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Research Effort with Innovation in Focus

Editorial

Following eighteen months of intensive analytical work, the Institute of Energy for South-East Europe (IENE) has completed one of its most comprehensive studies on the region's energy outlook. With the release in early February of its flagship publication, the "SEE Energy Outlook 2025/2026", the Institute has once again reaffirmed its role as a leading regional energy think tank. Yet rather than marking a conclusion, this milestone signals the beginning of a renewed and more innovation-driven research phase.

In recent weeks, IENE has revised and streamlined its Research Programmes, restructuring them into twelve focused areas of work. These programmes provide the framework for a broad portfolio of projects carried out by the Institute's in-house research team, as well as by Visiting Research Fellows and Research Associates. The restructuring is designed to enhance coordination, ensure thematic clarity, and strengthen the Institute's capacity to respond swiftly to emerging challenges.

At the same time, IENE has launched an internal platform for the submission and review of new research proposals. Already, several new projects have been tabled by both internal and external researchers, and a formal evaluation process is underway. A common thread across most of these proposals is their strong innovative orientation, particularly in tackling complex and interlinked energy issues. One central theme is the relationship between energy demand and supply in a region undergoing structural transition. Persistent price volatility, especially in electricity markets, has underscored the need for deeper analysis of market dynamics, regulatory frameworks, and system constraints.

Understanding the drivers of volatility and identifying mechanisms to enhance market stability are now high on the Institute's research agenda. Another priority concerns the technical and economic balancing of power systems. As renewable energy capacity expands across Southeast Europe, instances of curtailment have increased, highlighting the growing mismatch between variable generation and baseload requirements. IENE's new research initiatives aim to explore innovative solutions to better align electrical baseload capacity with Renewable Energy Sources (RES), while also examining the increasingly significant role that nuclear power could play in ensuring system stability and resource availability.

The Institute is also turning its attention to emerging demand drivers. One such area is the rapid expansion of data centres in the region, with implications for electricity consumption patterns and grid planning. A dedicated study will assess the scale of this trend and its impact on regional energy systems. Additional projects adopt a forward-looking approach, including a regional survey of Critical Raw Materials (CRMs) essential to clean energy technologies, and a critical review of new technologies such as hydrogen and Carbon Capture, Utilisation and Storage (CCUS). These studies seek to move beyond theoretical debate and provide practical assessments of feasibility and regional relevance.

By embedding innovation across its research portfolio, IENE is positioning itself to address the region's evolving energy challenges with rigour and foresight. In a period marked by technological transformation and geopolitical uncertainty, such a proactive research strategy is essential to support informed policy and sustainable development.

IENE celebrated the Start of the New Year with the Traditional Pie Cutting Event and the 2025 'Prometheus' Awards Ceremony

Over 100 IENE members, associates and friends gathered on **February 4, 2025**, at the "Athens Club" for the Institute's traditional **New Year's Pie cutting event for 2025**. During the event, IENE awarded the 'Prometheus' prizes to three distinguished members of Greece's energy community for their outstanding contribution to the promotion of specific areas of the energy sector. The event commenced with introductory remarks by the Chairman of IENE, Mr. Costis Stambolis.

This festive IENE gathering, signaling the start of the Institute's activities for the current year was addressed by Dr. Athanasios Dagoumas (President of the Regulatory Authority for Energy, Waste and Water - RAAEY), Mr. Yiannis Yiarentis (Chairman of the Board, Administrator of Renewable Energy Sources and Guarantees of Origin - DAPEEP SA) and Dr. Aristofanis Stefatos (CEO, Hellenic Hydrocarbons and Energy Resources Management Company - HEREMA S.A). There was also a video message from the Chairman of the Institute's Scientific Council, Professor Pantelis Biskas.

Mr. Christos Dimas, Deputy Chairman of IENE and Chairman of the Geopolitics Committee of the Institute provided a brief outlook on this year's prospects concerning the energy field in Greece and internationally, with regard to recent geopolitical developments. Mr. Kostas Theofylaktos, Secretary General & Chairman of the Energy Efficiency Committee of IENE and Mr. Nikos Sofianos, Chairman of IENE's RES Committee also addressed briefly the event.

Subsequently, continuing a tradition initiated in 2018, IENE presented the **'Prometheus' awards for 2025** to the following executives and researchers for their consistent efforts and significant contribution to specific aspects of the energy sector:

- Dr. Athanasios Dagoumas, President, Regulatory Authority for Energy, Waste and Water (RAAEY)
- Antonis Kontoleon, Chairman of the Board, UNICEN (Hellenic Union of Industrial Consumers of Energy)
- Dr. Balaras Constantinos, Research Director, Institute for Environmental Research and Sustainable Development (IERSD), National Observatory of Athens

The cutting of the New Year's Cake as well as remarks by Mr. Kostas Theofylaktos, Secretary General of IENE, followed, and the evening concluded with a cocktail reception.

The **event's sponsors** included Greece's Independent Power Transmission Operation (IPTO - ADMIE), Kyriakides Georgopoulos (KG) Law Firm, Agency of Renewable Energy Sources and Guarantees of Origin (DAPEEP) SA, Elpedison, EnSCo, Eugenia Gianini and Associates Law Firm, ElvalHalcor SA, Metlen Energy & Metals and Energean PLC.

IENE participation in Annual Sofia Economic Forum

The Institute actively participated in the annual **Sofia Economic Forum** which was held in Bulgaria's capital on **January 20, 2025**. This well attended event, which was convened by the Tsomokos group which also organises the prestigious Delphi Economic Forum, covered all aspects of Bulgaria's economy and booming markets. Following an invitation by the organisers the Chairman of the Institute, Costis Stambolis, traveled to Sofia and participated in the special energy panel which brought together authorities from Bulgaria and Greece to discuss current energy issues with a bearing on regional developments." Counting on energy: South East Europe's chip for a seat at the global table", was the theme of the panel which brought together some of the top energy executives and experts from the region and beyond.

CCUS Workshop in Athens attracts strong interest from industry and major stakeholders

The half-day workshop on the **"Economics of CCUS Applications"** which was organised by the IENE on **March 12, 2025**, at the Technical Chamber of Commerce (TEE) in Athens, attracted strong interest among stakeholders in Greece and from key international bodies. In addition, a large number of energy professionals attended this event bringing to 100 the total number of participants from Greece and abroad.

The Workshop sought to examine the financial and policy implications of CCUS deployment in Greece. Central to the proceedings of the event was the presentation of a study on produced by the Institute, on "Implementing CCUS Hubs in Greece: A Cost Benefit Analysis". This new study builds upon the 2023 IENE major study, "CCUS Technologies in GAreece – prospects for implementation" and aims to provide a more detailed economic assessment of CCUS technologies.

This IENE workshop represented a crucial step in advancing Greece's CCUS roadmap, by translating research findings into actionable strategies. By fostering dialogue among experts, decision-makers and stake holders, the Institute aims to support the development of a client oriented and sustainable CCUS industry that contributes to the country's energy transition and emissions reduction targets and provide perspectives on how Greece can align its CCUS strategy to European climate goals.

The workshop commenced with introductory remarks by the Chairman and Executive Director of IENE, Mr. Costis Stambolis, followed by a keynote address by Dr. Dionysia-Theodora Avgerinopoulou, Chair of the Committee of Environmental Protection of the Hellenic Parliament, Vice - Chair of the Inter-Parliamentary Union (IPU), as well as Member of the Hellenic Parliament.

During the 2nd session the IENE study was presented, which provided a Cost-Benefit Analysis for the construction and operation of CCUS hubs in Greece. The main findings and conclusions were presented by the contributors of the study and namely Mr. Kostis Oikonomopoulos, Petroleum Geoscientist – Research Fellow of IENE, Mr. Konstantinos Koutsogiannis, Business Development Director of ASPROFOS SA, Dr. Konstantina Tsalapati, Business Development & Environmental Specialist at ASPROFOS SA, Dr. Nikolaos Koukouzas, Director of Research, Centre for Research & Technology Hellas / Chemical Process & Energy Resources Institute (CERTH/CPERI), as well as the Chairman of IENE's Natural Gas, Hydrogen and Biomethane Committee, Mr. Theodore Terzopoulos.

Ms. Kleopatra Avraam, Strategic Planning Senior Director of DESFA SA, Ms. Meliza Asimakopoulou, CCS Regulatory Affairs Director of TITAN CEMENT COMPANY SA and Mr. Anastasios Vlassopoulos, CEO of HELLENiQ UPSTREAM S.A., in their presentations, focused on the feasibility of CCUS in Greece, and implementation strategies with the support of various EU funding mechanisms.

The 3rd session of the workshop provided an overview of CCUS projects in Europe and Greece. Dr. Mathilde Fajardy, Energy Technology & Policy Analyst at the International Energy Agency (IEA) (online), and Ms. Oana Langa, Policy Officer at the DG Energy, Unit C2: Decarbonisation and Sustainability of Energy Sources of the European Commission (online), presented the global and European context of CCUS applications.

Then, Dr. Katerina Sardi, Country Manager and Managing Director of Energean in Greece, Mr. Charalampos Kouris, CCS Project Process & Environment Manager at HERACLES Group, Mr. George Daskalakis, Head of Technology Management at the Strategy Division of MOTOR OIL (HELLAS) S.A., as well as Dr. Panagiotis Grammelis, Director of Research, Centre for Research & Technology Hellas / Chemical Process & Energy Resources Institute (CERTH/CPERI), expanded on the usefulness of CCUS applications citing specific examples and case Studies referring to actual projects under development. Between them, the above offered valuable insights into how Greece can develop a competitive CCUS framework.

The event came to an end with concluding remarks by the Deputy Chairman of IENE, Mr. Christos Dimas, followed by a light lunch. Partners and Supporters of the IENE study on "Implementing CCUS hubs in Greece: A Cost-Benefit Analysis" included HELLENiQ Energy, ASPROFOS SA, HEREMA SA and DESFA SA.

All presentations from the IENE Workshop on the "Economics of CCUS Applications" are available on the event's microsite
Watch the full video of the Workshop via the Institute's Youtube channel.

Workshop on heat pumps attracted strong interest from industry and energy professionals

The half-day workshop on **Heat Pumps** which the Institute organised on **April 2, 2025**, proved a great success judging from the number of speakers and attendees and the depth of analysis and the excellent quality of market reports. This special event which was primarily addressed to engineers, architects and energy policy planners evaluated the progress achieved so far in **the use of heat pumps in buildings with special emphasis on applications in Greece and SE Europe.**

Furthermore, the workshop evaluated the strategies for leveraging heat pump technology as part of the broader effort to improve the energy efficiency of buildings. As part of the workshop, IENE presented the results of its study titled **"Heat Pumps and Applications in Buildings: Challenges and Prospects."** authored by Konstantinos Theofylaktos Chairman of the Institute's Energy Efficiency Committee. This new study is based on latest data and market assessments of heat pumps installations in Europe and Greece.

Latest research on Heat Pumps was presented by Prof. Konstantinos Mathioudakis, Director of Thermal Turbines Laboratory, School of Mechanical Engineering, NTUA and by Dr. Irene Koronaki, Professor at the School of Mechanical Engineering, NTUA, Director of Laboratory of Applied Thermodynamics & Refrigeration Technology of Refrigerated Vehicles. Contributors from international organizations included Mr. Rafael Martinez-Gordon, Energy Analyst Buildings, from the IEA in Paris and Ms. Melanie Auvray, Head of Supply Chain & Competitiveness from the European Heat Pump Association AISBL, Brussels, Belgium.

The Workshop hosted several industry representatives including Mr. Antonis Komninos, Sales Engineer, Product Champion Chillers, Dry coolers , AHI CARRIER SEE SA, Athens, Mr. Christos Gekas, Mechanical Engineer, Technical Support Manager, LG Electronics Hellas Business Solutions, Mr. Theodoros Venetis, Mechanical Engineer, MSc, Managing Director, Trane Technologies, TRANE HELLAS and Mr. Thanassis Kalomiris, Mechanical Engineer, Head Domestic Heat Pumps, Daikin Altherma, Athens.

The Workshop was sponsored by Companies EnSCo (www.ensco.eu) and AHI Carrier (https://ahi-carrier.gr/).

All presentations and the video from the Workshop can be found on www.iene.eu

Joint event by the Federation of Industries of Greece and IENE in Thessaloniki examined energy and competitiveness in industry

Recently the Thessaloniki-based **Federation of Industries of Greece (SVE)** and the **IENE** established a working relationship in order to discuss energy issues related to industry, especially of concern to SVE's wide industrial membership, to be found all over northern Greece. As energy transition evolves most industries are facing crippling electricity anda gas charges and hence they are anxious to search for ways to reduce their energy costs.

As part of this newly established cooperation **SVE and IENE joined forces and on June 13, 2025,** they convened in Thessaloniki, at the Met Hotel, an afternoon colloquium to discuss the whole range of issues related to industrial energy prices. The meeting kickstarted with opening remarks by the Chairwoman of SVE, Mrs. Loukia Saranti and by the Chairman of IENE Mr.Costis Stambolis.

They both stressed the need for an active and focused dialogue between industry representatives, energy advisers and the Ministry of Environment and Energy in Athens. In this context the presence,via online connection, of the Minister for Energy Mr.Stavros Papasgavrou and the Deputy Minister Mr.Nikos Tsafos proved fortuitous.

Comments were contributed by both at various stages of the meeting. A very lively round table discussion followed, preceded by individual presentations by prominent representatives from Greece's energy and industry sector.

Speakers included Mr. Antonis Kontoleon, Chairman of the Board of Directors of the Hellenic Union of Industrial Consumers of Energy (UNICEN), Prof. Pandelis Biskas, Chairman of IENE's Scientific Council, Dr. Christoforos-Anestis Zoumas, Chief Operations Officer at the Energy Exchange Group (EnEx), as well as Mr. Andreas Petropouleas, IENE Partner and Chairman of IENE's Electricity Committee and Energy Management Director at Elpedison. The discussion was expertly moderated by Ms. Chryssa Liaggou, a well-respected journalist of the "Kathimerini" daily newspaper.

All presentations are available through a special microsite in Greek on www.iene.gr, the Institute's Greek website

Speakers at IENE's "Innovation in Energy" Conference presented panorama of innovations currently shaping the energy landscape

On May 8, 2025, the Institute of Energy for SE Europe (IENE) organized a one-day conference at the prestigious Cotsen Hall in Athens, in order to examine the critical role of innovation in energy transition. The conference coincided with the launch of the Institute's "Innovation in Energy" programme, which was presented during the event.

This IENE conference gathered **22 speakers** and moderators and attracted some **120 participants**, with more of them attending in person (70) while the rest joined online from different countries in SE Europe. The conference reviewed several facets of innovative solutions over a wide range of energy applications, including power generation and cogeneration using natural gas, renewable energy sources (RES), energy efficiency methods suitable for buildings and industry, low carbon solutions for oil and gas exploration and production, carbon capture, storage and use (CCUS), and nuclear power generation with emphasis on Small Modular Reactors (SMR's). Furthermore, the conference examined **the role of Artificial Intelligence (AI)** in accelerating the search for appropriate clean energy technologies for large scale applications in SE Europe and further afield. In his opening statement, Mr. Costis Stambolis, Chairman and Executive Director of IENE, underlined the holistic approach of the conference, since its aim was to present a panorama of innovation over a diverse technological base covering selectively a number of areas.

Simon Bennett (IEA)

IENE's "Innovation in Energy" Programme and Conference are closely aligned with those of our team

As Mr. Simon Bennett, Energy Technology Analyst at the International Energy Agency, pointed out in his keynote address, "the range of new energy technologies under development globally is broader and appears more promising than ever before. Yet the global energy innovation landscape is at a pivotal moment amid signs of slowing momentum in financing and shifting priorities." In his video message, Mr. Bennett observed that the objectives of both this new programme and conference by IENE are closely aligned with those of his team at the International Energy Agency in Paris and also with his own personal enthusiasms. He also presented some messages from the State of Energy Innovation Report that IEA published just one month ago, with input from experts all around the world, which included a range of data sources and metrics aiming to illustrate the importance of innovation.

As Mr. Anastasios Tosios, IENE Partner and Leader of the "Innovation in Energy" programme, observed in his opening remarks, "innovation today is not just a trend or an option. It is the driver of our efforts towards sustainability, security and affordability in energy. Across Europe, we witness how digital tools, data analytics, artificial intelligence, and new business models are transforming the way we produce, manage, and consume energy".

More than 20 speakers participated in this unique energy colloquium convened for the first time by IENE. Among others, these included Dr. Athanasios Dagoumas, President of Greece's Regulatory Authority for Energy, Waste and Water (RAEWW), Dr. Michael Drury, Managing Director of LucidCatalyst, UK, Dr. Dionysios Chionis, Co-Founder of Athlos Energy, Greece's first-ever start-up in nuclear energy, Dr. Constantinos Balaras, Research Director of the Institute for Environmental Research and Sustainable Development (IERSD) at the National Observatory of Athens (NOA), Prof. Pandelis Biskas, Department of Electrical & Computer Engineering, Aristotle University of Thessaloniki and Chairman of IENE's Scientific Council, Mr. Konstantinos Tsirekis, Director of Strategy and System Planning at Greece's Independent Power Transmission Operator (IPTO), Mr. Nikos Stefanakis, Assistant Director, HEDNO and Dr. Nikolaos Koukouzas, Director of Research at the Centre for Research & Technology Hellas / Chemical Process & Energy Resources Institute (CERTH/CPERI), Greece. Other, keynote speakers included Prof. Ionut Purica, Executive Director of the Advisory Center for Energy and Environment at the Romanian Academy, Mr. Konstantinos Eleftheriadis, Partner and Energy, Resources & Industrials Sector Leader at Deloitte, Mr. Paris Frantzeskakis, Senior Manager of the Technical Department (Asset Management Division) at DESFA, Greece, Mr. Ioannis Togias, Executive Director-Marine Technology, Asso.subsea, Greece and others.

As energy transition gathers pace and priorities become clearer, the challenges facing energy companies, governments and advisory groups were hotly debated by the panelists in the various sessions of the conference. IENE's "Innovation in Energy" Conference was backed by a select group of forward-looking energy companies operating in Greece and beyond.

The main supporters of the Conference were Asso.subsea and Ensco, while media partners included Energia.gr, Euro2day, NE Global, Nomisma.cy and the financial daily "Naftemporiki".

The full proceedings of IENE's highly successful conference are available through the event's microsite.

IENE webinar on "Artificial Intelligence and Energy Transition": at the forefront of the energy agenda

On **Wednesday, May 20, 2025**, the Institute held a highly topical webinar, highlighting the energy dimension of an issue that is currently at the forefront of the global technological agenda. This online seminar, on **"AI and Energy Transition"**, examined, with the help of leading experts from different parts of the world, the relation between Artificial Intelligence (AI) and Energy and its impact on energy demand and the management of energy systems.

Speakers of this IENE webinar, which was fully conducted in English, included:

- Prof. Vassilios Vescoukis of Greece's National Technical University of Athens, Electrical & Computer Eng., Ph.D. Greece, who outlined the principles of AI and its use in energy applications
- Dr. Alexandros Papaspyridis, Managing Director of the UAE-based Nefos Consulting, who described the applications of AI in data centres
- Ms. Dimitra Apostolopoulou, Research Fellow at the "Oxford Institute for Energy Studies", a well-known UK think tank, who referred to Artificial Intelligence and its implications for electricity systems.
- Mr. Nadav Mantel, Energy and Climate Investment Associate at the "Our Crowd" online global venture investing platform and Research Associate at the Reichman University in Israel.
- Dr. George Atsalakis, Associate Professor at the Technical University of Crete School of Production Engineering and Management (Laboratory of Data Analysis and Forecasting), who analyzed AI use in optimizing modern energy markets: Limitations and Prospects

IENE's Chairman and Executive Director, Mr. Costis Stambolis, contributed introductory remarks, presented the speakers and moderated this online seminar.

IENE's webinar on "AI and Energy Transition" focused on the role of Artificial Intelligence in the development and use of advanced energy systems capable of meeting the expected increased energy demand in the coming years, while ensuring compliance with sustainability goals. In addition, the speakers stressed the energy dimension of AI, since the continuous operation, renewal and interaction of the various data bases requires high electricity consumption. This explains the great interest expressed recently in the construction and operation of energy-intensive data centers.

As the energy transition accelerates and global and regional energy mixes shift towards clean energy solutions, a much greater need emerges in order to improve and optimize the operation of complex functions across all different energy applications. Artificial Intelligence is already playing a significant role in this process and is likely to prove a catalyst in further driving technological progress.

All presentations, video and other information on IENE's "AI and Energy Transition" webinar is available on a special microsite.

IENE's Chairman actively participated as speaker and moderator in Delphi Economic Forum

Held in **Delphi in April 2025 for the 10th consecutive year the Delphi Economic Forum (DEF)**, Greece's and SE Europe's leading business event, attracted record crowds of participants and more than 1000 speakers and panelists from 70 countries. Energy featured highly in this year's agenda with all aspects of the energy spectrum examined by groups of carefully selected and highly respected panelists and moderators. In recognition of IENE's contribution in promoting sustainable energy solutions in SE Europe and beyond the organizers invited the Institute's chairman, **Costis Stambolis**, to join as speaker in one of the panels on Wednesday, April 9, 2025 but also to moderate a separate panel the following day.

"Climate and Energy: The Challenges of the Dual Transition" was the heading of the April 9 panel which was expertly moderated by George Fyntikakis, a well-respected journalist with excellent knowledge of the subject. Other panelists included Maria Damanaki, an independent advisor on Climate and Oceans, and EU Commissioner for Maritime Affairs and Fisheries (2010-2014), Mr. Konstantinos Bikas, International Business Director of Metlen Energy &Metals and former Head of Greek National Intelligence Service, and Mr. Costas Mitropoulos a well-known economist and Chairman of the Greek-British Symposium. In his intervention Costis referred to the gathering pace of energy transition and the need for a balanced energy mix with adequate provision not only for Renewables but also for conventional energy sources.

In the second day the Chairman of IENE moderated the panel on **"Building Bridges in a Fragmented World"** which brought together some the country's foremost thinkers and managers which included Dr. Yiannis Bassias, an independent energy adviser and former CEO of HEREMA, Alexandros Papageorgiou, CEO of the Hellenic Energy Exchange Group and Mr. Ioannis Stefanou, Head of Energy Sector, at Grant Thornton in Greece.

Athens Chamber of Commerce hosted joint event with IENE on Green Financing

The **Athens Chamber of Commerce (ACCI) and the Institute of Energy for SE Europe (IENE)** joined forces in organizing an afternoon meeting on **May 27, 2025**, at ACCI premises, downtown Athens, in order to inform the business community of financing opportunities for low carbon projects through the issuance of green debt, for companies involved in low-carbon emission projects, such as renewable energy sources (RES) and energy efficiency. A select group of panelists from Greece and abroad covered the whole range of applications which are suitable for green financing and expanded on the role of green finance through the issuance of Green Bonds.

In his welcome address, the President of ACCI, Mr. Ioannis Bratakos, underlined that "green financing is not a mere environmental solution but rather a strategic investment for the future of Greek companies and of the national economy". He pointed out the great and imperative necessities of green transition, which require the development of innovative and sustainable financing mechanisms from the markets. In this context, Mr. Bratakos noted that green bonds have emerged as one of the most dynamic tools of green financing worldwide, with their share in the European bond market reaching 6,8% in 2023, while in countries such as Denmark and Sweden it exceeds 16%.
Referring to the Green Bond market in Greece, the President of ACCI acknowledged that it is still at an early stage, which implies "great scope for maturation and development". In particular, the new EU Green Bond Standard (EU GBS), according to Mr. Bratakos, is a positive development that can enhance transparency, consistency and comparability in the green bond market.

From his part, the Chairman and Executive Director of IENE, noted that "IENE has been studying the green bond market since 2021 and is involved in their issuance within the framework of its co-operation with the world's most specialized organization, the UK-based Climate Bonds Initiative. Within the framework of this co-operation, IENE has prepared relevant studies as well as in the certification of green bonds for projects in Greece and Cyprus. Green bonds, in addition to being an effective financial tool, are part of a broader trend regarding the spread of low-carbon projects in the energy sector, and the major shift that is now being attempted towards clean forms of energy.

Moreover, it has to be stressed that the Institute of Energy for SE Europe (www.iene.eu), having the promotion of clean forms of energy as a high priority on its agenda, and within the framework of its co-operation with Climate Bonds Initiative, has become, since 2021, the first organization in Greece and SE Europe to be granted Approved Verifier status under the Climate Bond Standard.

The Institute has already participated in a series of related certifications for companies in the region that led to the issuance of green bonds.

Climate Bonds Initiative is an international not-for-profit organization working to mobilise global capital for climate action. Climate Bonds has played a central role in transforming the green bond market from a niche concept to a mainstream source of capital for sustainable development, driving quality of issuance through the development of science-based green definitions in line with the Paris Agreement.

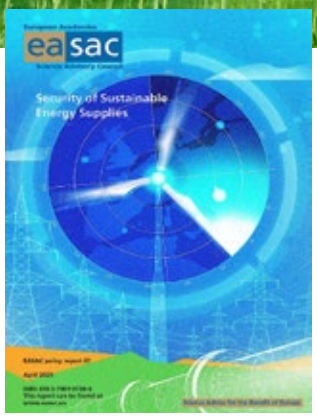
Mr. Alexandros Karolos Makropoulos, Member of the Board of Directors of the Athens Chamber of Commerce and Industry and Head of the Energy Sector, said that "The energy transition can be the fuel for accelerating the growth of all sectors of the Greek economy. At the same time, it must become one of the key axes of the new production model on which the Greek economy needs to be based, aiming at the export of cheap, green energy to the entire European Union".

Speakers also included Ms. Anna-Maria Spiriouni and Ms. Marina Strovolidou, Head of Europe and Head of Certification of the Climate Bonds Initiative respectively, Mr. Alexandros Floros, ESG Officer of Athens Exchange Group, Mr. Dimitris Verelis, Senior Director, Development & Sustainable Banking of Piraeus Bank and Mr. Panagiotis Kontis, Vice President of AMERESCO.
The event was moderated by Mr. Nikos Sofianos, Independent Energy Consultant and Chairman of IENE's Renewables Committee.

Supporters of the event were the Athens Stock Exchange, Piraeus Bank and EnSCo, while Energia.gr was the Media Sponsor.

To view all presentations and the video from the event visit the event's microsite.

EASAC Releases Timely Report on Security of Sustainable Supplies-IENE Participation



As concerns daily mount over the global economy in view of sustained warfare in Ukraine and the Middle East - not to mention Africa - and lately on account of the world trade upheaval, so is anxiety over the provision of adequate and uninterrupted energy supplies. As a latest Report (**April 2025, EASAC policy report 47**) by the European Academies Science Advisory Council (EASAC) points out, "*Europeans expect a secure energy system, with uninterrupted access to affordable energy supplies, but the energy transition and growing geopolitical volatility are introducing new security challenges. For more than 25 years, the European Union (EU) has developed policies to enhance energy security, and it must continue adapting to an evolving energy security landscape.*"

According to the EASAC report, *"global geopolitics has become more volatile, Russia has invaded Ukraine, war has broken out in the Middle East, gas supplies to the EU have been weaponised, undersea gas pipelines and electricity and communication cables to EU countries have been sabotaged, and the number of cyber-attacks in Europe has been growing rapidly. In response to the invasion, the EU has imposed sanctions on Russia, stopped imports of Russian oil, and substantially cut its imports of Russian pipeline gas. Russia's actions led to gas and electricity becoming more expensive in the EU, and therefore to rising costs of products manufactured in the EU, and reduced EU competitiveness in global markets. New challenges are also emerging from geopolitical developments pertaining to China and the USA."*

Furthermore, EASAC points out that to make gas and electricity more affordable for households and industry, temporary interventions were made in EU energy markets (e.g. price caps), energy efficiency was made a key policy priority, and a platform for diversification of fuel suppliers and coordination of fuel purchasing was established. This platform contributed to a substantial increase in EU imports of liquefied natural gas, for which new floating regasification plants were quickly installed in several EU Member States. A significant part of the increased supply of liquefied natural gas to the EU still came from Russia, but a larger part came from the USA, which has introduced new energy security risks because the USA is becoming an increasingly volatile trading partner.

A major conclusion of the EASAC Report is that sustainable energy makes us less vulnerable to malicious attacks or geopolitical interventions that cause damage to energy supply chains, commerce or trade. It does not create dependencies on third countries for costly fuel imports that impact negatively on Europe's balance of payments but can be supplied using technologies that are made in Europe, thereby creating jobs and mobilising investments in Europe.

As the title of the EASAC report predisposes, the key to improving energy security lies in the adoption of sustainable energy supplies, ie. renewables and other clean forms such as nuclear and natural gas. According to EASAC evidence shows that investing in sustainable energies increases security and is a clear no-regret option.

Contributors to the EASAC report, apart from the Director of the EASAC Energy Programme, Dr. William Gillett, who was the driving force throughout the 14 months that it took to prepare it, and he is to be highly commented for bringing to successful conclusion a most challenging task, were the 26 members of the Working Group. These were nominated by the various Academies in each one of the European countries involved. Two of the members of this Working Group, Prof. Ionut Purica and Costis Stambolis, who are both IENE partners, were nominated by the Romanian Academy and the Academy of Athens respectively.

European Academies easac Science Advisory Council

The full EASAC report may be found by accessing https://easac.eu/

European Council on Foreign Relations Roundtable discussed energy market perspectives in Bulgaria, Romania and Greece- IENE participation

Following an invitation by Ms. Maria Simeonova, Head of EFCR's Sofia office, the Chairman and Executive Director of the Institute, Costis Stambolis, participated **online in a roundtable, on April 2025**, organised by the Council which discussed the changing global landscape and the impact on the regional energy market.

In a panel expertly moderated by Mariya Trifonova, Chief Assistant Professor at Sofia University, the energy market perspectives in Romania, Bulgaria and Greece in view of latest developments were discussed by a team of well qualified experts. These included Julian Popov, Former Minister of Environment and Waters of the Republic of Bulgaria and EFRC Council Member, Evangelos Gazis, Head of Southeastern Europe at Aurora Energy Research, Ana Otilia Nutu, Policy Analyst, at Expert Forum, Romania and Kaloyan Staykov, Chairman of the Board, of the Energy Management Institute in Sofia.

The panel's point of reference was that as Europe's energy market is vital for the continent's economic growth and prosperity, it is necessary to examine the degree of integration and inter connectedness since it directly influences electricity prices across member states. The panel agreed that despite efforts to mitigate the impact of Russia's natural gas cut-off, recent years have been marked by disruptive energy price shocks. Panel members observed that wholesale electricity prices in SE Europe have consistently been much higher than the rest of Europe over the last 6 months, with Bulgaria, Romania and Greece leading the statistics. Panel discussion focused on how Europe can effectively address these challenges, control the rise of electricity prices and ultimately prevent social unrest. In this context, the substantial inroads of renewable energy sources were discussed in some length and how they affect electric grid performance. The pace and scale of renewables penetration into electricity grids was examined and how their potential can be harnessed to better balance supply and demand across the region and the continent.

IENE Chairman stresses importance of Southern Corridor for European gas supply in Flame 2025 Conference

Following an invitation by the organisers the Chairman of IENE Costis Stambolis travelled to Amsterdam and participated once again in the annual **Flame conference** (**May 13-15, 2025**) which brought together some of **Europe's top gas suppliers, traders and industry leaders.** With more than 300 delegates and 100 speakers and panelists this year's Flame proved highly successful as Europe's top energy platform for energy professionals.

Speaking in Stream A, which was devoted on the East Mediterranean and the regional markets, expertly moderated by Gina Cohen, a highly respected analyst on East Mediterranean energy markets, Costis focused on the role and prospects of the Southern Gas Corridor. In his presentation Costis noted that the South Corridor came into operation five years ago and was primarily destined to ship Caspian gas to Europe via Turkiye, Greece, Albania, landing in South Italy and from there onwards to the main European gas network. Today, the South Caucasus-TANAP-TAP system delivers some 16 bcma (about 10.5 bcma to Europe and 5.7 bcma to Turkiye).

Since then, a new gas corridor has entered into operation, namely the TurkStream, which delivers Russian gas to Turkiye and to SE Europe, including Bulgaria, North Macedonia, Serbia, Hungary and Slovakia. In essence, this is a parallel operation of gas flowing from East to West, and in the broad sense also forms part of the South Corridor concept (Only that now EU does not like the smell of Russian gas because of geopolitical considerations). Between them, TANAP-TAP and TurkStream deliver some 25 bcm to European destinations annually.

At the same time, as IENE's Chairman noted, *"we have seen a proliferation of gas interconnections, branching off the South Corridor and add on FSRU facilities. So, our original South Corridor becomes an Expanded South Corridor. A latest development concerns coordinated efforts by SEE's Independent Gas Transmission System Operators to develop the so called "Vertical Corridor", which will move gas from the south (Alexandroupolis) to the north (Hungary/Ukraine). Following the start of operation of the IGB in October 2023, this ambitious project is starting to take shape and form."*

The presentation of Mr. Stambolis at the Flame Conference is available via IENE's website

Participation of IENE's Secretary General Costas Theofylaktos at Annual IEA Conference on Energy Efficiency

On Thursday, **June 12 and Friday, June 13, 2025, the 10th Annual Global Conference on Energy Efficiency** was held in Brussels, organized by the International Energy Agency (IEA) and the Directorate-General for Energy of the European Commission.

The Conference was attended by more than 700 delegates from 100 countries. In his opening speech, the European Commissioner for Energy, D. Jorgensen, emphasized that Energy Efficiency is at the heart of European Energy policy to tackle energy poverty, which according to the Commission's estimates burdens approximately 47 million European citizens.

He also emphasized that today 60% of buildings, of all types, have an energy rating lower than C and need to be upgraded. Finally, he noted that energy efficiency is a crucial element for energy security. Next, Dr. Fatih Birol, Executive Director of the IEA, presented the main points of the IEA's strategic study titled 'Energy Efficiency 2024,' where it is noted that Energy Efficiency is the primary, first fuel, followed by natural gas, oil, etc. At the two-day conference, there were many sessions with representatives from governments, CEOs of major energy companies, and NGOs dealing with Energy Efficiency. The key topics were the leading role of the private sector in promoting energy efficiency, the competitiveness of the sector, and the jobs that promoting energy efficiency creates, as well as the need for the penetration of energy efficiency in the industrial sector and the crucial role of the public and private sectors in accelerating the EU in the European industrial sector and its competitiveness.

On the first day of the conference,12/6, the Greek Deputy Minister of Energy Mr. Nikos Tsafos participated and presented the Greek policy for the promotion of Renewable Energy Sources and Energy Efficiency. He remarked that until now some 45 billion euro had been allocated to Energy Efficiency projects in the country (2% of the country's GDP). Mr. Konstantinos Theofylaktos, the General Secretary of IENE and Chairman of the Energy Efficiency Committee, participated in the conference on behalf of IENE following an invitation by the IEA.

More information about the IEA conference can be found on the website of the Organization (www.iea.org)

Energy and Geopolitics were key themes in annual "Hydra Shipping Conference" -Strong IENE presence

The annual **"Hydra Shipping Conference"** was successfully held on the island of Hydra on September 6 and attracted a record number of delegates (approx.150) attending in person. This year's theme focused on geopolitics and their impact on shipping and included a number of relevant sessions, such as geopolitics and shipping, marine fuels of the future, current and future energy trends, using AI to improve ship performance and youth challenges in shipping.

The Chairman and Executive Director of IENE **Mr. Costis Stambolis** represented the Institute and contributed a presentation on **"Energy Commodities, Shipping and Geopolitics"**.
The underlying theme of the presentation was the examination of the challenges posed to shipping by currently pursued energy transition policies by many countries which foresee a sharp decrease in fossil fuel use in the context of the so called NetZero50 goal.

One of the important conclusions reached by Costis and highlighted in his presentation was that mid to long-term prospects for transportable, via sea, energy related products looked positive with increased volumes over the coming years requiring transportation. Hence, business was assured for years to come. But, compared to last year today we are facing a different geopolitical reality with efforts under way to reconfigure economic and defence alliances (e.g. see USA-Russia rapprochement, strengthening of China's position) with important geoeconomic shifts under way such as the rise of the global South.

Costis concluded by remarking that, *"shipowners are well placed to take advantage of the new geopolitical global order. By constantly modernising their fleets and adopting environmentally responsible ship management practices and versatility in operations, Greek shipowners and operators will continue to compete in a most challenging global environment".*

A number of IENE members and associates actively participated in this year's event including Mrs. Alexandra Psyrri and Marie-Athena Papathanasiou.

In this context Marie-Athena made a short intervention informing delegates of the work she is currently engaged in, and is relevant to efforts now in progress worldwide, related to nuclear ship propulsion. An announcement will shortly be made by IENE on this topic following announcement of the project undertaken by Marie-Athena.

IENE's Annual "Energy and Development" Focused on Market Operation and Geopolitical Issues

The **29th National Energy Conference "Energy and Development 2025"**, which was convened by IENE on **November 11 - 12**, at the OTE Academy in Athens, proved a great success attracting approximately 250 participants. Once again, this major annual conference of IENE, which is regarded as an institution for the Greek energy community, drew the interest of a large number of executives from home and abroad. Highlighting the central issues of the energy sector at national, regional and global levels, this year's "Energy and Development" Conference focused on market operation as well as on emerging geopolitical issues.

Mr. **Costis Stambolis**, Chairman and Executive Director of IENE

In his introductory remarks, the Chairman of IENE stressed the importance of energy security over decarbonization and, in this respect, he emphasized the need for all different fuels participating in the energy mix. Furthermore, he stressed the competition factor in the energy markets and the need for affordable energy for consumers.

Ms. **Maria Damanaki**, Independent Advisor on Climate – Oceans / Former European Commissioner for Maritime Affairs and Fisheries

Greece's Ministry of Environment and Energy (MEER) was represented by the Secretary General for Energy and Mineral Resources, Ms. Despina Paliarouta, who, in her opening remarks, stressed the importance which the government is attaching to energy issues, including energy security, energy transition and a transparent market operation.

The agenda of **IENE's 29th National Conference "Energy and Development"** covered a wide range of topics, including the interconnection of energy with the economy, the effects of prices on development, the geopolitical environment and how this affects production and supply issues, the organization and operation of the gas and electricity markets, the escalating penetration of RES in electricity generation in combination with storage systems, the problem of curtailments in RES production for reasons of system stability, as well as electrical networks, international electrical interconnections and the geopolitics of energy.

Senior executives and prominent representatives of the energy sector and industry in general, as well as well-known academics and experts participated as speakers in the proceedings of the 29th "Energy and Development".

Some of the most eminent speakers of the Conference included: Ms. Maria Damanaki (Independent Advisor on Climate – Oceans/ Former European Commissioner for Maritime Affairs and Fisheries), Prof. Yannis Maniatis (MEP, Vice President of the S&D Group, former Minister of Environment, Energy & Climate Change), Dr. Nikolas E. Farantouris, (Member of the European Parlaiment, The Left, Jean Monnet Professor, University of Piraeus, Greece), Mr. Artur Lorkowski (Director, Energy Community Secretariat, Austria), Dr. Dimitra Apostolopoulou (Research Fellow, Oxford Institute for Energy Studies, UK), Mr. Faidon Papadimoulis (Clean Energy & Technology Modeller, Energy Technology Policy Division, International Energy Agency - IEA, Paris), Dr. Nikos Vettas (General Director, Foundation for Economic and Industrial Research -IOBE, and Professor, Athens University of Economics and Business -AUEB), Mr. Cosmin Ghita (CEO, Nuclearelectrica, Romania), Dr. Michalis Thomadakis, (Strategy & Development Division Director, DESFA), Mr. Dimitrios Fourlaris (Vice President of Energy Sector, Regulatory Authority for Energy, Waste, and Water - RAAEY), Ms. Theodora Georgiev (CEO, ICGB, Sofia, Bulgaria), Mr. Nikolaos Satras (Head of Natural Gas Business Unit, Motor Oil), Mr. Dimosthenis Voivontas (Chief Executive Officer, Operator of Renewable Energy Sources & Guarantees of Origin, DAPEEP S.A.), Mr. Antonis Kontoleon (President of the Board of the Hellenic Union of Industrial Consumers of Energy - UNICEN,

Greece), Mr. Ioannis Giannakopoulos (Chief Executive Director Integrated Utility, Metlen Energy & Metals), Prof. Pandelis Biskas (Department of Electrical and Computer Engineering, Aristotle University of Thessaloniki - AUTH, Chairman of IENE Scientific Council), Ms. Rania Ekaterinari (President of SEV Executive Committee & Vice-President of the Board), Dr. Efthimios Tartaras (MSc, PhD Geoscience Manager-Management Consultant, HEREMA), Mr. Konstantinos Nazos (Deputy CEO, Chief of Energy Management, PPC Group), Dr. Fay Makantasi (Research Director, diaNEOsis), Mr. John Roberts (Energy Security Specialist, Methinks Ltd, Scotland, UK), Dr. Charles Ellinas (Senior Fellow, Global Energy Center of the Atlantic Council, Senior Visiting Research Fellow, IENE), Dr. Leo Drollas (Independent Energy Consultant, UK), Dr. Halil Yurdakul Yigitguden (IENE's Partner, Independent Energy Advisor, Ankara, Turkiye), Dr. Christos Housiadas (President, Greek Atomic Energy Commission), Prof. Stavros Papathanasiou (National Technical University of Athens, School of Electrical and Computer Engineering, Electric Power Division, Greece), Dr. George Kremlis (Member of the Board of Directors, Director of the Circular Economy & Climate Institute, Ambassador of the EPLO to Bulgaria), Dr. Amit Mor (CEO of Eco Energy, Financial & Strategic Consulting and Senior Lecturer at Reichman University, Israel) and many others.

More than 90 speakers and moderators participated in the 19 Sessions of the Conference

As every year, the event was held under the auspices of Greece's Ministry of Environment and Energy (MEER), the Regulatory Authority for Energy, Waste and Water (RAAEY), and the Paris-based International Energy Agency (IEA).

The Conference was widely supported by the energy sector and industry as well as from banks and law firms from Greece and abroad. More specifically: HELLENiQ ENERGY was the event's Lead Sponsor, whereas TERNA Energy, Energean, Motor Oil, as well as Greece's Independent Power Transmission Operator (IPTO) S.A. and KG Law Firm participate as Sponsors.

The Conference's Supporters included EnSCo, Hellenic Hydrocarbons and Energy Resources Management Company (HEREMA) S.A., the Public Gas Corporation of Greece, DEPA S.A., as well as the Renewable Energy Sources Operator & Guarantees of Origin (DAPEEP) S.A., EnergyLive, Gastrade, CrediaBank, as well as the Hellenic Energy Exchange S.A. (HEnEx S.A.).

Ms. **Despoina Paliarouta**, Secretary General for Energy and Mineral Resources, Ministry of Environment and Energy (MEER)

Prof. **Yannis Maniatis,** MEP, Vice President of the S&D Group, former Minister of Environment, Energy & Climate Change (online)

Read the full conference proceedings including papers, videos and photo gallery on IENE's website

CCUS at the 29th IENE Energy & Development Conference: Mapping Greece's Path to Industrial Decarbonisation of the Institute's Scientific Council

The conference featured a dedicated session on **Carbon Capture, Utilisation and Storage (CCUS)**—a technology rapidly gaining prominence as Europe intensifies its decarbonisation efforts. The session highlighted the strategic potential of CCUS for Greece and Southeast Europe, drawing on recent research, emerging project pipelines, and international best practices.

The session opened with a presentation by Kostis Oikonomopoulos, Petroleum Geoscientist and Research Fellow at IENE, who provided an overview of IENE's two recent CCUS studies published in 2023 and 2025. His presentation, "Implementation of CCUS Hubs in Greece", outlined the technical and economic foundation for the development of CCUS hubs across the country. Based on extensive cost-benefit analysis, the studies propose a decentralized cluster-based model capable of serving major emitters—refineries, cement plants, and power facilities—while accommodating Greece's uneven distribution of suitable geological storage sites. He highlighted the full CCUS value chain as analysed in the studies: CO2 capture, liquefaction and temporary storage facilities, pipeline and ship-based transport options, and permanent geological storage.

The participants in the Opening Session of IENE's 29th National Energy Conference "Energy and Development 2025"

The session included contributions from other distinguished participants who expanded the discussion beyond, into commercial perspectives. Dr. Michalis Thomadakis, Strategy & Development Division Director at DESFA, Dr. Katerina Sardi, Energean Country Manager and Managing Director in Greece, Dr. Emmanouil Kakaras, Executive Vice President at GX Solutions, Mitsubishi Heavy Industries EMEA, Aris Tsikouras, Director, Group Decarbonization Strategy at TITAN CEMENT GROUP, Nikos Bozos, Greece's CCUS Manager at HERACLES Group. The panel session was moderated by Giorgos Fintikakis, Journalist at Euro2day.

The accelerating pace of CCUS development across Europe was empasised. With operational projects already active in Norway, the Netherlands, Italy and the UK, and several more under development, CCUS is transitioning from concept to large-scale deployment. Lessons learned from established hubs such as Sleipner, Snohvit, Porthos and HyNet provide valuable reference points for Greece as it prepares its own infrastructure.

IEA Presented the Policies and Analysis for the 2025 World Energy Outlook Scenarios at IENE's Annual Conference

A highlight of the 29th **"Energy & Development"** conference was the presentation by **Faidon Papadimoulis**, clean energy & technology modeller, of the policies and analysis used in the scenarios included in the IEA World Energy Outlook 2025. Papadimoulis first explained IEA's methodology and the grouping of the scenarios under exploratory and normative. With the Current Policies Scenario and the Stated Policies Scenario under the first category, and the Net Zero by 2050 scenario and Accelerating Clean Cooking and Electricity Services Scenrio falling in the second category. He stressed that none of the scenarios in the WEO constitute a forecast, but as he said, "multiple scenarios enable us to explore different aspects of energy security, affordability and sustainability".

Mr. **Faidon Papadimoulis**, Clean Energy & Technology Modeller, Energy Technology Policy Division, International Energy Agency (IEA), Paris

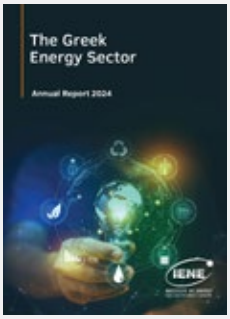
In his presentation Papadimoulis focused on four specific clean energy technology areas including global car sales, hydrogen use, CCUS project development and solar PV. He noted that renewables growth by solar PV remains strong amid rising headwinds. Low costs, faster permitting and broad social acceptance continue to drive solar PV expansion, he noted. At the same time, wind capacity doubles despite supply chain issues, rising costs and slow permitting. Also, pumped storage hydro and geothermal growth accelerates.

On the whole, Papadimoulis stressed, that the market for clean technologies is set to triple to 2035 under current policy settings, close to the value of the global oil market in recent years, especially as investment in clean technology manufacturing is booming.

Special mention was made on China which has been the prime driver of rising energy pattenting. According to Papadimoulis China files more energy technology patents than any other country, over 95% of which are for low-emissions energy. Globally, low-emissions energy parenting was 4.5x higher than other energy pattenting in 2000-2022. It is worth noting that China's innovation ecosystem prioritises smaller, modular technologies for pattenting and development through venture capital (VC), while more space is given in Europe and the USA to larger projects with less certain manufacturing and competitiveness outcomes.

IENE: Greece's energy dependence has reached alarming levels

Greece's dependence on energy imports has reached a dangerously high level, according to IENE's annual Report on **"The Greek Energy Sector 2024"**. In fact, according to the Institute of Energy for SE Europe, the country's energy dependence has accelerated at an alarming rate in recent years, as it went from 70.7% in 2018 to 79, 6% in 2022, and moved even higher in 2023/2024.



The Institute also estimates that total investments in the Greek energy sector will reach 67.5 billion euros by 2030. The Report was presented on Monday, December 16, 2024, at a special event held under the auspices and with the support of the Technical Chamber of Greece (TEE – TCG), in downtown Athens.

IENE's annual Report on "The Greek Energy Sector 2024" is the 4th one published by the Institute (preceded by the ones on 2019, 2020 and 2023 – all accessible via www.iene.gr), covering the entire spectrum of Greece's energy sector. This annual Report by IENE, was presented by its contributors, while there were also interventions by senior energy market executives.

Available on www.iene.gr and on www.iene.eu

The drawbacks from the phasing out of Russian gas from Europe explained

In a timely **"News Analysis" (No 13 - February 18, 2025)**, by **Spyros Paleoyannis**, an IENE partner and erstwhile CEO of Greece's state gas company DEPA, the pitfalls arising from the phasing out of Russian gas deliveries to Europe are explained in some detail.

As Paleoyannis notes, *"After more than 50 years of continuous supply, Russian gas flows to Europe via Ukraine stopped on January 1st, 2025. As expected, the Russian invasion of Ukraine inevitably resulted to the non-renewal of the Gas Transit Agreement between the two warring countries.The Ukrainian gas transportation corridor had been developed during the Cold War era, as an attempt not only to create an economic relationship, but also as a "real-politic" mean to promote peace and regional cooperation between Europe and the Soviet Union. For decades, both parties enjoyed the fruitful results of this mutually beneficial approach: Europe had access to a cheap gas source to fuel its economic growth and the USSR initially and then Russia secured significant annual revenues stream due to gas exports."*

"Not surprisingly, Europe has been heavily and very often criticized for its high dependency on Russian gas (nearly 40% in 2021), especially by the US which argued that Europe should be much more worried about its energy security since Rusia could, and in some cases already did, use gas as a weapon against the West."

"Today, amid the Russian-Ukraine war and following Europe's political reaction to phasing-out Russian gas, the situation in the European gas market (EU plus UK) has become quite different. Gas demand dropped from 489 bcm in 2021 by an impressive amount of 100 bcm (!!!) to only 390 bcm in 2024, while (non-storage) gas imports fell from 421 bcm (out of which 154 bcm of Russian origin) to only 305 bcm the same period."

You may read the full analysis at the "Publications" section of www.iene.eu

IENE releases Report on "Heat Pumps and their Role in Energy Transition"

Prior to the Workshop convened by the Institute on **"Heat Pumps and Applications in Buildings"**, which took place at the Technical Chamber of Greece on **April 2, 2025** (see the "Events" section of the current "IENE News" issue), the Institute had prepared a special report explaining the basic principles of HP's, latest technological developments, and their role in Energy Transition.

Authored by Kostas Theofylaktos, a mechanical engineer, Chairman of IENE's Energy Efficiency Committee a d Secretary General of the Institute, this detailed report starts from basic definitions and goes on to compare a conventional heating and cooling system with a standard heat pump, and then to discuss a number of technical issues including the use of refrigerants used in the actual Heat Pump. The report discusses the advantages of using Heat Pumps in order to reduce CO_2 emissions, their disadvantages on account of their still high cost, their applications in buildings and the policies now being advanced by governments and international organizations for promoting the use of Heat Pumps as a safe and reliable way of making buildings and enterprises less carbon intensive. In its final chapter the report analyses the Greek government's plan for subsidizing the conversion and upgrading of buildings, under the "Exoikonomo" programme, and how Heat Pumps can be integrated in the various actions financially supported by the Programme.

Read the full report on www.iene.eu

EU's Clean Industrial Deal in Focus

On February 26, 2025, the European Commission proposed to make €100 billion available to support EU-made clean manufacturing along with measures to lower power bills. The EU Clean Industrial Deal, as it is known, aims to provide support for energy-hungry industries that face "high energy costs, unfair global competition and complex regulations", while also boosting the clean-tech sector. The Deal aims to accelerate decarbonisation, while securing the future of manufacturing in Europe.

IENE on its **Analysis** (No 432), which was published in March 2025, examines in detail the **Clean Industrial Deal**, attempting to shed light on the necessary actions that need to be taken in order to support the competitiveness and resilience of energy-intensive industries and clean tech, focusing also in the impacts on the industrial and energy sectors in (SE) Europe.

The Clean Industrial Deal and the Action Plan for Affordable Energy are significant steps towards achieving a sustainable, secure and competitive energy future for Europe. Although EC planners appear convinced that the Clean Industrial Deal will play a crucial role in driving the decarbonisation of Europe's industrial sector, thereby contributing to the EU's climate goals, industries and enterprises throughout Europe say that this will drive energy prices even higher. The Action Plan for Affordable Energy, on the other hand, promises to make energy more affordable (i.e. less expensive) for all European citizens and industries, in particular by lowering energy bills and accelerating the roll-out of clean energy and electrification, while ensuring that no one is left behind in this transition.

However, there are some urgent issues that need to be clarified, as the European industry is still trying to decipher both documents. The success of the Clean Industrial Deal hinges on the close cooperation between industry and policymakers. While businesses will need to take the lead in the transition, they will rely on clear incentives and regulatory certainty to make long-term investments. Equal commitment and a shared vision between the national and EU levels will be essential to aligning security, competitiveness, and sustainability to deliver a durable, clean industrial revolution in Europe. However, such shared vision is at present totally lacking.

This analysis can be reached at the Institute's website

The link between AI and Energy and the Impact on SE Europe Explained

In light of the highly successful webinar on **"AI & Energy Transition"** which IENE organised on **May 20, 2025**, the Institute's research team prepared an analysis in order to capitalise on the lessons learned and also to help keep the subject in focus. The reason being, as it the analysis explains in some detail, that there are serious implications in terms of future energy demand and supply allocation.

As the IENE analysis notes, over the last few years, Artificial Intelligence (AI) has soared to the top of the political, economic and business agenda. Once a mostly academic pursuit, it has evolved into an industry with trillions of dollars at stake. Despite significant uncertainties, it is now very clear. According to the IEA, global investment in data centres has nearly doubled since 2022 and amounted to half a trillion dollars in 2024. This investment boom has led to growing concerns about skyrocketing electricity demand. Data centres accounted for around 1.5% of the world's electricity consumption in 2024, or 415 TWh. The United States accounted for the largest share of global data centres' electricity consumption in 2024 (45%), followed by China (25%) and Europe (15%).

This Analysis examines in some detail the current and future status of AI in terms of energy and how this combination may have impact on the wider region of SE Europe. The importance of AI in the energy sector is growing rapidly, transforming how energy is generated, distributed, consumed, and managed. As the world transitions to cleaner, smarter, and more resilient energy systems, AI serves as a powerful enabler. It helps utilities, governments, and consumers make better-informed decisions, optimize efficiency, reduce emissions, and enhance system reliability in real time. One of AI's most significant roles is in managing the complexity of modern power grids, which must now accommodate decentralized, intermittent renewable sources like wind and solar. AI algorithms can forecast energy demand and generation with high accuracy, balance supply and demand dynamically, and detect and respond to faults more quickly than human operators. This helps prevent blackouts, reduce energy waste, and integrate higher levels of renewables without sacrificing grid stability.

AI also plays a crucial role in predictive maintenance and asset management. By analyzing data from sensors embedded in infrastructure—such as turbines, transformers, and pipelines—AI can detect anomalies and predict equipment failures before they occur. This reduces unplanned downtime, extends the life of assets, and lowers maintenance costs, which is especially critical for large-scale energy infrastructure that is costly and time-intensive to repair.

In summary, AI is becoming essential to the modernization and decarbonization of the energy sector on a global, European and SE European basis. Its ability to process vast amounts of data, learn from complex patterns, and make intelligent decisions in real time makes it a cornerstone of the future energy system. As challenges around energy security, affordability, and sustainability intensify, AI will remain a critical tool for creating smarter, greener, and more equitable energy solutions.

IENE Monthly Analysis is available on www.iene.eu

Register free of charge to "SEE Energy Update" and find out about latest IENE activities and all energy developments in South East Europe and beyond

As part of its efforts for regional outreach, IENE has launched since July 2025 a new concise monthly newsletter, the **"SEE Energy Update"**, which is freely available to anyone interested in following the Institute's activities and the major energy developments in the wider South Eastern European region. This latest initiative by the Institute aims at filling the information gap that exists today, especially among young energy professionals and entrepreneurs, who wish to be regularly informed on IENE's activities, especially its series of conferences and other events but also on its major regional studies, plus some timely reports and analysis.

In order to receive the "SEE Energy Update" newsletter free of charge **you must register by visiting IENE's site-**www.iene.eu . You then need to access the "Newsletter" category on the site's front page and register your name and e-mail. Once registered, the latest issue of the newsletter will be sent to your stated email address once it becomes available.

"Company Profile" of Nuclearelectrica published by IENE

In its series of **"Company Profiles"**, the Institute released on August 25, 2025, and sent to its members a special report devoted to Nuclearelectrica, a leader in nuclear power in the wider SEE and East Mediterranean region. Societatea Nationala Nuclearelectrica (SNN) is a Romanian state-owned nuclear energy company incorporated in 1998 following the reorganization of RENEL. The company operates under the authority of the Ministry of Economy, Energy and Business Environment. The Romanian state has 82.49% of the shares and other shareholders have 17.50%, following the listing of the company on the Bucharest stock exchange in 2013. The field of activity of Nuclearelectrica is power generation, thermal energy and nuclear fuel processing. Nuclearelectrica is the only producer of nuclear power in Romania.

This latest (No. 12) **IENE Company Profile on Nuclearelectrica** contains a wealth of information on Romania's leading industrial company. This special Company Profile also contains detailed information on the Group's finances, cash flow and 2024 results but also an account of its effective environmental protection activity and successful social responsibility track record.

Accees the detailed company profile on the Institute's website

Improving electricity grid performance through battery storage

Improving the performance of electricity grids has become a pressing challenge as energy demand grows and renewable energy sources become more widespread. Traditional grids were designed for steady, centralized power generation, but today's energy landscape is more dynamic and dotted with thousands of **RES generators.** With the rise of solar and wind power, which are intermittent by nature, grid operators face new challenges in maintaining a reliable and stable energy supply. These fluctuations can lead to imbalances, blackouts, or the need for costly backup generation, especially during peak demand or low renewable output periods.

Battery storage technology offers a promising solution to these challenges. By storing excess energy during periods of low demand or high generation, batteries can release power when it is needed most, smoothing out fluctuations and helping maintain a stable grid. This flexibility not only enhances reliability but also reduces the need for fossil-fuel-based power plants, which are often used to meet short-term demand spikes. In addition, battery systems can support grid functions, such as frequency regulation, voltage control, and emergency backup power.

As **battery technology** continues to advance and costs decline, its integration into the electricity grid becomes increasingly practical and beneficial. Countries and utility providers around the world are investing in grid-scale battery projects to modernize infrastructure and support the transition to a cleaner, more resilient energy system. This shift not only helps optimize the use of renewables but also lays the groundwork for a more sustainable and efficient energy future.

This **Analysis** examines in some detail today's electricity grid performance at European level, where SE Europe currently stands and how the power grids can be improved through battery storage in the near future.

The Analysis is available on the Institute's website

Nuclear power emerges as a reliable alternative base load provider in SE Europe

As renewables are making a fast and determined entry in most countries' electricity mix, the need to provide ample and secure base load is becoming a priority. With coal and lignite fired plants being gradually retired as the region tries to decarbonise and transit to clean fuels, the burden for base load provision has fallen on natural gas. However, gas supply has become subservient to regional geopolitics since the start of the war in Ukraine while prices are maintained at high levels, trading two to three up to what they were before the energy crisis of 2022.

As IENE in a **Research Note published on July 2025,** points out nuclear power already plays a crucial role in providing stable, low -carbon base load electricity, but only few countries in SE Europe currently rely on it significantly. In SE Europe there are countries- Bulgaria, Hungary, Romania, Slovenia and Croatia- that currently operate nuclear power plants (NPP's).

To these we should add Hungary, which has some 1.9 GW of installed nuclear power at the Paks complex. Although strictly not part of South East Europe, Hungary plays an important role as an electricity conduit for the whole region because of its extensive infrastructure and critical location. While Turkiye, which is expected to build no fewer than 3 NPP's over the next decade, is due to commission its first 1.2 GW (out of four) NPP at Akkuyu before the end of this year.

Over the last 15 years, IENE has closely monitored developments in the region's nuclear power sector. In this context, the Institute has successfully organised two regional conferences.

Under the general title **"The Nuclear Option for SE Europe: A Critical Appraisal"**, the first such conference was convened in **Sofia on May 19, 2009**, and the second one in Bucharest on May 6,2015. Further monitoring of the nuclear power situation in the region was made by IENE thorough its various reports and most notably through its flagship publication, the SEE Energy Outlook (2011, 2017, 2022).

In its forthcoming "Outlook" report, to be released in January 2026, a special chapter authored by nuclear expert Dr. Aliki van Heek is contributed. In this chapter a thorough analysis of the current nuclear power situation is made while the technical and non -technical obstacles for greater nuclear power utilisation are discussed.

Also, the outlook for higher nuclear power penetration in SEE' electricity mix is examined, including progress achieved in adopting SMR technology. In this context the investment and production cost considerations are also being investigated.

The Research Note is available on the Institute's website

CCUS Hubs in Greece: A Cost Benefit Analysis

Expanding on the groundwork established by the previous **Carbon, Capture, Utilization and Storage (CCUS) study** conducted by IENE in 2023, this latest work, which was published in March 2025, aims to examine in more detail the complexities involved in the development and operation of CCUS hubs. The previous IENE study, titled "CCUS Technologies in Greece:Prospects for Implementation", proposed the establishment of a number of CCUS hubs corresponding to specific geographical areas of the country.

The present follow-up study is a comprehensive analysis which aims to look into the economics of setting up and running a CCUS hub in a specific location, and has been published from the operator's perspective. The aim is to establish the range of costs and financing conditions which will enable the operator, whoever happens to be, to provide a competitively priced service to industry which will provide the bulk of the prime material, ie CO2 and related greenhouse gases. Hence, the cost-benefit chapter of the study is crucial in assessing the economic viability of such systems.

The financial and technical support for the study was provided by a group of major energy companies in Greece and was crucial in enabling the Institute to carry out such a demanding project. The companies which have acted as Partners to IENE on this project include DESFA, HELLENiQ ENERGY, HEREMA and Asprofos Engineering.

An extended summary of the study is available in the publications section of the Institute's website.

Research Note on "Fresh Challenges for Energy Security in SE Europe"

As part of IENE's Energy Security Programme, the Institute issued, in July 2025, its **Research Note No. 4, titled "Fresh Challenges for Energy Security in SE Europe"**. This timely report explores the evolving landscape of energy security across SE Europe in the aftermath of the 2022-2023 energy crisis and in light of ongoing geopolitical tensions, including the war in Ukraine and renewed instability in the Eastern Mediterranean and the Middle East.

The Research Note highlights how the energy crisis triggered by Russia's gas export cuts to Europe has reshaped the continent's energy priorities. While significant progress has been made in diversifying supply through LNG imports and regional interconnectors, which facilitate access to Caspian gas, SE Europe remains particularly vulnerable due to its dependence on fossil fuels, underdeveloped energy infrastructure, and complex geopolitical environment. The Research Note outlines the need for further infrastructure investments and much closer regional cooperation to ensure affordable, reliable, and sustainable energy.

A key issue underlined by the Research Note is the importance of expanding domestic gas production in countries, such as Romania, Croatia, Greece, Turkiye, and potentially Bulgaria. These developments—particularly in the Black Sea—are critical for enhancing local energy independence and supporting broader EU supply diversification efforts. The report also examines the strategic significance of the Vertical Gas Corridor, the Southern Gas Corridor, and new LNG terminals and FSRUs, such as Alexandroupolis FSRU in Greece.

In addition, the Research Note explores the opportunities and risks associated with East Mediterranean gas resources. While the region holds significant reserves, following latest findings in Cyprus, Israel and Egypt, ongoing conflicts and infrastructure constraints challenge their timely and efficient development. The authors call for urgent regional cooperation, regulatory alignment, and long-term investment strategies to integrate these resources into Europe's energy mix.

Moreover, the report underlines that the sharp increase in electricity prices during the recent energy crisis exposed structural weaknesses in regional power systems, such as limited interconnections, overreliance on fossil fuels, and inconsistent market integration.

As European wholesale electricity prices have begun to stabilize, SEE countries still face high retail costs and volatile supply-demand dynamics. The report stresses the need for accelerating market reforms, cross-border trading, and the expansion of renewable energy capacity to ensure long-term price stability and security of supply. To address growing concerns over grid reliability and energy transition goals, the report emphasizes the critical role of energy storage and nuclear power.

This report is available at the Publications section of www.iene.eu

IENE publishes Annual Report for 2024

The **Annual Report of the Institute**, which was unanimously approved by the **AGM of June 26, 2025**, is accessible on www.iene.eu. The Report provides a comprehensive account of IENE activities during last year and contains a wealth of information on the Institute's programmes, research work, conferences and workshops organised by the Institute, as well as links and common actions undertaken jointly with other organisations. Also, detailed reference is made to the Institute's "information feed" which includes all the newsletters, special reports and analyses which the Institute regularly sends out to its members and associates.

Furthermore, the Report describes in some detail the research and studies which were carried out by the Institute in 2024, and the publications which have resulted and posted on its website. Special reference is made on a relatively new type of activity which concerns "Advisory Services". Taking stock of its vast experience and considerable expertise in the study and analysis of geopolitical developments and energy market operation, as well as its knowledge on energy infrastructures and related investments, the Institute is branching out to include a range of Advisory Services among its activities.

As part of its Advisory Services the Institute also provides certification on the issuance of Green Bonds,as a certified verifier by Climate Bond Initiative of the UK. The Annual Accounts, which includes the balance sheet for 2024, are also included in the Annual Report. Last year was a good year for the IENE, with net turnover of € 462.252,15, which was the highest level achieved over the last 10 years, with +14.3 % growth compared to 2023. The earnings before interest,taxes,depreciation and amortisations (EBITDA) amounted to € 24.664 while the profits after taxes were reported as € 18.742.

The Annual Report for 2024 concludes with a chapter which addresses the crucial challenges facing IENE in the

years ahead. It covers key issues related to the functioning of the organisation which is IENE as it examines: the need for reorganising and strengthening of internal operations, the mobilisation and expansion of the Institute's regional partner network, the advancing of strategic research and forecasting capabilities, the improvement and upgrading of Human Resources and of course achieving the Institute's long term financial sustainability.

Finally, the Annual Report makers reference to IENE's " Vision 2030" project, which is a strategic document under preparation, and presents a clear view concerning the development of the Institute in the immediate future, while it covers research and activity goals as well as the relevant funding needs and how these can be secured.

Costis Stambolis re-elected by AGM as Chairman of the Institute and 4 new Partners join the Board of Governors

At the **Annual General Meeting of the IENE** which was held online on **Thursday, June 26, 2025**, the current Chairman, Costis Stambolis, was unanimously re-elected for another two-year term and a new Executive Committee emerged with slight changes to the existing one, following a decision by Christos Dimas to step down as Deputy Chairman in order to enable the renewal of its membership. Before that the General Assembly had unanimously approved the Annual Report for 2024, which was presented by the Chairman. The General Assembly also approved the annual accounts of the Institute and the financial statement which are included in the Annual Report. The AGM unanimously elected the Institute's new Executive Committee, which is as follows: Mr. Costas Theofylactos, Deputy Chairman, Mr. Nicholas Sofianos, Secretary General and members: Mr. Anastassios Tosios, Mrs. Sofia Politopoulou, Mr. Christos Dimas and Mr. Theodore Terzopoulos. Four (4) alternate members to the Executive Committee were also elected and these are the following: Mr. Yiannis Grigoriou, Mrs. Evgenia Giannini, Mr. Mihailo Mihailovic, Dr. Halil Yurdakul Yigitguden.

Finally, and upon the recommendation of the Executive Committee, and in line with the Institute's regional outreach, it was unanimously decided to admit four long standing friends and associates of the Institute to join the Board of Governors as full partners. They are the following: Mr. Shkelqim Bozgo, from Albania, Mr. Kaloyan Staykov, from Bulgaria, Dr. Mustafa Tiris, from Turkiye, and Dr. Nikolaos Liapis, from Greece.

An extended summary of the study is available in the publications section of the Institute's website

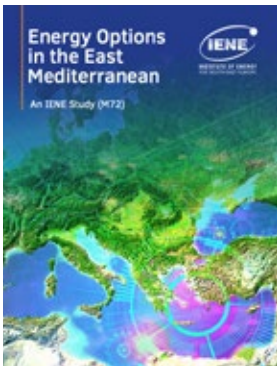
IENE publishes in-depth study on the "Energy Options in the East Mediterranean"

In **July 2025**, the Institute published an in – depth analysis on **"Energy Options in the East Mediterranean"**. This IENE Study (M72), which was undertaken solely upon the initiative of the Institute, attempts to provide an overview of the current and anticipated energy developments in the East Mediterranean by presenting the energy options which are attainable within a realistic framework. The full text of the study is accessible via IENE's website.

The study adopts a more long-term view and examines the utilisation of the East Mediterranean's energy resources on a holistic basis, as the region emerges as a potentially key energy supplier to Europe, with new projects and initiatives unveiled almost daily. In this context, this latest IENE study focuses on the various energy options available now and in future, and how these could be assessed individually or in conjunction with one another, depending on geography and the energy resource concerned.

The "Energy Options in the East Mediterranean" study reveals that although the energy options are plenty, there are only few avenues to be followed that could lead to their full development, in the sense of providing immediate answers to pressing energy supply issues. In their quest for viable energy options, the study contributors have considered all countries that surround the East Mediterranean basin and include Egypt, Israel, Lebanon, Cyprus, Syria, Turkiye and Greece. These countries are of course examined in the broader context and their association with the Middle East and Iran. It has to be noted, however, that the study was completed just before the latest military confrontation between Israel and Iran, and, therefore, no mention whatsoever is made on the outcome of the conflict and its impact on the regional energy sector. The IENE has examined this issue in a separate News Analysis, published on July 1, 2025, which is accessible via www.iene.eu.

Assessing the energy options of the Eastern Mediterranean, the study points out that the region is emerging as a key energy hub, offering a diverse mix of resources and infrastructure potential. Natural gas remains the cornerstone of regional energy prospects, with substantial offshore reserves discovered in Israel, Egypt, and Cyprus. These finds have driven regional cooperation and export plans via LNG terminals and potential pipeline connections to Europe. At the same time, the East Med holds considerable renewable energy potential, particularly solar and wind, given the region's abundant solar radiation and favourable coastal wind regime. Several countries, including Turkiye, Egypt and Greece,



are actively expanding renewable capacity as part of broader decarbonisation goals. This renewable push is also feeding into early-stage hydrogen strategies, for future export to European markets. Though dedicated hydrogen export infrastructure is still under development, blending hydrogen into existing gas pipelines may provide a transitional pathway. Electricity interconnections are also gaining momentum, with projects like GSI and GREGY, aiming to link the region's electricity grids to Europe and Africa. These initiatives could facilitate renewable energy trade and enhance regional energy security. According to IENE, hydrocarbons, renewables, hydrogen, and interconnectors seen together form a complementary energy portfolio, positioning the East Mediterranean potential energy supplier to the EU and also as critical bridge between energy producers and European markets.

Saudi Arabia, Egypt, Iran, and Iraq play pivotal roles in regional energy dynamics, and their policies and production capabilities as well as the energy demand significantly influence the market. The IENE stresses that it is only through close cooperation between all the East Mediterranean countries that the region stands a chance to emerge as key energy pillar and supplier to Europe. Overcoming cultural, economic, and political differences is essential for fostering cooperation and stability. In this context Turkiye's geopolitical stance and relationships with its neighbours need to improve and the country's energy outlook to align more to regional policies.

Overall, IENE's "Energy Options in the East Mediterranean" study estimates that, utilising East Mediterranean's huge energy potential both for covering the bulk of indigenous needs and for export is not self-evident. To realize this, it will require consistent and long-term cooperation between the various countries leading to well-planned and robust cross-border projects such as electricity interconnectors, gas and hydrogen pipelines and CCUS facilities. Also, and most importantly, a major effort needs to be undertaken to expand and upgrade the various national electricity grids as the penetration of renewables in the grid is accelerated. In short, the East Mediterranean region has a significant and a well-explored but untapped energy potential, which when fully utilised can benefit its people and, at the same time, provide an important source of supply to European needs.

The IENE "Energy Options in the East Mediterranean" Study (M 72) was carried out by a special in-house research team comprising of Mr. Costis Stambolis (Energy Analyst - Executive Director, IENE), Mr. Kostis Oikonomopoulos (Petroleum Geoscientist – Research Fellow, IENE), Mr. Dimitrios Mezartasoglou (Economist - Research Fellow, IENE) and Mr. John Roberts (Energy Security Specialist – Visiting Senior Research Fellow, IENE). The preparation of this study was primarily funded through IENE's annual budget and with additional support provided by ENERGEAN, a leading hydrocarbon company active in the East Mediterranean and by Greece's Independent Power Transmission Operator (IPTO).

The study is available on the Institute's website.

IENE launches "Regional Energy Security" Programme

IENE is launching a new programme, entitled **"Regional Energy Security",** focusing on safeguarding the energy assets in SE Europe and ensuring continuous, reliable access to all of energy resources of the region. This new **"Regional Energy Security" IENE Programme** aims to respond to a series of growing challenges in SE Europe, the EU and globally, as the world is experiencing unprecedented geopolitical turmoil following a long period of peace in the post WW2 period, energy security is fast becoming an area of immense importance.

With the ongoing hostilities in the Ukraine-Russia axis and likely continuation for some time in spite of the latest peace initiative between Russia and USA, and persistent turmoil in the wider Middle East, following the Israel-Gaza conflict, there are rising concerns over the region's security of its oil and gas supply as well as its electricity infrastructure. For the current conflict zones may easily and suddenly implode and may indeed spill over to a wider geographical area which could seriously impact SE Europe, the Black Sea and the East Mediterranean, which are areas of immediate concern to the Institute and its geographical scope. If we also take into consideration the pivotal role that the East Mediterranean together with the Arab Gulf countries play in global energy supply and the sea routes involved, there is rising speculation over the mid- to long- term prospects of the region as a reliable global energy supplier.

For all the above reasons and rationale, IENE has decided to upgrade and expand its activities in this area of work by introducing a special Energy Security Programme and, through that, provide a range of useful services including analysis, advice and informed discussions.

To ensure the success of this initiative, IENE will assemble a specialized in-house task force, augmented by external experts. This team will organise the provision of a steady flow of vital information and also produce specialized alert reports. Deliverables from the programme will include Research Notes, Studies, Analysis, Podcasts, Online Dialogues, Webinars, and other types of events in order to communicate, engage and inform interested parties. Building on its successful track record of organizing similar events, IENE is well-positioned to lead this initiative, offering a platform for collaboration and knowledge-sharing among stakeholders in the broader SE Europe and the East Mediterranean.

More details on IENE's new "Regional Energy Security" programme are available on the Institute's website.

New Research Papers on Nuclear Shipping and Egypt's Geopolitical Landscape

Two new papers were published by the Institute on December 10, 2025, enriching its growing portfolio of research and analysis on critical regional and global energy issues. These papers **Research Note No. 5 and Working Paper No. 35** reflect IENE's ongoing commitment to advancing knowledge, supporting an informed policy dialogue, and shedding light on emerging trends in the broader energy sector.

Research Note No. 5, titled **"Navigating the Future: A Review of Nuclear Power in Decarbonizing Commercial Shipping"**, examined the evolving role of nuclear technologies in maritime transport. Prepared by a multidisciplinary team of experts led by IENE member Marie-Athena Papathanasiou, the study reviewed the technical, environmental, economic, and regulatory dimensions of nuclear propulsion- particularly the potential of Small Modular Reactors (SMRs)- as the shipping sector moved toward full decarbonization. The Note offered a balanced assessment of the opportunities and challenges associated with this fast-developing field.

It should be noted that the Research Note on Nuclear Power in Shipping forms part of the Institute's recently launched **"Innovation in Energy" programme** (www.iene.eu/programmes/main-programmes/9-innovation-in-energy/).

At the same time, **Working Paper No. 35**, titled **"Egypt's Trajectory and Role within a Landscape Marked by Instability, Geopolitical Challenges and Security Dilemmas"**, provides a comprehensive and timely geopolitical analysis of Egypt at a time of heightened regional uncertainty. Authored by Dr. Philip-Mark Spanidis, another active IENE member and Rapporteur at the Institute's Geopolitics Committee, the paper assessed Egypt's socio-economic trends, energy landscape, security posture, and evolving international partnerships, offering valuable insights into a country that remains pivotal to Eastern Mediterranean and MENA energy dynamics.

Both publications are available for download through IENE's website. Together, they highlight IENE's continued effort to offer timely, high-quality research on the strategic developments shaping today's complex energy environment.

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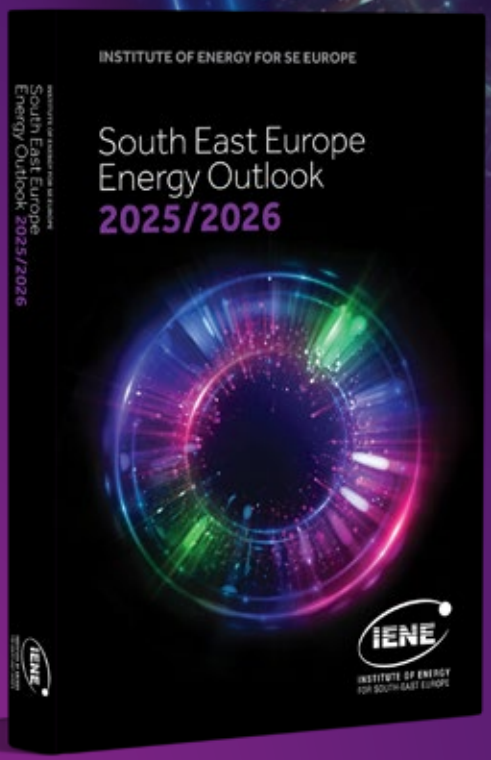
NOW AVAILABLE

South East Europe Energy Outlook 2025/2026



*The **"SE Europe Energy Outlook 2025/2026"** study was carried out over the last 18 months (2024-2025) with the active involvement and contributions by a 27-member experts team and covers all 16 core countries in the region.*

IENE's flagship publication "SEE Energy Outlook 2025/2026" now available

The "SEE Energy Outlook 2025/2026", which has just been published by the Institute, is a comprehensive study which deals with the current energy situation in the SE European region but also covers the "Outlook" from now until 2050. The study covers all 16 core countries in the region: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Greece, Hungary, Israel, Kosovo, Moldova, Montenegro, North Macedonia, Romania, Serbia, Slovenia, and Türkiye.

In addition, the present "Outlook" provides energy information on a number of peripheral countries including Egypt, Syria, Lebanon, Ukraine, Slovakia, Austria, Azerbaijan and Italy which are economically and geographically related SE European core countries.

This is the fourth time that such a major study has been undertaken by IENE with the first one published in 2011. The study contains substantial comparative data, detailed sectorial analysis, and energy demand and production estimates and projections. Through a series of introductory chapters, where the economic and political background together with the key energy policy issues of SE Europe are presented, the study examines the impact of the regional integration process and energy competition issues on SE Europe's energy prospects.

EU's decarbonisation policy and energy security implications are also discussed at length in relation to latest geopolitical developments. The study comprises the following parts: energy policy, energy security, country energy surveys, legal framework, regional economic issues, sectorial analysis, energy demand and supply projections for 2050 (oil and gas, electricity, renewables, energy efficiency), energy technologies and energy investment outlook.

The energy sector analysis focuses on the region's main energy drivers such as petroleum (upstream, midstream, downstream), natural gas, power generation, electricity transmission, renewables, energy efficiency, co-generation, and environmental protection. A major part of the study concerns the individual countries of the region and contains an energy profile of each one of the 16 core countries. A set of original energy maps for the region has been created, together with comparative data tables and economic analysis.

Another important part of the study covers the energy interconnections in SE Europe, the Black Sea and the Caspian region for oil, gas and electricity. The major energy projects of the region (oil and gas pipelines, gas storage, nuclear plants, hydrocarbon exploration projects, refineries, RES installations and energy efficiency projects) are described and fully analysed.

As energy market integration in electricity and gas in SE Europe progresses and several milestones have been achieved, the study provides an insight on market competition conditions. In a similar vein the situation in the downstream oil market is thoroughly examined together with latest developments concerning the transition to green fuels. Furthermore, the present "Outlook" study contains a comprehensive review of the energy technologies which are appropriate for application in SE Europe. The study concludes with an in-depth analysis and projections of the investment potential per energy fuel and per country but also assesses the business opportunities of the region's entire energy sector.

Given the current state of affairs in SE Europe and the constant flux which characterises energy markets and the fact that certain key cross border projects, such as upstream exploration, major pipelines, electricity transmission lines etc., have suffered serious setbacks over the last three years, mostly due to the war in Ukraine and adverse financing conditions, with final investment decisions being constantly differed, the study provides useful insight on the latest situation, at both government and company level.

Overall, through the publication of the "SEE Energy Outlook 2025/2026", IENE is actively contributing towards a better understanding of energy market operation at national and regional level, but also in assessing the investment prospects and business opportunities involved. One of the key observations of the study is the need for a much better organised and continuous market surveillance and analysis. This is necessary if we are to understand fully and interpret correctly energy market signals and market trends.

The, until recently, poor statistics and lack of reliable data on projects and energy flows make such a task an absolute necessity. IENE is already addressing this challenge in close co-operation with its network of partners in the region. In this respect IENE has over the years built a comprehensive energy data base for the region which is constantly being updated and could be of immense help to governments, companies and individual researchers.

IENE's primary mission is to promote a broader understanding of the key energy and environmental issues in the SE European region and provide a suitable platform for the exchange of views and information, open to professionals, companies, stakeholders and others who are actively involved in the energy sector.

IENE's vision is to establish itself as the leading energy think tank in the region and at the same time develop a highly credible and worthwhile range of services covering research, assessment studies, sectorial surveys, educational activities, event organisation and networking. These services to be offered primarily to its members, but also to government and industry and other stakeholders.

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