but also an uncertain process with two main choices, competition and cooperation. In this direction, sufficient market competition and transnational cooperation are needed. Finally, he indicated that he is convinced that Greece has the necessary potential to become a hub in the field of alternative energy forms, creating conditions for foreign investments and underlined that the government has made crucial efforts in this direction despite its one year of governance.

Éric Scotto, Chairman and Co-Founder, Akuo Energy, stated that a big change came about in the field of RES in Greece through the appropriate political will and government policies. At the same time, he stressed the need to develop RES without any competition with the agricultural sector using floating photovoltaic and other innovative technologies. In addition, he admitted that the national energy plan that was recently adopted is fully aligned with the EU Green Deal and is showing the way to the other EU countries. Furthermore, he mentioned that the EU Green Deal along with the Recovery Plan will help accelerate RES deployment, and mentioned a synergy between Enel Green Power and Akuo Energy to this end. He concluded by underlining that importance of enabling citizens to participate in the Green Transition through RES projects.

Aristotelis Chantavas, Head of Europe, Enel Green Power; President, SolarPower Europe, detailed the proposals on improving the regulatory framework regarding RES and explained the reason why Enel Green Power is important for the Greek energy market, building the biggest wind park in Greece. In addition, he stated that the tender scheme has been proven successful, while licensing simplifications are ongoing. The current government has taken several decisive measures and further steps are underway. As he pointed out moving forward, the tender scheme should be prolonged for a reasonable time period with a sufficient capacity, while the licensing process should be limited to less than two years, in order for the investments to be attractive to various investors from around the world. With repowering, interventions are minimized as the necessary ones have already occurred in permitted and impacted areas maximizing the potential.

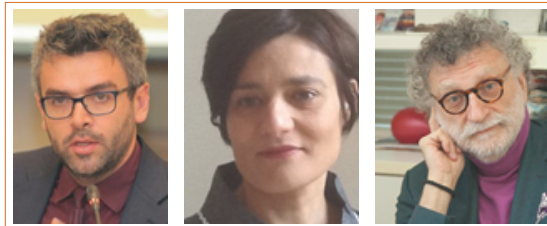
Moderator's Conclusions

Dimitris Pefanis, Director, insider.gr

"It is undeniable that RES deployment is the key to carbon neutrality. The synergies among major companies, like Enel Green Power and Akuo Energy, show the potential that Greece has in this sector. Initiatives taken by the government to simplify and improve the regulatory framework for the investors, seem to be constructive and made me a lot more optimistic about the future as a citizen of this country".

Regulatory Authorities

Day 2



Athanasios
Dagoumas

Aurora
Rossodivita

Jean-Michel
Glachant

SPEAKERS

Athanasios Dagoumas, President, Regulatory Authority for Energy

Aurora Rossodivita, Senior expert of European regulation, ARERA (digital)

MODERATOR

Jean-Michel Glachant, Director, Florence School of Regulation; Holder of the Loyola de Palacio Chair (digital)

Athanasios Dagoumas, President of the Regulatory Authority for Energy, started his presentation focusing on the implementation of the Target Model, which is intended to harmonize the regulatory environment of Greece with the European one and decrease the wholesale prices. RAE plans to establish a Market Monitoring and Regulation Mechanism in both electricity and gas markets under the name Odyssey. One of the components of this mechanism will be Charybdis, a market monitoring mechanism on the available capacity of the electricity and natural gas markets. The second part of his presentation was dedicated to renewables. Prof. Dagoumas noted that according to the new National Energy and Climate Plan, Greece would need about 10GW of new renewables by 2030. However, today there are production licenses for 30GW granted by RAE and applications for another 35GW which are currently under evaluation by the Regulator. He also mentioned that a new innovative IT platform for new applications was under development, where all applications would be electronically submitted. The new platform was presented as a best practice by the EU Court of Auditors, mainly because of its transparency that fosters competition.

Aurora Rossodivita, Senior expert of European regulation, ARERA, took the floor to present the future of EU regulation and especially the challenge of decarbonizing the energy sector. The European Regulator started more than one and a half years ago, well in advance of the announcement of the EU Green Deal or the Hydrogen Strategy. In November 2019, the paper titled "The Bridge Beyond 2025" was published, followed by extensive consultation, including key conclusions on decarbonised gases, the consequences on consumers, infrastructure treatment, market functioning and hydrogen. Another paper on the "Revision of the Trans-European Energy Networks Regulation (TEN-E) and Infrastructure Governance" was prepared last June, introducing proposals on issues where the Agency for the Cooperation of Energy Regulators (ACER) and the Council of European Energy Regulators (CEER), based on the experience of national regulatory authorities, clearly see that legislative changes could improve the planning and implementation of electricity and gas infrastructure. Ms. Rossodivita also mentioned a few points about hydrogen, especially the need and scope of the relative regulatory framework, and the power-to-gas technology.

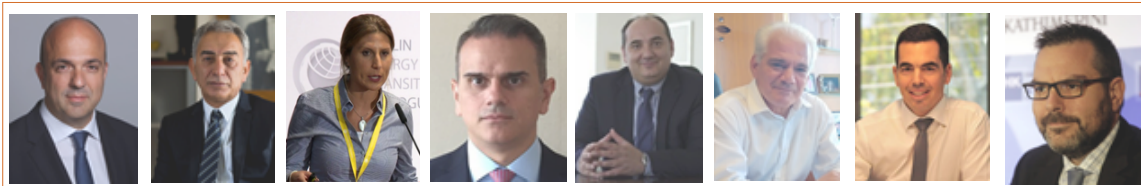
Moderator's Conclusions

Jean-Michel Glachant, Director, Florence School of Regulation; Holder of the Loyola de Palacio Chair

"From my perspective a lot needs to be done by EU Members States in order to establish a common vision for the future where we will share the same priorities and solidarity will prevail. Regulators could not stand on the sidelines and initiatives for sector coupling between Member States will win."

RES Investments: Big Scale Projects

Day 2



Konstantinos Mavros

Adnan Polat

Diala Hawila

Loukas Lazarakis

Tasos Athanasopoulos

Grigoris Marinakis

Panagiotis Doulas

Haris Floudopoulos

SPEAKERS

Konstantinos Mavros, CEO, PPC Renewables (digital)

Adnan Polat, Chairman, POLAT Holding

Diala Hawila, Programme Officer; Policy Advice, IRENA (digital)

Loukas Lazarakis, CEO, Nostira S.A.

Tasos Athanasopoulos, President and CEO, Enerdia

Grigoris Marinakis, General Manager, Voltalia Greece

Panagiotis Doulas, Managing Partner, Alpha Plus Insurance Brokers PC

MODERATOR

Haris Floudopoulos, Journalist, capital.gr

Konstantinos Mavros, CEO of PPC Renewables (PPCR), noted that the issue of energy transition is threefold, comprising of decarbonization, digitalization and decentralization. The ongoing transition combined with further implementation of electricity in energy systems is expected to be the main driver of investments in renewable sources. PPCR is the only company active in all 5 forms of renewables, wind, solar, biomass, geothermal and small hydros, contributing to the country's energy security and environmental protection. In the next five years, PPCR is expected to play a key role in the market, especially in the field of renewables and photovoltaics. The development of new landmark projects in Megalopolis and Western Macedonia will contribute to the growth of the company. He concluded stating that, according to PPCR, the time has come to make significant investments in new renewable projects that will contribute to the national goals of clean energy and energy transition.

Adnan Polat, Chairman of the Polat Holding, started his speech giving an overview of the energy sector in Turkey. Although he was first confronted with great disbelief from politicians and bureaucrats, his team never gave up and nowadays Turkey has renewables legislation and regulation. Today, Polat Holding has a portfolio of 800 MW capacity licenses. Mr. Polat noted the importance of renewable energy not only for the environmental protection of the planet, but also for the energy security of nations. Another benefit is certainly the creation of new jobs from new investments leading to economic growth. From Polat Holding's side, investments are continued with a view to reaching a total of 2.5 GW. Another point mentioned was the advantage of Mediterranean countries in respect of productivity (solar energy), and especially the possibility for Greece and Turkey to take advantage of the Aegean wind corridor and produce wind energy.

Diala Hawila, Programme Officer, Policy Advice at IRENA, recognized on behalf of the agency, the importance of stable and long-term policies, as well as the increasing ambition of renewable energy deployment. IRENA has proposed a future-transforming energy scenario that could cut down on the related emissions to the level required to achieve the climate goals. Within this scenario, electrification plays an important role for transports, heating and cooling, production of hydrogen and decarbonization of heavy industries. She mentioned that the technology cost for PV and on-shore wind had dropped significantly since 2010. She also stressed that according to the auction analysis report of IRENA, the compensation auctions schemes could be described as successful as they could bring socioeconomic benefits. Finally, she underlined the need to double the investment rate in RES technologies every upcoming year so as to become carbon neutral in long-term.

Loukas Lazarakis, CEO of Nostira S.A, noted that when we referred to big scale RES projects only PV installations and Wind projects were technologically mature to be described as such. Regarding the latter, he mentioned that the topography of Greece was not ideal for big scale projects, which was evidenced by the prevalence of large PV projects under development in the country. He mentioned that large scale RES project along with the smaller ones needed the support of the State, so as to be feasible and financially viable. He also noted that the regulation framework needed to change and bridge the gap faced by these projects. He concluded by mentioning the off-shore wind potential of Greece and the need for planning on the part of the Greek State, in order to utilise the considerable capacity in the Aegean, as well as the need for grid infrastructure reinforcement and license procedure simplification through digitalization.

Tasos Athanasopoulos, President and CEO of Enerdia, mentioned that the definition for big scale RES projects is linked to technology maturity and growth. He raised the question of whether we truly needed large scale investments in Greece, as the State's practices and legislation framework gave the wrong message to people willing to invest in Greek economy and the country became less competitive. Regarding the above, he described the main bottlenecks and obstacles that an RES investor faced in Greece and underscored the ambiguous and problematic situation with land use in order to develop a large scale RES project. He concluded, by mentioning that changes should be made by the government and policy makers in order to help the country to become a preferred choice for green investments, and made some proposals in that direction.

Grigoris Marinakis, General Manager of Voltalia Greece, started his speech giving an overview of the company and its operations. He mentioned that Voltalia Greece, despite the absence of planning for renewables in the past years, was still there investing in the development of projects. The company has a portfolio of 3.6 GW projects at different maturity stages. He continued by underlining some obstacles for investors in Greece, such as the high cost of land for RES projects in Greece, as many production license applications have been stuck with RAE for a long time. He then referred to the grid infrastructure priority of Energy Communities. On top of that, he pointed out that all these obstacles created uncertainty and diminished competition. In his conclusion, he outlined the company's strategy to develop a 282 MW project under the large scale projects (>250 MW) legislation, which might see in the future.

Panagiotis Doulas, Managing Partner of Alpha Plus Insurance Brokers PC, started his speech with an overview of the company. He then referred to the main reasons why the insurance of large scale investments should be important for investors. He noted that, weather conditions and climate change phenomena, like hurricane IANOS, that had recently occurred in Greece could be a plus reason for diminishing the risk from the investors. He added that the complexity in terms of the people and manufacturing developments involved in projects, made it difficult to underwrite insurance risks. Moreover, he referred to the currently friendly investment environment in Greece. He concluded that insurance stood on the side of large investments and introduced an insurance product offered by the company.

Moderator's conclusions

Haris Floudopoulos, Journalist, capital.gr

"The achievement of ESEK goals for RES heavily rely on the drastic improvement in reducing bureaucracy and licensing times, as well as on infrastructure (transmission and distribution network). At the same time, a common finding for the Greek market in particular has been that it is not necessary to go on large-scale projects. Conversely the market is expected to move with medium-scale projects at least in the medium-term period. Finally, it has been confirmed that Turkish companies show great interest in investments in the Greek market."

Natural Gas Networks: The New Landscape in Greece

Day 2



Leonidas
Bakouras

Dimitrios
Avlonitis

Theodoros
Stavropoulos

Nikolaos
Koutsogiannis

Michael
Thomadakis

Thodoris
Panagoulis

SPEAKERS

Leonidas Bakouras, General Manager, Gas Distribution Company Thessaloniki-Thessalia S.A. (digital)

Dimitrios Avlonitis, Marketing & Sales Coordinating Director, Public Gas Distribution Networks S.A. (digital)

Theodoros Stavropoulos, Executive Director of Commercial Services, Attiki Natural Gas Distribution Company S.A. (digital)

Nikolaos Koutsogiannis, Advisor to the Board, HENGAS S.A.

Michael Thomadakis, Head of the Strategy and Development Division, Hellenic Gas Transmission System Operator

MODERATOR

Thodoris Panagoulis, Editor in Chief, energypress.gr

Mr. Bakouras opened his presentation by mentioning the company's role and referred to its main activities and obligations through the regulatory framework. He pointed out the company's operational independence criteria that should meet the conformity program in accordance with RAE's Decision no 833/2019. He also talked about the uptrend of the company and the approved five-year (2020-2024) Development Plan with total investments of €150m expected by the end of 2024. Those investments will lead to lower distribution tariffs for end users, which is the company's main concern, as he said. Later, he discussed the company's innovative efforts to distribute natural gas to remote regions through Virtual Pipeline Networks by using CNG & LNG, so that more people can benefit from natural gas. He finally talked about the future role of Distribution System Operators-DSOs and mentioned the five pillars (successful management, stable working environment, funds and investments implementation, stable regulatory framework, good planning) that should form the foundation of a DSO's operation.

Mr. Avlonitis started his speech by mentioning the role of natural gas as a transition fuel towards meeting the climate and energy targets set by the EU. He pointed out the absence of natural gas networks in Greek regions, apart from the existing ones in Attiki, Thessaloniki and Thessalia, which were developed mainly due to economic considerations, as he said. He continued saying that the company was established with the main purpose of dealing with that challenge and developing gas networks in new regions, and accelerating the country's energy transition. In that direction, the company, with the contribution of the Development Framework Partnership Agreement, has completed tendering procedures in Eastern Macedonia and Thrace Regions for the development of gas networks, and the same procedures will take place in other regions as well, in accordance with company's 2020-2024 Development Plan. The company estimates that by 2024, the total investment plan will amount to €300m, with 57,000 new connections in 34 cities.

To begin with, **Mr. Stavropoulos** presented the company's role and its main operations through the regulatory framework, and offered the company's background. He then referred to the company's 5-year (2020-2024) Development Plan and its main pillars, with total investments of around €150m. He mentioned that with the Development Plan, the utilization rates of the company's network will rise and the total low-pressure network will be around 4.000 km-long, mainly thanks to new connections. In that context, he presented the company's multi-criteria methodology for expanding the network to more areas. Finally, he talked about the commercial strategy of the company and its main pillars while focusing on the value that the installed IT systems of the company have added and mentioned that from 2023 all new meters installed by the company will be "smart" meters.

Mr. Koutsogiannis, started his speech referring to the position of the company, as a new natural gas distributor. He said that the main goal of the company is to fill the gap in the market and bring natural gas to the Greek countryside which, for the moment, cannot enjoy its benefits. In this effort, he stressed the importance of Compressed Natural Gas-CNG, and the environmental and financial advantages the local economies will have from the company's investment plan. He then presented some facts about the investment plan, which will amount to €40m and will result in 9 new cities benefiting from the use of natural gas. He mentioned that the company estimates that the licensing procedure will be finalized soon, and the company will start implementing its investment plan in 2021.

Mr. Koutsogiannis also indicated the urgent need for the State to accelerate the licensing procedures, which will help the liberalization of the energy sector in Greece and result in crucial investments like HENGAS becoming a reality.

Mr. Thomadakis started his presentation with a quick snapshot of the Operator's economic, technical and labor indicators. He then discussed the company's 10-year Development Plan (2021-2030) which has a total budget of over €500m. The main objective of the investment plan is to expand the natural gas market through the existing network, enhance security of supply, and focus on new technologies like hydrogen, as he said. He mentioned 6 main projects of the plan, such as the Western Macedonia Pipeline, the Western Greece pipeline, the truck loading LNG station and the small-scale LNG jetty in Revithousa island, and also the upgrading of the metering station in Nea Messimvria.

He continued by pointing out the importance of the start of commercial operation of TAP in a few weeks, the construction of IGB, the Alexandroupolis FSRU, where there is great interest on the part of DESFA to participate in the investment scheme, and also the construction of a new pipeline to North Macedonia. He concluded by highlighting the vital role of Revithoussa LNG Terminal and the upgrade that will be required so it can receive Q-max LNG carriers and added that the upcoming upgrades in the terminal will contribute to extending use of natural gas in remote areas and non-interconnected islands.

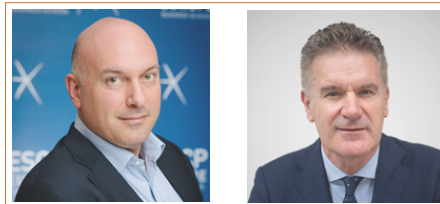
Moderator's conclusions

Thodoris Panagoulis, Editor in Chief, energypress.gr

"It was a fruitful and interesting discussion, the upcoming development plans from the companies and the collaboration between them with DESFA will enhance gas penetration ratio in mainland Greece in the following years. Gas networks will be ready to receive alternative and cleaner energy sources like hydrogen and biomethane and such as will pertain a crucial role in energy transition."

Report Presentation: “The Potential Contribution of Natural Gas to East Mediterranean Economy”

Day 2



Kostas
Andriosopoulos

Matthew
Doman

SPEAKERS

Kostas Andriosopoulos, Professor of Energy Economics, ESCP Business School

Matthew Doman, Interim Public Affairs Director, IGU (digital)

Prof. Andriosopoulos presented the report “The potential Contribution of Natural Gas to the East Mediterranean Economy” and mentioned that this report was the result of teamwork along with IGU and brought to view the potential contribution that natural gas will have to the economies of the countries concerned (Egypt, Cyprus, Greece etc.). He started with a useful timeline presenting recent developments in the region and then mentioned the key findings of the report for each country. He focused on the benefits that natural gas could have on the economies of the above countries such as GDP growth, direct and indirect job opportunities by upstream natural gas activities, gas emissions reductions and economic savings from the power generation fuel switch from oil and coal to natural gas.

He concluded mentioning the flexibility that natural gas offers as a fuel, making it the ideal energy transition fuel on the path towards a greener environment, and emphasized the EastMed Pipeline project, which, along with the exploitation of recoverable gas reserves in the region and the establishment of the East Med Gas Forum, may act as foundations for regional prosperity.

Afterwards, **Mr. Doman** referred to the pandemic and its global economic impact and mentioned the decline in energy demand including natural gas, however he pointed out the important role that natural gas will play in the energy transition in the decades ahead. He then presented an international outlook for the gas market, derived from IGU's Global Gas Report for 2020. He stressed the fact that there is a steady increase of gas traded as LNG and continued by highlighting the steadily growing share of gas across the energy sector globally and specifically in power generation. Gas supply is growing around the world, and North America is becoming a more and more important player in gas supply, which has led to a major shift in international energy markets, as he said. That shift has caused the decline of commercial gas prices. Furthermore, he pointed out the environmental effects of low gas prices, mainly from the power generation fuel switch from oil and coal to natural gas.

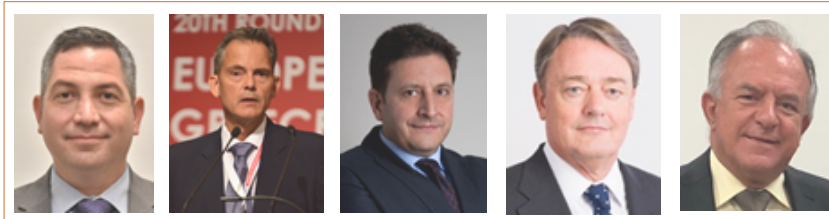
He concluded by highlighting the opportunities arising from the proximity of the Mediterranean to Europe and the successful development of the upstream resources in the East Mediterranean region, mentioned by prof. Andriosopoulos, to enable growth demand to be met.

East Mediterranean Markets: Regional Gas Prospects and Small-Scale LNG Applications

Day 2



POWERED BY
GLOBAL GAS CENTRE



Dan Milstein

Dimitris Manolis

Symeon Kassianides

Marcel Kramer

Naji Abi-Aad

SPEAKERS

Dan Milstein, Director, European Regional Office U.S. Department of Energy, U.S. Embassy-Prague (digital)

Dimitris Manolis, Head, International Activities/Projects, DEPA S.A. (digital)

Symeon Kassianides, Chairman, Natural Gas Public Company, Cyprus (digital)

Marcel Kramer, Energy & Infrastructure Consultant; President, Energy Delta Institute (digital)

MODERATOR

Naji Abi-Aad, Advisor, Global Gas Centre

Mr. Abi-Aad, started his presentation by giving his perspective on East Mediterranean Gas and compared the undiscovered resources and proved reserves in the Levant Basin (offshore Cyprus, Israel etc.), a main part of the East Mediterranean region. He noted that according United States Geographical Survey (USGS) the undiscovered and technically recoverable reserves will be around 122 trillion cubic feet (TCF) and if we add the proven reserves of Egypt, the total quantity reaches 200 TCF, much lower than the massive proven reserves in other regions like Russia (1340 TCF), which will not make the East Med a global game changer in gas supply, but maybe a regional one. In addition, he analyzed that the type of gas discoveries (dry/associated, sweet, sour, etc.) play an important role in the gas production cost compared to the gas market value, which is often underestimated. He pointed out serious challenges in marketing East Mediterranean gas and highlighted that the shale gas revolution along with the pandemic have driven gas prices to a historic low. He concluded saying that now is the time for East Mediterranean gas to gain a higher market value as the competition will become fiercer with every passing year.

Mr. Mistein started his speech by noting that the shale gas revolution had made U.S the largest natural gas producer and one of the top three Liquefied Natural Gas-LNG exporters, currently having an export capacity of 9 billion cubic feet per day-bcf/day which will reach 15 bcf/day by 2025, more than any other country. He highlighted the market potential of LNG compared to gas supplied through pipelines and mentioned the related economic, environmental and health benefits and its alternative value as a transportation fuel for ships and heavy trucks. Regarding the latter he noted the nascent market in the EU for new LNG fuel trucks resulting from EU Directive 2019/94, and the adoption of new reduction targets set by the EU for heavy duty vehicles starting from 2025. Moreover, he noted the MARPOL Convention and IMO regulations to reduce sulphur oxides (SOx) emissions from fuel oil-powered ships, which will make LNG-powered ships a preferable choice for shipowners regarding new ship builds. In his conclusion, he noted the complementary role of Revithoussa terminal and Alexandroupolis FSRU in the development of small-scale LNG projects in Greece and the great potential that they have in supplying energy to remote areas of the country (highlands and non-interconnected islands) as an immediate option.

Mr. Manolis, Head of International Activities and Projects of DEPA Commercial S.A., presented the company's strategic goals and the key markets for small-scale Liquefied Natural Gas-ssLNG projects. He highlighted that LNG could ensure sustainable energy growth by providing gas supply for power generation to remote areas far from gas transmission and distribution networks. Moreover, he stressed the economic and environmental advantages of using LNG in merchant shipping and road transportation and mentioned the environmental benefits and positive impact on tourism, a main pillar of the Greek economy. He continued by presenting the main drivers of growth for ssLNG projects in Greece (Geographical position, Revithoussa terminal, Alexandroupolis FSRU etc.) and referred to the company's market targets (bunkering, Off-Grid Industrial and Commercial Customers, Gas for Transportation). He also noted the company's participation in innovative projects (Poseidon Med II, SuperGreen, BlueHubs) and the role that those projects will play, making Greece an international marine bunkering and distribution hub for LNG in South Eastern Europe.

Mr. Kassianides started his presentation by briefly describing the main parts of the LNG Import Terminal Project of Cyprus, for which the main responsible agency is the Public Gas Infrastructure Company of Cyprus (ETYFA), a 70% subsidiary company of DEFA and 30% subsidiary of the Electricity Authority of Cyprus. He continued by providing some data about the current situation of the project, which is estimated to be delivered by September 2022, and also presented the project's financials. The total cost of the project amounts to €374m of which €144m will be equity contribution and €230m long term loans from EIB and ERDB, as he noted. Furthermore, he addressed the main activities of DEFA and highlighted the value of bunkering for the company and mentioned the discussions that the company is having for participation in the BlueHubs project. He also expressed his belief that Cyprus will have a role in the East Mediterranean for vessel refueling and stressed that the concept of micro-LNG and virtual pipeline networks will be beneficial in supplying the mountainous areas of the island.

Finally, Mr. Kassianides mentioned that Cyprus is ready to change its power generation mix, and the LNG Import Terminal Project is crucial in this direction.

Mr. Kramer in his speech introduced his perspective on the preconditions for a regional market development in the East Mediterranean. Firstly, he mentioned that the development of gas demand will be a key factor and emphasized the main aspects that could create demand, by pointing out the environmental benefits of gas, its complementary role to the intermittency of renewable energy production and its role as transportation fuel. He continued by mentioning the importance of pricing in the upstream gas resources development and how a domestic pricing market system can be an obstacle. Furthermore, he highlighted the modular approach trend in Liquefied Natural Gas-LNG infrastructure that is correlated with market growth and can thus minimize risk and capital expenditure. Finally, he noted that the upcoming upstream gas developments in the region may not be huge in terms of gas supply, they will, however, have a positive impact in terms of economic development, employment, environment and diversification of gas sources.

Moderator's conclusions

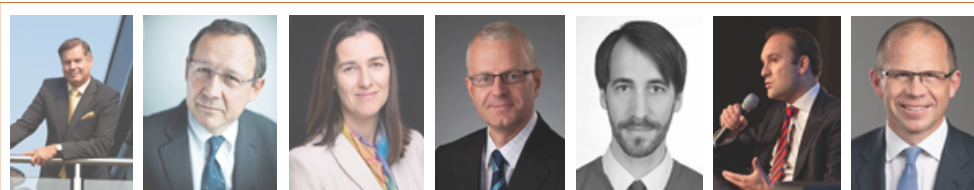
Naji Abi-Aad, Advisor, Global Gas Centre

"The session on the "East Mediterranean Markets: Regional Gas Prospects and Small-Scale LNG Applications" started with a review of the situation by the moderator and GGC Advisor, Naji Abi-Aad, together with an assessment of the challenges facing the gas resources in the area.

After the speech of Dimitris Manolis, the Head of International Activities/Projects at DEPA S.A. on the main gas developments in East Med, Dan Milstein, the Director in the European Regional Office of the U.S. Department of Energy, based in the U.S. Embassy-Prague, compared the situation in the area with those in the other regional markets. These two presentations were followed by a review of the gas and LNG developments in Cyprus by Symeon Kassianides, the Chairman of the Cypriot Natural Gas Public Company. The session closed with a speech by Marcel Kramer, Energy & Infrastructure Consultant, and President of the Energy Delta Institute, about the economics of using small-scale LNG plants in this part of the world."



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René
Bautz

Jean-Marc
Leroy

Anita
Orban

Andrew
Walker

Maximilian
Kuhn

Sander
Van
Rootselaar

Alex
Barnes

SPEAKERS

René Bautz, Chairman, World Energy Council - Global Gas Centre

Jean-Marc Leroy, External Relations Senior Executive Vice President, Engie France (digital)

Anita Orban, Vice President, International Affairs, Tel-lurian LNG (digital)

Andrew Walker, Vice President, LNG Strategy and Communication, Cheniere (digital)

Maximilian Kuhn, Government Relations Advisor, Gaz-Prom Germania (digital)

Sander Van Rootselaar, Deputy Head of Communications & Spokesperson, TurkStream (digital)

MODERATOR

Alex Barnes, Advisor, Global Gas Centre

At the beginning of his address, **Mr. Bautz**, presented the key principles and main objectives of the EU Green Deal and highlighted the importance of decarbonising the gas sector and promoting smart integration with other sectors which, as he said, will be the main challenge for the gas industry. He mentioned that, according to a study from the International Energy Agency (IEA), the power generation fuel switch from coal to gas has brought emissions reductions of around 500 million tons of CO₂ since 2010. Furthermore, he analyzed the Swiss gas sector and noted the importance of using gas in the country since, according to recent studies, an all-electric model will be extremely costly and cannot cover the seasonality of demand, leading to diminished energy security in the country. He continued by focusing on the "3030" strategy of the Swiss gas industry, according to which renewable gases will cover the 30% of the needs for heating and gas mobility by 2030.

He concluded saying that natural gas is set to evolve into a worldwide low carbon energy carrier and thanks to new investments, new approaches will be possible with a convergence of networks.

Mr. Leroy, in his address mentioned the need to analyze the evolution of the balance between supply and demand for electricity, which resulted from the recent outages observed in California last summer due to electricity capacity deficit. He noted the main factors that prevailed and highlighted that the impact in Europe would be much higher reaching €30 bn. for 100-250 hours of outage. Furthermore, he mentioned that the presence of a peak gas power station could have prevented that, and continued by highlighting the value of dispatchable units like gas power stations. He also noted that gas units could contribute to a massive deployment of renewables which would guarantee the resilience of the electricity grid.

He concluded by pointing out that gas and its substitutes like biogas or green gas will play a key role in the energy transition in terms of contributing lower CO₂ emissions, mainly due to lower operating hours of gas power units but also will complement the deployment of renewables toward a carbon neutral economy and, along with the use of batteries, could fill some of the existing gaps.

Ms. Orban, in her presentation made an extended analysis of the Liquefied Natural Gas-LNG market in Europe and highlighted the role that it will play in the energy transition. She started by mentioning some factors that made gas prices rise lately, but as she anticipates, there will not be any further increase soon. She continued by mentioning the competitiveness that LNG could bring to the European economies and the flexibility that it can bring as a complementary fuel for renewable energy production. That is the reason why LNG imports in Europe slightly increased this year by 8.5%, meanwhile pipeline gas imports have dropped by 21%, as she noted.

Furthermore, she mentioned that the EU Commission can rely on LNG in the transition to a greener and more sustainable future, and it is hard to see how it can be circumvented as it enhances energy security through diversification of energy sources, and it is complementary to the further development of renewables.

Mr. Walker, in his address stated the key role that gas plays in energy transition in Europe. He mentioned that gas has a multifaceted role, firstly because it can bring environmental benefits like better air quality, compared to less clean-burning fuels like oil and coal for power generation. Secondly, he mentioned the functionality of gas as a necessary part of the energy mix which could enhance the stability in energy supply and create the flexibility in storage that renewables will need to gain a higher share in the electricity mix. Furthermore, he mentioned the development opportunities in the existing gas platforms so that they can receive other forms of gas like biogas or syngas, and of course hydrogen which is considered by many as the key element for decarbonisation.

He continued by mentioning the long-term role of Liquefied Natural Gas-LNG and pipeline gas in the EU gas market towards the energy transition and concluded by pointing out the company's actions towards a greener and sustainable future.

Mr. Kuhn in his joint presentation with Mr. Van Rootselaar, presented the company's leading position as a provider of natural gas with the lowest carbon footprint, consistent with Russia's climate policy as per the Paris Agreement. He continued by highlighting the low land use impact of natural gas compared to other energy sources and mentioned that, according to recent studies, fast emissions reduction would only be possible with natural gas, and further emissions reduction only with hydrogen usage. Furthermore, he said that the performance of natural gas in environmental indicators like toxicity and human health effects is often underestimated by policymakers. Continuing, he mentioned a study for Greece, pointing out the role that TurkStream, natural gas and hydrogen will play in trying to meet Greece's climate target, according to its National Energy and Climate Plan (NCEP), and concluded by highlighting the value of methane pyrolysis in producing clean hydrogen from natural gas, as this is the cleanest and most competitive method at the moment.

Moderator's conclusions

Alex Barnes, Advisor, Global Gas Centre

"The session showed that despite the current concerns over COVID the natural gas industry is in robust health. In the short-term, markets have responded to changes in supply and demand, and consumers benefit from competition between gas suppliers. In the longer-term natural gas has a role to play in helping economies decarbonise, both as a lower carbon fossil fuel, and as source of hydrogen in the future to supply consumers which cannot electrify. The industry is working on addressing the issue of methane emissions to minimize its greenhouse gas footprint."

Day 3

Friday, October 2, 2020



Makis
Papataxiarchis

Makis Papataxiarchis, Senior Counselor, Greek Ministry of Interior, Senior Scientific Advisor, Hellenic Red Cross, Chairman, Pharmaceutical Committee AmCham Greece

"Dear participants,

Thank you very much for the opportunity to address you and discuss the government policy's vision, perspective, and footprint in relation to the cities of tomorrow.

The main principle is not about the environment we live in, which is not something we own and can do whatever we want with it. We have essentially borrowed it from future generations, and we owe it to them to deliver it in better shape than when we received it from our parents.

Today cities around the world occupy just 3% of the earth's territory but are responsible for 60-80% of energy consumption and 75% of greenhouse gas emissions. Note that 50% of the world's population, i.e. 3.5 million people, live in cities.

The above figures, and given that today, 50% of the population lives in cities - forecasted to reach 70% in the next 25 years - dictate the need for a transition to the new era. This is not a picture from the future, but a reality far from our country's current situation.

It is imperative to develop smart and therefore sustainable cities. It is about improving the quality of life of the citizens living in them, but also improving the surrounding area, the peri-urban environment. Growth is not entrenched, it spreads, and as a result, non-urban areas benefit as well, which in turn benefits the entire country. For this to happen, however, the state itself must undertake reforms and changes that will make reaching the goal easier.

I firmly believe that new technologies, but even more so, new mentalities can transform Greek cities and our society in general, to adopt, on the one hand, a responsible attitude towards environmental and social issues, and on the other, enhanced citizens' participation, in every respect.

Today the city is organised in such a way as to enable citizens to meet their needs and enhance their well-being, without destroying the natural environment or endangering the lives of other people.

Intelligent development includes efficient land management, better organisation of production activities, ensuring excellent transport, development of new and optimal utilisation of existing infrastructure, solid growth instead of uncontrolled propagation, and places great emphasis on soft transport.

The Greek Government's strategic goal is to support and strengthen the country's municipalities in every way, so as to introduce the "smart city" model, ensuring sustainable development, strengthening entrepreneurship, creating jobs and living in an environment that will provide citizens with multiple service and well-being possibilities.

Water management, telemedicine, reducing pollutant emissions, waste management, digital services, the ability to freely use the Internet for all citizens, and energy savings are the building blocks for a successful implementation of the smart city model.

In this context, both the Greek Government and the European Union have made financing instruments available to Municipalities and Public Institutions which offer an important incentive and substantial support for the implementation of projects and interventions that will impact the everyday life of the city and its residents.

At the Ministry of the Interior, we are putting our plan in action and creativity to use to turn local government into a pillar of development, social cohesion, quality of life and service to citizens.

We are implementing these goals, with planned reforms and in close collaboration with local government, united, without discrimination.

The implementation of a programme of development and solidarity projects and actions for local government called "Antonis Tritsis" is already fully underway.

This innovative and flexible programme has developmental, environmental, and social objectives, which respond to corresponding needs of citizens. They meet all 17 sustainable development goals of the United Nations and the European Green Deal, as well as the energy transition and the recent European Union Recovery Programme goals.

When initiated, the programme had 11 axes and of course included the "smart cities" axis, with a budget of EUR 130 million. Initially, it entails prevention, monitoring and control measures and systems in the context of Civil Protection and Security. Smart systems and applications in mobility, parking, traffic management and electromobility. Citizen services with digital applications and systems. Supporting local theme tourism, "smart" systems for promoting Culture – Tourism. Reducing energy waste in municipalities, smart lighting, reducing energy-intensive devices and equipment.

The "Antonis Tritsis" programme has secured funds of at least EUR 2.5 billion. Moreover, it has also secured the contribution of the European Investment Bank with EUR 1.5 billion to the programme's projects.

This programme will implement all 750 projects, which, although had been promised by the government in the past, had no secured funds and therefore risked never being realised, with an estimated budget of 650 million euros, after contract signing.

A modern city requires additional strengthening of Civil Protection structures with the participation of volunteers since the resources available are not infinite. Municipalities must train their citizens on how to minimize the risks of all kinds of natural disasters and this obviously requires cooperation with the state.

The experience of the pandemic and the health crisis that we all live and face makes this realisation more topical than ever before.

Actions can and should be extended to include cooperation between municipalities with shared geographical characteristics, mountainous and insular. The same cooperation can be achieved in areas related to the promotion of culture and the exchange of cultural elements between municipalities.

Our goal is that the programme's projects and actions reach even the remotest "corner" of Greece, be relevant to all regions, all municipalities and all citizens of our country.

The cooperation of all the involved Ministries, scientific institutions, municipalities, businesses and citizens, is the common tool that will help us all. Our goal is sustainable development, upgrading the quality of life of residents, adopting a knowledge-intensive profile with creative industries, state-of-the-art technologies and infrastructure, to achieve local prosperity and increased competitiveness.

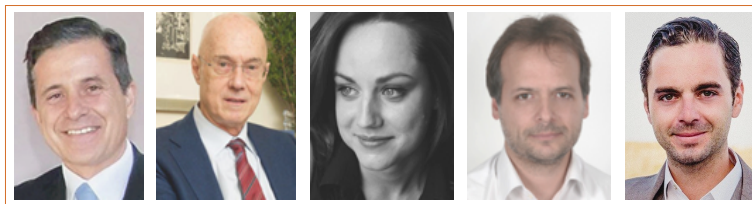
We are actively upgrading the role and responsibility of local government and attempting to change the landscape. We try our best towards fulfilling our shared obligation of realising the demand of our citizens for a better quality of life in their daily lives.

This requires strategy, plan, determination, trust, unity. The road is long, but we have the political will, the willingness of our municipalities, knowledge, experience, and the financial instruments necessary.

The future cannot wait. This is why we are bringing social forces together with sound policies, so that our country can take its rightful place on the "smart cities" map and become a model of sound and sustainable development."



POWERED BY



Konstantinos
Aravossis

Giorgos
Kremlis

Theodora
Antonakaki

Haris
Doukas

Konstantinos
Maragkogiannis

SPEAKERS

Konstantinos Aravossis, General Secretary of Natural Environment and Water, Ministry of Environment and Energy, Hellenic Republic (digital)

Giorgos Kremlis, President, Organizing Committee of the Circle the Med Forum; President, International "Circular Clima Institute" of the European Public Law Organization (digital)

Theodora Antonakaki, Advisor to the Governor of the Bank of Greece

Haris Doukas, Associate Professor, School of Electrical and Computer Engineering, National Technical University of Athens & Gen. Secretary of HELORS Maximilian

MODERATOR

Konstantinos Maragkogiannis, Senior Advisor on Circular Economy

Mr. Aravossis at the opening of his keynote address, referred to the new bill for disposable plastics as well as the Green Public Procurement, both of which enhance circular economy in many aspects. Circular and low carbon economy are key elements of the pan-European and global economic model, as the new Circular Economy EU goal is to help a green development model by alternating production and consumption, so as to use less raw material and produce better quality products with the main goal of a zero-waste society. Following implementation, the ecological footprint of the EU is expected to be reduced and 2,000,000 new jobs will be created in bioeconomy, food, fertilizers, demolition & construction, and alternative plastics. Mr. Aravossis introduced the upcoming Circular Economy Roadmap and emphasized the fact that local communities need to leave the linear economic models behind and shift to the circular model. Local authorities need to focus on RES & energy efficiency measures in their infrastructure, circular waste management, and follow the example of Germany where 100% of waste is recovered and used as energy and raw material. One issue that needs to be addressed is sustainable water management and the importance to reduce water loss as it reaches 50%. He concluded by expressing the view that Circular Green Digital City is not a utopia and that municipalities are expected to implement it.

Mr. Kremlis talked about the importance of EU carbon neutrality by 2050, as well as the full implementation of the Green Deal and circular economy. He analyzed the key elements of a circular city which are energy efficiency, led lighting, eco-mobility, but also other aspects such as clean water, sewage network, waste management as resources and eco-innovations. He mentioned the significance of energy transition for 5 Greek municipalities (4 in Western Macedonia & 1 in Peloponnese) that are taking steps towards de-lignification, and the importance of the Greek islands to exploit all available transition funds towards a clean and sustainable future, by disconnecting from the mainland grid and creating smaller grids amongst them or becoming self-sufficient through RES.

Finally, he mentioned the "Tritsis Program", an extremely important program, as he underlined, that supports municipalities in all possible areas including energy transition and circular economy initiatives with funds from the European Investment Bank, run by the Ministry of Interior.

Ms. Antonakaki opened her presentation with a chart of the temperature change in Greece and the rest of the world since 1901, showing that the change concentrates around heavily populated areas, marking the major role that humans play in climate change. She explained how climate and the economy are interrelated and that with a climate change adaptation program, Greece can mitigate around 30% of the impact of climate change.

In her speech, she analyzed the three types of climate change risks, Physical, Transition and Liability and focused on the actions that the Bank of Greece has undertaken over the last decade through publications, committees and endorsements, and its participation in the NGFS (Network for Greening the Financial System), as well as its partnership with the UNEP FI (United Nations Environment Finance Initiative).

As a final point, she noted that over the next months and possibly years, it is estimated that countries will invest over \$20 trillion to recover from the fallout of COVID-19 and that Green Recovery is an opportunity we cannot afford to miss.

Mr. Doukas started his presentation by stating some important questions that need to be asked in order to go ahead with the optimum model of sustainable and smart cities. He also spoke about the importance of coalitions between cities, with examples such as the Global Covenant of Mayors for Climate & Change and C40 cities that are addressing the problems of urbanization, energy consumption and climate change. He explained that challenges are Socio-Political, Economic, Technological and Environmental and that now is the time to seize the opportunity for Transition from "Traditional Cities" to "Resilient Cities". He also spoke about smart cities and their connection to energy, explaining the use of smart grids, operational research and big data, as well as how consumers will become 'prosumers' and how Intelligent Energy Management and personalized data-driven apps can contribute to carbon reduction and energy efficiency. In that context he explained how the Connectivity Framework works, where different types of buildings are plugged-in, data is analyzed, and mobile apps help citizens become aware of their energy consumption habits and how they can adapt them to a more environmentally friendly approach. He introduced MATRYCS which are modular big data applications for holistic energy services in buildings which started operating on the 1st of October.

In conclusion, he noted that Big Data is one key element for achieving smart and sufficient cities which should be utilized correctly.

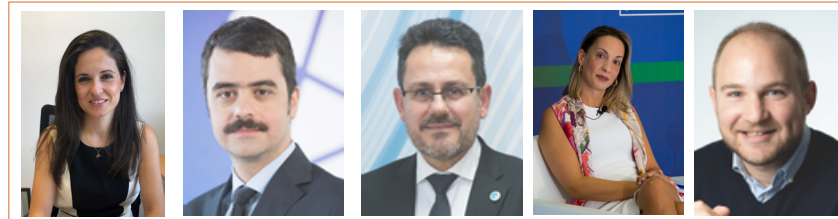
Moderator's conclusions

Konstantinos Maragkogiannis, Senior Advisor on Circular Economy

"Circular Economy constitutes a broader economic development plan, as it can contribute to the qualitative strengthening of the Greek economy, by creating new jobs and new skills, while boosting small and medium-sized entrepreneurship. At the same time, it contributes to Sustainable Development, integrating new business models and adopting new consumption and production patterns.

Frontrunners (Countries that take actions in advance) will be more competitive to deal with the climate change impacts and therefore will have less economic losses.

Considering the special characteristics of Greece (e.g. insularity), there is plenty of room for adopting Circular Economy practices while making cities SMART and resilient. The economic development and prosperity of Greece should no longer be correlated to the need for natural resources."



Sonia
Babilis

Ioannis
Margaritis

Nicola
Battilana

Argyro (Argie)
Banila

Evangelos
Kyritsis

SPEAKERS

Sonia Babilis, Chief Investment Officer, Hellenic Republic Asset Development Fund (digital)

Ioannis Margaritis, Vice-Chairman BoD ADMIE, Chief Technology Officer and General Manager, "Ariadne Interconnection" (digital)

Nicola Battilana, CEO, Hellenic Gas Transmission System Operator S.A. (digital)

Argyro (Argie) Banila, Head of Structured Financing, National Bank of Greece

MODERATOR

Evangelos Kyritsis, Senior Analyst, Statkraft; HAEE's BoD Member (digital)

Ms. Babilis opened her speech by mentioning the big steps Greece has taken towards privatizations over the past decade, but also the plan to invest more than €40 billion, over the next 10 years, in the implementation of the National Energy and Climate Plan. In this context, Greece can be a key player in the formulation of the EU energy mix through the major infrastructure projects underway in the region, such as IGB, TAP, Eastmed Poseidon pipelines, the Alexandroupolis FSRU, Euro-Asia interconnector etc., but also through the ample availability of renewable energy potential (wind, hydro, biomass, geothermal, solar & solar thermal), offering significant investment opportunities in all energy industries. She continued referring to privatizations in the energy sector that have already taken place, and mentioned, in particular, the tenders for DEPA Infrastructure and DEPA Commercial that are still in progress and the considerable investor interest they have attracted. She also mentioned the Underground Gas Storage Facility in South Kavala and its national and geostrategic importance, as it will safeguard the country's security of energy supply with a view to establishing the country as an energy hub in the region.

In conclusion, Ms. Babilis highlighted the different main ingredients of a successful privatization process, which are microenvironment stability, assets quality, certainty which results from process clarity and regulatory framework transparency, as well as stakeholder alignment.

Mr. Margaris started by describing IPTO's experience gained from the change of ownership and institutional structure, as it is a successful example of an efficient partnership between the state and the private sector. At first, he pointed out the challenges that all parties faced and the changes that needed to be made in system planning and development, as well as on all internal structure levels in the company and continued by analyzing the new relations that had to be formed among all stakeholders (suppliers, contractors, the energy market actors etc.). Furthermore, he noted that the combination of the private sector and the state has given IPTO the necessary leverage to negotiate better regulations and better contracts with suppliers and contractors, has helped IPTO grow in the last 3 years, but has also contributed to the adoption of new technologies. He then referred to the increased investments in the system's expansion performed by IPTO in the past 3 years, which started out at €70 million and reached over €250 million, with the plan to invest 5 billion over the course of the next decade. Mr. Margaris, also highlighted the ongoing and future infrastructure projects (Crete to Peloponnese & Crete to Attica Interconnections, North Aegean Interconnection, Dodecanese Interconnection etc.), as well as other achievements such as making Thessaloniki the center of the new regional security control center for the entire southeast European region.

His conclusion was that to successfully achieve energy transition, our generation needs to have very efficient organisations, companies and institutions.

Mr. Battilana analyzed the 3 pillars on which DESFA relies on for becoming the key regional gas operator which are, Evolving & Repositioning, Internal Transformation, and Business Development. More specifically in Evolving & Repositioning, a new framework had to be set for establishing the new ownership status, where public relations and external communication played a great role, but of course DESFA had to stay active and participate in national and international projects and initiatives. In internal transformation, attention was paid to human resources, where a new collective labor agreement was signed, remote working and flexibility were enhanced, and a new compliance and corporate framework system was introduced. In order to drive business development, DESFA needed to go ahead with the gas network expansion, and invested €500 million in Greece, as well as in new interconnections to neighboring countries. In addition, small scale LNG initiatives had to be taken involving new business areas as well, such as participation in strategic investments, taking advantage of the international opportunities that arise, and hydrogen technology.

Mr. Battilana also indicated the shipping industry, the heavy industry and the heavy transportation industry as the industries that are going to benefit from the Small-Scale LNG initiatives along with the development of hydrogen technology.

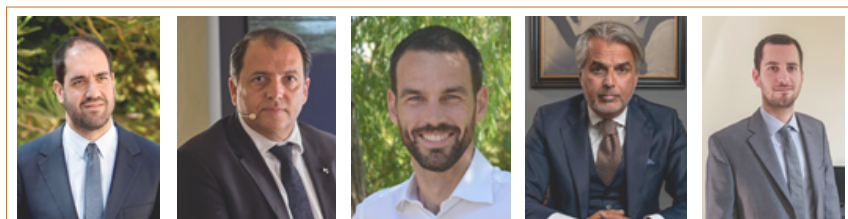
Ms. Banila, started her speech by referring to the €4 billion credit portfolio under management of NBG, ranking the bank first among local competitors, as well as the extra €3 billion investments in the energy sector, planned for the next 3 years, of which a substantial part will be channeled to privatizations relating to Greek energy networks. Furthermore, she mentioned NBG's leading role in all Greek networks-associated transactions in Greece, highlighting the IPTO and DESFA cases. Ms. Banila, also referred to NBG's robust appetite for actively participating in the upcoming capital expenditure plan of DESFA. Additionally, she explained that their contribution in unlocking the value of networks is holistic, by offering solutions and assistance to local and international investors to participate in tenders, and supporting the unimpeded implementation of investment plans towards upgrading and expanding the networks.

As a final remark, she made special reference to NBG's integrated corporate & investment banking team, which is aligned with global standards and international banking practices.

Moderator's conclusions

Evangelos Kyritsis, Senior Analyst, Statkraft; HAEE's BoD Member

"Energy transition is happening and the role of networks privatization is now more important than ever to efficiently coordinate the efforts of decarbonization, not only across geographies, thus accelerating market coupling, but also across different ownership levels. Ownership unbundling facilitates the implementation of new investments in infrastructure and provides the necessary leverage to successfully negotiate issues of regulation and improve financing relations with the government and local authorities. Strategic investors also give access to new capital markets and improve financial performance. Recent privatization of Greek energy utilities contributes to making Greece an important energy hub at the crossroad of Europe, Asia and Africa."



Ioannis Kefalogiannis

Dimitris Kavvouris

Arnaud Henin

Athanasios Lazanas

Thanos Zarogiannis

SPEAKERS

Ioannis Kefalogiannis, Deputy Minister of Infrastructure and Transportation, Hellenic Republic

Dimitris Kavvouris, Chief Operating Officer, Citroen, DS Automobiles & Mazda

Arnaud Henin, Managing Director, Gommyr Power Networks

Athanasios Lazanas, Chairman and CEO, Arclif Group (digital)

MODERATOR

Thanos Zarogiannis, Electric Vehicles Charging Specialist, Advisor on Electromobility

Mr. Kefalogiannis stated that transportation conditions and the right of free movement in urban areas are key pillars in the plans of the Ministry's strategy and that sustainable urban mobility is part of that strategy. Mr. Kefalogiannis mentioned some key points about the transportation sector and the major impact on the local and global environment, as well as the importance of having neighborhoods powered by self-sufficient RES microgrids, for supplying the ever-growing electric vehicles' market. He introduced the upcoming law on the operational framework of the Sustainable Urban Mobility Plan and Micro-Mobility and noted, that, for the first time, Greece will have specific traffic rules and specifications for micro-mobility vehicles. Through the Sustainable Urban Mobility Plan (S.U.M.P.), municipalities and local governments will gain access to many financial tools that support eco-mobility and will be able to implement projects related to road safety, electro-mobility, development of micro-mobility and intelligent mobility systems.

The Minister mentioned that the Ministry of Infrastructure and Transport recently became the first certified bicycle-friendly organisation in Greece, and noted that the implementation of the above regulations is not the end of the government's efforts but just the beginning of the transformation of the mobility framework, which plans to include automated mobility, autonomous driving, car sharing, carpooling, and in general every means that can contribute towards a greener transportation system.

Mr. Kavvouris, Chief Operating Officer of Citroen Group Hellas, presented the company and then analyzed the impact of Covid-19 on car sales, both in Greece and the EU. Specifically, he stressed that the EU market had dropped 32% by August 2020 and the Greek market had dropped 39% by September 2020. On the other hand, he mentioned that the EV market, including plugin hybrids, has grown more than 100%. Nevertheless, the leading countries in the EV market are those with high GDP per capita and it is important for the governments in countries with lower GDP, to undertake initiatives like the new scheme the Greek government introduced lately, in addition to the efforts of car companies to reduce costs. Specifically, PSA Groupe (parent organisation of Citroen, DS, Mazda, Opel etc.) is introducing all 2020 models with the electric option, allowing the assembly platform to accommodate both electric and non-electric vehicles and making the production line more cost efficient. Mr. Kavvouris noted that PSA Groupe has announced that by 2022, 50% of the range will have a low emission vehicle and by 2025 the entire range of all the brands will have electric variants.

In conclusion, he added that PSA Groupe has already invested in 100 charging stations across their network and enables clients to test drive all their electric vehicles, to further improve the services provided.

Mr. Henin started his presentation by pointing out that to achieve energy transition and transformation, electrification of transport needs to play a key role, along with microgrids. The geography of Greece is very suitable for implementing a microgrid strategy due to the excellent renewable energy sources, especially if we consider that microgrids are very well suited for islands and remote locations. Furthermore, Mr. Henin mentioned that Greek islands will be a great place to implement microgrid technology, as the cost of fossil fuels is higher than in the mainland, they have a range restriction, there are excellent RES in all islands, and you can avoid all logistics, the only disadvantage being the seasonality of demand, but the economics should work. Greece should benefit from the implementation of these low carbon technologies by lowering pollution in cities, reducing fuel imports, and improving its resilience system.

Mr. Henin stressed the major issues holding back the adoption of electric vehicles, and these are firstly the fact that even though the adoption of EVs is targeted with positive environmental and climate benefits, the electricity supply is not yet low-carbon, and the fact that EVs are creating large loads for brief periods causing problems to network operators and making the need for fast charging, charging through renewable microgrids and storage even bigger.

Finally, Mr. Henin mentioned that the economics of microgrid EV charging are already favorable and will continue to improve, and that Greece should seize the opportunities from the investments required in the post Covid-19 era but needs a vision and support from the government and the industry.

Mr. Lazanas presented some figures regarding the current situation of global electric vehicles usage and investments, with China leading the way in investments with €34 billion in 2019, and provided forecasts for the 2030 target. Mr. Lazanas then introduced the Mini Hummer, that is already in production and selling globally, and also his company's plans for making Greece Green by producing a new electric car model "in Greece, by Greeks and for the Greeks, as well as for the rest of the world" as he said, by setting up a network of charging stations and by building a green technopark, a total investment of €230 million.

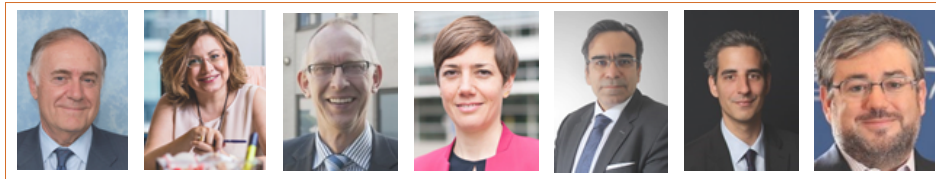
Mr. Lazanas, also made it clear that even though the new Greek investments law 4710/2020 is the first serious attempt in Greece to support e-mobility, it is not very appealing to investors due to the fact that it specifies the areas in which investors must invest to enjoy tax incentives, and does not allow them to invest depending on the needs so that investments can be productive. From an investor's perspective, he said that there is a great potential in the new e-mobility sector, as all big companies are investing in eco-friendly solutions.

"If we really want e-mobility to have an impact in Europe we need to change the way we think and use tharros" (the Greek word for courage), he said.

Moderator's conclusions

Thanos Zarogiannis, Electric Vehicles Charging Specialist, Advisor on Electromobility

"We all agreed that the transition to electric vehicles is a key priority for all European countries, as part of the Green Deal. It was highlighted that both policy makers and private companies need to set clear and bold targets, for this transition to happen on time. Governments and policy makers need to give the signal to the market by setting ambitious targets for the adoption of electric vehicles and providing incentives in order to achieve them – and Greece is following this path, as it has recently adopted effective measures for promoting e-mobility. It was also highlighted that this transition needs to go hand in hand with the energy transition, and with the increase of RES share in energy production, through the development of both large scale and small-microgrid type of infrastructure."



Enrique
Viguera
Rubio

Maria
Spyraiki

Bert
Stuij

Walburga
Hemetsberger

Maher
Chebbo

Pierre-Jean
Cherret

Miguel
Palacios

SPEAKERS

Enrique Viguera Rubio, Spanish Ambassador to the Hellenic Republic (digital)

Maria Spyraiki, Member of the European Parliament (digital)

Bert Stuij, Vice President Innovation, Energy Delta Institute (digital)

Walburga Hemetsberger, CEO, SolarPowerEurope (digital)

Maher Chebbo, Chair of the European ETIP Digital Energy Group and Digital Batteries Task Force (digital)

Pierre-Jean Cherret, Head of New Business Development & Strategic Innovation & Ventures, ITEMS International (digital)

MODERATOR

Miguel Palacios, Professor of Management, ESCP Business School; Executive Education Associate Academic Dean, Madrid Campus (digital)

At the beginning of his address, his Excellency **Mr. Enrique Viguera Rubio**, made some preliminary remarks regarding Green Hydrogen and noted that GH is necessary for reaching the EU 2050 full decarbonisation target and that by then it may represent at least 25% of total world energy demand. His Excellency stated that the main challenge today is its relatively high production cost, but according to estimates, by 2030, in only 10 years' time, its price may be halved and could become competitive with fossil fuels according to World Council's on Hydrogen analysis. Also, innovation, investments and incentives to research and development are essential to accelerate economies of scale and the learning curve.

Furthermore, his Excellency referred to the EU plans for Green Europe and more specifically Communication of the European Commission "A Hydrogen Strategy for a climate neutral Europe" which says that the EU will dedicate between €5 to €30 billion through the 'Innovation Fund' over the next 10 years to produce 1 million tons of Green Hydrogen (from the 9 million tons targeted) and up to €470 billion through private and public investments in hydrogen production capacity in the EU by 2050 (electrolyser connections with renewable generation, transport and storage, electrolysers, carbon capture and storage, etc.).

Additionally, his Excellency, highlighted some of Spain's accomplishments in the Hydrogen sector, along with Enagás, in terms of infrastructure and alliances with other countries such as Italy and Germany for turning Spain into a Green Hydrogen Hub for export to Northern Europe. Also, the example of Mallorca was given as of how a microgrid can be developed on an island and how this is something Greece could benefit from and implement on Greek islands.

Ms. Maria Spyraiki opened her speech by stressing the fact that the EU needs to safeguard the security of supply and the affordability of energy to end users, either citizens as consumers or commercial customers. In this respect she pointed to the 4 important aspects that the EU needs to focus on: time, infrastructure, technology and investments.

She mentioned that it is incredibly significant to develop huge quantities of green hydrogen, and also to develop and implement a coherent and concrete European strategy for hydrogen, as it has a high potential as a clean energy source in the future. Later, she raised some important questions regarding the achievement of the European goals that must be met by 2030 and 2050 for lowering emissions and achieving climate neutrality, respectively. Regarding how we can accelerate the transition from the current period to hydrogen, she said that we can achieve that by using and developing the already existing gas infrastructure, since, with some modifications, through this infrastructure consumers can have access even in the most remote areas. Of course, this solution would be useful for the early period, as quantities will be small and will need to be affordable. When hydrogen market grows and production increases there will be a need for independent infrastructure. Regarding the question on how to manage the new situations arising, the answer comes from the European Clean Hydrogen Alliance that has already announced the development of a platform for stakeholders, in order to secure among others the industry, the civil society, and accelerate the development of the European hydrogen economy and hydrogen market, but since there are a many pending issues in terms of clarity, a lot of work still needs to be done.

Finally, she underlined the fact that the funding regarding hydrogen needs to increase, so research can continue, larger quantities can be produced, and hydrogen can become affordable.

Mr. Bert Stuij in the opening remarks of his presentation mentioned that development and deployment of hydrogen technology must accelerate in order to become sufficient. Even though there has been some increase in production figures in the last few years, a rapid acceleration is needed if the industry wants to keep up with the target the International Energy Agency has set for 2030.

Furthermore, Mr. Stuij highlighted the improvements that have been made in the industry, such as the increase in clean hydrogen production, notably electrolysis, the rapidly expanding use of hydrogen in transportations, the blend between hydrogen and gas to boost low carbon hydrogen, a model Germany and France are following, as well as some improvements that need to be done in the near future, such as conversion of the existing gas grids to hydrogen grids. He also mentioned that it is the perfect timing for investing in green hydrogen as there is a political momentum for hydrogen globally. Of course, acceleration requires sound and consistent policies, to provide a clear and realistic perspective for hydrogen in long term energy strategies, promote international and cross sectoral cooperation, remove critical barriers to hydrogen deployment and stimulate low carbon hydrogen demand and address first mover's risks.

In conclusion, he noted that hydrogen needs to become an international commodity, perhaps even beyond the borders of the EU. Realism is needed in terms of speed at which technologies develop and a lot of work needs to be done.

Ms. Hemetsberger introduced SolarPowerEurope to the audience and stressed what a great opportunity it is for Europe to create RES-based hydrogen, and continued by sharing SolarPowerEurope's vision on the matter. Specifically, she mentioned that renewable hydrogen economy should be based on the already developed RES, solar and wind, and presented the state of solar power until now and how it is evolving. She noted that growth in solar power in the next 5 years is expected to be around 30 GW/year and one of the reasons for that growth is the cost competitiveness of solar, which is a precondition if we want competitive renewable hydrogen. Additionally, she presented a recent study of SolarPowerEurope, which demonstrated that an 100% renewable energy system is the most cost-efficient way for Europe to become climate neutral by 2050, but in order for this scenario to work, a high rate of electrification is required.

Regarding renewable hydrogen, she stressed that 30% to 60% of its cost is electricity and with lower electricity costs we can enhance the cost effectiveness of electrolysis. One way to achieve that, is by using hybrid systems combining solar and wind. In conclusion, in order to make the development of green hydrogen at scale a reality, direct electrification needs to be prioritized, the deployment of smart and stronger electricity grid infrastructures must be accelerated, renewable hydrogen on a local basis should be developed in Europe first, and the uptake of a robust European electrolyser industry should be supported.

Mr. Chebbo opened his presentation with the Energy Transition investments that have taken place in recent years in the EU and also presented an overview of future investment plans. He then mentioned some of the digital energy innovations in the 3 major sectors, Generation & Renewables, Transmission & Distribution Systems and Distributed Energy & Customers that are needed in order to achieve Turnkey Solutions we require, where engineering is combined with monitoring, financing and commitment. Some of them are predictive analytics, cybersecurity simulations, asset performance, digital inspections, connectivity & engineering. Finally, Mr. Chebbo briefly mentioned the digital innovations across the Batteries Value Chain and concluded by pointing out the need for achieving an accelerated energy transition, through the correct Regulation/Policy, Consortium & Industry Collaboration, Technologies and Use Cases with Maturity – Feasibility – Simplicity & Accessibility.

Last but not least, Mr. Chebbo highlighted that we need to measure the Value generated through Quick pilots and then Scaleup the turnkey solutions.

Mr. Pierre-Jean Cherret, mentioned that there is an increase in the money activity and that large players in the industry are feeling a strong pressure especially on the end user side. Moreover, he commented that there is also a lot of room for software development companies that can help them market their services and products in a differentiated way.

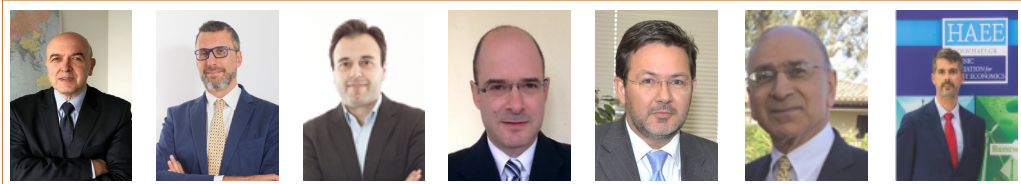
Moderator's conclusions

Miguel Palacios, Professor of Management, ESCP Business School; Executive Education Associate Academic Dean, Madrid Campus

"The different speakers in the session showed that there is significant innovation taking place in the energy sector, partially enabled by the improvement in data and communication technologies. The fact that data can be collected and processed remotely enables the integration in the grid of multiple sources of clean energy. This is modifying business models, increasing collaboration with startups, and permitting the entrance of new players, thus increasing M&A and open innovation activity. The session focused especially on hydrogen, a technology that academic experts see accelerating in the maturity and improvement/ learning curve but is still incipient in its use. There seems to be significant regulatory interest (both at EU and national levels) towards the production of hydrogen, mostly green but also other forms. And in several European countries (specific examples were provided of Spain) the first hydrogen production plants are under construction or close to operation. Hydrogen does not seem to be significant as of today but is undoubtedly going to be there within a decade!"

Hybrid Systems in Islands – New Energy Solutions Optimized for Islands

Day 3



Konstantinos
Fragogiannis

Andrea
Martinez

Dimitris
Papastergiou

Panagiotis
Grammelis

Spyros
Economou

Fereidoon
Sioshansi

Spiros
Papaefthimiou

SPEAKERS

Konstantinos Fragogiannis, Deputy Minister for Economic Diplomacy and Openness, Ministry of Foreign Affairs, Hellenic Republic

Andrea Martinez, Deputy Managing Director, Sinloc (digital)

Dimitris Papastergiou, President, Central Union of Greek Municipalities; Mayor of Trikala (digital)

Panagiotis Grammelis, Director, Research at the Chemical Process and Energy Resources Institute, CERTH

Spyros Economou, President of the BoD and General Director, CRES

Fereidoon Sioshansi, President, Menlo Energy Economics (digital)

MODERATOR

Spiros Papaefthimiou, Chairman, Hellenic Association for Energy Economics (HAEE); Assoc. Professor in Energy Management Systems and Energy Efficiency Technologies, Technical University of Crete

Minister **Mr. Fragogiannis** informed the audience that Greece has set an ambitious agenda for combating climate change, and does not just want to follow the other countries, but wants to be in the forefront of the transition to a new economic and social model. The Minister reminded the audience that Greece has 130 inhabited islands that are powered with oil-fired and a few renewable energy power plants. In that context, Greece is trying to interconnect the islands firstly among themselves and then to the mainland grid, but if we choose to install hybrid systems, this will lead eventually to saving and preserving resources and further reinforcing the country's environmentally friendly credentials. As the Minister stated, in his opinion, Greek islands offer specific opportunities and challenges that need to be considered, as they are marked by seasonal high energy demand and their isolated nature.

Minister Fragogiannis added that, very soon, Greece will offer global inspiration to create a blueprint demonstrating that CO2-neutral mobility over a wide area is possible. "Emission free and smart mobility for everyone", "Transforming an island into a green and smart model location" and "World benchmark for modern, efficient and climate-friendly transport and innovative business initiatives", these will soon become the frontpages in world class magazines.

Finally, he announced that the Hellenic Development Bank has launched a program called Greek Green Funds for venture capital and private equity funds to finance businesses in the sectors of renewable energy production and technology, energy conservation infrastructure, sustainable development and circular economy and it is expected to generate more than €4 billion in investments.

Mr. Martinez introduced the European Islands Facility NESOI initiative to the audience and explained how €6,2 million will be distributed between 60 European islands for the deployment of technical assistance activities, supporting feasible projects and facilitating access to finance. The selection of these projects will ensue from transparent technical, social, economic and environmental criteria. The perspective of this project is always investor-centered and the aim is that by supporting the planners, NESOI to be able to help them in a tangible manner, so they can attract financing by designing the right project, with the right elements, with the right information and at the right timing.

The outcome of this project is to mobilize at least €100 million in investments, to significantly reduce emissions across the islands and to facilitate a more sustainable local development process, as it is a project for energy but also for tourism, business friendly environment and all that comes with the possibility of having a more efficient management of the energy resources.

As Mr. Martinez stated, the major advantage of working on a pan-European project is always related to the possibility of cross-reference, the transfer of knowhow, adapting and replicating solutions.

The Mayor of Trikala, **Mr. Papastergiou** made an overview of the recent, at the time, catastrophic weather phenomena that affected the city of Karditsa, a neighbor city to Trikala, with floods that almost turned the city into an island, and talked about the much-needed flood control infrastructure, as well as the energy that could have been produced. Mr. Papastergiou mentioned the impressive energy map that is now appearing in Greece and said that electromobility should be one major pillar of that map. Especially for islands, electric vehicles would be a great solution, balancing demand and supply, but there should be a supporting mechanism to grids, renewables and all that is needed to support electrification of the islands and particularly e-mobility. The next topic Mr. Papastergiou referred to, was pumped storage systems that could be used to produce electricity in a green way but with the correct implementation could also be of help to the agriculture sector for protection against floods and other issues.

Later in his speech, Mr. Papastergiou broached the subject of the financial instruments that especially local governments should reach out for. He talked about investments that are needed in green energy, not only by the government but also by the private sector, and how the design of the new green and sustainable cities should have limits in terms of kw/citizen, this serving as an indicator of how "green" a city is compared to another. He also referred to a hybrid implementation of RES that should be used on islands for better efficiency, including geothermal energy. Finally, he stressed the issue of waste management on islands which is an obstacle on the road to sustainable energy and circular economy.

Mr. Grammelis, started out by introducing the programs and initiatives that CERTH participates in, including SUNIES – A Successful Hybrid System, SMILE – Smart IsLand Energy systems, LNG in Greek Islands, NESOI – European Islands Facility etc. Of course, he stressed one of the biggest issues holding back the energy projects and this is none other than financing, and specifically leveraging private financing.

Furthermore, Mr. Grammelis explained that adopting Circular Economy on an island can not only maximize the allocation of limited resources without further harming the environment but also create a more efficient economic system. He said that energy management must be incorporated in a holistic approach and suggested the following actions to be taken: incorporating hybrid systems into e-platforms, harnessing wind and wave resources for hybrid renewable energy systems and implementing hybrid waste-to-energy systems for solid organic waste treatment.

In conclusion, Hybrid Energy Systems (HESs) are promising for non-interconnected islands and the best supplementary option to the others. LNG could support the Intermediate Stage of Energy Demand by stabilizing the grid. The islands' energy demand has a high cost with enhanced environmental impact, and e-Grid, HESs & CE are examples of sustainable options. Funding tools are available and NESOI can and will trigger energy investments as the Hybrid Systems can contribute to implementation of the circular economy model. Last but not least, the main challenges the system needs to overcome are Red Tape, Regional Investments' Particularity, lack of Synergies and Regulatory Framework.

At the opening of his presentation **Mr. Economou** presented the Center for Renewable Energy Sources and Saving (CRES) to the audience and highlighted some of its qualities and accomplishments. He then referred to some of CRES' expertise & projects in 2020, including energy saving and management calculations tools, integration of PV and small wind turbines in buildings, smart financing for energy savings projects and advanced heat pumps for heating and cooling.

Mr. Economou mentioned the Energy Union's 5 dimensions, Security, Solidarity and Trust, Fully Integrated Internal Energy Market, Energy Efficiency, Climate Action, Decarbonising the Economy, and Research, Innovation & Competitiveness, and placed emphasis on the last 3 dimensions.

Furthermore, he demonstrated the example of the island of Agios Efstratios – The Green Island, where planning is completed, and the tender is in its final stages. More specifically, the plan is to install hybrid RES facilities in order to cover 85% of the island's needs in electricity. There will be energy efficiency improvements in five municipal buildings and schools, thermal energy storage, a hot water distribution system for district heating, electric vans, bicycles and charging stations. All this will be provided to the municipality of Agios Efstratios through this project, making it not just another isolated off-grid application, but a small-scale model of the future main grids.

Mr. Sioshansi, at first commented on the some of the main questions people raise regarding energy transition: what is the main driver? Are the targets that countries and cities are setting realistic? Are hybrid systems only suitable for islands? He then continued by explaining how the electricity system now works in a linear way and how it should work in the future in a circular way, where the house is at the center of generation and consumption.

Mr. Sioshansi's presentation included numerous examples implementing the consumer = prosumer model in individual homes but also in the commercial sector and how, in the near future, people might even share or store the electricity they produce. He also referred to the model of Zaragoza, Spain, using self-contained bus stops, where power is produced from solar panels on the roof, people sit on bench-shaped batteries, and the electricity produced is used during the night to light the bus stop and the advertising panels, turning it to a small isolated grid, therefore a self-sufficient "island". Mr. Sioshansi also referred to the California Building Code that enters into effect in 2020 and requires zero net energy new houses, so every new building should produce as much power as it consumes on an annual basis.

Moderator's conclusions

Spiros Papaefthimiou, Chairman, Hellenic Association for Energy Economics (HAEE); Assoc. Professor in Energy Management Systems and Energy Efficiency Technologies, Technical University of Crete

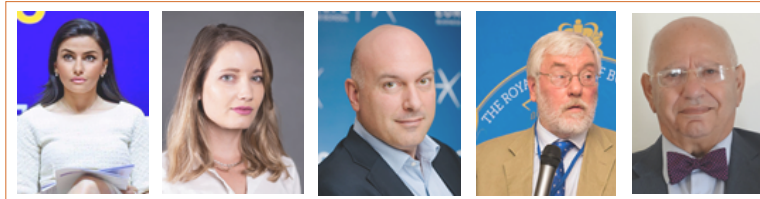
"It was a fruitful discussion and I hope we could make understandable to the audience why these projects are important. From my point of view, the hybrid systems in islands are anticipated to bring major benefits in crucial sectors for their residents. Replacing the based oil energy facilities with less expensive and greener sources of energy will enhance energy security and will benefit the locals in social aspects such as air quality."

Book Presentation: “The Southern Gas Corridor and Its Importance for South-East Europe: The New Era of Energy Transition”

Day 3



POWERED BY



Gulmira
Rzayeva

Olga
Khakova

Kostas
Andriosopoulos

Julian
Bowden

Mamdouh
Salameh

SPEAKERS

Gulmira Rzayeva, Research Associate, Oxford Institute for Energy Studies; Founder and Managing Director, Eurasia Analytics (digital)

Olga Khakova, Associate Director for European Energy Security (digital)

Kostas Andriosopoulos, Professor of Energy Economics, ESCP Business School (digital)

Julian Bowden, Senior Visiting Research Fellow, Oxford Institute for Energy Studies (digital)

MODERATOR

Mamdouh Salameh, International Oil Economist; Visiting Professor of Energy Economics, ESCP Business School, London (digital)

Ms. Rzayeva, at the beginning of her address, presented the conflict between Armenia and Azerbaijan close to the region where the Southern Gas Corridor passes, stating that these kinds of incidents play a significant role in energy security. Furthermore, she referred to the energy market, where Russian market share within the last year experienced significant losses and Russia has dropped from 1st to 3rd place in supplying gas to Turkey. On the other hand, Azerbaijan has moved to 1st place, due to the fact that Turkey has been substituting Russian natural gas with cheap spot LNG from Shah Deniz II. Moreover, in 2020, Turkstream 1 operates at 4 BCM/year which is well below its 50,75 BCM/year capacity and which is a disturbing fact for operator GazProm, as well as the fact that only 2 Turkish companies import directly from GazProm with only 3 BCM, and they might not be in a position to extend their contracts, causing Turkstream to operate with lower values after the year 2020. In this context, the importance of the SGC supplies does not currently lie in the volume of initial exports but in the establishment of a non-Russian controlled corridor. In this regard, it is important to note that over the last 15 years no other major source of new gas supply has emerged in a way that is dedicated to meeting the long-term needs of the EU gas market.

Ms. Khakova opened her speech by pointing out the progress that has been made in the region in terms of energy transition and giving countries access to more clean energy in order to reach the goals of the EU. She noted the Southern Gas Corridor as one of the most important infrastructure projects that are developing in the area and said that it will need to be expanded so that more countries can gain access to Natural Gas and enhance their energy security. For this to happen, more financial instruments should be made available. In a period where Europe cuts funding from natural gas and shifts its focus to RES, and the Covid-19 pandemic has decelerated investments from the private sector, Ms. Khakova proposed the Three Seas Initiative as an alternative financing source.

One issue that Ms. Khakova stressed was the cybersecurity issues that might arise and impact natural gas operations in SE Europe but also the rest of the continent. Regarding the European Green Deal, Ms. Khakova noted that the Southern Gas Corridor as well as all Natural Gas-related infrastructure projects interconnecting EU can play a significant role, because reducing coal and increasing the usage of NG in the new energy mix, is the best way to cut emissions. Also, she did not neglect to mention that the integration of new technologies, such as renewable gases and minimizing carbon intensity on LNG, as well as blending green hydrogen into NG infrastructure could be a meaningful way to cut CO2 emissions.

Prof. Andriosopoulos presented to the audience the book "The Southern Gas Corridor and its importance for South-East Europe: The new era of Energy Transition" and brought to view its chapters and their key points. Prof. Andriosopoulos mentioned the book adds a lot of value to the reader and offers some insights regarding a variety of issues raised in the natural gas market such as the EU's increased focus on climate change and the steps taken towards the creation of a 'carbon-free' reality. In this context, he added that natural gas has emerged as the ideal transition fuel and is expected to play a crucial role in the energy markets over the following decades.

Furthermore, he pointed out that the Southern Gas Corridor is one of the most important EU-wide projects that has been anticipated for a long time and its completion is approaching fast. The reason for that is because the SGC attempts to form a transport hub for natural gas from the Caspian region, and potentially the Middle East and Eastern Mediterranean. As a result, it simultaneously offers supply and transit diversification to EU member states and provides another gateway to Central EU market through Italy. Overall, the upcoming completion of SGC is expected to have a positive effect over the whole EU gas market.

Mr. Julian Bowden opened his speech by noting the great importance of the Southern Gas Corridor due to the penetration of natural gas that will be accomplished to the interconnected countries, in contrast to the small difference it will have to the pan-European figures. Afterwards, he made a few remarks on what SE Europe looked like until very recently – a collection of small markets, apart from Romania, and many countries with no gas market at all, like Albania. He mentioned that the diversity and security of supply is a big issue in the region, but things have changed in the past 2 years, with the latter becoming a smaller issue – "pretty much solved" as he characteristically said.

Furthermore, he mentioned that in the region, Greece and Turkey are leading the way, with Greece taking great quantities of LNG and sending a part of that to Bulgaria. In the question that he raised to himself, as to what lies ahead for the future, Mr. Bowden explained that the answer will come from within the countries, as many interconnector projects were under evaluation and finally some are going to be delivered, such as the IGB, Croatian LNG terminal and of course the Southern Gas Corridor with all of them leading to the probable end of oil indexation and within the decade to de-lignification, in an optimistic scenario.

In conclusion, he added, although he had some reservations that, Yes, all the interconnections are important for SE Europe, there are part of the supply diversity picture, part of the opportunity to continue and promote the gasification of the western Balkans.

Moderator's conclusions

Mamdouh Salameh, International Oil Economist; Visiting Professor of Energy Economics, ESCP Business School, London

" The session I moderated was both important and successful as it focused on the Southern Gas Corridor (SGC) which will soon start transporting Azerbaijani natural gas from the Caspian to the European Union (EU) via Turkey and its importance for the economies of South-East Europe. The SGC is an initiative by the EU to reduce dependence on Russian gas and diversify gas supplies from the Caspian and eventually the Middle East. As the moderator, I made an opening statement to set the scene for the session and raised a few points which I invited the speakers to expound. Indeed, the speakers didn't disappoint. They dealt with the various topics brilliantly focusing on how the SGC could be vital for South-East Europe in terms of energy security, diversification of their energy sources and transition from coal to natural gas and renewables. In this regard, the SGC provides both opportunities and challenges for these countries.

The opportunities are that population growth and economic growth in the South-east European countries are much higher than the EU. The challenges are that the South-east European countries lack natural gas infrastructure and transmission systems. As a result, they mainly consume carbon-intensive energy fuels, particularly coal. With the SGC, there could be an energy transition from coal to gas.

One speaker explained the threat that the recent escalation between Armenia and Azerbaijan could pose to Azerbaijan's oil and gas infrastructure and two major oil and gas pipelines that traverse the border region, namely the Baku–Tbilisi–Ceyhan (BTC) oil pipeline which delivers Azerbaijani oil to the EU and the second is the South Caucasus gas pipeline (SCP) which is the main component of the SGC."

Speakers

Keynote Speakers

Adonis Georgiadis



Minister of Development and Investments, Hellenic Republic

Adonis Georgiadis was born on November 6th, 1972, in Athens. He graduated from the Faculty of History & Archaeology of the School of Philosophy of the National & Kapodistrian University of Athens.

In 1993, he took over the management of publications 'GEORGIADIS LIBRARY OF GREEK'. In 1994, he founded the Liberal Studies Center "GREEK EDUCATION". Elected MP in Athens B region in the elections of 2007 and 2009 with the LAOS political party.

In February 2012, he joined the Nea Demokratia political party, having resigned from the parliamentary office. Elected with Nea Demokratia in Athens B in the national elections of 2012 and 2015. In 2011, he was Vice Minister of Shipping in the Government of Lucas Papademos and in 2013 he was appointed Minister of Health in the government of Antonis Samaras.

On January 18th, 2016, he was appointed one of the two Vice Presidents of the Nea Demokratia by decision of Kyriakos Mitsotakis, the President of Nea Demokratia. On July 9th, Adonis Georgiadis was appointed as Minister of Development and Investments after the 2019 greek elections.

He is married to Eugenia Manolidou and they have two children, Perseus and Alcaeus.

Konstantinos Fragogiannis

Deputy Minister for Economic Diplomacy and Openness, Ministry of Foreign Affairs, Hellenic Republic

Konstantinos Fragogiannis was born in 1959, in Kavala, where he completed his basic education. After graduating from the British Institute of Marketing (HND), he continued his studies in the U.S., earning a BS in Business Administration and an MBA in International Management & Computer Systems from the University of San Francisco.

For over 30 years, he has held senior executive positions in major companies and groups, such as Emporiki Bank, Interbank, Delta, the Vasilakis Group, Ant1, the Viohalco Group, Vivartia, and the Chipita Group, where he was also a founding member of the Group's international operations 24 years ago. Before assuming his duties as Deputy Minister of Foreign Affairs for Economic Diplomacy and Openness, he was the Development Manager of the Chipita Group, contributing significantly to the further growth and development of the Group's international operations.

Having successfully handled development projects worth hundreds of million of euros throughout the world, he has gained invaluable experience in negotiating with organizations in countries where he has overseen investments. Through his role in the development and internationalization of companies, he has contributed to the creation of thousands of jobs, while also creating considerable added value in each country where he has been active. He has led a total of 18 productive investment projects in 16 countries, 9 investment consortiums, 5 buyouts and, finally, the founding of multiple commercial enterprises in dozens of countries.

Through his many years of international experience, he has gained a full and up-to-date perspective on what is required to effectively attract foreign investments and to promote exports and growth in the international economy.



Ioannis Kefalogiannis



Deputy Minister of Infrastructure and Transportation, Hellenic Republic

Ioannis Kefalogiannis was born in June 1982. He grew up in Rethymno, Crete, and graduated from the Law School of the National and Kapodistrian University of Athens in 2005. In 2007 he received his Master's Degree in International Affairs from the University of Columbia and in 2008 he continued his studies at Harvard University Law School.

Mr Kefalogiannis is Member of the Hellenic Parliament with Nea Dimokratia representing the Prefecture of Rethymno since June 2012. He was the Secretary of Hellenic Parliament and participated as a full member in the Standing Committee for Foreign Affairs and Defense, and the Special Standing Committee for European Affairs. He was Head of Nea Dimokratia's Defense and Foreign Affairs Sectors. In November 2016, he was proposed by the President of Nea Dimokratia, Kyriakos Mitsotakis, to be the Parliamentary Spokesperson of Nea Dimokratia. He is the Deputy Minister of Infrastructure and Transport of the Hellenic Republic since July 2019.

He speaks Greek, English and German.

Konstantinos Aravossis

General Secretary of Natural Environment and Water, Ministry of Environment and Energy, Hellenic Republic

Prof. Konstantinos Aravossis is General Secretary for Natural Environment and Water at the Greek Ministry for Environment and Energy. He is a Mechanical Engineer (Technical University of Aachen -Germany) with an M.Sc. in Management Science from Imperial College - University of London. He has further been awarded a PhD by the National Technical University of Athens, focusing on Operations Research.



He is at the National Technical University of Athens, and was a visiting Professor at Imperial College London. He was the Coordinator of the "Environmental Economics and Sustainable Development Research Group" of the Sector of Industrial Management and Operations Research of the Mechanical Engineering School and the Environmental Advisor to the President of the Greek New Democracy political party.

He was President of the Greek Branch of the Waste to Energy Research and Technology Council coordinated by Columbia University and associate researcher of the Earth Engineering Centre-Columbia University.

He has been an advisor of the deputy Minister of Culture for the Olympic Games Constructions and their Post-Olympic utilization, President of the Greek Association of Environmental Protection Companies, President of the Hellenic Solid Waste Management Association and President of the Ordinary Environmental Committee of the Technical Chamber of Greece. Furthermore, he was President and CEO at Environmental Companies. He has organized 13 International Conferences and has over 100 scientific publications.

Maria Spyraiki



Member of the European Parliament

Maria Spyraiki is the awarded MEP of the year 2019 for Industry, Research, and Innovation. She is now serving in her second mandate in the European Parliament as member of the Committees on Industry, Research, and Energy (ITRE), on Regional Development (REGI) and the Environment (ENVI). Ms Spyraiki is co-chair of the Intergroup on Climate change, biodiversity and sustainable development and rapporteur at the Renovation Wave for ENVI committee.

She has worked for 22 years as a journalist in her home country Greece. Also, she was a member of the Press Office of the European Parliament in Athens from 2003 to 2004, as well as the office of Greek Commissioner to the EU, Mr Stavros Dimas, for the period 2004-2009.

Maria Spyraiki has served as the Spokesperson of Nea Demokratia and as an elected member of the Nea Demokratia Executive Board.

Her first degree is in Chemistry and she also has an MSc in Energy Law, Business, Regulation and Policy from International Hellenic University.

Sokratis Famellos

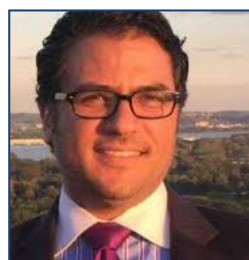
Member of Parliament Thessaloniki B, Director of Environment and Energy Sector, SYRIZA

Mr. Famellos was born in Athens in 1966 and raised in Thessaloniki. He holds a Diploma in Chemical Engineering from the Aristotle University of Thessaloniki and an MSc in Environmental Planning from the Hellenic Open University. As Chemical Engineer, Mr. Famellos has extensive experience in the fields of Environmental Engineering, Water Resources management, Recycling, Solid and Liquid Waste Management. He has been member of the Board of the Technical Chamber of Greece from 1997 till 2015, and member of the National Delegation of the Technical Chamber of Greece from 2003 till 2015.



He was first elected as Member of the Parliament with SYRIZA in January 2015, and re-elected in September 2015 and July 2019. He was appointed as Parliamentary Representative of SYRIZA in October 2015, and as Chairman of the Inquiry Commission of the Parliament in April 2016, which was aimed at investigating the legality of the bank loans given to Political Parties and Mass Media owners. From November 2016 to July 2019 he served as Alternate Minister for Environment and Energy of Greece. Today he is responsible for coordinating Energy and Environmental Policies within the SYRIZA party.

Joshua Volz



Acting Director, Office of Europe and Eurasia, U.S. Department of Energy

Joshua Volz is Acting Director in the Office of Europe and Eurasia in the U.S. Department of Energy. He is responsible for policy direction and analysis of the geopolitics in the region and has specialized in Eastern Mediterranean energy development since 2012. Previously Mr. Volz has worked in the U.S. Department of State's Bureau of Near Eastern Affairs, and the U.S. Department of Defense with assignments in Iraq, Afghanistan, Jordan, Syria, Egypt, and Israel. Mr. Volz lectures at The Johns Hopkins School of Advanced International Studies and Georgetown University and holds a B.A. in Philosophy and Political Science from Kalamazoo College and an M.S. in National Security Strategy from the National Defense University.

Andreas Shiamishis

CEO of Hellenic Petroleum S.A.

Chief Executive Officer of Hellenic Petroleum since August 2019 and a member of its Board of Directors as a representative of POIH. Mr. A. Shiamishis holds an Economics degree from the University of Essex and is a fellow member (FCA) of the Institute of Chartered Accountants in England and Wales (ICAEW). He began his career in 1989 with KPMG in London, specializing in the banking sector and large multinational Groups before joining DIAGEO in 1993, to assume senior Greek and European positions in Finance and Business development. Between 2000-2002 he worked as Chief Financial Officer and Chief Restructuring Officer in a high-tech ASE listed Group and in 2003 he joined PETROLA HELLAS as Chief Financial Officer.



Following the completion of the legal merger and operational integration of PETROLA HELLAS with HELLENIC PETROLEUM, he assumed the position of the Group CFO in 2005 and became a member of the Group Executive Committee. In 2012 he assumed the responsibility for International subsidiaries and in 2014 he was appointed Deputy CEO of the Group. He serves as a board member of SEV (Hellenic Federation of Enterprises) and the board of SEV Council for Sustainable Development (BCSD) as well as a member in the AMCHAM board of Corporate Governance. Furthermore, he is a member in a number of professional bodies including the Economic Chamber of Greece and ICAEW specialized faculties.

Makis Papataxiarchis



Senior Counselor, Greek Ministry of Interior, Senior Scientific Advisor, Hellenic Red Cross, Chairman, Pharmaceutical Committee AmCham Greece

Mr. Papataxiarchis holds a Pharmacy degree, Master and PhD in Pharmaceuticals and Economics as well as an MBA in Marketing Management. In 2010 he moved to Romania as Janssen and Johnson & Johnson Managing Director. During his tenure in Romania was President of the local Association of Pharmaceutical Companies (ARPIIM). In 2013 he moved to the USA where he appointed as National Director, Systems of Care, at Janssen Pharmaceuticals Inc. By the end of 2015, Mr. Papataxiarchis returns to his homeland as CEO of Janssen Pharmaceutical Companies of Johnson & Johnson for Greece, Cyprus and Malta. He is also Senior Counselor to the Greek Ministry of Interior, Senior Scientific Advisor for the Hellenic Red Cross and Chairman of AMCHAM's Pharmaceutical Committee.

Ambassadors

Patrizia Falcinelli

Italian Ambassador to the Hellenic Republic

Born in Palermo on January, 28th 1965. In 1989 she graduated in Political Sciences, International Relations, at the University of Perugia. She entered the diplomatic service in 1992. She started to work at the Directorate General for Migration and Social Affairs and she was then appointed in the Cabinet of three consecutive Deputy Ministers of Foreign Affairs. In 1997 she was appointed as Head of the Commercial Office and responsible of the Consular Section in Dakar (Senegal). In 2001 she returned to Rome to work at the Directorate General for Human Resources. In 2004 she was posted to Austria as Counsellor at the Permanent Mission of Italy to the Organization for Security and Co-operation in Europe (OSCE) in Vienna. From 2008 to 2012 she worked as the Head of the Economic and Commercial Office at the Embassy of Italy in Ankara. In 2012 she returned to Rome as Chief of the Office for Legal and Economic Personnel at the Directorate General for Human and Budget Resources and Innovation and, in 2015, she was appointed as Deputy Director General for Human and Budget Resources and Innovation and Director Central for Human Resources.

On 8 June 2020, she was appointed Italian Ambassador to Greece.

In 2012, she was awarded the insignia of Officer of the Order of Merit of the Italian Republic.



Patrick Maisonnave



French Ambassador to the Hellenic Republic

He studied history and economics. He is Graduate of the Institute of Political Studies, as well as graduate of the National School of Public Administration.

Career:

- 2016 - 2019: Ambassador in charge of the International Strategy in the fight against terrorism
- 2013 - 2016: Ambassador Extraordinary and Plenipotentiary to Tel Aviv

- 2009 - 2013: Director of Strategic Affairs, Security and Disarmament, Ministry of Foreign Affairs

- 2007 - 2009: Head of European Union Department, Ministry of Foreign Affairs

- 2004 - 2007: First Counselor at the Embassy of France in Greece

Honorary distinctions:

- Knight of the Legion of Honor
- Knight of the National Order of Merit

Enrique Viguera Rubio

Spanish Ambassador to the Hellenic Republic

Ambassador Viguera has been appointed Ambassador of Spain to the Hellenic Republic on the 21st. July 2017. He was Ambassador/Director of Spain School of Diplomacy – Escuela Diplomática- from 2015 to 2017. He previously served as Ambassador of Spain to the Commonwealth of Australia (2011-2015) and to the Kingdom of Sweden (2006-2010). In 2010 he was appointed Ambassador at large for Energy Issues at the MFA. He was Director General for European Integration and European Union Coordination of General and Economic Affairs (2004-2006); Director General for European Union Coordination of General and Technical Affairs (2000-2004) and Deputy Director General for European Union Coordination of General Affairs (1998-2000) at the Ministry of Foreign Affairs in Madrid. He was previously Counselor at the Embassy of Spain in Ottawa (1996-1998) and at the Permanent Representation of Spain to the European Union (1990-1996), where he was delegate in the Council Groups dealing with the negotiations of the European Economic Area (1990-1993), the European Union Enlargement to Austria, Sweden, Finland and Norway (1993- 1995) and the New Transatlantic Agenda with the US (1995). A career diplomat since 1982, he is a law graduated (corporate law, Hons) at Seville University (1971-1976). Studied European integration (law) at the College of Europe in Bruges, Belgium (1979-1980), and International Relations at Spain School of Diplomacy – Escuela Diplomática – Madrid (1980-1981). Ambassador Viguera is married to Marta Altolaguirre and has three children (Pablo, Cristina and Marta). He speaks fluently English, French and German.



Speakers

Kostas Andriosopoulos



Professor of Energy Economics, ESCP Business School

Professor Dr. Kostas Andriosopoulos is the Executive Director of the Research Centre for Energy Management at ESCP Business School where he holds the position of full Professor in Finance and Energy Economics.

Kostas holds a PhD in Finance (Cass Business School, City University London), where he has been the recipient of the prestigious Alexander S. Onassis Public Benefit Foundation's scholarship. He also holds an MBA and MSc in Finance (Northeastern University, Boston, USA), and a bachelor's degree in Production Engineering and Management (Technical University of Crete, Greece). Kostas is a member in various professional and academic associations: Chairman of the Energy Committee of the American-Hellenic Chamber of Commerce; Founder and former Chairman of the Hellenic Association for Energy Economics (HAEE); Board member of the Global Gas Center - World Energy Council as a Gas and LNG markets expert.

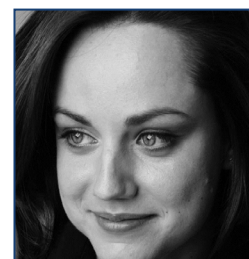
In September 2019 he was appointed Vice Chairman of the Board of Directors of the Hellenic Public Gas Company (DEPA), a position he also held for the period 2014-2015. Since August 2018 he is Country Manager of Akuo Energy in Greece, a multinational company based in France that develops RES projects in more than 30 countries around the world. In addition, he has worked as an advisor to the Retail Banking Director and Managing Director for the British Bankers' Association (2007).

His work has been published in international finance and commodity-related Journals, and has participated as speaker in recognized conferences world-wide. He is the Associate Editor for the International Journal of Financial Engineering and Risk Management, Member of the Editorial Board of the Journal of Energy Markets, he has edited special issues in recognized journals, acts as a reviewer for a number of academic journals, and has organized numerous international conferences.

Theodora Antonakaki

Advisor to the Governor of the Bank of Greece

Theodora Antonakaki, Advisor to the Governor of the Bank of Greece (BoG) is coordinating BoG's work on climate, sustainability and research at the Climate Change Impacts Study Committee (CCISC) since 2009 and representing BoG at the Network of Central Banks and Supervisors for Greening the Financial System (NGFS). She obtained her Diploma at the Architectural Department of the Polytechnic School of the Aristotle University of Thessaloniki and the MSc in Built Environment at the Bartlett School of Built Environment of the University of London, where she was an Honorary Research Fellow. She has consulted companies in Greece and abroad in a wide range of projects, in planning, urban and architectural design, on issues of sustainability and socioeconomic impacts. She has participated in competitions and her work has gained awards from Europa Nostra and the Ministry of Foreign Affairs of Denmark. Theodora has been an Adjunct Professor at the Syracuse University, presented her work at conferences and has lectured at the Aristotle University of Thessaloniki, the University of Stirling, the School of Nordic Urban Design, University of London and the Hellenic Open University. She has written book chapters in edited books and her work has been published at peer reviewed journals.



Tasos Athanasopoulos



President and CEO, Enerdia

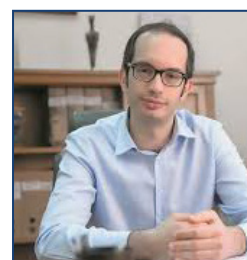
Tasos Athanasopoulos holds a Diploma in Electrical Engineering from NTUA and an MBA in Business Administration from ALBA Business School. He has worked for many years in multinational companies in the Energy sector, holding managerial positions in large infrastructure projects. He has acquired extensive experience in Medium & High Voltage, transmission, distribution and protection of Electrical Energy, as well as Project, Construction and Resource Management in large-scale projects.

He is the founder of Enerdia since 2010, a pioneering company active in the Energy sector. Enerdia has established long-term relationships with global energy funds, and has been delivering complete services in the Renewables Sector, such as development, construction, operation & maintenance as well as asset management. The company is currently developing a Renewable Energy project portfolio which exceeds 1.2 GWp, and aims to double that capacity in the next five (5) years.

Dimitrios Avlonitis

Marketing & Sales Coordinating Director, Public Gas Distribution Networks S.A

Dimitris Avlonitis was born in Athens in 1983 and studied at Panteion University (International and Effort Studies) and King's College London (Master in International Development). He worked in the program of consulting material, the same June 2014 graduation from the National School of Public Administration and Local Government and safe at the Ministry of Economy, Development and Tourism. From May 2015 complementarity, in the school of the Secretary General of Commerce and Consumer Protection. In December 2017, he was appointed Secretary General of Commerce and Consumer Protection.



Sonia Babilis



Chief Investment Officer, Hellenic Republic Asset Development Fund

Sonia Babilis is the Chief Investment Officer of the Hellenic Republic Asset Development Fund (HRADF). Prior to HRADF, she was a Director in the Investment Banking Division of the National Bank of Greece. She began her career in Morgan Stanley in London having worked in Commodities, Emerging Markets Global Capital Markets and Mergers & Acquisitions. She holds an M.Phil. in Economics from the University of Oxford and a B.Sc. in Banking and Financial Management from the University of Piraeus. She speaks Greek, English and French.

Leonidas Bakouras



General Manager, Gas Distribution Company Thessaloniki-Thessalia S.A.

Mr. Leonidas Bakouras, from 2000 to 2014, served as Manager of Commercial Activities, External Relations and Regulatory Affairs of EPA Thessaloniki & EPA Thessalia contributing decisively to the natural gas penetration in the areas of the Companies' Licenses.

From 2014 to 2016, he served as Deputy General Manager of EPA Thessaloniki & EPA Thessalia (Gas Supply & Distribution Companies), where his duties among others included the construction, operation, maintenance of the Distribution Network, the safety of facilities and the emergency intervention to the distribution networks. From 2016 until today, he is the General Manager of EDA THESS, Gas Distribution Company in the Prefecture of Thessaloniki and the Region of Thessaly. During his 20-year professional course his leading actions were determinative for the implementation of a long-term and efficient investment plan for the evolution of the natural gas market.

With postgraduate studies in Strategic Management, Business Administration and Finance, he held a successive position as a Member of Committees in Ministries for the issuance of the Natural Gas Technical Regulation and other relevant texts governing the gas market. His contribution to the international recognition of EDA THESS is also catalytic as through its participation in the powerful pan-European organization GD4S, the opportunity is given to actively participate in the formation of energy market policies at European level.

Argyro (Argie) Banila

Head of Structured Financing, National Bank of Greece

Argie is heading NBG's Structured Financing division, leading the Bank's origination and execution efforts of wholesale lending transaction for local and international clientele. Core sectoral coverage includes: Energy, Real Estate, Concessions – Infrastructure & Leveraged Acquisitions. Argie brings more than 15 years of dedicated Capital Markets, Investment Banking & Financing experience across CEEMEA, with key specialization on primary and secondary debt-related solutions, across products (Loans, Bonds, Securitization). Prior to NBG, she worked for 5 years at HSBC Bank plc, supporting origination, structuring and execution of Global Markets & Capital Financing solutions for Greek and Cypriot Sovereigns and Financial Institutions. Prior to HSBC, she worked for 7 years in the DCM & Structured Capital Markets divisions of various international institutions, incl. Deutsche Bank and RBS in the UK



Argie is currently attending executive education at Columbia Business School, NY, US. She Holds an MSc in Investment Management, from Cass Business School and a BSc in Finance & Banking Management from University of Piraeus. She is LMA certified and FCA registered.

Nicola Battilana



CEO of Hellenic Gas Transmission System Operator S.A.

Nicola Battilana is the Chief Executive Officer of DESFA, the Hellenic Gas Transmission System Operator. Born near Genoa, Italy, in 1967, he graduated – after college in Nautical School – in Electrical Engineering at Genoa University.

After a few collaborations within the university and a period in the Italian Navy, he joined Snam in 1995, where he worked for 3 years in the technical area. After a diversified professional path in the operations area, that led him through LNG terminal and gas network maintenance to pipeline construction, with several assignments of increasing responsibility, he was appointed in 2009 Network Development VP and in 2010 Network Dispatching and Balancing VP.

In 2013 he started up as SVP of the Technical Division, with the aim of promoting operational excellence and granting technical support in the then starting foreign asset acquisition process. In October 2015, he was appointed CEO of TAG GmbH, the Austrian company owned by Snam (85%) and Gas Connect Austria (15%) that owns and operates the Trans Austria Pipeline, the strategic transit infrastructure transporting ca. 40% of the Italian annual natural gas demand through Austria. Before his new assignment as CEO of DESFA, he was managing, since September 2018, Snam's activities in Greece and the Balkans, including the opening of a representative office in Athens.

René Bautz

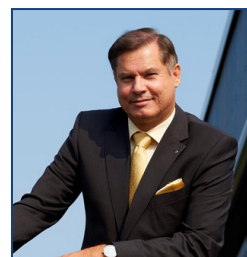
Chairman, World Energy Council – Global Gas Centre

CEO of Gaznat SA since 2008, René Bautz is also Chairman of Swiss Energy Trading (SET) and Gas&Com (Telecommunication), Board and Committee member of several companies and organizations within the gas industry: Swiss Gas Industry Association, Fingaz, Swissgas, Swiss Gas Invest, Transitgas and Unigaz. He also acts at an international level in the frame of Eurogas, Green Gas Initiative, and the World Energy Council within which he chairs the Global Gas Centre.

In 2002, René Bautz joined Gaznat, starting his career in the company as Chief technical officer. He then served as Chief operating officer for two years before taking over as CEO of Gaznat.

René Bautz studied electrical engineering and holds a Master of Science degree from the Swiss Federal Institute of Technology in Lausanne (EPFL). He dedicated his entire professional career to the energy sector. René Bautz held the position of Managing director at the Société Electrique des Forces de l'Aubonne (SEFA) for 5 years. Prior to this, he served as Director of the Utility of the town of Bienne (ESB). During this period, between 1994 and 2002, he was also Board member and manager of several companies within the water and energy industries.

The first 10 years of his career were spent at the power company Electricité Neuchâteloise (ENSA) as Head of the studies and construction. René Bautz then joined Câbles Cortailod (now Nexans Switzerland) as Head of the electric network and testing division. As part of his training, he completed an internship on behalf of Brown Boveri Canada in Montreal where he participated in the development of a test platform for electric generators. He further completed his training in the field of business economics and management.



Julian Bowden



Senior Visiting Research Fellow, Oxford Institute for Energy Studies

Julian Bowden worked for BP for four decades in a variety of mainly planning, strategy and business development roles in downstream oil and international gas. His international roles included postings to BP's offices in Moscow and Brussels. He was involved in the planning for Caspian crude oil exports (culminating in the BTC pipeline) and latterly in the development of the southern gas corridor. Publications include chapters on Azerbaijan and Georgia in an OIES book on CIS gas, a chapter on SE Europe's gas markets in an European Commission sponsored book on gas in the EU's energy union and research papers on gas pricing for the IGU. He has also published an academic journal article on Soviet oil marketing in the UK in the 1930s. Principle interests remain in gas and broader energy issues in Eurasia.

Charlotte Bucchioni

Tankers Editor, S&P Global Platts

Charlotte Bucchioni covers the dirty tanker markets for the S&P Global Platts EMEA office, focusing on West of Suez markets. Products coverage include crude and fuel oil from the main loading regions West of Suez (North West Europe, West Africa, Mediterranean basin). Charlotte has a Master in International Political Economy from the London School of Economics and joined S&P Global Platts in September 2019 as Associate Editor.



Pantelis Capros



Professor of Energy Economics, National Technical University of Athens

Pantelis Capros, full-tenured Professor of Energy Economics and Operation Research at the Department of Electrical and Computer Engineering of the National Technical University of Athens, heads the E3MLab, a research and consultancy group of scientists, operating since 1988. He holds an engineering degree from NTUA, three Master Degrees in Economics, Informatics and Operations Research from ENSAE, the University of Dauphine and a Doctorat d'Etat (PhD) in Mathematical Economics from the University Pierre & Marie Curie.

Prof. Capros has been the first Chairman of the Regulatory Authority for Energy in Greece (2000-2005), a member of the Board of Directors of the Public Power Corporation (1995-2000), a visiting Professor at University of Paris Sorbonne for five years and a researcher at CEA in France (1979-1984). He is a founding member of the European Energy Institute.

Prof. Capros has more than 30 years of experience in research, consultancy and studies, in particular for the European Commission. He specializes in the field of energy systems analysis and economics, environmental and climate policies, macroeconomics and industrial economics. He performs empirical research in these fields using and developing large-scale mathematical models. He has widely published (more than 200 publications) in the areas of Energy Modelling, Climate Economics, Empirical Macroeconomics, Operations Research and Mathematical Programming.

The E3MLab led by Prof. Capros develops, since 1990 energy-economy modelling, scenario building and impact assessment studies that support the European Commission. Indicative studies are the Reference energy-transport projections (published every two years), and a series of policy reforms, such as the 20-20-20 package (2007), the Low Carbon Roadmaps (2011-2012), the Winter package (2016), the Long-Term Strategy (2018), the Green Deal (2020), and others. The support relies on complex models, such as PRIMES, PRIMES-TREMOVE and GEM-E3, which are tools widely used for energy, transport, climate policies and economic assessments of the EU policy, also in national energy planning studies, roadmaps by Eurelectric and Eurogas and in studies for large private corporations. A series of European governments make use of consulting and modelling services based on E3MLab's models for national energy, economic and environmental planning.

Aristotelis Chantavas

Head of Europe area, Enel Green Power; President, SolarPower Europe

Aristotelis joined the Enel Group in November 2018 and is currently the Head of Europe region in Enel Green Power (EGP). He has a diverse background in the management of different types of renewables projects, varying in both size and type.

His broad professional career in renewable energy, both in Europe and North America, includes executive roles in business development, construction and maintenance, M&A and new investments. Aristotelis graduated in Civil Engineering from DUTH and holds an MSc in Engineering Business Management from University of Warwick, with further specialization in Entrepreneurial Studies at Harvard University.



Maher Chebbo



Executive Officer – Chief Innovation Officer, Global Digital Energy Solutions at GE Power

Maher Chebbo, has 30 years of Private Energy & Industries Digital & Venturing leadership roles and 15 years of Public Board Leadership roles

Private Industrial:

Founder & CEO of CTECHNOLOGYS focusing on Digital Venture Capital, Board advisory & Digital Energy Ventures

Board observer at Greencom-networks (German IOT Energy SME)

SVP & Global Chief Innovation Officer GE Digital Energy Solutions (3 years)

General Manager Energy & industries for Europe, Middle East & Africa at SAP (21 years)

Director of Software Engineering Utilities & Telecom at Cap Gemini (6 years)

Public Board Leadership

Chair of the Governing Board of REEEP (Investing in Clean Energy Markets - Vienna)

Chair of the ETIP Batteries European Digital Task Force (European Commission)

Co-Chair of the SmartGrids (ETIP SNET) Digital Energy Group (European Commission)

Board member of ARMINES (R&D 50 Labs of MinesParisTech)

Strategic Advisory Committee member of VITO (Belgium)

Former President of ESMIG Association (European Smart Metering & Energy Association-Brussels)

Former Member of the Audit Scientific Committee of TNO (Dutch Government R&D Institute)

Former Member of the EVCA (European Venture Capital Association)

Nominated 5th among the Top40 most influential people in European Smart Grids

Pierre-Jean Cherret

Head of New Business Development & Strategic Innovation & Ventures, ITEMS International

Pierre-Jean Cherret is managing director new business at items international, a French strategic consulting boutique in the fields of energy, digital, telecom, innovation. He is mainly involved in developing new markets, strategic alliances, building startup ventures, creating origination and investment strategies, program management in the energy & utilities & industries sectors. He is engaged in complex acquisition projects with VC financial institutions and innovation ventures to build our future on topics related to smart energy and cities systems involving new digital and deeptech developments. Pierre-Jean Cherret is also professor in the executive and fulltime "energy management master" of ESCPE on innovation and entrepreneurship. He holds engineering degree in computer science & applied mathematics and a master degree from CentraleSupélec in energy markets and technologies.



Athanasios Dagoumas



President, Regulatory Authority for Energy

Dr. Athanasios Dagoumas is an Assistant Professor in Energy and Resource Economics and Director of the Energy and Environmental Policy laboratory at the University of Piraeus. He holds a Diploma in Electrical and Computer Engineering from the Aristotle University in Thessaloniki, where he elaborated his PhD in Energy Economics. He is Member of the Board of the Cambridge Trust for New Thinking in Economics. He has more than 15 years of work and research experience in energy related issues, including working as a Senior Researcher at the University of Cambridge and as a Senior Energy Analyst at the Transmission System Operator and at the Electricity Market Operator in Greece. Moreover he was enrolled as a Special Advisor to the Ministry of Environment, Energy and Climate Change in Greece. His extensive experience builds his capacity for an in-depth understanding of multidisciplinary aspects of the energy sector: economic, engineering, environmental and policy. He is keen on developing models for the energy system, the economic-energy-environment (E3) systems and the real energy markets. He has been President to the Regulatory Authority for Energy since July 2020.

Matthew Doman

Interim Public Affairs Director, IGU

Matthew Doman is a public affairs professional with long experience in government, media, industry advocacy and communications in Australia, Latin America and the United States. He boasts a successful track record of advocacy for gas producers in Australia, including leading industry campaigns for investment and development. He has strong communications skills, political judgment and media insight.

Matt is the Interim Public Affairs Director of the International Gas Union.

He is also director of the Australian public affairs consulting firm Mill Street Advisory.

Until June 2020, Matt was the External Affairs Director for the Australian Petroleum Production & Exploration Association (APPEA), the peak body of the Australian oil and gas industry.



Haris Doukas



Associate Professor, School of Electrical and Computer Engineering, National Technical University of Athens & Gen. Secretary of HELORS

Dr. Haris Doukas is an Associate Professor at the School of Electrical & Computer Engineering (ECE) of the National Technical University of Athens (NTUA). He is a mechanical engineer from the Aristotle University of Thessaloniki (AUTH), with a PhD in the area of decision support systems for energy policy and management, from the ECE, NTUA. His scientific and research expertise includes the development of decision support systems for energy and climate policy. He has almost 2 decades of working experience in the design of energy and climate policies and programs for the promotion of renewables, energy efficiency and management in a regional, national and European level. Moreover, he participates as a specialist in respective initiatives beyond Europe, such as the countries of the Mediterranean basin and the Arab states of the Gulf. In the abovementioned fields, he has more than 120 scientific publications in international scientific journals with reviewers, the Greek Book "Multiple Criteria Decision Models for Energy and Environmental Systems", the open access Book as co-Editor "Understanding Risks and Uncertainties in Energy and Climate Policy: Multidisciplinary Methods and Tools for a Low Carbon Society", the English Book "Multicriteria Portfolio Construction with Python", as well as numerous presentations in international conferences, chapters in Books, articles in technical magazines and daily and weekly press. Finally, Dr. Doukas is an Associate Editor of the Operational Research International Journal (ORIJ) and participates as member of the scientific journals' Editorial Board in the areas of energy policy and operational research. For his work, Dr. Doukas has received numerous awards by the State Scholarship Foundation (IKY), the NTUA, the AUTH, the Technical Chamber of Greece (TCG), the Hellenic Operational Research Society (HELORS) and the World Renewable Energy Congress (WREC) among others.

Panagiotis Doumas

Managing Partner, Alpha Plus Insurance Brokers PC

Panagiotis Doumas is the Managing Partner and co-founder of A-Plus Insurance Brokers, a company specializing in Energy Insurance Lines, having in his delegated authorities the business development and maintenance of big corporate accounts within a variety of territories. Starting his career back in 1999, Panagiotis has worked as an agent for Phoenix Metrolife Emporiki until 2004, when he joined Frontline Insurance Brokers S.A. operating as a Corporate Producing Broker. He has a BA degree in Business Administration from Deree College in Athens, Greece and a Postgraduate Diploma in Marine Insurance and Reinsurance from World Maritime University in London, UK.



Marina Economidou



Scientific Officer, Institute of Energy and Transport, Joint Research Centre, European Commission

Marina Economidou is a scientific and technical project officer at the Joint Research Centre of the European Commission. In her current function, she co-ordinates and provides scientific/technical support for the JRC activities on the Energy Efficiency Directive. Her work focuses on EU energy efficiency policies, financial instruments on building renovations, and innovative measures to overcome barriers to energy efficiency. She previously worked as a Senior Expert in Energy Efficiency at the Buildings Performance Institute Europe, Brussels where she managed a large country-by-country study on the energy performance of buildings in Europe, co-ordinated the data collection in 29 countries and led the development of an online data tool on buildings. Her PhD work focused on low-energy strategies in the built environment whereby she examined the physics behind natural ventilation and its impact in multi-storey buildings. She is a civil engineer by profession and obtained her MEng and PhD degrees from Imperial College London, UK.

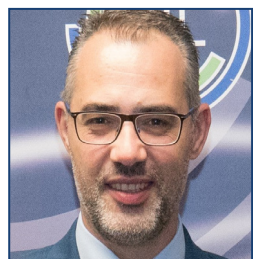
Spyros Economou

President of the BoD and General Director, CRES

President of the Board of Directors at the Center of Renewable Energy Sources (CRES) from September 2019. Dr. Economou received his PhD degree from the Catholic University of Leuven and his Engineering Diploma from the National Technical University of Athens, Dept. of Mining & Metallurgical Engineering. He has worked in industry and research in Belgium, Canada, Middle East (UAE & KSA) and Greece in various management positions. His research work has been presented in 43 publications in scientific journals and international conferences. In addition, Dr. Economou as an EC expert has evaluated more than 100 business plans from SMEs requesting funding for their innovative products or services.



Elias Eliadis



Director Investment Promotion & Facilitation, Enterprise Greece

With 18 years of experience in the area of Foreign Direct Investments, a long course in executive positions and a Master's background in Political Science from the leading University of Warwick in the UK, Elias works as Director of Investment Promotion & Facilitation at Enterprise Greece (EG), Greece's national investment and trade promotion agency. As part of an ambitious, self-motivated and forward looking team, Elias has organized a vast number of missions in key target markets with the aim to promote solid investment opportunities to international investors and highlight all aspects that make Greece a unique business and investment destination. Organizing the business part of Greek government officials' visits to foreign markets, preparing customized investment proposals for multinationals and international entrepreneurs, setting-up site visits for assisting investors to establish their presence in Greece, reporting on the available financial tools and incentives and presenting the country's investment environment, are just some of the activities Elias has been involved in with tangible results. Prior to his current position, Elias has been employed as investment promotion manager in the country's predecessor Organization (Invest in Greece) and as marketing advisor to the CEO of the supervising body of the public transportation system in Athens.

Georgios Gkiaouris

Associate Director, Regional Head, Energy EMEA, EBRD

Georgios (George) Gkiaouris is an Associate Director, Regional Head Energy, at the European Bank for Reconstruction and Development (EBRD), responsible for EBRD's Energy sector activities in the South Eastern European region. George has more than 23 year experience in financing and investing in emerging markets and transition economies with an emphasis on the power and energy sector. Since joining EBRD in 2001, George has led numerous complex power and renewable project financings in Central and South Eastern Europe, involving syndicated debt, equity and intensive policy dialogue at the highest level in Governments and with local and international investors. Prior to working at the EBRD, George worked for Barclays Capital and for the Commonwealth Development Corporation (CDC) in London, focusing again in power sector financing in Europe, Africa, Middle East and Latin America. George was born in Kozani (Greece) and holds a Masters in Finance from Manchester University and a degree in Economics from Aristotle's University of Thessaloniki.



Ricardo Gorini



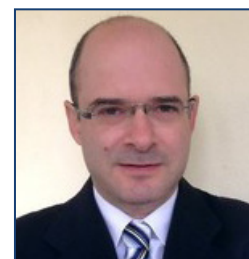
Senior Programme Officer - Remap, IRENA

Ricardo Gorini is an economist (PUC-RJ) and holds an MBA in Finance (IBMEC-RJ). MSc. and DSc. in Energy from Energy Planning Program COPPE - (UFRJ-Brazil). Visiting Student at the Energy Institute - University of Sheffield, UK. He has published several articles. Previously he has worked in the financial market and mining sector, as well as advisor for energy policies and regulation in Brazil, including as the Director of Energy Economics and Environment Studies at Empresa de Pesquisa Energetica (EPE) – the Brazilian Energy Office in charge of the energy planning studies for the Brazilian government. He was also involved in the Brazilian NDC formulation and he coordinated the energy group of the Brazilian Climate Change Forum. He was the sherpa for Clean Energy Ministerial (CEM) and Mission Innovation (MI) before he joined IRENA, in 2018 as Senior Program Officer – REmap, responsible for the Renewable Energy roadmaps program at global, regional and country level. He is co-author of the IRENA global roadmap series including the latest Global Renewable Outlook 2050 (April 2020), and contributor to Post-COVID Recovery report (released in June 2020).

Panagiotis Grammelis

Director of Research, Chemical Process & Energy Resources Institute, CERTH

Dr. Panagiotis Grammelis is Director of Research at the Chemical Process and Energy Resources Institute of CERTH (CERTH/CPERI). The scope of his research is the exploitation of solid fuels, i.e. biomass/waste and coal, with emphasis on the thermochemical conversion technologies. He is experienced in numerous EU and national funded and industry oriented projects, with an extensive knowledge of the South-East European market. Since May 2011, Dr Grammelis is Head of the Laboratory of Alternative Fuels & Technologies and guides a team of highly-skilled researchers. He has been Steering Committee member of the Biomass Panel in the RHC-ETP (responsible for industrial boilers and district heating), national expert for the standardization of solid biofuels and member of DHC+ (District Heating & Cooling) Platform. Member of the Editorial Board in IJER and IJGW and the Scientific Committees of international conferences (EUBCE, GCGW, WSED). He is co-author in 380 papers in scientific journals, international conferences, workshops and books, with 2777 citations and h-Index 30 according to Scopus.



Victor Grigorescu



Former Minister of Energy, Romania

An expert on energy policy and European economic policy, Victor Grigorescu was Romania's Minister of Energy from November 2015 to January 2017. He is currently working as an energy Consultant focused on EU affairs in SEE and CEE regions. A former member of the board of Electrica, one of Romania's largest electricity distribution companies, he also has a background in diplomacy and international relations, having served at the Permanent Representation of Romania at the EU (2007-2011) as an expert for the EU's common commercial policy. He actively took part in Romania's accession negotiations to the EU during his time at the Ministry of Economy and Commerce (2004-2007), focusing his work on international relations and the EU's common commercial policy. Before being appointed minister of energy, he has published various articles on public policy and international relations in Romanian and has co-authored several works on the Transatlantic Trade and Investment Partnership. He is a graduate of Bucharest University's Law School.

Diala Hawila

Programme Officer, Policy Advice, IRENA

Diala has been working in the Policy Unit of the International Renewable Energy Agency (IRENA) since 2012, on topics related to policy assessment including the study on Renewable Energy Auctions: Analyzing 2016 and Renewable Energy Auctions: A Guide to Design, and to the socio-economic impacts of renewable energy, on projects including Renewable Energy Benefits: Leveraging Local Capacity of solar PV and onshore wind. Diala is one of the authors of IRENA's regional market analysis on Southeast Asia. She has obtained her Master's degree in Engineering Systems and Management from the Masdar Institute in Abu Dhabi, focusing on sustainability and renewable energy. Before that, she worked as a consultant at PricewaterhouseCoopers, offering advisory services to government entities in fields including energy and waste management.



Walburga Hemetsberger



CEO, SolarPower Europe

Walburga Hemetsberger has been working in Brussels for more than 18 years in different positions, most of the time in the energy sector. Before joining SolarPower Europe, Walburga headed the VERBUND Representation Office in Brussels and was a Board Member of Hydrogen Europe. Her previous experience includes her roles as Head of the EU Representation Office at VERBUND for nine years; Advisor of Financial and Capital Markets at The Association of German Public Banks and Association of Public Banks (VÖB / EAPB); Competition lawyer at Haarmann Hemmelrath; A Parliamentary Assistant to Austrian MEP and experience in the DG Competition Merger Control Task Force. Walburga holds a degree in Law and Business Administration from Leopold-Franzens Universität Innsbruck. She speaks German, English, Dutch and French.

Arnaud Henin

Managing Director, Gommyr Power Networks

Arnaud Henin is managing director of Gommyr Power Networks, leading work on localized renewable generation, energy storage, and microgrid projects as a trusted independent third-party advisor. He brings more than 12 years' experience in the renewable energy and finance sectors covering engineering, technical and economic issues. He is focused on developing customized and appropriate technical options as well sustainable business models for deploying renewable energy in microgrid and localized power solutions. Arnaud has led projects covering village electrification, electric mobility, commercial and industrial systems, and utility scale projects. He has worked across a range of geographies including over 15 different countries across Southeast Europe, Africa, and the Middle East. Prior to Gommyr Power, he managed the Piraeus Clean Energy fund, investing in renewable energy and cleantech projects in South East Europe and the Eastern Mediterranean region. Before that he was a manager with McKinsey & Company serving clients on projects in the energy, renewables and climate change sectors across Europe and Africa. At the beginning of his career he spent several years working in engineering and as a manager with a number of start-ups in the high tech sector in Canada. Arnaud holds a BEng in Electrical Engineering from McGill University and an MBA from INSEAD.



George Ioannou



CEO, Hellenic Energy Exchange S.A

Dr. George Ioannou is the Chief Executive Officer of the Energy Exchange Group. He is also Professor of Production & Operations Management at the Department of Management Science and Technology of the Athens University of Economics and Business (AUEB), and Director of the Management Science Laboratory. He was an Assistant Professor at the Department of Industrial and Systems Engineering of Virginia Tech, directing the Manufacturing Systems Integration Lab, and Director of the International MBA Program of AUEB. Dr. Ioannou received his diploma in Mechanical Engineering from the National Technical University of Athens, and his M.Sc./DIC in Industrial Robotics and Manufacturing Automation from Imperial College, London, UK. He was a Graduate Research Assistant at the Institute for Systems Research of the University of Maryland at College Park, USA, where he received his Ph.D. in Mechanical Engineering. His research concentrates on the quantitative and analytical study of business systems, and merges operations research tools with modern information technology to address open problems faced by today's complex enterprises and supply chain networks. His work has been sponsored by several research organizations and private companies from the US, Europe and Greece, while his publications have appeared in various archival journals covering topics that range from facility and material handling systems design and operation, to Enterprise Resource Planning Systems. He has consulted for many companies and public organizations, and was responsible for executive and educational seminars in his areas of expertise, both in the US and Greece. He is the recipient of the Microsoft Excellence in Education Award and has been honored with many Teaching Excellence Awards for his MBA courses. He is a member of the Technical Chamber of Greece (TEE), where he chaired the Research and Development Committee, and served as a member of the Editorial Board of the international journal Production Planning & Control. He has been an Executive Member of the Board of Directors of Hellenic Railroads SA, and a member of the Innovation Council of the Ministry of Development. He was also the academic coordinator of the Energy Club of MBA International that organized seven conferences on energy-related topics between 2012 and 2018, and Head of the Evaluation Committee of ΣΥΖΕΥΣΙΣ II, a focal project of Information Society S.A.

Symeon Kassianides

Chairman, Natural Gas Public Company of Cyprus

Dr. Symeon Kassianides is the Founder, CEO and Chairman of the Hyperion Systems Engineering Group. He holds a PhD and DIC in Chemical Engineering from Imperial College of Science, Technology and Medicine, London (UK), a BSc in Chemical Engineering from the Massachusetts Institute of Technology (USA) and has extensive experience in project execution and management of technology in the process manufacturing industries. He has been a Member of the Board of the Natural Gas Public Company (DEFA) since 2014 and was appointed as Chairman in March 2017.



Dimitris Kavvouris



Chief Operating Officer Citroen, DS Automobiles and Mazda

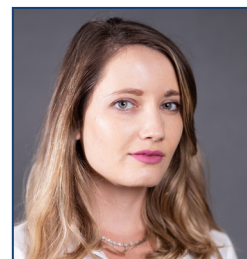
Dimitris Kavvouris is a highly experienced Senior Executive with a demonstrated history of working in the automotive industry. Dimitris received his Bachelor of Applied Science (B.A.Sc.) in Business and Economics from Piraeus University of Economics and Business. He pursued post graduate studies at Athens University of Economics and Business, for a Master's degree in Marketing and Communications/Marketing Management (M.Sc). In 2004, he was elected as a Fellow of The Chartered Institute of Marketing UK (CIM). Dimitris started his Automotive career at Volkswagen Brand in 1994 and during the years of his career in the VW Group he has been assigned various managerial positions, such as Sales Manager, Marketing Manager, and in 1999 he became the Head of VW Commercial Vehicles in Greece. In 2000, he joined as Marketing Director the Syngelidis Group of Companies, Citroen Hellas and in 2004 he was appointed the position of Head of Audi in Greece for 11 years at Kosmocar S.A. In 2015 until 2016, Dimitris held a Senior Position in VW Middle East. Dimitris Kavvouris is a skilled and focus businessperson who has been at the helm of 5 different companies and since 2017 holds the position of Chief Operating Officer leading the Brands Citroen, DS Automobiles and Mazda at Syngelidis Group of Companies, AIGLON S.A., the importer of Peugeot, Citroen, DS Automobiles and Mazda in Greece.

He is married and has one daughter.

Olga Khakova

Associate Director for European Energy Security

Olga Khakova is the associate director for European energy security at the Atlantic Council Global Energy Center, where she manages transatlantic energy initiatives. Before joining the Atlantic Council, Khakova was a senior program coordinator for US Energy Association's Energy Technology and Governance Program. She helped start and coordinate the Western Balkans' Electricity Market Initiative working group, which provides technical expertise on creating better-connected electricity markets. Khakova also worked as a program director for a leading energy non-profit in the Midwest, The Climate + Energy Project (CEP). While at CEP she co-led the conception and development of the Clean Energy Business Council, a network of businesses seeking to capitalize on renewable energy resources in Kansas and the greater Kansas City area through legislative, regulatory, and educational solutions. Khakova facilitated state-wide stakeholder engagement on energy issues, such as education and outreach on rate design dockets at the Kansas Corporation Commission. During her time at Bombardier Aerospace, Khakova organized events and developed communications strategies in Brazil, Canada, China, and the US for a distinguished human factors safety program called Safety Standdown. Khakova has a business administration degree from Wichita State University and a professional science masters in environmental assessment from the University of Kansas. She is originally from Ukraine.



Konstantin Konstantinov



CEO, Independent Bulgarian Energy Exchange

Konstantin Konstantinov, CEO of Independent Bulgarian Energy Exchange EAD (IBEX) since its establishment in 2014, has a Master's degree in "Electrical engineering" from the Technical University of Sofia. He also holds a Master's degree in "International Business Relations" from the Technical University. Konstantinov has got a solid experience in energy sector. Prior to this role, he was an Electricity trade director at the Bulgarian electricity public provider - National electricity company EAD (NEK) and a member of the board of directors of NECO S.A. From 2005 to 2013 Konstantinov was a member of the Management board and a Deputy executive director of Enemona Utilities EAD. Prior to joining Enemona Utilities he was a senior specialist Geographic Information Systems at Electricity Distribution Sofia EAD.

Nikolaos Koutsogiannis

Advisor to the Board, HENGAS S.A.

Nikolaos Koutsogiannis was the founder of the Naoussa International Film Festival, which was the most significant digital cinema event in the region of South East Europe. He is a graduate of University of Macedonia in International and European Economic and Political Studies with a Master degree in International Relations and a second Master degree in Marketing, Advertising and Public Relations from the University of Sheffield. He was elected Mayor at the 2014 mayoral elections with the urge of the younger people of his hometown Naoussa. During his mandate he envisioned and planned the innovative and pioneering project of energy production generated by small hydropower stations installed in the city's existing water supply system which he presented at the European Council, in China and several other conferences in Greece and abroad. He is now advisor to the Board at HENGAS for strategy and communication, thus becoming part of the most rapidly developing sector of Greek economy.



Marcel Kramer



Energy and Infrastructure Consultant; President, Energy Delta Institute

Marcel Kramer is a Dutch national residing in Amsterdam. After obtaining a Master's degree in Private and Corporate Law, he held several positions in Government and in international organizations (NATO, International Energy Agency). Subsequently Marcel spent his entire career in international energy companies on different continents. He has held a range of senior executive positions in the international energy industry and has an extensive global personal network in this field. He currently works as an independent consultant, company director and advisory board member on strategy, policy and project management in the field of energy and infrastructure.

He is also President of the Energy Delta Institute, an international energy business school, which supports the development of executives through a wide range of industry courses and learning-related events. Marcel Kramer is a frequent public speaker on energy topics and lectures in several executive education programs associated with universities in Europe and Russia. He is an active longstanding member of the Council of the International Gas Union (IGU), for which he also reports to the IGU President as 'Regional Coordinator' for Russia, the Black Sea region and the Caspian.

Giorgos Kremlis

President, Organizing Committee of the Circle the Med Forum; President, International "Circular Climate Institute" of the European Public Law Organization

Special advisor to the Greek Prime Minister on environment and Circular Economy. Honorary Director in the European Commission (EC), in charge of circular economy issues on behalf of DG ENV. National coordinator for the EEC internal market (1990-1992), Head of the EEC Committee under the Greek Prime Minister (1993), Secretary General for European Affairs in the Ministry of National Economy (1993), Head of the Legal Unit DG ENV (1995-2004). Head of the "Legal affairs and Governance" Unit (2004-2005). Head of the Unit "Cohesion Policy and Environmental Impact assessments" (2005-2013)

Head of the "Mainstreaming and Environmental Assessments" Unit (2013-2018) Member of the Board of the Espoo Convention, and elected Chair of the upcoming MOPs in 2019 and 2020.



Maximilian Kuhn



Government Relations Advisor, GazProm Germania

Maximilian Kuhn started his career in the energy business as a consultant for Government Relations. Between 2010 and 2012 he also held senior roles as a project coordinator and research staff at the Center for Energy, Marine Transportation and Public Policy (CEMTPP) and the Harriman Institute at Columbia's School of International and Public Affairs (SIPA), Columbia University in the City of New York. Since 2010 he also held senior roles as research staff at the European Center for Energy and Resource Security (EUCERS) at King's College London and HULT Business School London. His work has been quoted by media from around the world, including New York Times, Financial Times, and Bloomberg. His research focuses on energy policy coordination, unconventional natural gas extraction, gas market integration and energy diplomacy. Mr Kuhn holds a PhD in Environmental and energy policy from the Free University Berlin.

In 2013 he joined the European Commission as a Scientific Project Officer where he coordinated tasks of the DG Joint Research Center of the European Commission's Energy Security, Systems and Market Unit. In this vein he worked closely together with international teams across Europe, as well as a host of other EU stakeholders and Partners from public and private companies. In 2016 Maximilian Kuhn joined Gazprom Germania as a Government Relations advisor.

Ulrich Laumanns

Project Manager, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

Ulrich Laumanns is working as a project manager for the project "Technical Support for Clean Energy Investments in Greece" (TARES4) project which is implemented by GIZ (German International Cooperation) on behalf of the European Commission as well as the German Federal Ministry for Economic Affairs and Energy. The objective of this project is to improve the framework conditions for renewable energies and energy efficiency in Greece in order to facilitate the achievement of the national targets for 2020 and 2030. The project provides advice and support to the Greek Ministry for Environment and Energy (YPEN) for the preparation and implementation of priority reforms in the field of clean energy. Ulrich Laumanns has studied political science in Germany and France with a focus on energy policy as well as support instruments for renewable energy and energy efficiency. During the past 15 years, he has been working for GIZ in the field of renewable energies and energy efficiency in Germany as well as abroad.



Athanasios Lazanas



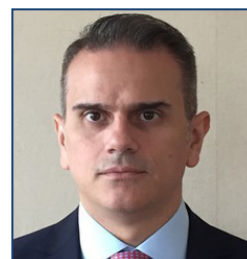
Chairman and CEO, Arclif Group

MBA in economics, born in 1967, has over 20 years of national and international professional experience as Chief Executive Officer, COO, Vice President, in various groups and medium-sized companies such as Ford Motor Company, Visteon Corporation, Lear Corporation, Freudenberg, CIE Automotive and Amtek Group with focus on business development and operations. He was responsible for reorganization, investment and restructuring of companies of up to 20 investment vehicles. He is founder, investor and one of the most successful business Angels in Europe. Mr. Lazanas supports the group in the strategic expansion of our group worldwide.

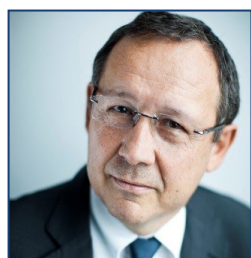
Loukas Lazarakis

CEO, Nostira S.A.

Loukas Lazarakis is currently serving as the CEO of "NOSTIRA SA", a renewable energy company with main activities the development, construction and asset management of RES units since 2016 when originally was founded. He brings more than twenty years of executive experience in the Renewable Energy Industry. Prior to Nostira, he served as a CEO in EDF EN Hellas S.A. and RETD S.A. Having joined Windsolar Hellas S.A. in 1999 as CFO, Loukas originally worked in Finance roles and in 2003 was one of the founders of RETD S.A., in which he held positions of CFO/CEO. In 2007, RETD S.A. became an EDF EN subsidiary and five years later Mr. Lazarakis was appointed CEO in EDF EN Hellas S.A. until June 2017. During his career, he has gained a reputable experience in the Energy sector having developed major RES projects, summing up to hundreds of MWs, in Greece, Cyprus and Romania. Loukas was in charge of the strategic directions and financial decisions of the organizations he cooperated with, while implemented hundreds of millions of financing facilities and facilitated 500MW of RES projects in Greece. He holds a degree in Economics from University of Piraeus.



Jean - Marc Leroy



External Relations Senior Executive Vice President, Engie France

Since 13 April 2018, Jean-Marc Leroy is Senior Executive Vice-President for External Relations. His role is to promote a global smart energy system underpinned by a sustainable and well-balanced energy mix. Prior to that, Jean-Marc Leroy was Managing Director for Gas Chain at ENGIE. Between January 2009 and July 2015 he was Chief Executive Officer of Storengy, the underground gas storage operator of ENGIE. Jean-Marc started his career in 1980 at EDF-GDF Services. Between 1997 and 2004, he held several key positions at Gaz de France: President's Chief of Staff, Secretary of the Board, Deputy Vice President for Strategy, Vice President for External Relations and Internal Communication. Between 2005 and 2009 he was in charge of underground gas storage and LNG regasification terminals at Gaz de France and subsequently GDF SUEZ. From 2010 to 2019, he chaired the Supervisory Board of ENSEEIHT, an engineering school of Toulouse's University, gathering 1200 students and focusing on energy, environment and IT. Since November 2015, he is President of Gas Infrastructure Europe (GIE), now in its third mandate. Previously, between 2008 and 2013, he held the position of the President of Gas Storage Europe (GSE), the storage column of GIE. In December 2015, he became Board member of Global Gas Centre within the framework of the World Energy Council and in October 2018 he was elected at the IGU Executive Committee. Jean-Marc Leroy is also Chairman of the Supervisory Board of GRDF. In September 2019, he was elected Vice -President of OME (Mediterranean Energy Observatory).

Senior Analyst, Eurasia Group; Senior Fellow, Global Energy Center, Atlantic Council

David Livingston is a senior analyst at Eurasia Group, the world's leading geopolitical risk firm, and a senior fellow at the Atlantic Council, a think tank in Washington, DC. Previously, he worked as a deputy director at the Atlantic Council Global Energy Center, as a fellow with the Carnegie Endowment for International Peace, and as the inaugural Robert S. Strauss fellow for geoeconomics at the Office of the US Trade Representative. David has also worked at the World Trade Organization in Geneva and at the United Nations Industrial Development Organization in Vienna.

David holds a bachelor's degree from the University of Southern California and a master's degree from the University of Oxford. He serves as an adjunct associate professor at the University of Southern California, teaching a course at its Washington, DC campus, and serves as a mentor and strategist for the Obama Foundation Scholars program.



Dimitris Manolis



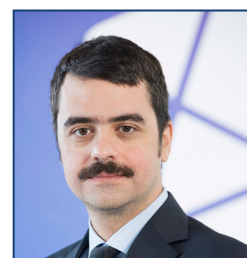
Head, International Activities/Projects, DEPA S.A.

Mr. Manolis is the Head of the International Activities / Projects of DEPA Commercial S.A. He first joined DEPA in 1998, where he worked in the Finance Division, focusing mainly on the planning and monitoring of the EU funding mechanisms for the co-funding of projects. From 2004 up to 2007 Mr. Manolis held the position of Procurement Department Head, carrying out all Project tenders related to EU co-financed Operational Programs. In 2007 he was appointed Manager of the Greece - Italy Interconnector Project, the new offshore pipeline that will connect the Greek and Italian natural gas transportation systems and, as of 2011 forged the development of the Eastern Mediterranean Pipeline (Eastmed) Project, the new offshore and onshore pipeline that will connect the Cypriot and Israeli gas findings to Europe. Mr. Manolis also holds the position of Deputy Development Director in IGI-Poseidon S.A., the equally owned by DEPA and the Italian Edison S.p.A holding company, where he was also appointed Member of the BoD (2019 to February 2020). In June 2009, Mr. Manolis contributed intensively in the launch of the new Greece - Bulgaria Gas Interconnector (IGB Interconnector), a project developed on an equal basis by IGI-Poseidon S.A. and the Bulgarian Energy Holding, and was involved since its inception in the Northern Greece LNG Terminal project concept. From 2013 to February 2020, Mr. Manolis held the position of Member of the Board and Vice Chairman of the Fysiko Aerio Hellenic Energy Company. Mr. Manolis has a degree in Economics and holds an MBA.

Vice-Chairman BoD ADMIE, Chief Technology Officer and General Manager, "Ariadne Interconnection"

Ioannis Margaritis, Dipl. Electrical Engineer and Computer Engineer (NTUA 2006), completed his PhD dissertation at the Power Systems Laboratory - School of Electrical and Computer Engineering NTUA in 2011 focusing on design and operation of Electricity Grids and Power Systems with Increased Penetration of Renewable Energy Sources. He worked for a period in the Public Power Corporation (PPC) - at the Non-Interconnected Island Power Systems Department - on dynamic security of power systems and data management for Smart Networks and MicroGrid applications on Greek island systems. He completed his Post-Doc research at the Technical University of Denmark (DTU Wind Energy Department 2012), where he continued working as Researcher (equiv. Assistant Prof.) and R&D project manager in North Europe, lecturing in MSc programs of DTU. He participated in the technology cooperation program between Denmark and China, in particular in the field of Transmission Systems and Electricity Networks and Wind Energy.

In 2015 he became Executive Vice-Chairman of the BoD of Hellenic Electricity Distribution Network Operator (HEDNO - DED-DIE) focusing on Network Technology, Strategic Projects and Investments in the Distribution Grid, strengthening domestic and international partnerships of HEDNO with Distribution Network Operators and IT/ICT companies in the field of Smart Grids. In the past he had served as member of the BoD of OTE and as technology and policy advisor for projects in Europe, Latin America, Africa and China.



Grigoris Marinakis



General Manager, Voltalia Greece

Grigoris Marinakis, Country Manager of Voltalia Greece (100% subsidiary of VOLTALIA SA, French Multinational Group). Grigoris joined Voltalia Greece at its establishment in 2007, where he started his professional career in Renewable Energy as a Development Manager, managing the company's finance as well as the projects' development and construction phases. In 2011, he was appointed Country Manager, where he extended the company's entire operations and activities from an Electricity provider to being also a service provider. He successfully developed new business activities within the Renewables' Market in Greece which involved the entire value chain of a renewable project: development, engineering, procurement, construction (EPC), operations & maintenance (O&M) and asset management.

Before joining Voltalia, Grigoris gained a significant experience in the maritime Business where he managed large shipping companies employing more than 100 employees.

Andrea Martinez

Deputy Managing Director, Sinloc

Andrea Martinez has over 25 years of experience in the infrastructure and local development market space. He is actively involved in the deployment of several technical assistance EIB ELENA schemes, ESIF financing platforms, Horizon 2020 projects aimed at accelerating the energy transition process. He is Deputy Managing Director at Sinloc - Sistema Iniziative Locali SpA, an investment and advisory company, participated by ten leading Italian Banking Foundations. Since 2011 he is Key Account and Investment Team Manager of JESSICA Urban Development Funds in Sicily, Sardinia and Campania. Since 2014 he is member of the Steering Committee of Green Building Council Italy and has been board member of several special purpose vehicles involved in energy and urban regeneration. Starting from October 2019 he is Project Coordinator of the EU Islands Facility NESOI.



Konstantinos Mavros

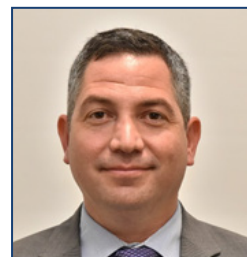


CEO, PPC Renewables

Konstantinos Mavros has significant and diversified experience in the broader energy sector and the fields of corporate finance and technology. He has worked in the past in the Renewable Energy Sector, and has been leading companies in the technological field. He has also co-founded a Venture Capital fund supported by the European Investment Fund. He is an active member and holds key positions in several international professional and academic associations and has been a visiting lecturer at the Athens University International MBA program. Mr Mavros holds a Masters' degree in Finance from Imperial College London and has completed high level executive education programs at Harvard Business School.

Director, European Regional Office U.S. Department of Energy, U.S. Embassy-Prague

Dan Milstein has been Director of the U.S. Department of Energy (DOE)'s European Regional Office since 2014 and is based at the U.S. Embassy in Prague, Czech Republic. In his previous job with DOE, Dan was an International Relations Specialist in DOE's Office of International Affairs, where he was the "desk officer" for much of Europe and Southeast Asia. Dan joined DOE in 2008 as a Presidential Management Fellow (PMF) after earning his Masters in Public Policy that same year at the University of California-Berkeley's Goldman School of Public Policy, where he specialized in energy policy.



Richard Morningstar



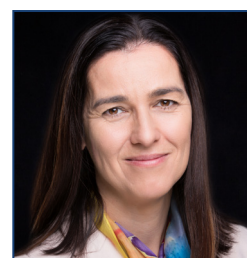
Founding Director and Chairman, Global Energy Center at the Atlantic Council; Former US Ambassador to the Rep. of Azerbaijan, Former US Ambassador to the EU

Richard L. Morningstar is the founding chairman of the Global Energy Center and a board director at the Atlantic Council. He served as the US ambassador to the Republic of Azerbaijan from July 2012 to August 2014. Prior to his appointment, since April 2009, he was the Secretary of State's special envoy for Eurasian energy. Prior to that, Morningstar lectured at the Kennedy School of Government at Harvard and Stanford Law School. From June 1999 to September 2001, he served as United States ambassador to the European Union. Prior to this, Morningstar served as special adviser to the President and Secretary of State for Caspian Basin energy diplomacy, where he was responsible for assuring maximum coordination within the executive branch and with other governments and international organizations to promote United States policies on Caspian Basin energy development and transportation. From April 1995 to July 1998, he served as ambassador and special adviser to the President and Secretary of State on assistance for the new independent states of the former Soviet Union, where he oversaw all US bilateral assistance and trade investment activities in the NIS. From 1993 to 1995, he served as senior vice president of the Overseas Private Investment Corporation (OPIC). Morningstar also served as chairman of the board and chief executive officer of the Costar Corporation from 1990 to 1993 and as president and chief executive officer from 1981 to 1990. He was an attorney with Peabody and Brown (now Nixon and Peabody) in Boston from 1970 to 1981, where he became a partner in 1977. Morningstar served as a commissioner of the National Conference of Commissioners on Uniform State Laws (1989-1993). Prior to returning to the government in 2009, he served as director of the American Councils for International Education, a trustee of the Kosovo-America Educational Foundation, and a trustee of the Eurasia Foundation. He is a member of the Council on Foreign Relations.

Morningstar received his BA from Harvard in 1967 and JD from Stanford Law School in 1970.

VP, International Affairs, Tellurian LNG

Dr. Anita Orban joined Tellurian LNG as Vice President for International Affairs in 2017. Previously she worked as Chief Advisor for Cheniere Marketing Ltd. Between 2010 and 2015 she served as Ambassador-at-Large for Energy Security of Hungary. Prior to that she was the Director of Constellation Energy Institute, a think tank facilitating cooperation in the Central Eastern European energy sector. She is the author of the book *Power, Energy and the New Russian Imperialism* (CT: Praeger, 2008). She was awarded with the Woman Executive of the Year in Energy Award in 2018. She is on the European Advisory Board of the Fletcher School and the Chairwoman of the International Advisory Board of the Regional Centre for Energy Policy Research (REKK). She earned her PhD degree from the Fletcher School of Law and Diplomacy in Boston in 2007. She holds a Master Degree in Law and Diplomacy from the Fletcher School and a Master in History from Tufts University. She earned her Bachelor degree in economics from the University of Economic Sciences in Budapest in 1997.



Giannis Panagis



President, POSPIEF

Giannis Panagis holds the Position of Chairman of Panhellenic Federation of Photovoltaic Energy Producers (POSPIEF), the only body representing photovoltaic producers in the second level in Greece, founded in 2013 and currently consisting of seven regional associations with more than 1,500 members. He was born in Serres, where he lives and works. He has shown remarkable trade union activity, representing the farmers of his area, while he has developed significant business activity in the field of renewable energy sources' production. Since 2012 he holds the Presidency of Photovoltaic Energy Producers' Association of Serres (SPIEF Serres). At the same time, he is vice-president of the Agricultural Association of Serres, while he participates, as a member, in the Administrative Board of the professional football team of Panserraikos. In 2016 he was, as a representative of beet growers, a member of the Board of Directors of the Hellenic Sugar Industry. He graduated from the Department of Physical Education & Sports Science (TEFAA) of AUTH and speaks very well in English.

Panagiotis Papastamatiou

Director, ENTEKA; CEO, Hellenic Wind Energy Association

Papastamatiou Panagiotis is Director of ENTEKA Group where he directs the development and financial sectors of the Group. Moreover, he is Chief Executive Officer of the Hellenic Wind Energy Association, ELETAEN. He has a vast experience in energy projects development in Greece and in Balkans with special focus and deep knowledge in wind energy. In the past he worked as advisor for the Hellenic Ministry of Development as well as for other public and private corporations. He holds Diploma in Electrical Engineering from NTU of Athens with PhD in Operational Research and Energy Policy & Planning and postgraduate lessons in Economics and Management in Athens University of Economics and Business. He is elected member of the Board of Directors of the Greek Association of RES Electricity Producers, GAREP.



Dimitris Papastergiou



President, Central Union of Greek Municipalities; Mayor of Trikala

He was born in Trikala in 1973. During his student years he was involved with the student councils and participated to the assertion committee for the Faculty of Physical Education & Sports in Trikala city and other student protests. In 1991 he graduated from the Crosscurricular Lyceum of Trikala. In the same year he passed at the School of Electrical and Computer Engineering / Computer NTUA and in parallel attended journalism courses in Athens. He loves radio and music and that was the reason he had participated in the launch of the radio station Hot Mix 88 and in 2001. His involvement with the local authority began in 2002 when elected alderman and continued in 2006 when the citizens of Trikala chose him again to represent them on the municipal council.

He speaks English and French, also knows a variety of programming languages like Visual Basic, SQL, Asp, Html and a few .NET, C, Java.

He is married with the Traffic Engineer Mrs Sula Braki and he is father of Fay, Kostas and Nikos.

Adnan Polat

Chairman, POLAT Holding

Adnan Polat was born in Erzurum, in 1953. He graduated from Işık High School in 1971 and Long Island University Business Management department in 1976. He started working in the construction sites of Polat İnşaat Anonim Şirketi affiliated to Polat Holding in 1976. Starting in 1981 he took charge of the management of the industry group of Polat Holding and made the group an international player. Between 1992 and 1996 he was Vice President and President of the Football Committee in Galatasaray Sports Club. [In 2001, he was elected as the President of Serkap, Association of Turkish Ceramic Coating Materials Producers. In 2002, he was elected the President of the Turkish Ceramic Federation. Between 2003 and 2008 he was the Board Chairman of Ege Seramik. In 2007, he became the Board Chairman of Polat Holding. In 2006, he became the Vice President of Galatasaray S.K. in March. In June 2006 he was awarded an Italian order of merit by the President of Italy given to the people for their services to society.

He served as the President of Galatasaray Sports Club between 2008 and 2011. In November 2013 he was the honorary consulate of the Democratic Socialist Republic of Sri Lanka in the Marmara region.

He is still a shareholder of the İ. Polat Holding A.Ş. companies, the block holder in Polat Holding A.Ş., owner of the whole of AP Enerji Tedarik A.Ş., shareholder and Board Chairman of Adnan Polat Enerji Yatırımı A.Ş., Batıyel Enerji Elektrik Üretim A.Ş., and İstiklal Gayrimenkul Geliştirme A.Ş. He is also the Board Chairman of AP Gayrimenkul Yatırım ve Geliştirme A.Ş. Adnan Polat is involved in important social, cultural and sportive activities in Turkey.



Katherine Poseidon



Associate, EMEA Energy Transition, Bloomberg New Energy Finance

Katherine Poseidon is an associate in BNEF's Energy Transition Team. She leads coverage of Eastern Europe and the Middle East, and manages BNEF's research on coal phase-out and energy transition policy in Europe. Katherine also contributes to BNEF's regional market outlooks and long-term modelling. Prior to joining BNEF, Katherine worked at the Hellenic Foundation for European and Foreign Policy in Athens, Greece as a Junior Research Fellow. Katherine holds Masters degrees from the University of Edinburgh and the University of Athens, and a BA from the University of Cambridge.

Arthur Richier

Senior Freight Analyst, Vortexa

Arthur is a Freight Analyst at Vortexa, with a background in freight markets and data analysis. Prior to joining Vortexa, Arthur was a Senior Pricing Specialist on the Freight desk at S&P Global Platts, covering dirty and clean tanker markets. Arthur holds an MSc in Energy Management from ESCP Europe and a Foundation Diploma in Tanker Chartering from the Institute of Chartered Shipbrokers.



Aurora Rossodivita



Senior expert of European regulation, ARERA

Aurora Rossodivita is Senior Expert on Gas at the Energy Division of ARERA, the Italian independent regulatory authority for electricity, gas, water and waste as of 2004. She currently represents ARERA at the Gas Working Group and in other Task Forces of ACER, the European Agency for the Cooperation of Energy Regulators. During her years in ARERA she has been also seconded four years as national expert at the European Commission (DG ENER). Before joining ARERA, from 1998 she was working at EURELECTRIC, the sector association which represents the common interests of the electricity industry at pan-European level. Prior to this (from 1996 to 1998) she has been working for private consultancy and for the European Parliament. She has a background in Economics.

Septimiu Rusu

Development Manager, Romanian Commodities Exchange

Development Manager at Romanian Commodity Exchange. Has been working in the last 15 years in the capital market sector in various positions in market institutions in the private sector. With a theoretical background in economics he has been acting as CEO of Sibex Depository and Development Director at Sibex Exchange for several years. In the last years he has focused on energy trading and market development of energy markets in the EU regulated and is currently acting as Development Manager for new products and market structures at Romanian Commodity Exchange in Romania.



Gulmira Rzayeva



Research Associate, Oxford Institute for Energy Studies; Founder and Managing Director, Eurasia Analytics

Ms. Gulmira Rzayeva is a Research Associate at the Oxford Institute for Energy Studies (OIES) and visiting research fellow at the Center on Global Energy Policy of Columbia University. She is also on board of directorate of the Institute for Effective Governance and Stabilization based in Stockholm, Sweden. She is a founder and managing director of the London-based Eurasia Analytics Ltd consulting company. She was a senior research fellow at the Center for Strategic Studies (SAM) under the President of the Republic of Azerbaijan for last ten years until January 2019. Her area of expertise includes energy security covering issues such as the energy policy of Azerbaijan and East Europe/Caspian region, Turkish domestic natural gas market, SEE gas market, global natural gas market, gas-to-hydrogen etc. Ms Rzayeva is recognized worldwide for her reports and seminal articles about energy focusing on the region, as well as for her speeches in some of the most prestigious universities including Harvard University, think-tanks and prestigious international conferences world-wide. Ms. Rzayeva has published several scholarly publications focusing on her area of expertise.

Éric Scotto

Chairman and Co-Founder, Akuo Energy

Éric Scotto is a dedicated entrepreneur and skilled investor concerned with climate change. In 2007 he cofounds Akuo Energy, an independent global renewable energy power producer and developer. The company is present across the entire value chain, including project development, financing, construction, and operation. Akuo has invested more than EUR 2.5 billion to build a portfolio of over 1.2 GW of assets in operation or under construction and a 5GW development pipeline. With more than 350 employees, the Group, headquartered in Paris, France, has a presence in over 15 countries around the world.



Fereidoon Sioshansi



President, Menlo Energy Economics

Fereidoon Sioshansi is President of Menlo Energy Economics, a consulting firm based in San Francisco, California, with over 35 years of experience in the electric power sector. He advises domestic and international clients on strategies to respond to the rapid transformation of the electric power business including utilities, energy intensive industry, innovators, start-ups and companies engaged in electricity delivery supply chain, regulators and policy makers. Dr. Sioshansi is the editor and publisher of EEnergy Informer, a monthly newsletter with international circulation, now in its 30th year of publication. His professional experience includes working at Southern California Edison Co. (SCE), Electric Power Research Institute (EPRI), NERA, and Global Energy Decisions.

Vassilis Spiliotopoulos

Managing Director Greece, Cyprus, Siemens Gamesa Renewables Energy SA

Mr. Vassilis Spiliotopoulos is a graduate of the Civil Engineering Department of Athens Technical University, being also awarded a Master of Science degree from Birmingham University, U.K. Since 1985 he has been involved in the construction field, participating in several big infrastructure projects in Greece, as well as, overseas.

The last twenty-five years he is focused to the energy sector business, construction of oil product storage facilities, medium and high-pressure natural gas pipeline projects, development of combined cycle power plants, and finally development, implementation and sale of wind farm projects. As of 2004 he is Managing Director of SIEMENS GAMESA RENEWABLE ENERGY SA – member of the Group SIEMENS GAMESA RENEWABLE ENERGY.



Theodoros Stavropoulos



Executive Director of Commercial Services, Attiki Natural Gas Distribution Company

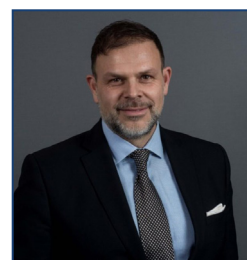
Mr. Theodoros Stavropoulos is a Chemical Engineer of National Technical University of Athens and holds a master's degree in Business Administration from the Athens University of Economics and Business. During the period of the full liberalization of the natural gas retail market he took over the Management of Natural Gas Suppliers and Consumer Services in Attiki Natural Gas Distribution Company. He has 4 years of experience as Manager of Design and Planning of Natural Gas Construction Projects and 14 years of experience in the field of Operation and Maintenance of Medium Pressure networks and installations.

He has also participated as a Consultant in shaping the operational procedures of the High Pressure transmission system.

Aristofanis Stefatos

CEO, Hellenic Hydrocarbon Resources Management

Mr. Aristofanis Stefatos holds a PhD in Geology from the University of Patras and has specialized in Environmental Oceanography. During the last 15 years he has worked in oil companies abroad with their main activity being the exploration and development of hydrocarbon deposits having held senior and top management positions. Since 2011 he has been a manager in Norway in private hydrocarbon exploration and production companies and is a founding member of four Norwegian companies. He has been the General Manager of Operations at M Vest Energy AS during the last four years, and the Director of Land Management and Technology at Atlantic Petroleum Norge before that. Dr. Aristophanes Stefatos' exploration work has been exposed to several geological settings namely in Europe, North America, the Indian Ocean, West Africa and Southeast Asia.



Bert Stuij



Vice President Innovation, Energy Delta Institute

Bert Stuij (MSc.) is Vice President Innovation at the Energy Delta Institute (EDI) and Manager National Programmes/Energy at the Netherlands Enterprise Agency RVO, a government institution. At EDI, Stuij works on programme development and education with a specific focus on energy transition. At RVO, Stuij is responsible for renewable energy, energy efficiency and energy innovation policy. Previously Stuij worked in the private sector for Shell and at various semi-private institutions (Novem) and government agencies (SenterNovem, AgentschapNL).

Michael Thomadakis

Head of the Strategy & Development Division, Hellenic Gas Transmission System Operator

Head of Strategy & Development Division, DESFA, as of 1st October 2020. Until then, he was a Partner in Grant Thornton Greece, leading the Energy Sector advisory, since September 2016. He has extensive experience in energy markets' regulation, as Vice Chairman of the Greek Regulatory Authority for Energy (RAE) and Member of the Board from 2005 to 2015, responsible for Gas and International Affairs, but also as member of the Board of Regulators of ACER, member of the CEER General Assembly, Chairman of the Gas Working Group of the Energy Community Regulatory Board and Chairman of the Investment Group of the Energy Charter Conference. He is a Member of the Board of Appeal of ACER since November 2016 and member of the Advisory Board of the Training Academy of CEER since 2015. He has extensive personal involvement in the development of the gas legislation as well as the regulatory framework of the Greek gas market for the last 14 years, and was deeply involved in the corresponding developments in South East Europe. He had a leading role in the development of the regulatory framework for several gas infrastructure projects related to the Southern Gas Corridor, such as TAP, IGB and IGI.



He had active participation in the evolution of the Greek energy policy and served as Advisor to several Ministers of Energy on the evolution of energy policy, including Intergovernmental Agreements for international gas projects.

Before joining RAE, he was Deputy Head of Department in the Public Gas Corporation of Greece (DEPA SA), where he worked from the onset of the gas industry in Greece and for 7 years, as the contractual administrator of the Gas Procurement contracts from Russia (pipeline) and Algeria (LNG), the LNG transportation contracts, as well as on the development of underground gas storage, on the derivation of transportation tariffs and on the establishment of the Gas Distribution Companies in Greece. He was involved in all contractual negotiations with the gas suppliers and transporters, including price revision requests and dispute settlement with the suppliers.

In 2013 he chaired the Arbitration Tribunal which settled the electricity price dispute between a power producer and one of the biggest industrial consumers in Greece. He has a Mechanical Engineering degree from National Technical University of Athens and a PhD from the same University. He is the author of more than 30 papers and invited lecturer in many events of the energy industry worldwide.

Konstantinos Tomaras



General Director, Spyropoulos S.A.

Mr. Tomaras is Deputy General Manager of SPYROPOULOS SA, a technical-commercial company active in the fields of Renewable Energy Development, Engineering, Procurement and Construction, specialized in the Photovoltaic Sector. The Company has around 35MW of installed capacity in photovoltaic plants, over 150MW in electromechanical maintenance, 500MW in panel cleaning and weed management services and a pipeline of over 150MW under Development in the photovoltaic sector in Greece. Mr. Tomaras is an experienced Electrical Engineer & Manager with a demonstrated history of work in the renewables and construction industry. Strong engineering professional skilled in Financial Analytics, Renewable Energy, HVAC, Project Finance, and Investment Banking. He has worked in the UK in the Investment Management Sector (2008-2010) as Financial Analyst, while in Greece he worked since 2010 in the Renewable Energy as well as in the HVAC Sector and Commercial Refrigeration as an Engineer and Technical Manager.

He studied as Electrical Engineering (MEng) at the Aristoteleion University of Thessaloniki and is a member of the Technical Chamber of Greece. Moreover, he holds an MSc in Energy Trade and Finance from Cass Business School of City University London where he has been the recipient of the prestigious Alexander S. Onassis Public Benefit Foundation's scholarship. He is also a member of the CFA UK holding also the CFA Certificate in Investment Management. Furthermore, he is trained as a Project Management Professional (PMP) - PMI Greece Chapter.

Theodoros Tsakiris

Assoc. Professor of Geopolitics and Energy Policy, University of Nicosia's Business School

Dr. Theodoros Tsakiris is an Associate Professor of Geopolitics and Energy Policy at the University of Nicosia's Business School. Since 2018, Dr. Tsakiris is also Visiting Professor at the ESCP Europe Business School in Paris. Dr. Tsakiris is an international Research Associate of ESCP's London-based Research Center for Energy Management and has directed the Energy Program at Greece's principal Foreign Policy think-tank ELIAMEP between 2011-2017. Between 2017-2019 he served as a member of the Executive Board at the Hellenic Association for Energy Economics and between 2014-2015 he was an Associate of the Southeast Europe Program at the LSE. Dr. Tsakiris has served in several high-level policy-making positions in Greece and Cyprus including the Office of the Minister of Energy & Development, the Board of Directors of the national oil & gas company of Cyprus, CHC (Cyprus Hydrocarbon Company), the office CEO of the Greek Natural Gas TSO, DESFA, and the Presidency of the Republic of Cyprus (Geostrategic Council).



Andrew Walker



VP, Strategy and Communication, Cheniere

Dr. Andrew Walker is the Vice President for LNG Strategy and Communication for Cheniere. He is located in London and is responsible for the LNG Strategy and Market Outlook of Cheniere, reporting into the Chief Commercial Officer. Until October 2015 he was Vice President for Global LNG - and prior to that Head of LNG Strategy - at BG Group where he worked for over 20 years before joining Cheniere. During his career in LNG he has been located in Singapore, Egypt, the USA and UK and has worked on numerous LNG projects including Atlantic LNG in Trinidad and Tobago, Egyptian LNG, and Dragon LNG in the UK. Dr. Walker has a Doctorate in Geology from Imperial College, University of London.

Menelaos Ydreos

Executive Director, Energy Vantage Inc.

Menelaos (Mel) Ydreos is the Executive Director of EnergyVantage, a consulting firm specializing in supporting transformational energy strategies and solutions. Areas of specialization include global energy policy and strategy, market assessment and implementation strategies and organizational cultural, revenue and cost transformation.

Clients of EnergyVantage have included the International Gas Union where until recently, he supported the transformation of the Union from a technical association to one of strong global advocacy. He served the Union in the capacity of Public Affairs Director.



Yiannis Yiarentis



President and CEO, DAPEEP

Yiannis Yiarentis is currently the CEO and the Chairman of the BoD at DAPEEP S.A., which is the state company authorized to operate the Renewable Energy Sources in Greece, handling 14.000 RES production contracts and 2 billions budget annually. During 2013-2015 he was the CEO and the Chairman of the BoD of ADMIE, the company which is the Utility company operating the Electric Transmission System in Greece.

His work experience in top managerial roles within Energy sector in Greek and Multinational companies supported by his academic background in Petroleum Chemistry, Engineering and Sustainable development helped him to result significant results through his 30 years carrier.

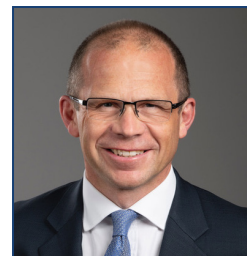
He represented Greek State in several European Committees (ENTSO-e, MED-TSO), also being member of the Greek National Councils.

Moderators

Alex Barnes

Advisor, Global Gas Centre

Alex Barnes is an independent consultant specializing in energy market design and regulation. He has nearly thirty years' experience in the oil and gas sector, most of it spent in the liberalization of gas and electricity markets. He has worked for a range of companies including Total, BG Group and Gazprom, helping them manage the impacts of energy liberalization. He established the Regulatory Affairs function for Gazprom Marketing & Trading in 2009, supporting its rapid expansion in gas and power trading in Europe. He has helped draft gas market rules as an industry representative on expert panels for the European Network of Transmission Operators for gas (ENTSO-G) and the European energy market regulator ACER. He has also represented the European Federation of Energy Traders at the Madrid Forum organized by the EU Commission. He is a regular speaker at conferences and seminars, and a Visiting Research Fellow at the Oxford Institute for Energy Studies. He has a degree in Politics, Philosophy and Economics from Oxford University, and an MBA from Henley Management College.



Haris Floudopoulos



Journalist, capital.gr

Harris carries more than 15 years of experience in business reporting, specializing in the energy, industry and shipping sectors. In 2006 he joined Capital.gr and in 2009 newspaper Kefalaio. He also contributes articles to the Greek edition of Forbes magazine as well as several energy related media such as Energypress and Businessenergy magazine. During his career as a journalist he has worked for numerous Greek media such as newspapers Eleftheros, Express, Isotimia, Extra Channel etc. In 2014 – 2015 he was chief press officer in the Ministry of Economy and Competitiveness (Minister K. Skrekas). Harris is a graduate of Communication and Mass Media School of the National and Kapodistrian University of Athens (1997).

Nick Frydas

Senior Energy Consultant, International Finance Corporation

Nick Frydas is a Chartered Power Systems Engineer and Energy Economist and has more than 30 years of professional experience in the power sector. He specializes in the design and regulation of competitive Energy Markets, in new Business Models for energy utilities, energy policy and institutional reforms, and in techno-economic feasibility studies for energy investment projects. Nick's experience includes working with major European Utilities (PPC, National Grid) and Energy Trading firms (EDF Trading, Merrill Lynch), and as member of the management team of ENTSO-E in Brussels. In the period 2004-2007, he served as the first Chairman of the Board of the Energy Regulatory Office of Kosovo, appointed by the United Nations. During the period 2016 – 2020 he worked for the World Bank Group out of Belgrade, and since August 2020 is based in Athens with the Advisory business of Grant Thornton. Mr. Frydas is also a visiting Lecturer and Member of the Advisory Board of the "Research Center for Energy Management", at the "ECSP Europe Business School"



Jean-Michel Glachant



Director, Florence School of Regulation; Holder of the Loyola de Palacio Chair

Jean-Michel Glachant is the Director of the Florence School of Regulation and the Holder of the Loyola de Palacio Chair.

Glachant took his Ph.D. in economics at La Sorbonne in France. He worked in the industry and private sector before becoming professor at La Sorbonne. He has been advisor of DG TREN, DG COMP and DG RESEARCH at the European Commission and of the French Energy Regulatory Commission (CRE). He has been coordinator and scientific advisor of several European research projects. Jean-Michel

Glachant has been editor-in-chief of EEEP: "Economics of Energy and Environmental Policy" (an IAAE journal) and he is vice-president of the International Association for Energy Economics.

Filippos Ioannidis

Energy Market Analyst; PhD Candidate, Aristotle University of Thessaloniki

Filippos Ioannidis is a PhD candidate at the Department of Economics at the Aristotle University of Thessaloniki, Greece. His specialization lies in the field of Energy Economics. Filippos holds an MSc in Banking and Finance from International Hellenic University in Thessaloniki, and an MSc in Economics from the School of Economics and Management of Lund University in Sweden. He obtained his bachelor's degree in Economics from the Department of Economics (University of Macedonia, Thessaloniki, Greece). Currently, he is a research associate of HAEE.



Evangelos Kyritsis



Senior Researcher in Environment, Energy and Climate Policy, VATT Institute for Economic Research; HAEE's BoD Member

Evangelos Kyritsis is a Senior Researcher in Environment, Energy and Climate Policy at the VATT Institute for Economic Research, Helsinki, Finland, and Research Fellow at the Center for Energy, Natural Resources and the Environment at the Norwegian School of Economics, Norway. His research addresses challenges pertaining to the low-carbon energy transition, including power system flexibility, energy security, interfuel substitution, carbon pricing, and environmental policy evaluation.

He holds a PhD in Energy Economics and MSc in Economics and Business Administration from the Norwegian School of Economics, MSc in Business Economics and Management from the International Center for Advanced Mediterranean Agronomic Studies, and BA in Economics from the Aristotle University of Thessaloniki, Greece. In the course of his studies, he has visited Linnæus University, Sweden and the University of Calgary, Canada.

He has published his research in international field journals such as Energy Policy, Research in International Business and Finance and The Energy Journal and acted as a referee for numerous journals in the field of Energy Economics. Besides his research work, he has taught courses in Energy Economics and Econometric Techniques at the Helsinki Graduate School of Economics, Norwegian School of Economics and University of Calgary and performed policy work for the Ministry of Finance, Finland, with the aim of accelerating the clean energy transition.

Frm. senior editor of 'Energy Policy'; Affiliate Professor at ESCP Business School; Senior Fellow, Department of Economics and International Studies, University of Buckingham; Frm. Chief Economist, Shell

Michael Jefferson is Adjunct Professor at ESCP Europe Business School (Paris), based in London. He was Shell's first Chief Economist, and held various senior planning, oil trading, and oil price roles. After leaving Shell he spent ten years as Deputy Secretary-General of the World Energy Council. Since 2007 he has been an academic. He is a former senior editor of the journal Energy Policy. His recently published papers include: "Whither Plastics?", Energy Research & Social Science; "Debating priorities and facts on "Whither Plastics", Energy Research & Social Science; "Why Do So Many Economists Underplay the Psychological and Biophysical Aspects of Life on Earth?", BioPhysical Economics and Resource Quality; "Use and Abuse of Energy and Climate Scenarios", Economics of Energy & Environmental Policy, Vol. 9, no. 1; "Scenario planning: Evidence to counter 'Black box' claims", Technological Forecasting & Social Change"; "A crude future? COVID-19s challenges for oil demand, supply and prices", Energy Research & Social Science; "COVID-19: The Lessons We Should Have Learned from Existing Literature", BioPhysical Economics and Sustainability (in Press).



Konstantinos Maragkogiannis



Senior Advisor on Circular Economy

Konstantinos is working as Special Advisor on Circular Economy at the Hellenic Ministry of Environment and Energy. Konstantinos has been working as a Senior Sustainability Consultant in Climate Change and Sustainability Services department of EY Greece, delivering primarily Sustainability Strategy and Assurance services. Previously worked as a Sustainability Consultant at KKS Advisors, under the Sustainability Strategy and Corporate Reporting service lines, while he has also worked as a Management Consultant on Human Re-engineering, Productivity Management and Business Process Mapping for companies in the service and industry sector.

Konstantinos started his career as a Research Assistant at the Technical University of Crete, conducting environmental and feasibility studies addressing several environmental and sustainability issues. He holds an Environmental Engineer Diploma from TUC and he holds MSc's on Environmental Engineering from TUC and UCL.

Panagiotis Mitrou

Global Gas Segment Manager, Lloyd's Register Marine & Offshore

Panagiotis Mitrou has been with LR for more than 14 years and currently holds the position of Global Gas Segment Manager, based in Piraeus. His primary focus is on areas like the seaborne gas supply chain, LNG and other gas as fuel, as well as gas floating solutions, delivering an enhanced service portfolio to shipping community. He has held commercial and technology positions since 2012 and has been deeply involved in the setup and materialization of several funded projects related to alternative fuels and innovation in the maritime sector. Since 2013, he has initiated Poseidon Med, a key cross-border European project, introducing LNG bunkering in Eastern Mediterranean marine transportation. During his seven year service with Lloyd's Register Piraeus Technical Support Office, he has dealt with series of statutory and other reviews, ranging from BWM to MARPOL and the IBC and IGC Codes. In this context he has supported and lead the implementation of several pieces of new legislation. Since 2007 he has represented Lloyd's Register in a number of international forums, conferences and projects.

Panagiotis holds a Naval Architect and Marine Engineer Diploma from NTUA and an MBA in Shipping from ALBA Business School. He is currently a PhD candidate in Naval Architecture, Ocean and Marine Engineering, at University of Strathclyde with focus on optimizing the shipping decarbonization pathway.



Naji Abi-Aad



Advisor, Global Gas Centre

In September 2012, Naji Abi-Aad started acting as COO to Petroleb, an oil company based in Beirut and active in petroleum exploration offshore the East Mediterranean and the Gulf. In the meantime, Naji had been engaged with the US Tellurian as Senior Advisor for the Middle East from December 2016 to March 2020.

Prior to his move to Lebanon, Dr Abi-Aad was serving for eight years in Qatar, first as Research Advisor for Qatar Petroleum (QP) and its Board of Directors Department, and as Media and Research

Strategist in the Office of HE Qatar's Deputy Premier, Minister of Energy & Industry, before being appointed to top positions in Qatar Petroleum International (QPI).

Dr Abi-Aad studied in Beirut at the American University and Universite St Joseph before been awarded a Ph.D. degree in Energy Economics from Grenoble University in France. During his 35 years of experience, he has been involved in extensive consultations, conferences and studies, particularly on oil and gas in the Middle East, their resources and supply prospects. He has authored over 100 reports and studies on Middle East energy issues, as well as a book on security of petroleum supply from the region ("Instability & Conflict in the Middle East: People Petroleum & Security Threats, Macmillan, London 1997").

Miguel Palacios

Professor of Management, ESCP Business School; Executive Education Associate Academic Dean, Madrid Campus

Miguel Palacios is a Professor of Management at ESCP Business School, as well as the Executive Education Associate Academic Dean at the Madrid Campus. He also coordinates several research projects on innovation and family business and is the PI of ESCP Business School at the EU recognized Digital Innovation Hub in Artificial Intelligence & Robotics for Sustainable Development Goals (DIH - AIR4S). He has supervised several PhD thesis in Spain and Sweden and is also currently the PhD Advisor of two students at Universidad Politecnica de Madrid (UPM). His areas of research and publications are Business Models, Innovation and Family Business across industries and more specialized in the energy sector. He regularly serves as evaluator of European projects and advisor of start up companies.



In 1992, he graduated from Ecole Centrale Paris, then, in 1994, from Universidad Politecnica de Madrid, Master in Electrical Engineering. He followed the Master in Business Administration in MIT Sloan School of Management and obtained the MBA in 1999. He also holds a PhD in Business Administration since 2005, with a discussion on "Critical Success Factors for Businesses Plan Competitions. Development of a Model for the case of the Universidad Politecnica de Madrid." In the course of his career, he worked at Alcatel from 1993 to 1997 as a Development Engineer in the R&D Department, Industrial Electronics production facility, then as a Project Manager, Operations Department. From 1999 to 2001, he worked as a Management consulting manager at Cluster (now Oliver Wyman), in the areas of Strategy, Marketing and Start-up development, of Product management and of team management. From end of 2001 until September 2012 he was a faculty member at UPM where he taught Marketing, Strategy and Entrepreneurship, managed the Business Administration Faculty Unit and several international programs. He has been taken part in the area of Business Planning in the European Commission funded project Eureka and coordinated the participation of ESCP in the EU funded project STARS4ALL.

Thodoris Panagoulis



Editor in Chief, energypress.gr

He studied at the Physics Department of the Faculty of Physics and Mathematics of the University of Athens, but turned early to journalism. Today he is the Director of the specialized portal www.energypress.gr and covers the energy report at www.news247.gr. Among other things, he has worked as the editor-in-chief of financial reports in the newspaper "EPENDYTIS" and in the newspapers "ETHNOS" and "AGORA", while for three years he presented the weekly TV show Energy Week on the financial channel SBC.

In addition to his purely journalistic work, he has directed communication campaigns, edited financial book publications and participated in dozens of journalistic missions in Greece and abroad.

Spiros Papaefthimiou

Chairman, Hellenic Association for Energy Economics (HAEE); Assoc. Professor in Energy Management Systems and Energy Efficiency Technologies, Technical University of Crete

Dr. Spiros Papaefthimiou received his bachelor diploma in Physics (1995), MSc in Environmental Sciences (1997) and PhD specializing in smart energy saving devices for buildings (2001), all from Department of Physics at the University of Patras. He is currently Associate Professor in Energy Management Systems and Energy Efficiency Technologies, in the School of Production Engineering and Management at the Technical University of Crete in Greece. He is specialized in energy efficiency issues, energy saving applications and renewables' technologies. His research interests include experimental preparation and characterization of energy saving devices, technology of "smart" materials for energy applications, study of advanced solar collectors, study of photovoltaics, energy characterization of building structural elements, environmental analysis of systems, maritime emissions modeling, Life Cycle Assessment & Eco-Efficiency analysis. He has published more than 40 papers in international journals and has presented papers to numerous international energy conferences and acted as referee for international journals in the area of Renewables and Energy efficiency applications. He is the President of the Hellenic Association for Energy Economics and member in various professional and academic associations.



Dimitris Pefanis



Director, insider.gr

Dimitris Pefanis is the General manager of insider.gr, the award winning financial website, which was launched in December 2015 and attracts more than 1,3m unique users on a monthly basis. He is the former director of in.gr, the leading Greek website as well as a financial Reporter at TA NEA Newspaper and editor of N-Digital Technical Supplement. He studied Communications and Mass Media at Panteion University (BA) and New Media Journalism (MA) at Emerson College in Boston, MA. In 2013 he received the Citi Journalistic Excellence Award in Greece for financial reporting and is experienced in banking, bonds, stocks and general financials. He is also a Lecturer, teaching Social Media Marketing and Content Marketing at Hellenic American Union and has attended numerous conferences in Europe on New Media, Online Business Development.

Mamdouh Salameh

International Oil Economist; Visiting Professor of Energy Economics, ESCP Business School, London

Dr Mamdouh G. Salameh is an international oil economist. He is acknowledged as one of the world's leading experts on oil. He is also a visiting professor of energy economics at the ESCP Europe Business School in London. Dr Salameh holds a PhD in Economics specializing in the economics & geopolitics of oil and energy.

Dr Salameh has given 101 papers so far at numerous international energy conferences on the economics and geopolitics of oil and energy and has been frequently invited to lecture on these topics at universities around the world. He has written four books on oil: "Is a Third Oil Crisis Inevitable?" (Published in London in April 1990), "Jordan's Energy Prospects & Needs to the Year 2010: The Economic Viability of Extracting Oil from Shale" (Published in London in October 1998), "Over a Barrel" (Published in the UK in June 2004) and "What is Behind the Steep Decline in the Crude Oil Prices: Glut or Geopolitics?" (Published by the Arab Centre for Research & Policy Studies in Qatar in June 2015) as well as 56 research papers published in international Oil and Energy Journals. Dr Salameh has undertaken research assignments for the US Department of Energy, the Institute of Energy Economics in Japan, the Indian Government, OPEC, the Canadian Energy Research Institute, Boston University in the United States working on the Encyclopedia of Energy and also the Handbook of Energy and the government of Jordan among others. He regularly appears on TV to discuss oil prices and other developments in the global oil market.

Dr Salameh is a member of many International Institutes and Associations including the International Association for Energy Economics (IAEE) in the US, the British Institute of Energy Economics, the International Energy Foundation in Canada and the International Institute for Strategic Studies (IISS) in London. He is also a Non-Resident Fellow of energy economics at the Trends Research & Advisory in Abu Dhabi, UAE.



Katerina Sokou



Nonresident Senior Fellow, Future Europe Initiative, Atlantic Council

Katerina Sokou is a Nonresident Senior Fellow at the Future Europe Initiative of the Atlantic Council and Washington DC correspondent for SKAI TV and Greek daily newspaper Kathimerini, where she is also a columnist. She was a visiting scholar at George Washington University's Elliott School of International Affairs, where she conducted research on the U.S. role in the Greek debt crisis, and a member of the editorial board at the Washington-based European Institute. Katerina studied History (First Class Honors) at the University of Ioannina and holds postgraduate degrees in International Studies from the University of Warwick and in Journalism from Columbia University, where she was a Knight-Bagehot Fellow in Economics and Business Journalism. She started her career as a financial reporter at To Vima, covering Greece and the Eurozone, and was International Financial News editor at Kathimerini during the global financial crisis. She has covered extensively the Greek financial crisis from Athens and Washington DC, providing commentary for news media in the US and Europe. Katerina is a PhD candidate at the University of Piraeus, a director at The Hellenic Initiative Canada and a member of the Hellenic American Women's Council.

Manolis Souliotis

Associate Professor, Department of Environmental Engineering, University of Western Macedonia; HAEE's BoD Member

Manolis Souliotis is Ass. Professor at the Department of Mechanical Engineering of the University of Western Macedonia, Greece since 2013. In 1996 he received his bachelor in Physics from the University of Patras, in 1999 his Master degree and in 2003 his PhD from the University of Patras, Greece. For more than 15 years he is actively involved in research in the area of Renewable Energy. In particular, he is involved in Solar Energy (Photovoltaics, solar thermal water heaters, hybrid photovoltaics/ thermal systems, concentrated solar systems, heat storage, etc). He has numerous papers in international scientific journals. He is member of the editorial board in Renewable Energy in the subject of Thermal Technology and reviewer in over 19 international journals.



Thanos Zarogiannis



Electric Vehicles Charging Specialist, Advisor on Electromobility

Thanos Zarogiannis has significant experience in the field of e-mobility. Currently he holds the role of Advisor to the Secretary General of Energy at the Greek Ministry of Environment & Energy. From this position, he led and worked on achieving key milestones such the creation of the first e-mobility bill and the first subsidy scheme for the purchase of electric vehicles, in Greece. Previously, he has worked as Innovation Project Lead at UK Power Networks, where he led the electric vehicle readiness program of the company. He has also worked in the product development team of a leading UK based electric vehicle charge point manufacturer and operator, being part of a team that grew from 30 to 160 people in 3 years. He holds a Diploma in Electrical and Computer Engineering from National Technical University of Athens and an MSc in Sustainable Energy from Technical University of Denmark, with specialization in Electric Vehicles.

ANNEX I

Symposium's Agenda

DAY 1 Virtual Room I

Wednesday, September 30, 2020

09.15-09.25 WELCOME ADDRESS

Spiros Papaefthimiou, Chairman, Hellenic Association for Energy Economics (HAEE); Assoc. Professor in Energy Management Systems and Energy Efficiency Technologies, Technical University of Crete

09.25-09.40 OPENING KEYNOTE ADDRESS

Kostis Hatzidakis, Minister of Environment and Energy, Hellenic Republic (TBC)

09.40-10.20 OPENING REMARKS

Sokratis Famellos, Member of Parliament Thessaloniki B, Director of Environment and Energy Sector, SYRIZA

Giorgos Arvanitidis, Member of Parliament Thessaloniki B, Director of Environment and Energy Sector, KIN.AL.

10.20-10.45 **Andreas Shiamishis**, CEO, Hellenic Petroleum S.A.
IN DISCUSSION WITH (IN GREEK LANGUAGE):
Thodoris Panagoulis, Editor in Chief, energypress.gr

10.45-10.50 Break

10.50-12.25 EU GREEN DEAL AND THE LANDSCAPE OF THE GREEN ENERGY MARKETS *powered by:* National Bank of Greece

Georgios Gkiaouris, Associate Director, Regional Head, Energy EMEA, EBRD (digital)

Pantelis Capros, Professor of Energy Economics, NTUA (digital)

Kostas Andriosopoulos, Professor of Energy Economics, ESCP Business School

Katherine Poseidon, Associate, EMEA Energy Transition, Bloomberg New Energy Finance

Moderator: **Manolis Souliotis**, Associate Professor, Department of Chemical Engineering, University of Western Macedonia; HAEE's BoD Member (digital)

12.25-12.30 Break

12.30-14.00 TARGET MODEL: THE NEW ERA OF THE GREEN ENERGY MARKETS

George Ioannou, CEO, Hellenic Energy Exchange S.A.

Victor Grigorescu, Former Minister of Energy, Romania (digital)

Konstantin Konstantinov, CEO, Independent Bulgarian Energy Exchange

Septimiu Rusu, Development Manager, Romanian Commodities Exchange (digital)

Miloš Mladenović, Managing Director, SEEPEX (digital)

Moderator: **Nikos Frydas**, Principal-Energy, Grant Thornton Advisory

14.00-14.05 **Break**

14.05-15.40 **THE FUTURE OF RES: AGGREGATORS AND OPPORTUNITIES**

Yiannis Yiarentis, President and CEO, DAPEEP

Konstantinos Tomaras, General Director, Spyropoulos S.A.

Vassilis Spiliotopoulos, Managing Director Greece, Cyprus, Siemens Gamesa Renewables Energy S.A.

Panagiotis Papastamatiou, Director, ENTEKA; CEO, Hellenic Wind Energy Association

Elias Eliadis, Director Investment Promotion & Facilitation, Enterprise Greece (digital)

Giannis Panagis, President, POSPIEF

Moderator: **Filippos Ioannidis**, Energy Market Analyst; PhD Candidate,
Aristotle University of Thessaloniki

15.40-15.45 **Break**

15.45-17.35 **THE EASTERN MEDITERRANEAN ENERGY PROJECTS AND SECURITY ISSUES**

powered by: Atlantic Council

Keynote address

Joshua Volz, Acting Director, Office of Europe and Eurasia, U.S. Department of Energy (digital)

Richard Morningstar, Founding Director and Chairman, Global Energy Center at the Atlantic Council; Former US Ambassador to the Rep. of Azerbaijan, Former US Ambassador to the EU (digital)

David Livingston, Senior Analyst, Eurasia Group; Senior Fellow, Global Energy Center, Atlantic Council (digital)

Nikolaos Bakatselos, President, American-Hellenic Chamber of Commerce

Theodoros Tsakiris, Assoc. Professor of Geopolitics and Energy Policy, University of Nicosia's Business School

Aristofanis Stefatos, CEO, Hellenic Hydrocarbon Resources Management

Moderator: **Katerina Sokou**, Nonresident Senior Fellow, Future Europe Initiative, Atlantic Council (digital)

17.35-17.40 **Break**

17.40-18.25 **THE FUTURE OF GREEN SHIPPING**

Arthur Richier, Senior Freight Analyst, Vortexa (digital)

Charlotte Bucchioni, Tankers Editor, S&P Global Platts (digital)

Moderator: **Panagiotis Mitrou**, Global Gas Segment Manager, Lloyd's Register Marine & Offshore

18.25-18.30 **Break**

18.30-19.45 **TOWARDS A GREEN ENERGY TRANSITION**

Ricardo Gorini, Senior Programme Officer - Remap, IRENA (digital)

Ulrich Laumanns, Project Manager, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

Menelaos Ydreos, Executive Director, Energy Vantage Inc. (digital)

Marina Economidou, Scientific Officer, Institute of Energy and Transport, Joint Research Centre, European Commission (digital)

Moderator: **Michael Jefferson**, Frm. senior editor of 'Energy Policy'; Affiliate Professor at ESCP Business School; Senior Fellow, Department of Economics and International Studies, University of Buckingham; Frm. Chief Economist, Shell (digital)

DAY 2 Virtual Room I

Thursday, October 1, 2020

09.00-10.25 RES: THE GREEK POTENTIAL

Keynote address

Adonis Georgiadis, Minister of Development and Investments, Hellenic Republic

Patrizia Falcinelli, Italian Ambassador to the Hellenic Republic

Patrick Maisonnave, French Ambassador to the Hellenic Republic

Éric Scotto, Chairman and Co-Founder, Akuo Energy

Aristotelis Chantavas, Head of Europe area, Enel Green Power; President, SolarPower Europe

Moderator: **Dimitris Pefanis**, Director, insider.gr

10.25-10.30 Break

10.30-11.15 REGULATORY AUTHORITIES

Athanasios Dagoumas, President, Regulatory Authority for Energy

Aurora Rossodivita, Senior expert of European regulation, ARERA (digital)

Moderator: **Jean-Michel Glachant**, Director, Florence School of Regulation; Holder of the Loyola de Palacio Chair (digital)

11.15-11.20 Break

11.20-13.00 RES INVESTMENTS: BIG SCALE PROJECTS

Rabia Ferroukhi, Director, Knowledge, Policy and Finance Centre, IRENA (digital)

Adnan Polat, Chairman, POLAT Holding

Konstantinos Mavros, CEO, PPC Renewables (digital)

Loukas Lazarakis, CEO, Nostira S.A.

Tasos Athanasopoulos, President and CEO, Enerdia

Grigoris Marinakis, General Manager, Voltalia Greece

Panagiotis Doumas, Managing Partner, Alpha Plus Insurance Brokers PC

Moderator: **Haris Floudopoulos**, Journalist, capital.gr

13.00-13.05 Break

13.05-14.30 NATURAL GAS NETWORKS: THE NEW LANDSCAPE IN GREECE (IN GREEK LANGUAGE)

Leonidas Bakouras, General Manager, Gas Distribution Company Thessaloniki-Thessalia S.A. (digital)

Marios Tsakas, Public Gas Distribution Networks S.A. (digital)

Theodoros Stavropoulos, Executive Director of Commercial Services, Attiki Natural Gas Distribution Company S.A. (digital)

Michael Thomadakis, Head of the Strategy and Development Division, Hellenic Gas Transmission System Operator

Nikolaos Koutsogiannis, Advisor to the Board, HENGAS SA

Moderator: **Thodoris Panagoulis**, Editor in Chief, energypress.gr

- 14.30-14.35 Break**
- 14.35-15.00 REPORT PRESENTATION: “THE POTENTIAL CONTRIBUTION OF NATURAL GAS TO EAST MEDITERRANEAN ECONOMY”**
powered by: International Gas Union
- Matthew Doman**, Interim Public Affairs Director, IGU (digital)
Kostas Andriosopoulos, Professor of Energy Economics, ESCP Business School
- 15.00-15.05 Break**
- 15.05-16.35 EAST MEDITERRANEAN MARKETS: REGIONAL GAS PROSPECTS AND SMALL-SCALE LNG APPLICATIONS**
powered by: Global Gas Centre
- Dan Milstein**, Director, European Regional Office U.S. Department of Energy, U.S. Embassy-Prague (digital)
Dimitris Manolis, Head, International Activities/Projects, DEPA S.A. (digital)
Symeon Kassianides, Chairman, Natural Gas Public Company, Cyprus (digital)
Marcel Kramer, Energy & Infrastructure Consultant; President, Energy Delta Institute (digital)
Kostis Sifnaios, Business Development and Project Director, GasTrade S.A.
- Moderator:* **Naji Abi-Aad**, Advisor, Global Gas Centre
- 16.35-16.40 Break**
- 16.40-18.10 A CLIMATE NEUTRAL EU BY 2050. THE CHALLENGES FOR NATURAL GAS**
powered by: Global Gas Centre
- René Bautz**, Chairman, World Energy Council - Global Gas Centre
Jean-Marc Leroy, External Relations Senior Executive Vice President, Engie France (digital)
Anita Orban, Vice President, International Affairs, Tellurian LNG (digital)
Andrew Walker, Vice President, LNG Strategy and Communication, Cheniere (digital)
Maximilian Kuhn, Government Relations Advisor, GazProm Germania (digital)
- Moderator:* **Alex Barnes**, Advisor, Global Gas Centre

DAY 3 Virtual Room I

Friday, October 2, 2020

- 09.00-09.15 OPENING KEYNOTE ADDRESS**
- Takis Theodorikakos**, Minister of Interior, Hellenic Republic
- 09.15-10.45 CIRCULAR ECONOMY AND SMART CITIES**
powered by: Circle the Med Forum
- Keynote Address*
Konstantinos Aravossis, General Secretary of Natural Environment and Water, Ministry of Environment and Energy, Hellenic Republic (digital)

Giorgos Kremlis, President, Organizing Committee of the Circle the Med Forum; President, International "Circular Clima Institute" of the European Public Law Organization

Theodora Antonakaki, Advisor to the Governor of the Bank of Greece

Haris Doukas, Associate Professor, School of Electrical and Computer Engineering, National Technical University of Athens & Gen. Secretary of HELORS (digital)

Moderator: Konstantinos Maragkogiannis, Senior Advisor on Circular Economy

10.45-10.50 Break

10.50-12.30 UNTAPPING THE VALUE OF NETWORKS THROUGH PRIVATIZATION

Sonia Babilis, Chief Investment Officer, Hellenic Republic Asset Development Fund (digital)

Ioannis Margaritis, Vice-Chairman BoD ADMIE, Chief Technology Officer and General Manager, "Ariadne Interconnection"

Nicola Battilana, CEO, Hellenic Gas Transmission System Operator S.A.

Argyro (Argie) Banila, Head of Structured Financing, National Bank of Greece

Moderator: Evangelos Kyritsis, Senior Analyst, Statkraft; HAEE's BoD Member (digital)

12.30-12.35 Break

12.35-14.20 ECOMOBILITY AND MICROGRIDS AT THE FOREFRONT OF GREEN DEVELOPMENT

Keynote address

Ioannis Kefalogiannis, Deputy Minister of Infrastructure and Transportation, Hellenic Republic

Dimitris Kavvouris, Chief Operating Officer, Citroën, DS Automobiles & Mazda

Arnaud Henin, Managing Director, Gommymr Power Networks (digital)

Athanasios Lazanas, Chairman and CEO, Arclif Group (digital)

Moderator: Thanos Zarogiannis, Electric Vehicles Charging Specialist, Advisor on Electromobility

14.20-14.25 Break

14.25-16.25 HYDROGEN, INNOVATION AND TECHNOLOGY

powered by: Energy Delta Institute

Keynote addresses

Enrique Viguera Rubio, Spanish Ambassador to the Hellenic Republic (digital)

Maria Spyraiki, Member of the European Parliament (digital)

Bert Stuij, Vice President Innovation, Energy Delta Institute (digital)

Walburga Hemetsberger, CEO, SolarPowerEurope (digital)

Maher Chebbo, Chair of the European ETIP Digital Energy Group and Digital Batteries Task Force (digital)

Pierre-Jean Cherret, Head of New Business Development & Strategic Innovation & Ventures, ITEMS International (digital)

Moderator: Miguel Palacios, Professor of Management, ESCP Business School; Executive Education Associate Academic Dean, Madrid Campus (digital)

16.25-16.30 Break

16.30-18.00

HYBRID SYSTEMS IN ISLANDS - NEW ENERGY SOLUTIONS OPTIMISED FOR ISLANDS

powered by: NESOI European Islands Facility

Keynote address

Konstantinos Fragogiannis, Deputy Minister for Economic Diplomacy and Openness, Ministry of Foreign Affairs, Hellenic Republic

Andrea Martinez, Deputy Managing Director, Sinloc (digital)

Dimitris Papastergiou, President, Central Union of Greek Municipalities; Mayor of Trikala (TBC) (digital)

Panagiotis Grammelis, Director, Research at the Chemical Process and Energy Resources Institute, CERTH

Spyros Economou, President of the BoD and General Director, CRES

Fereidoon Sioshansi, President, Menlo Energy Economics (digital)

Moderator: **Spiros Papaefthimiou**, Chairman, Hellenic Association for Energy Economics (HAEE); Assoc. Professor in Energy Management Systems and Energy Efficiency Technologies, Technical University of Crete

18.00-18.05

Break

18.05-19.30

BOOK PRESENTATION: “THE SOUTHERN GAS CORRIDOR AND ITS IMPORTANCE FOR SOUTH-EAST EUROPE: THE NEW ERA OF ENERGY TRANSITION”

powered by: EMC at ESCP Business School

Gulmira Rzayeva, Research Associate, Oxford Institute for Energy Studies; Founder and Managing Director, Eurasia Analytics (digital)

Olga Khakova, Associate Director for European Energy Security (digital)

Kostas Andriosopoulos, Professor of Energy Economics, ESCP Business School

Julian Bowden, Senior Visiting Research Fellow, Oxford Institute for Energy Studies (digital)

Moderator: **Mamdouh Salameh**, International Oil Economist; Visiting Professor of Energy Economics, ESCP Business School, London (digital)

19.30-19.40

Conclusions

End of Symposium

Concurrent Sessions

Academic Paper Presentations

DAY 2 Virtual Room II

Thursday, October 1, 2020

10.00-11.30 SUSTAINABLE INVESTMENTS - CIRCULAR ECONOMY ASPECTS

Session Chair: Konstantinos Tsagkarakis

An online platform for sustainable investment planning under environmental and economic life cycle analysis thinking: the case of PV when integrated with storage solutions

Authors: Ioannis Mamounakis, Dimitrios-Sotirios Kourkoumpas, Athanasios Natsikas, Nikolaos Nikolopoulos

Presenter: Ioannis Mamounakis

Integrating solar technologies in the circular economy concept: A life cycle perspective

Authors: Maria Milousi, Manolis Souliotis, Spiros Papaefthimiou

Presenter: Maria Milousi

An Analysis of Energy in the Circular Economy Definitions: A Natural Language Processing Approach

Authors: Konstantinos P. Tsagkarakis, Boris Tanchovski, Dimitar Trajanov

Presenter: Konstantinos P. Tsagkarakis

Turning CO₂ emissions to CH₄ by means of green H₂ and novel catalytic materials

Authors: M. Konsolakis, S. Papaefthimiou, D. Ipsakis, M. Lykaki, S. Stefa, G. Varvoutis, G.E. Marnellos

Presenter: M. Lykaki

11.30-11.40 Break

11.40-13.10 SOCIAL ISSUES - ENERGY POVERTY

Session Chair: Dimitra Koumparou

Supporting households against energy poverty using the Living Lab approach: First evidence from the STEP-IN project

Authors: Anastasios Balaskas, Ilias Doulos, Dimitris Damigos, Dimitris Kaliampakos, Nikolas Katsoulakos, Lefkothea Papada

Presenter: Nikolas Katsoulakos

Different energy sources allied towards energy transition

Authors: Paolo Carrera, Federica Furas

Presenter: Federica Furas

A set of innovative action plans for sustainable islanding regions and an Investment Planning Tool for development and replication

Authors: Avraam Kartalidis, Jeanne Fauquet, Benjamin Horvilleur, Apostolos Antoniadis, Christos Keramiotis, Rébecca Aron, Nikolaos Nikolopoulos

Presenter: Avraam Kartalidis

Just Energy Transition and the social sciences in Greece

Authors: Dimitra Koumparou, Efthimios Zervas

Presenter: Dimitra Koumparou

13.10-13.20 Break

13.20-14.50 ENERGY MARKETS, DECARBONISATION AND ENERGY TRANSITION

Session Chair: Iordanis Kalaitzoglou

Is climate policy effective in reducing GHG emissions? Southeast versus southwest Europe

Authors: Inês Carrilho Nunes, Margarida Catalão-Lopes

Presenter: Inês Carrilho Nunes

Capacity mechanisms in the decarbonization era: the EU law challenges for South-East European electricity markets in transition

Author: Orestis Omran, Stella Mavrommati

Presenter: Orestis Omran

The Effects of the COVID-19 Pandemic on the Global Energy Markets and Energy Resilience: The Example of HEDNO

Authors: Stratis Zacharis, Aikaterini Gkika, Alexios Tagaris, Niki Komioti

Presenter: Aikaterini Gkika

Energy transition projections of the Serbian energy sector and lessons learnt for decarbonization in the Balkans

Authors: Savvas Louzidis, Ioannis Stefanou, Nenad Jovanovic

Presenter: Ioannis Stefanou

Is the EU ETS really becoming more efficient?

Author: Iordanis Kalaitzoglou

Presenter: Iordanis Kalaitzoglou

The Viability of a Mediterranean Energy Hub and the Interests of European Union and Russia: Common or Conflicted?

Authors: Antonios Stratakis, Theodore Pelagidis

Presenter: Antonios Stratakis

14.50-15.00 Break

15.00-17.00 OIL AND GAS: CHALLENGES AND INVESTMENT OPPORTUNITIES

Session Chair: Filippos Ioannidis

Oil prices as a predictor for stock market returns

Authors: Andrianos Tsekrekos, Konstantinos Vasileiadis

Presenter: Konstantinos Vasileiadis

Energean's pledge to net zero emissions by 2050

Author: Vassilis Tsetoglou

Presenter: Vassilis Tsetoglou

Investing in Bridging Fuels: The Unit Commitment Problem of Public vs Private Ventures

Authors: Filippos Ioannidis, Kyriaki Kosmidou, Iordanis Kalaitzoglou

Presenter: Filippos Ioannidis

A new pole for Sustainable Research and Innovation in the Eastern Mediterranean: The Institute of Petroleum Research (IPR) /Foundation for Research and Technology

Authors: Spyridon Bellas, Nikolaos Pasadakis

Presenter: Spyridon Bellas

Growing Political Opposition to Oil & Gas Development in the United States: Implications of a Ban on Hydraulic Fracturing

Authors: Lucian Pugliaresi

Presenter: Lucian Pugliaresi

Natural Gas Market Globalization Revisited

Authors: Evangelos Kyritsis, Anne Neumann

Presenter: Evangelos Kyritsis

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HELLENIC PETROLEUM

Founded in 1998, HELLENIC PETROLEUM is one of the leading energy groups in South East Europe, with activities and presence in six countries. Its shares are primarily listed on the Athens Exchange (ATHEX: ELPE) with a secondary listing on the London Stock exchange (LSE: HLPD), while its two bond issues are listed on the Luxembourg Stock Exchange.

Refining is the Group's core business, accounting for 75% of total assets, owning three of the four refineries in Greece, of total capacity of 340 kbpd, with a 65% share of the Greek wholesale oil products market.

The Group is the domestic ground fuels marketing leader, with a retail network of c.1,700 petrol stations throughout Greece as well as LPG, industrial, aviation and marine fuels and lubricants businesses. It also owns a network of over 300 petrol stations in Cyprus, Serbia, Bulgaria, Montenegro and FYROM.

The Group's E&P activities are focused in Greece in various offshore and onshore areas mainly in Western Greece and west of Crete. HELLENIC PETROLEUM is the sole petrochemicals producer in Greece with domestic market share exceeding 50% and exports c. 65% of sales. It is also active in the power sector through ELPEDISON, in renewables as well as in natural gas through 35% participation in DEPA Group.

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Hellenic Energy Exchange S.A. (HEnEx) is part of the Energy Exchange Group (EnEx group) and was founded on 18 June 2018 as a spin-off from the electricity market branch of LAGIE S.A.. Building upon experience gained over more than a decade, HEnEx has been designated by the Greek Regulatory Authority for Energy as the Nominated Electricity Market Operator (NEMO) and is operating the Greek day-ahead market and has also been approved by the Hellenic Capital Market Commission as an administrator of the Energy Derivatives Market of Law 4425/2016. Currently, HEnEx is working the transformation of the model of the day-ahead market, on the creation of an intraday electricity market and of a gas market. HEnEx is also responsible for organising and operating Greek environmental markets. Its subsidiary, EnEx Clearing House S.A. (EnExClear), is providing clearing and settlement services for HEnEx's spot electricity markets and for the Balancing Market of the TSO (ADMIE).

HEnEx is committed to providing high quality, transparent, and non-discriminatory services to all market participants, working towards the EU's target model and coupling its market with neighbouring countries. To that end, HEnEx has become a full member of the Price Coupling of Regions initiative.»



HEDNO: Connecting every corner of Greece through energy

HEDNO was established in 2012 after the spin-off of the Distribution Segment of PPC S.A. Today it is a 100% subsidiary of PPC S.A., but organizationally and functionally independent Company.

Through the Medium and Low Voltage networks, HEDNO delivers electricity to 7.5 million customers, while the Company manages the High Voltage networks in Attiki and in the Non-Interconnected islands. In terms of number of customers served and the total length of the network lines, 240.000 km-nearly six times the earth's perimeter- HEDNO is one of the largest Distribution Companies in the EU.

HEDNO employs about 6,000 individuals, who are allocated throughout the country.

The fundamental task of HEDNO, is to ensure the efficient operation, maintenance and development of the country's distribution network, the management of the Non-Interconnected islands electricity systems and to provide non-discriminatory access to the Network, for all energy consumers, dispersed generators and electricity suppliers.

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In the current interesting & challenging times, five experienced Insurance & Reinsurance Specialists, with an assembled experience across all levels of the (re)insurance industry, decided to join forces, in order to contribute to the development of a new culture, regarding the Integrated Service of Corporate Companies & Institutions, through Customer-centered Portfolio Risks' Analysis aiming to the design of Tailored Insurance Solutions that will provide a Global Protection of interests & Assets.

Especially, through its exclusive representation of AXIS Capital in Greece, APLUS Brokers has become the leading firm in the Greek Renewable Insurance Market, with a portfolio already exceeding 500 MW in renewable energy projects. While Greece is entering into a new era defined by the energy production transition from oil & lignite depended technologies to greener and environment friendly Renewables, APlus is constantly contributing to this transition by providing sophisticated, risk-centered solutions and client-services.



Akuo Energy is a French multinational company, based in Paris, active in the renewable energy sector worldwide. It operates in 18 countries and has been present in Greece since 2018. Akuo Energy develops, manufactures and operates RES projects with major technologies such as wind, photovoltaic, hydroelectric as well as biomass projects. So far the company has invested more than € 2.5 billion in RES projects worldwide. Its potential includes 1.3GW projects under construction, financing and construction as well as 2.13GW projects under development.

Akuo Energy's presence in Greece signals the company's strong interest in the entire Balkan region as it has already completed significant investments in the area.



Public Power Corporation S.A.-Hellas

PPC is the leading Greek electric utility, with activities ranging across electricity generation, distribution network operation and supply of electricity to end consumers. It has a total net generation capacity of 11.1 GW in Greece, including thermal, hydro and RES power plants in the mainland and in the islands. It is also the owner of the electricity distribution network with a Regulated Asset Base of c. € 3 bln, which is being operated by its subsidiary HEDNO S.A. It is the largest electricity supplier, servicing approx. 6.3 million customers across the country.

Going forward, PPC's strategic priority is the decarbonization of its business through accelerated lignite decommissioning and boosting Renewables investments, claiming a leading role in new Renewables development. In addition, PPC targets at the digitalization across all business segments. PPC was founded in 1950 and is listed on the Athens Stock Exchange since 2001. In 2019, PPC Group total revenues amounted to € 4.9 bln and total assets to € 13.6 bln, having approximately 15,100 employees.

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ENERDIA, as one of the leading technical companies in the Energy market, provides comprehensive and high quality services in Engineering, Procurement, Construction and Operation & Maintenance of RES Projects with emphasis on increasing the Return on Investment of our projects.

We are today the fastest growing company in Greek RES Market. With significant experience and a portfolio of EPC & O&M of PV stations, wind farms, and substations, we have built over 41MW in the last 5 years, while maintaining over 60MW of RES projects.



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NATIONAL BANK
OF GREECE

National Bank of Greece was established in 1841 and today leads one of the largest financial groups in the country with a business presence in 8 countries. Apart from NBG, the Group runs 2 commercial banks and has a workforce of 9,566 employees.

It has a wide domestic distribution network of 418 units and 1,488 ATMs and also runs a network of 82 banking units abroad (data as of 30.06.2020).

The Bank's broad customer base, respected brand name, adequate liquidity, and strong market share in deposits reflect the long-standing relationship of trust it enjoys with its clientele.

NBG plays a leading part in the energy transformation of the country, by supporting major infrastructure projects and holding a significant share in the sector financing.

The Bank is a frontline player in Greece's drive for economic growth and development, and is committed to backing the country's potential as an energy hub for the European continent.

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Founded in 2016, Nostira's strategy focuses on sustainable development, maximizing the use of natural resources, and enable society to enjoy the benefits from their long-term use. Our Strategy for Sustainable development reflects on the development of the productive structures of the economy alongside with the creation of infrastructure for a sensitive attitude towards natural environment and ecological problems. For the benefit of our customers, employees, business partners, shareholders, and society in general we take advantage of the significant opportunities created by the emergence of the new energy world and we invest in creating a sustainable energy future by increasing the use of Renewable Energy Sources.

Nostira's main goal is to achieve a leading position in the RES industry, adding value in our business by delivering an outstanding performance in key areas, such as development, construction, management, operation and maintenance of RES units. Create a strong portfolio of innovative technologies, and a strong brand in Local Greek market as well as become a partner of choice for international collaborations.



SPYROPOULOS SA is a commercial - engineering company that offers complete turn key solutions in renewable energy installations including all Development - Engineering - Procurement - Construction Services.

The company was founded in 2004 as a construction company and has a portfolio of 35 MW installed PV plants, over 150MW under Development and is currently responsible for the electromechanical maintenance over 150 MW plants as well as for panel cleaning and weed management of over 500MW.

SPYROPOULOS SA has developed a unique technical branch network in Greece, operating six branches, one in Kato Achaia which is the headquarters of the company and five more, one in Thebes, one in Ioannina, Kalamata, Xanthi, Larissa, while there is provision for further expansion of the network to other key locations in Greece.

The company is also active in the fields of construction, renovations and maintenance of commercial and industrial buildings and also in the field of electro-mechanical installations and maintenance, covering the entire range of works needed to achieve the best result.

Fysiko Aerio the Hellenic Energy Company is the energy provider with a legacy of more than 160 years.



It is the oldest gas supply company in Greece and since 2018 the company is also active at the electricity market, providing full natural gas and electric power energy services.

Investing on and utilizing modern technologies, the company is continuously upgrading the customer experience with the ultimate goal to provide a unique ecosystem through services and smart solutions for domestic and business use.

Fysiko Aerio counts more than 500 selling points across Greece and 420,000 households, 9,000 business customers, 200 industrial customers and is constantly creating innovative and personalized services by responding to its customers current needs.

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As a major player in a constantly changing world, VINCI Energies works at the crossroads of society's most important issues of today and tomorrow. Such as the growing demand for energy and transport, optimisation of industrial processes, improvement of energy performance, and changes in demand in the telecommunications sector, among others. In all of these areas, our business units know how to combine their different fields of expertise to provide solutions that meet market demands.



VINCI Energies delivers a customised solution for each individual project, from the smallest to the most complex, in order to meet our customers' challenges in terms of performance, reliability and safety in our four main areas of expertise: electricity, HVAC, mechanical engineering and information and communications technologies (ICT).

With their agile organizational structure, VINCI Energies business units work in the following four families of business activities throughout the life of the projects:

- Project design / Engineering
- Implementation / Integration
- Maintenance
- Operation / Facility management

Established in 2007, as a 100% subsidiary of the French Multinational Group VOLTALIA SA, VOLTALIA Greece is a power producer and service provider in renewable electricity production.

VOLTALIA Greece undertakes the Licensing Process as well as the Engineering, Procurement, and Construction (EPC) of Turnkey PV Projects.



Strong from its experience in the management of Solar PV Plants, acting as a power producer firstly, the Company provides Operations and Maintenance (O&M) services to third parties' PV Plants in Greece, while offering a wide range of state-of-the-art and innovative services and solutions adapted to the requirements of each client, independently of the type of construction or the capacity of each Project undertaken.

Furthermore, by combining its highly experienced and adequately trained personnel with its in depth understanding of the specialized needs and clear determination of all critical parameters linked to each investment separately, VOLTALIA Greece ensures the optimal effectiveness and performance of the while providing effective solutions for the improvement and potential Upgrade of existing Solar PV Plants by means of Repowering or Retrofitting services.

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