



2017 Annual Report and Review of Activities for 1stSemester of 2018



ATHENS, NOVEMBER 2018

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Introduction

This publication aims to provide accurate information about the Institute of Energy of South-East Europe (IENE) and its activities and is addressed mainly to its members, to institutional stake holders, to charitable organizations and other institutions as well as to government agencies and state supervised organizations including Regions, Municipalities and Development Companies.

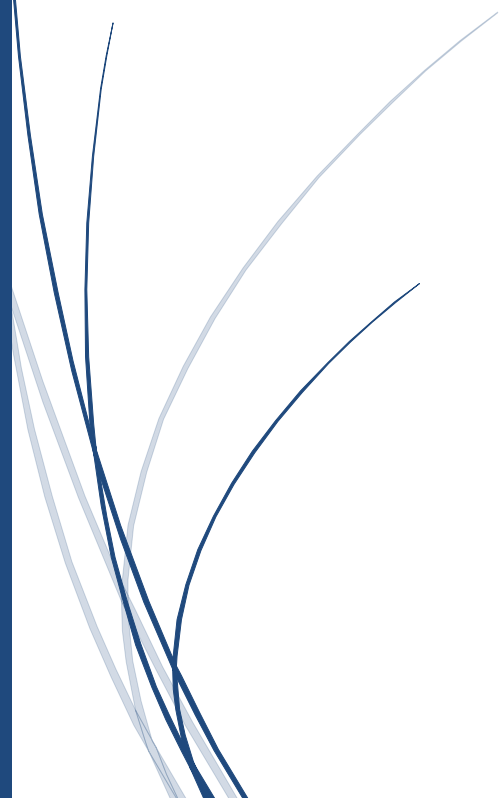
The publication covers the annual report for 2017, including financial data, as well as a review of the 1st half of 2018.

A quick reading of the Annual Report helps to understand the work carried out by IENE including the regular information produced and sent to its members, which is a core activity of the Institute, its current research and study work and its educational activities. Furthermore, the report describes IENE's activities in the area of events including conferences, workshops, discussion groups in Greece and in the countries of SE Europe.

The Annual Report covers to some extent the Institute's research and study activities. A brief presentation of IENE's completed studies reveals the range and depth of the work undertaken by IENE in house stuff but also its external research associates. In addition, IENE's future research work and planning for the period 2018-2020 is presented. Also included is an extensive report on the conferences and other events that the Institute organized both in Greece and in other SEE countries.

This report presents to the reader a comprehensive picture of IENE, which is essentially a regional institute operating in the broader SEE region. Thanks to the support by its member companies and its partners, the IENE has emerged in recent years as one of the leading energy think tanks of the region.

The Institute of Energy for South East Europe



1. The Institute of Energy for SE Europe

➤ Aims and Objectives

The Institute of Energy for South East Europe (IENE) was founded in 2003 by a small group of independent energy professionals and business executives active in the energy sector of the region. This initial group of IENE partner-founders has gradually expanded, having now reached 26 individuals, who also constitute the Institute's Board of Directors. The Institute, which has its headquarters in Athens, Greece, is a non-governmental and nonprofit organization. The Institute's prime purpose is to constitute a permanent forum where energy issues can be discussed, analyzed, reformulated and presented to a broader audience, in unbiased, objective and credible terms. This is achieved thanks to the Institute's scientific standing, its managerial rectitude and the transparency of all its operations.

The Institute activities span all forms of energy from hydrocarbons, solid fuels, electricity, nuclear, to renewables and energy efficiency. The Institute is largely funded from its membership which includes both corporate entities and individual energy professionals. IENE's articles of association are posted on the Institute's website.

One of IENE's key objectives is to participate in the formulation of energy policies, both at national and international level, within the broader region of South-East Europe. These policies focus on rationalizing the production and utilization of both conventional and renewable sources of energy. IENE is thus contributing towards the implementation of the European Union's sustainable strategy which combines social and economic development, security of supply and environmental protection. The Institute aspires to play a significant role in providing public opinion with factual and unbiased information on subjects concerning energy, the environment and sustainable development. Further information on the Institute, its mission and objectives and its activities can be found by visiting www.iene.eu

Although based in Athens, IENE is active all over SE Europe as it carries out cross border studies and organizes events in all different countries of the region. The Institute's approach, in its effort to broaden the dialogue on energy and the environment, is based on the creation of the appropriate infrastructure to promote the exchange of views through printed and electronic media, as well as events (public debates, seminars, conferences, workshops etc.)

Areas of Interest

The energy branches covered by IENE through its various activities include the following:

- Energy Policy/Energy Planning,
- Production, transmission and distribution of electricity, smart grids and storage

- Research, exploitation and production hydrocarbons
- Refining, storage and trade of petroleum products
- Transition, storage and trade of natural gas
- Utilization of RES for greater penetration in the energy mix
- Organisation and operation of energy market
- Waste management in relation with production and energy use
- Clean power generation technologies
- Energy, Environment and Climate Change
- Energy transition
- Energy efficiency and advanced technology usage and management
- Heating and cooling of buildings, zero or close to zero CO2 buildings

The activities of IENE, which are presented in detail in the relevant chapters, are the following:

- Study and research work
- Information provision through the regular publications of newsletters, (reports, studies and conference proceedings)
 - Educational work (professional courses and seminars)
 - Organization of events (conferences, workshops, study groups)
 - Participation in European programmes and international projects

➤ Organization and Operation

The partners of IENE constitute the General Assembly of Partners, which is the highest administrative body of the Institute and has the responsibility for all critical decisions concerning the direction and work of the Institute.

In addition to the Assembly of Partners, an Executive Committee, which consists of 7 members and is elected by the General Assembly for a two-year term, is responsible for the day-to-day operation of the Institute. The Executive Committee, which meets on a regular basis, reports to the Assembly of Partners and undertakes the implementation of the Assembly's resolutions.

The work of the Institute is supported by its inhouse staff and external research associates, as well as by the Scientific Committees, that effectively contribute to the Institute's activities, by formulating views and proposals to the Governing Board and, in consultation with the Executive Committee, they undertake the assessment of proposals, studies and the participation in public consultations. More information about the Institute's management, its partners and staff and the Scientific Committees is given in Section 2. Annex I also provides information on the staff members of IENE.

➤ IENE Members

As every scientific institute, IENE relies on its members for its operation and development. These may be individuals or companies and organizations. IENE members play an active role in the Institute's activities by participating in its events, its

scientific committees and in various working groups. All professionals active in the energy sector can apply for membership to IENE. The following categories of members are stipulated:

- **New Scientist** (for students and graduates up to 28 years old)
- **Full member** (for professionals over 28 years old)
- **Corporate member** (covering companies, legal entities, public organizations)
- **Associate member** (upon invitation)
- **Honorary member** (by award)

IENE members are regularly informed about the Institute's work, its programmes, events and publications, while they actively participate in the scientific and other committees according to their interests and specialization and they may participate in all its events. In order to become a regular member or a corporate member, one should complete the relevant registration form. The application and other useful information may be found in IENE's websites, www.iene.gr and www.iene.eu. A detailed list of IENE's corporate members is given in Annex II.

➤ **Funding**

As an independent organization, IENE does not receive any governmental grants or stipends or any other form of financial assistance, and the main sources of its funding for its operation are contributions by its members in the form of annual fees, sponsorships by companies and organizations which support specific aspects of the Institute's work (studies, research programs, publications, events) and its participation in EU funded or other research programmes.

2. Administration and Organization of IENE

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IENE's Executive Committee

The Executive Committee of the Institute elected in June 2018, for a two (2) year term, until June 2020, is as follows:

Chairman

- Mr. John Chadjivasiliades

Deputy Chairman and Executive Director

- Mr. Costis Stambolis

Second Deputy Chairman

- Mr. Gus Papamichalopoulos

General Secretary

- Mr. Konstantinos Theofylaktos

Members

- Mr. Anastasios Tosios
- Mr. Thomas Lamnidis
- Mr. Dionysis Xenos



IENE's Board of Directors

IENE's Governing Board, also known as Board of Directors (BOD) is the responsible body which takes all key decisions concerning the direction and work of the Institute. The Board of Directors consists of 26 partners of the Institute, which is a non-profit civil partnership. The detailed list of the Partners of the Institute are the following:

- **Alexandros Vrachnos**, Chemical Engineer, ex-Chairman of the Standing Committee on Green Transport, Ministry of Transport and Communications
- **Dr John Desypris**, Chemical Engineer, Director, Department of Regulatory Affairs, Mytilineos SA
- **Christodoulos Dimas**, Civil Engineer, NTUA, ex General Director, HELPE – THRAKI SA
- **Konstantinos Theofylaktos**, Mechanical Engineer, Chairman, HACHP Greece
- **Prof. Manolis Kakaras**, Mechanical Engineer, Professor of Electrical Engineering, NTUA
- **Prof. Pandelis Capros**, Engineer-Economist, ex-Chairman of RAE, Prof. of Energy Economics, School of Electrical Engineering, NTUA, Director of E3M Lab
- **Elias Karidogiannis**, Electrical Engineer, Consultant Engineer, CEO of ENSCO SA
- **Petros Kassapis**, Civil Engineer
- **Dr. Vassilis Kougionas**, Scientific Officer, DG Research, European Commission, Brussels

- **John Kourouklis**, Mathematician, Deputy Chairman and CEO, ELIN Verd (ex ELIN Biofuels)
- **Thomas Lamnidis**, Lawyer, Associate of KLC Law Firm
- **Emilios Bousios**, Mechanical Engineer, ex- Managing Director of PPC
- **Dr. Konstantinos Nikolaou**, Geologist and Technical Advisor, Energean Oil & Gas, ex Managing Director of Hellenic Petroleum Upstream
- **Dionysios Xenos**, Chemical Engineer
- **Spyros Palaogiannis**, Chemist (MBA), MEDGAS Managing Director and ex Chief Executive Officer of DEPA
- **Alexandros Papadopoulos**, Mechanical Engineer, Consultant Engineer
- **Konstantinos Papamichalopoulos**, Lawyer, Partner, KG Law Firm
- **Dr. Dimitris Papakonstantinou**, Mechanical Engineer, Director of Strategy at HEDNO
- **Dr. Marios Patsoules**, Geologist, Petroleum Reservoir Engineer, ex-Hellenic Petroleum Executive
- **Nikos Sofianos**, Economist and ex Research Coordinator, IENE
- **Constantinos Stambolis**, Energy and Strategy Advisor, Managing Editor of www.Energia.gr
- **Dr. Georgios Syntzanakis+**, Mechanical & Electrical Engineer, ex- General Director of PPC, senior ex-Consultant of Viohalco Group
- **Anastasios Tossios**, Mechanical Engineer, Commercial Director, EDA Attica
- **Dr. Nikos Frydas** Electrical & Mechanical Engineer, ENTSO-e Executive, Brussels
- **Tereza Fokianou**, Geologist, Chief Executive Officer, FLOW A.E. and ex-Chief Executive Officer of DEP- EKY
- **Ioannis Hadjivassiliades**, Mechanical-Electrical Engineer, Independent Energy Consultant

+ Passed away on 21/8/2018

➤ **IENE's Personnel and Associates**

The Institute's work is supported by its inhouse staff which consists of administrative and scientific personnel (see Annex I). In addition, IENE's various research and study projects, are supported through the participation of both the in - house scientific staff but also by external partners, particularly from SEE countries.

The Institute's scientific work is supported by a number of associates who participate in specific projects under the guidance of the Institute's Chairman, the Executive Director and the chairmen of the Scientific Committees. The tenure of scientific associates and consultants depends on the specific project they have undertaken and the timetable for its implementation.

➤ **IENE's Scientific Committees**

A considerable part of the Institute's scientific work is carried out by the Scientific Committees. The Scientific Committees are advisory bodies that play an important role

in the operation of the Institute since they are responsible, each in its own field, both for overseeing the work of the Institute and for tabling proposals concerning the undertaking of research projects, educational courses, event organisation, as well as other initiatives.

The chairmen of the committees are scientists, engineers, technical experts and executives of recognized companies with significant professional experience in their field, coming mostly from IENE's Board of Directors and Associate Members. The members of the Committees are executives of energy companies, organizations and institutions but also individual energy professionals from Greece and other countries in SEE.

The chairmen of IENE's Scientific Committees for 2017-2018 were the following:

- Energy and Geopolitics, **Christos Dimas**
- Energy Efficiency, Chairman **Konstantinos Theofylakos**
- Electricity, Chairman **George Syntzanakis**
- Natural Gas, Chairman **Anastasios Tossios**
- Hydrocarbons - Research and Production (upstream), Chairman **Teresa Fokianou**
- Hydrocarbons - Refining, Trading and Storage of Petroleum Products (downstream), Chairman **Alexis Athanassopoulos**

➤ IENE's Scientific Council

The Council consists of the chairmen of the Scientific Committees and certain ex-officio members. Chairman of IENE's Scientific Council is the partner of the Institute, Prof. Pantelis Capros, Director of E3M Lab at the National Technical University of Athens. The Council supervises and co-ordinates the work of the Scientific Committees, advises the Institute's management and formulates proposals, where appropriate, in order to organize and improve the scientific work of IENE.

➤ Collaboration with other Organisations

The establishment of contacts with institutions and organizations, research centers and scientific institutes which are active in the sectors of energy and environment in the South East Europe and beyond is of particular importance to IENE. The Institute, by maintaining an active presence in SE Europe and internationally, has built a relationship of trust and cooperation with other independent institutes and organizations such as the International Energy Agency (IEA), the World Energy Council (WEC), the JRC (Netherlands), the Energy Community (Vienna), the BBSPA (Bulgaria), the AERS (Serbia), the ROEC (Romania), the BPIE (Belgium), the EPG (Romania), the EIHP (Croatia), the IICEC (Sabanci University / Turkey) and others. Through these collaborations, IENE aims to become an energy communication Bridge between the South East Europe countries, by enhancing and supporting the efforts and strategies of businesses and organizations that operate in the broader geographical area of SEE at the East Mediterranean.

International Advisory Board

The IENE International Advisory Board (International Advisory Board), with the participation of well-known personalities of the energy sector from abroad who regularly take part in IENE's activities, has been established in order to ensure the optimum operation of IENE at international level. The International Advisory Board advises IENE on issues of international and regional interest and provides support to specific research projects and studies undertaken by the Institute.

In addition, this advisory body has the capability to make recommendations to IENE, collectively or through a group of its members, for undertaking actions such as the organization of events, educational activities, scientific / technological visits as well as the carrying out of studies and research projects. The IAB members interact via e-mail and skype and are regularly informed by the IENE Secretariat. The IAB plenum meets once a year at the SEE Europe Energy Dialogue which is organized by IENE or in other relevant events. IENE's Executive Director, Mr. Costis Stambolis is currently the coordinator of the International Advisory Board.

International Advisory Board Members

- Prof. Vesna Borozan, Professor, University "Sts. Cyril and Methodius"-Faculty of Electrical Engineering and Information Technologies, **FYR of Macedonia**
- Prof. Stavri Dhima, Head of Primary Policies Sector, Ministry of Economy Trade and Energy General Policies Directorate, **Albania**
- Dr. Leo Drollas, Independent Energy Consultant, **London, UK**
- Prof. Radu Dudau, Co-founder & Director, Energy Policy Group (EPG), **Romania**
- Mr. Vladimir Durovic, Independent Energy Expert, Zagreb, ex General Manager, Plinarco, **Croatia**
- Dr. Narsi Ghorban, Secretary to the Environment and Energy Commission of the International Chamber of Commerce, Iran Committee, **Iran**
- Dr. Ilia Gjermani, Regulatory & Management, Petroleum Sector, Ministry of Energy, **Albania**
- Ms. Eugenia Gusilov, Director, Romanian Energy Centre (ROEC), **Romania**
- Dr. Hans Hutta, General Manager, ICM, **Austria**
- Prof. Abbas Maleki, Energy Policy, Dpt. of Energy Engineering, Sharif University of Technology, **Iran**
- Mr. Mihailo Mihailovic, Independent Energy Consultant, **Serbia**
- Mr. Aleksandar Mijuskovic, Executive Director, Coordinated Auction Office in South East Europe, Crnogorski Elektroprenosni, **Montenegro**
- Dr. Amit Mor, CEO, ECO Energy Financial & Strategic Consulting, **Israel**
- Prof. Gina Cohen, Consultant to the Natural Gas Industry, **Israel**
- Mr. John Roberts, Energy Security Specialist, Methinks Ltd, Scotland and Senior Fellow, Atlantic Council, Washington DC, **UK**
- Prof. Pantelis Capros, President of IENE's Scientific Committee and head of E3MLab, National Technical University of Athens, **Greece**

- Mr. Slavtcho Neykov, President of the Management Board, Energy Management Institute, **Bulgaria**
- Prof. Ionut Purica, Romanian Academy and WEC National Member Committee, **Romania**
- Prof. Osman Sevaoglu, Electrical Energy Sector Expert, Middle East Tech. University, **Turkey**
- Mr. Nenad Stefanovic, Senior Expert, AERS, **Serbia**
- Mr. Gokhan Yardim, General Manager, Turkeler, **Turkey**
- Dr. Yurdakul Yigitguden, Independent Consultant, Ankara, Turkey (co-ordinator of OSCE Economic and Environment Activities, OSCE)
- Mr. Milan Zdravkovic, Development Sector Director, Srbijagas, **Serbia**
- Dr Katja Yamifava, Senior Research Fellow Oxford Institute for Energy Studies (OIES), **Oxford, UK**
- Dr Charles Ellinas, Chief Executive, e-CNC, **Cyprus – UK**
- Mr. Tim Yeo, Chairman New Nuclear Watch Europe, **London, UK**

3. Annual Report 2017

3. 2017 Annual Report

It reports the Institutes activities, the work undertaken and the financial performance of the Institute for the year 2017.

As a result of IENE's development strategy, which was first formulated in 2012 and with slight modifications is still being followed, the Institute's management has focused its efforts over the past year on four main axes:

- (i). Upgrading and enhancing the regular information sent to members, associates and partners with emphasis on the enrichment of English-language publications.
- (ii). Undertaking research projects and carrying out studies, mainly based on subjects chosen and proposed by the Scientific Committees, after a thorough examination, and on the basis of well documented proposals submitted by the Executive Committee.
- (iii). Organization of conferences, workshops and other events in Greece and abroad which contributed to the expansion of the Institute's range of contacts and collaborations with relevant organizations and companies in the region
- (iv). Increase of its membership, through targeted actions, following visits to companies and organizations and through the regular organization of events.

A. Regular and Occasional Publications

IENE carried on the continuous briefing of its members in Greece and abroad, by sending them on a regular basis its publications as well by preparing occasional briefings. As part of the Institute's overall effort to upgrade and expand its range of publications, the Institute also launched a number of new regular and occasional publications.

(i) Regular Publications

- ✓ **S.E. Europe Energy Brief:** Market Watch, Market Insight, Monthly Analysis and Market Fundamentals and Prices. Issues No. 222 – 249 were sent (Jan. 2017 – December 2017).
- ✓ **Events Bulletin:** Issues No. 3,4.
- ✓ **Energy Weekly Report:** Issues No. 54-101.
- ✓ **Geopolitics Bulletin:** Issues 9-11
- ✓ **Monthly Analysis of the Greek Energy Sector** (in Greek), Issues 1-4
- ✓ **Views and Opinions on Energy and the Environment (in Greek):** Issues 6-12
- ✓ **Energy Matters (in Greek):** Issues No. 131 (January 2017) to 140 (November 2017) were sent.

This latest IENE newsletter aims to inform members about developments in the domestic energy market, including the electricity and natural gas markets, oil and gas exploration, renewables and energy efficiency. The publication started in November 2017 and four issues were sent out last year.

- ✓ **Electric Mobility Update Issue No. 1**

This new IENE newsletter aims to inform members about developments in the field of electrification in Greece and abroad. It is published in Greek and English. The first issue was sent out in December 2017.

▪ Occasional Publications

Within its mandate to keep its members well informed on latest developments, IENE published a number of special briefings as follows:

✓ **News Flashes:**

- News Flash No. 16 ***"State of the Energy Union-European Commission Publishes 2nd Report"***, February 2017
- News Flash No. 17 ***"International Condemnation as Trump Takes US out of Paris Climate Agreement"***, June 2017

✓ **IENE Comment:**

- No. 13 ***"Five Predictions for Energy in 2030"***, January 2017
- No. 14 ***"Gazprom plays ball: the depoliticization of the European gas market"***, February 2017
- No. 15 ***"Can East Med Gas be Exported?"***, February 2017
- No. 16 ***"Is Trump's New Coal Agenda a Threat to the Paris Climate Change Agreement?"***, April 2017

✓ **IENE Company Profile:**

- No. 2 ***"TERNA: Greece's First Multinational RES Company"***, January 2017
- No. 3 ***"DYNAGAS: A Greek-Owned Pioneering LNG Company"***, July 2017

- ✓ **IENE Special Report *"Lawrence Berkeley Report on Wind Power Confirms Technology Advancements, Improved Project Performance, and Low Prices"***, August 2017

B. Studies

- **SE Europe Energy Outlook 2016/17**

The Institute's study programme for 2017 focused on the completion of publication of IENE's seminal study, "SE Europe Energy Outlook 2016/17", which was completed and published in May 2017. Besides the permanent scientific staff and collaborators of IENE, 25 contributors from almost all SEE countries participated in this product. Moreover, there was a close collaboration with Professor Pantelis Capros of the NTUA E3M Lab in the formulation of a base scenario for energy demand and supply in SE Europe.

The 1,200-page study offers not only a panorama of the energy sector in the wider SEE region, but also highlights a series of top-of-the-line policy issues such as the security of energy supply, the difficult transition to a low-carbon environment, the tenuous

development of RES in the countries of the region, the spread of energy poverty and the region's substantial investment potential.

The peer reviewers of the study included the International Energy Agency (IEA) in Paris, where the first presentation of the study took place on 15/5. The SE Energy Outlook was also presented at the Athens Exchange (7/6), at the "10th SE Europe Energy Dialogue" held in Belgrade (13-14 June), followed by special events in Bucharest in cooperation with the Romania Energy Center (ROEC) and the University of Economics of Bucharest (24/10), at the University Piraeus (3/11) and in Istanbul (15/11) at the IIECC at Sabanci University's Karakoy Minerva Palace.

It should be noted that this voluminous reference study by IENE was printed in 400 copies and was also made available in electronic form. Copies of the study were sent to all sponsors and there were also several orders from companies and organizations that expressed interest. The next edition of the SE Energy Outlook is scheduled for 2020.

Hereby, follow the titles of the other Studies and the Briefing Notes that were completed in 2017.





- **Gas Supply in SE Europe and the Key Role of LNG (M46)**

This study was commissioned by Gastrade SA to IENE and was completed at the end of December 2017. (See pp. 45-46 for a short description of the study.)

- **«Global Energy Markets in Transition and the Role of Electricity Storage : Prospects and Challenges» (M48)**

This study was commissioned by Systems Sunlight to IENE and its first part was completed in October 2017.

- **Briefing Note No. 9**

This Briefing Note, authored by Mr. Ioannis Hadjipashalis, Electrical Engineer at the Electricity Authority of Cyprus (EAC), presented the "Conclusions of the Study on the Installation of Antifouling Technologies at the EAC Power Generation Plants in Cyprus" and was issued in June.

C. Events

In 2017 IENE held 14 events either on its own or in cooperation with other organizations. Details of the events have been posted on IENE sites, and all IENE partners and members have access to the papers and the proceedings through the Institute's members area. For most events, at least regarding conferences, special microsites have been created where all papers presented and relevant studies have been posted. The following is a complete list:

- Afternoon Ad Hoc Meeting on **"The Security of Greece's Energy System"**, Athens, Electra Palace Hotel (Nikodimou 18-20), **15 March 2017**. For the event microsite, follow the link:
<http://iene.gr/articlefiles/h%20asfalia%20tou%20ellinikou%20energeiakou%20systimatos.pdf>

- **Oil Refining, Storage and Retail in SE Europe**, an IENE regional conference organized in the context of SEE Energy Dialogue, The Met Hotel, **Thessaloniki, March 30-31, 2017**. For the event microsite, follow the link: <http://www.iene.eu/microsites/oil-refining-storage-retail-2017/>
- IENE Conference: "**Energy: Investments, Employment and Exports**", organized in co-operation with the Athens Chamber of Commerce and Industry and the Panhellenic Exporters Association, **Athens April 26, 2017**. For the event microsite, follow the link: <http://www.iene.eu/microsites/energy-investments-employment-exports-2017/>
- Presentation of "**SE Europe Energy Outlook 2016/17**" at the International Energy Agency (IEA), **Paris, 15 May, 2017**
- Presentation of "**SE Europe Energy Outlook 2016/17**" at Athens Stock Exchange, **Athens, 7 Iouliou, 2017**
- The **10th SE Europe Energy Dialogue**, on "Electricity, RES and Gas Markets" in SE Europe. The Energy Dialogue was held for the first time abroad, at the Metropol Palace Hotel in Belgrade, Serbia, **June 13-14, 2017**. For the event microsite, follow the link: <http://www.iene.eu/microsites/10thSEED/>
- IENE Regional Workshop on "**Energy Security in SE Europe and the Role of LNG**", **Athens, Greece, July 4-5, 2017**. For the event microsite, follow the link: <http://www.iene.eu/microsites/energy-security-lng-2017/>.
- **Investment Opportunities in Southeastern Europe: Trends and Challenges in the Energy Sector**, organized by PPC in co-operation with IENE, **Thessaloniki, September 9, 2017**.
- Presentation of the "**SE Europe Energy Outlook 2016/17**", organized by ROEC-IENE, **Belgrade, October 24, 2017**.
- **5th Cyprus Energy Symposium**, organized jointly by FMW-Financial Media Way of Cyprus and IENE, **Nicosia Hilton Hotel, 1 November 2017**. For the event microsite, follow the link: <http://www.iene.eu/microsites/5th-cyprus-energy-symposium-2017/?lng=2>
- Presentation of the "**SE Europe Energy Outlook 2016/17**", at the Postgraduate Programme of the Department of European and International Studies, University of Piraeus, Piraeus, **November 3, 2017**
- Presentation of the "**SE Europe Energy Outlook 2016/17**", at the Istanbul based International Center for Energy & Climate, Sabanci University, Istanbul, **November 15, 2017**
- **22nd Annual "Energy & Development" Conference**, **Athens, Eugenides Foundation, November 23-24, 2017**. For the event microsite, follow the link: <http://www.iene.eu/microsites/energy-development2017/>
- **2nd Energy Tech Forum**, organized by www.energia.gr, under the auspices of IENE, **Eugenides Foundation, November 25, 2017**. For the event microsite, follow the link: <http://www.iene.eu/el/congress/2/2nd-energy-tech-forum-2017?p=5>

D. Scientific Committees

During 2017, the following IENE Scientific Committees met, contributing significantly to the Institute's work through their input.

The **Committee on Petroleum Refining, Storage and Trading (known as the Downstream Committee)** met once, on Monday, January 23, at the offices of IENE, under the chairmanship of **Mr. Alexis Athanasopoulos**. The purpose of the Committee is to monitor and analyze the downstream oil market as well as to exchange views on oil market issues in Greece, SE Europe and internationally. Among others, the Committee has made recommendations on analyses and work to be undertaken by the Institute and drew up the programme of the Regional IENE Conference in Thessaloniki of March 30-31, 2017 on "Oil Refining Storage and Retail in SE Europe".

The **Natural Gas Committee** met once on Tuesday, February 7, at the IENE offices, under the chairmanship of **Mr. Anastasios Tosios**. A brief review of the natural gas market was presented by the Chairman and there was also discussion on the market liberalization, the developments on extraction and new technologies and uses of natural gas. Among others, the committee identified a number of issues, regarding natural gas, which should be discussed at IENE conferences in 2017 and on topics to be researched by IENE's research group. Two further teleconferencing meetings were held to prepare the SEE Regional Workshop on LNG which was held in Athens on July 4-5.

The **Hydrocarbons Committee**, under its new composition, met for the first time on Thursday, May 4, at the IENE offices, under the chairmanship of **Mrs. Tereza Fokianou**. During the meeting, an overview of the hydrocarbon exploration and production sector in SE Europe was carried out, and there were proposals for studies that IENE could carry out. The aims and objectives of the Committee, as well as its activities, were also discussed. Three other Committee meetings (18/5, 8/6, 5/10) followed, at Flow Energy's offices, and the committee has decided on the preparation of a Working Paper and the organisation of an upstream regional workshop in 2018.

The **Geopolitics Committee** met on 20/7 and 20/11 under the chairmanship of **Mr Christos Dimas** at IENE offices. The Committee discussed current geopolitical developments by analyzing the relations between countries and continents around the world. The Committee's activities included the publication of the IENE Geopolitics Bulletin and planning for the Energy and Geopolitics seminars scheduled for early 2018.

E. Executive Committee

The **Executive Committee** of the Institute met eight (8) times in total under the chairmanship of John Chatzivasiliadis either at IENE offices or at the offices of Deputy Chairman Mr. Konstantinos Papamichalopoulos. Detailed minutes have been kept from all the above meetings and the Institute's partners have been informed through them.

F. Visits, Meetings and Participation of IENE in Third Party Conferences and Events in Greece and Abroad

IENE participated through its partners and executives, from January 2017 until the end of December 2017, in several international and regional meetings, conferences and events, as follows:

▪ **John Hatzivasiliadis, President, IENE** *Participated in the following conferences:*

- **Round Table Discussion: NGO Assembly on European Maritime Governance**, Athens, July 3, 2017, Jean Monnet European Center of Excellence. He presented and discussed the theme "Sea and Energy".
- **Development / Investment Forum on Energy Saving / Investing in the European Vision**, A-Energy Investments, Divani-Caravel 14/11/2017. Introductory comments and co-ordination of the Introductory Speech Panel.

▪ **Costis Stambolis, Deputy Chairman & Executive Director, IENE** *Participated in the following conferences:*

- **European Gas Conference 2017**, organized by the Energy Exchange, January 23-24, Vienna, Austria
- **IEA's In-Depth Review of Greece's Energy Policy**, organized by the IEA at the Ministry of Environment and Energy, 3-7 April, Athens
- **«The landscape in the new era of energy transition: Challenges, investment opportunities and technological innovations»** organized by the Hellenic Association of Energy Economists, 18-20 May, Athens
- **5th Strategic Conference on "Investments in Greece & Development Potential»**, organized by the Institute for Entrepreneurship and Sustainable Development, Athens, May 29, Athens
- **Conference «The Exit Road from the Crisis- Trust, Investments, Exports»** organized by the Panhellenic Association of Exporters, June 21, Athens
- **Advanced Building Skins Conference** organized by Advanced Building Skins GmbH, October 2-3, Bern, Switzerland
- **2nd Green Energy Investments Forum**, organized by the Center for Energy Policy of the University of Athens, October 11-13, Athens
- **6th Arab-Greek Economic Forum** organized by the Arab-Hellenic Chamber, 29-30 November, Athens
- **Gas at a crossroads- what happened to the Golden Age of Gas?** organized by the Energy Institute, December 6, London, UK

▪ Costas Theofylakos, Member of Board of Directors & Chairman of the Energy Efficiency Committee, IENE

Participation in the following conferences:

- **2nd IEA Global Conference on Energy Efficiency**, an International Energy Agency (IEA) high-level conference, Paris, France, June.

▪ Dimitris Mezartassoglou, Research Associate, IENE,

Participation in the following conferences:

- **Inaugural Forum on «Clean Energy for EU Islands»**, organized by the European Commission, Chania, Crete, 22 September
- **IEA's In-Depth Review of Greece's Energy Policy**, organized by IEA, Athens, April 3-7
- **BP Energy Outlook Presentation**, British Embassy, Athens, June 28
- **The Value of Storage for the Clean Energy Transition**, organized by Eurelectric, Brussels, December 7

G. IENE Participation in Public Consultations

- **Public Consultation by the Ministry of Environment and Energy on Energy Communities, 26 June**

The Institute of Energy for South-East Europe (IENE) participated in the public consultation held by the Ministry of Environment and Energy, welcoming the initiative for the creation of Energy Communities that will activate local communities, seeking environmental and economic benefits for a better future. In an effort for a functional and efficient institutional framework, IENE provided its comments on specific articles of the proposed legislation. IENE's comments have since been uploaded on its site www.iene.gr

- **Public Consultation by the Ministry of Environment and Energy on the Draft Law Regarding the Hellenic Energy Exchange, 11 December**

IENE actively participated in the public consultation organized by the Ministry of Environment and Energy for the draft law on the establishment and the conditions of operation of the Hellenic Energy Exchange. IENE, wishing to contribute to the effort in developing a functional and efficient institutional framework in this field, offered its input to the above public consultation with specific comments on articles in the draft law which have since been posted at www.iene.gr

H. New IENE Members

Several large companies of the energy sector but also companies from other sectors were registered as members of the Institute during 2017. These companies included both domestic and international energy corporations, large consulting and technical

companies with presence in Greece and abroad. The list of IENE's new corporate members is as follows:

- **Hellenic Hydrocarbon Resources Management** (HHRM) (www.greekhydrocarbons.gr), which is the statutory public authority responsible for conducting and supervising tenders for exploration and production of hydrocarbons in Greek territory, as well as for the monitoring of the implementation of concomitant concessions.
- **PWC** (Pricewaterhouse Coopers) (www.pwc.com), one of the largest accounting, bookkeeping and tax advisory firms operating in Greece.
- **C&M Engineering** (www.cmengineering.gr), one of Greece's largest engineering firms providing consultancy services for Project Management, Studies Developing and Construction Management in the energy sector in Southeastern Europe.
- **PPC Renewables** (www.ppcr.gr), a 100% subsidiary of PPC SA and the only company in Greece which is active in all forms of RES
- **EREN Hellas** (www.eren.gr), which is active in the installation and operation of photovoltaic and wind energy projects in Greece.
- **M&M Gas** (www.moh.gr), the joint venture of the Mytilineos Group and Motor Oil Hellas operating in the natural gas sector and the only independent company that imports LNG in Greece except DEPA
- **Cenergy Holdings** (www.cenergyholdings.com), listed in the Brussels Stock Exchange, with companies operating in sectors which exhibit significant growth, mainly regarding the energy transportation sector (Corinth Pipeworks, Cablel® Group, Greek Cables Group).
- **EDA THESSALONIKI-THESSALIA SA** (www.edathess.gr), which is the Natural Gas Distribution Network Operator within the geographical areas of Thessaloniki and Thessaly.
- **MAS S. A.** (<http://mas.gr>), is active in the supply of electrical equipment and technical support in the energy sector in Greece and the wider region.
- **«Energiaki SA»** Development Company of the South Aegean Region (www.readsa.gr).

The registration of these companies as IENE corporate members, on the one hand reinforces, the work of the Institute, creating good prospects for further development, and, on the other hand, confirms the special role of IENE in SE Europe and the high-level services it offers to its members and the community.

I. Annual Accounts

The total income of the Institute for 2017 amounted to € 282,090, excluding VAT, while the expenses were € 275,647. Table 1 shows the Institute's income statement for 2017 with a reference to 2016. Based on the above, in 2017 we observe a marked improvement in terms of revenues compared to 2016, while the increase of operational costs increased but were clearly less than total income. More specifically, total revenue for 2017 increased by € 52,032, or 22%, compared to 2016, with the Institute registering a small net profit of € 6,443.

The following table (Table 1) shows the income statement for the financial year 2017 while Figure 1 shows the revenue analysis for 2017.

Table 1 - Total Revenue – Expenditure 2016/2017

		2017*	2016
Revenue	Net Value	282.090	230.058,00
	VAT	63.220	48.291,80
	Total	345.310	278.349,80
Expenditure	Net Value	275.647,11	207.966,01
	VAT	25.280,62	19.574,59
	Total	300.927, 73	227.540,60

Table 2 - Revenue Analysis 2016-2017

	2017	2016
Membership Fees	86.510 (30.7%)	89.708 (39%)
Event Registrations	28.700 (10.3%)	15.258 (6.6%)
Sponsorship	130.010 (46%)	83.092 (36.1%)
Studies	26.760 (9.5%)	42.000 (18,3%)
Sale of publications	10.110 (3.5%)	-
Total	282.090	230.058

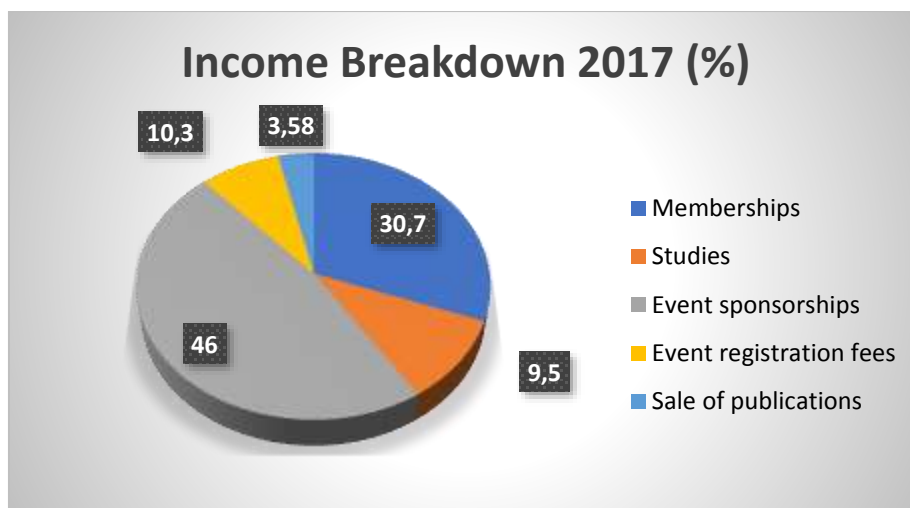


Figure 1. Revenue Analysis 2017

The 2017 results provide the opportunity for some observations on the Institute's financial performance for the past year.

(a) Revenue from membership subscriptions declined slightly (-3.5 %) mainly due to the non-renewal of subscriptions of certain member companies from Greece and abroad, while revenues from subscriptions of new members did not cover the difference. Nevertheless, the Institute has retained almost the whole of its membership base despite the ongoing economic crisis and the huge uncertainty that still prevails in the Greek market

(b) IENE's work on research and studies during 2017 was not supported as much as in previous years during 2017. This is due to the fact that a huge amount of work was devoted in completing the SE Europe Energy Outlook 2016/2017 IENE's major reference study, which was published in May 2017. Overall, the research and studies sector in 2017 attracted € 26,760 of funding, which contributed 9.5% to total revenue, down by approximately 37% compared to 2016. These revenues came from a review study for Systems Sunlight, advances for the multiclient study for electrification (Protergia and Sunlight) and an advance for the study "Gas Supply in SE Europe and the Key Role of LNG" which was financially supported by Gastrade S.A.

(c) The various IENE events, conferences and workshops held in Greece and abroad, did better and were funded with a total of € 130,010 having increased significantly (36%) compared to 2016. The amount came from the sponsorship of conferences organized by the Institute. This also included payments to IENE from third parties for the organization of specific events.

(d) The Institute's expenditure for 2017 increased by 67,681, or 32.5% compared to 2016. This increase is entirely justified due to the fact that during 2017 several more activities than in 2016 took place in Greece and abroad, but they demanded higher costs, while the costs for publishing "SE Europe Energy Outlook" had also to be met. The total expenses for 2017 amounted to € 267,647 and covered payroll, social insurance, related taxes, consulting fees of partners in Greece and

abroad, accounting fees, travel expenses, hosting costs, page layout services and website design and support services, office rent and communal services, public services (PPC, EYDAP, Vodaphone, repairs) and sundry other items including office maintenance, transportation within the city.

IENE Revenue 2003-2017

With IENE having completed 14 fiscal years, it is interesting to see how revenues have varied over the years. Hence, Figure 2 presents an analysis of the Institute's income from its foundation until the present day. The outbreak of the economic crisis in 2010, especially after the signing of the First Memorandum with the country's lenders, hit hard IENE's revenues from 2011 onwards. These have fallen sharply to a minimum of € 210,000 in 2015, and since then a small and steady recovery is observed, with an estimate that in 2018, they will reach € 300,000, reaching the level of 2007.

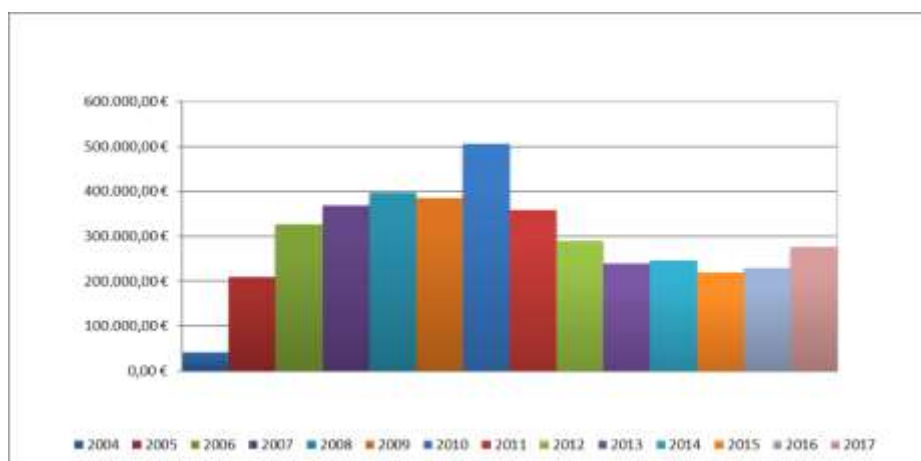


Figure2. Revenue Analysis 2003-2017

IENE Expenditure Analysis 2017

The expenditure analysis of the Institute is as follows:

Expenditure Analysis 2017

Services, Public Utilities	25.873,99
Salaries- Insurance contributions (IKA)	53.863,81
Consulting Fees to Research Associates	46.092,04
Expenses for the organization of conferences and events	100.758,27
Travel expenses	15.259,30
Various suppliers	27.079,70
Accounting and Legal Fees	6720.00
Net Value	275.647,11
VAT	25.280,62
Gross Value	300.927,73

FIGURE I: BALANCE SHEET 2017

BALANCE SHEET 01/01/2017 – 31/12/2017

**INSTITUTE OF ENERGY FOR SOUTH
EAST EUROPE
ALEXANDROU SOUTSOU 3 - 10671 -
ATHENS
VAT Number 999600362 - ATHENS TAX
AUTHORITY OFFICE D
BALANCE SHEET**

	2017			2016				2017	2016
	Acquisition Value	Depreciation	Net Book Value	Acquisition Value	Depreciation	Net Book Value			
Non-Current Assets							Net Position		
Property, plant and equipment							Paid-up capital		
Other equipment	36.079,44	9.516,6 ₁	26.562,83	36.079,44	9.516,6 ₁	26.562,83	Capital	20.000,00	20.000,00
Property, plant and equipment	36.079,44	9.516,6 ₁	26.562,83	36.079,44	9.516,6 ₁	26.562,83	Paid-up capital	20.000,00	20.000,00
Intangible assets							Fair value differences		
Financial assets							Reserves and Retained earnings		
Non-Current Assets	36.079,44	9.516,6	26.562,83	36.079,44	9.516,6	26.562,83	Retained earnings	10.985,	4.542,8

		1			1				69	0
Current Assets								Reserves and Retained earnings	10.985,69	4.542,80
Inventories								Net Position	30.985,69	24.542,80
Financial assets and Advances								Provisions		
Trade receivables			9.736,00					Liabilities		
Other claims			90.000,00							
Cash and cash equivalents			9.936,54					Other long-term liabilities	70.000,00	70.000,00
Financial assets and Advances	0,00	0,00	109.672,54	0,00	0,00			Long-term liabilities	70.000,00	70.000,00
Current Assets	0,00	0,00	109.672,54	0,00	0,00			Short-term liabilities		
Total	36.079,44	9.516,61	136.235,37	36.079,44	9.516,61			Trade liabilities	29.048,63	17.771,49
								Other taxes and charges	4.835,36	8.570,30
								Social Security Funds	1.365,69	1.847,75
								Short-term liabilities	35.249,68	28.189,54
								Liabilities	105.249,68	98.189,54
								Total	136.235,37	122.732,34

1.4. Members Briefing - The Institute of Energy in SE Europe

4. Members' Briefing

A main activity of IENE is the regular briefing of its members on the latest developments of the energy sector in Greece but mainly in SE Europe and internationally. To this end, IENE has created a series of specialized newsletters, Briefing Notes and analyses that are sent, electronically, on a regular basis to each member. Below is the list of informational material circulated on a weekly, monthly, bimonthly or quarterly basis.

In Greek

- (1) Energy Analysis Bulletin (weekly)
- (2) Energy Matters (monthly)
- (3) Views and Opinions on Energy (monthly)
- (4) IENE News (occasional)
- (5) Electric Vehicles Review (occasional)

In English

- (1) IENE Weekly Energy Report(weekly)
- (2) South East Europe Electricity Market Analysis (weekly)
- (3) South East Europe Energy Brief
 - South East Europe Energy Market Watch (monthly)
 - South East Europe Energy Market Insight (quarterly)
 - South East Europe Energy Monthly Analysis (monthly)
 - Energy Market Fundamentals and Prices (bimonthly)
- (4) Energy & Geopolitics Bulletin (quarterly)
- (5) Events Bulletin (quarterly)
- (6) Country Updates (occasional)
- (7) Briefing Notes (occasional)
- (8) Research Notes (occasional)
- (9) News Flashes (on a need as required basis)
- (10) Electric Mobility Update (quarterly)
- (11) IENE Company Profiles (quarterly)
- (12) IENE News (quarterly)

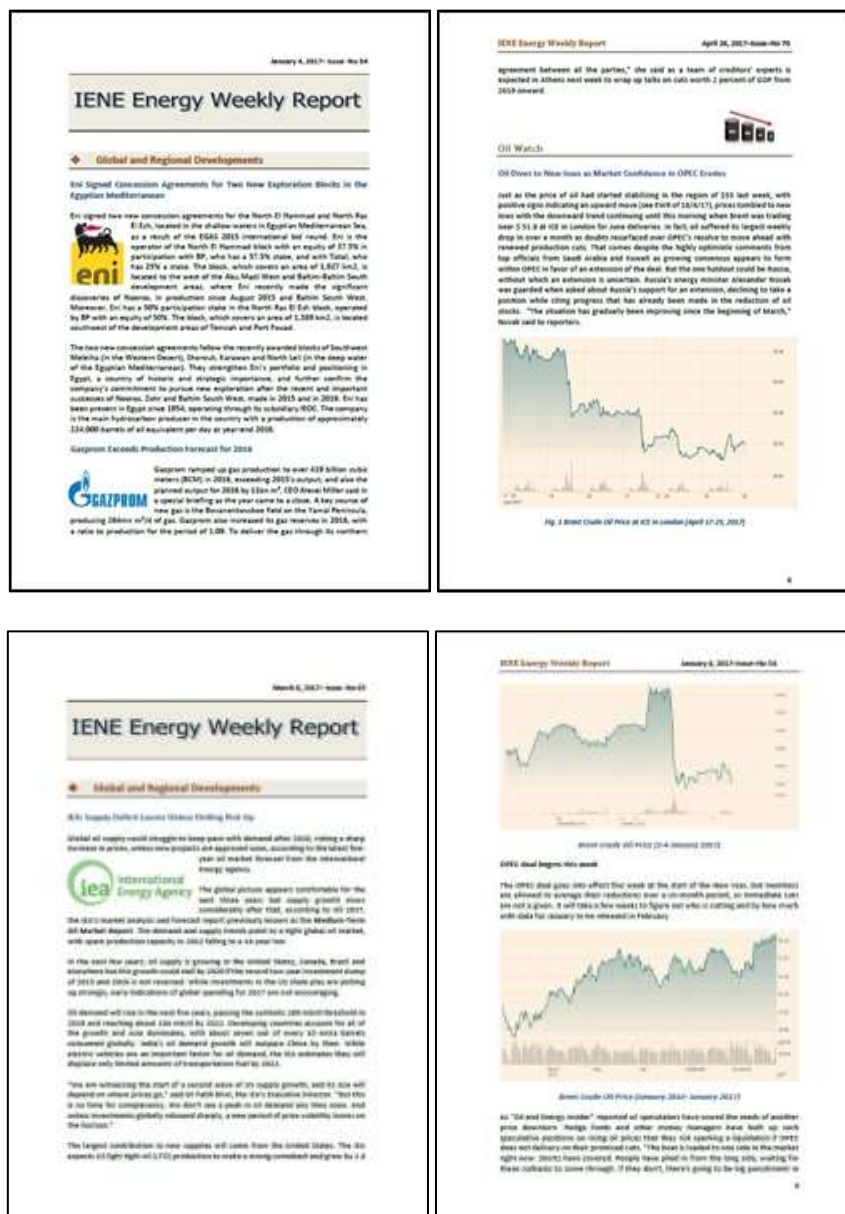
In the following pages, the covers and pages of some of the above newsletters are displayed.

IENE Briefing Notes



IENTE Newsletters

Abstracted pages of some of the newsletters that the Institute sends to its members on a regular basis are displayed. The preparation and the dispatching of a whole range of newsletters to members is a core activity of the Institute.



IEENE NEWS ISSUE No. 3, 2017 / ISSUE No. 2

IEENE News Bulletin

The Bulletin aims to inform IENE members of latest activities including projects, publications and participation in conferences and workshops. In order to keep the list as short as possible we have included useful links. The present bulletin covers IENE activities from January to end of April 2017.

January 2017

January 25-25
European Gas Conference 2017 Attracted Strong IENE Participation

This year's European Gas Conference was organized as usual in Vienna and attracted strong participation among them several IENE members. Among specifically IENE's Executive Director Carlo Drambello and IENE partner and founding member Spiros Patsouras, in his new capacity as Managing Director of Medias (following his leave from IENE last year where he was CEO) actively participated in the various open discussions and roundtables. Several IENE associate members from Austria, the UK, Bulgaria and Romania also participated. More details you can see here: <http://www.iene.eu/european-gas-conference-2017-attracted-strong-iene-participation-as-usual>

February 2017

February 8
IEA's Executive Director Presented World Energy Outlook 2016 in Athens

On February 8 the Executive Director of the International Energy Agency (IEA), Dr. Frank Lotze, presented the organization's flagship publication, World Energy Outlook 2016 to a select audience in Athens. Upon conclusion of the presentation a discussion took place where Prof. Panagiotis Daskalakis, Chairman of IENE's Scientific Council and Head of the EEC, and National Technical University of Athens and Carlo Drambello, IENE's Executive Director, actively participated. More details you can see here: <http://www.iene.eu/iea-executive-director-presented-world-energy-outlook-2016-in-athens-at-ntua-ath>

February 13
General Assembly of the IENE partners

On February 13, the General Assembly of the IENE partners met for the first time this year. This was the 10th General Assembly of IENE and the meeting was held through the kind offices of the Secretary General and member of the Institute, Mr. Constantinos Papachristodoulou, at the office of AG Law Firm in central Athens. More details you can see here: <http://www.iene.eu/10th-general-assembly>

Ενημερωτικό Δελτίο IENE 22 Ιανουαρίου 2017 / Έκδοση Νο 3

Ενημερωτικό Δελτίο IENE

Το παρόν ενημερωτικό δελτίο εκδόθηκε την περίοδο από 15 Ιανουάριο έως τον τέλει Ιανουάριο 2017 και αποσκοπεί στη σύνδεση των μελών της IENE, ενημερώνοντάς τα για τις δραστηριότητες που διεξάγονται, τις πληροφορίες που διατίθενται και τις δραστηριότητες που διεξάγονται. Το παρόν ενημερωτικό δελτίο καλύπτει την περίοδο από τον Ιανουάριο έως τον Απρίλιο 2017.

Απρίλιος 2017

25 Απριλίου
Ευρωπαϊκή Σύνοδος Γαζών 2017: Σημαντική η συμμετοχή της IENE

Η φετινή Ευρωπαϊκή Σύνοδος Γαζών 2017 διοργανώθηκε στην Βιέννη και έλκεσε μεγάλη συμμετοχή από μεν μέλη της IENE, όπως ο Διευθυντής της IENE, Carlo Drambello, και ο Διευθυντής της Medias, Spiros Patsouras, που συμμετείχε στην Σύνοδο ως Managing Director της Medias, αλλά και πολλών άλλων μελών της IENE. Επίσης, πολλοί από τους συνεργάτες της IENE συμμετείχαν στην Σύνοδο. Περισσότερες πληροφορίες μπορείτε να βρείτε στο <http://www.iene.eu/european-gas-conference-2017-attracted-strong-iene-participation-as-usual>

26 Απριλίου
Ο Διευθυντής της IENE, Carlo Drambello, παρουσίασε τον Παγκόσμιο Ορίζοντα Ενέργειας 2016 στην Αθήνα

Την Τετάρτη 26 Απριλίου 2017, ο Διευθυντής της IENE, Carlo Drambello, παρουσίασε τον Παγκόσμιο Ορίζοντα Ενέργειας 2016 στην Αθήνα. Η παρουσίαση έγινε στο πλαίσιο της 10ης Γενικής Συνέλευσης των μελών της IENE, η οποία πραγματοποιήθηκε στην Αθήνα. Ο Διευθυντής της IENE, Carlo Drambello, παρουσίασε τον Παγκόσμιο Ορίζοντα Ενέργειας 2016, το οποίο αποτελεί τον βασικό οδηγό της IENE για την ενέργεια. Ο Διευθυντής της IENE, Carlo Drambello, παρουσίασε τον Παγκόσμιο Ορίζοντα Ενέργειας 2016, το οποίο αποτελεί τον βασικό οδηγό της IENE για την ενέργεια. Ο Διευθυντής της IENE, Carlo Drambello, παρουσίασε τον Παγκόσμιο Ορίζοντα Ενέργειας 2016, το οποίο αποτελεί τον βασικό οδηγό της IENE για την ενέργεια.

IEENE Company Profile ISSUE No. 3, July 6, 2017

IEENE Company Profile

DYNAGAS: A Greek-owned Pioneering LNG Company

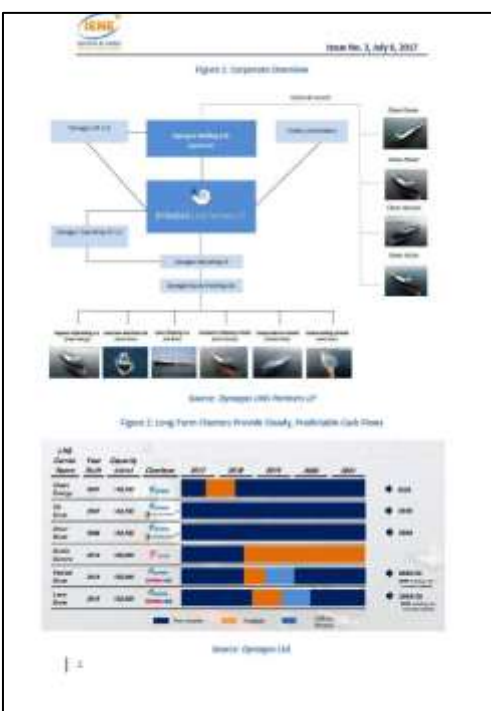
Dynagas is a liquefied natural gas (LNG) maritime transportation company established in 2004. The company offers to assist ship management services in order to provide charterers and stakeholders with the best performance and reliability. The company is dedicated to safety excellence, and has achieved outstanding performance statistics. The company and its fleet have been verified by all major charterers and have in place long charters with first class companies.

The company has an established risk management system associated with health, safety, security and environmental protection via effective monitoring and continuous enhancement of vessel operations and by establishing a safety culture across its organization, onboard and ashore. The company's main policies are according industry standards through adoption of ISO standards (14001, 9001, 30001) and are continuously revised to meet evolving requirements and management practices.

5. Dynagas LNG Partners Ltd. Fleet Profile, its Class Trades and Financial Data

Currently, the company has six (6) LNG carriers through its subsidiary Dynagas Equity Holding Ltd., with a total class capacity of 814,180 dwt. Through its subsidiary Dynagas Holding Ltd. (its sponsor, as shown in Figure 1), it controls a further four (4) LNG vessels. The average age of Dynagas's fleet is about 6.8 years as of June 5, 2017, with its average remaining charter duration is roughly 10.5 years, without including charter extension options, basis wetnet delivery and redelivery dates, but taking into account the typical river and lake river time charter contracts with Russia for the Russia LNG project. The company's counterparties include Gazprom, Shell and Total LNG (see Figure 2), while the total estimated contract backlog is \$1.32 billion as of June 5, 2017. The fleet of Dynagas has the ability to trade in conventional LNG markets and in its bound areas (see below) without cost disadvantage.

The "IEENE Company Profile" is an occasional communication published by the Institute of Energy for SE Europe in its effort to broaden the dialogue on current energy issues of regional and global interest. A company profile, as the name implies, focuses on a particular company engaged in one or more areas of activity in the broad energy field. The scope of the "Company Profile" is to focus on the achievements and plans of prominent energy companies and organizations which through their work paradigm could provide inspiration for leadership, strategy and innovation. Material used for a Company Profile may come from published sources but also from original input contributed by IENE's staff and research associates.









January 4, 2017 Issue No 34

IENE Energy Weekly Report

Global and Regional Developments

Eti Signed Concession Agreements for Two New Exploration Blocks in the Egyptian Mediterranean Sea

Eti signed two new concession agreements for the North El Hammud and North Ras El Fah, located in the shallow waters in Egyptian Mediterranean Sea, as a result of the EGEI 2015 international bid round. Eti is the operator of the North El Hammud block with an equity of 57.5% in participation with BP, who has a 37.5% stake, and with Total, who has 25% a stake. The block, which covers an area of 1,807 km², is located to the west of the Abu Madi Wan and Bahari-Bahin South development areas, where Eti recently made the significant discoveries of Naama, in production since August 2013 and Bahin South West. Moreover, Eti has a 50% participation stake in the North Ras El Fah block, operated by BP with an equity of 50%. The block, which covers an area of 3,355 km², is located southwest of the development areas of Tenuk and Port Fouad.

The two new concession agreements follow the recently awarded blocks of Southwest Matruh (in the Western Desert), Sharmak, Karawan and North Lail (in the deep water of the Egyptian Mediterranean). They strengthen Eti's portfolio and positioning in Egypt, a country of historic and strategic importance, and further confirm the company's commitment to pursue new exploration after the recent and important successes of Naama, Zahr and Bahin South West, made in 2013 and in 2016. Eti has been present in Egypt since 1954, operating through its subsidiary EGEC. The company is the main hydrocarbon producer in the country with a production of approximately 124,000 barrels of oil equivalent per day at year end 2016.

Gazprom Exceeds Production Forecast for 2018

Gazprom ramped up gas production to over 438 billion cubic meters (BCM) in 2018, exceeding 2015 output, and also the planned output for 2018 by 13bcm m³. CEO Alexei Miller said in a special briefing at the year came to a close. A key source of new gas in the Russian Federation has been the Yamal Peninsula, producing 18bcm m³ of gas. Gazprom also increased its gas reserves in 2018, with a rise in production for the period of 1.08. To deliver the gas through its northern

IENE Energy Weekly Report April 26, 2017 Issue No 70

agreement between all the parties," the said as a team of creditors' experts is expected in Athens next week to wrap up talks on cuts worth 2 percent of GDP from 2019 onward.

Oil Watch

Oil Slows to Near Stale as Market Confidence in OPEC Eases

Just as the price of oil had started stabilizing in the region of \$55 last week, with positive signs indicating an upward move (see Chart of 16/1/17), prices continued to rise in line with the downward trend continuing until this morning when Brent was trading near \$53.8 at ICE in London for June deliveries. In fact, oil suffered its largest weekly drop in over a month to double near-fairly near OPEC's resolve to move ahead with renewed production cuts. That comes despite the highly optimistic comments from top officials from Saudi Arabia and Kuwait as growing consensus appears to form within OPEC in favor of an extension of the deal. But the one holdout could be Russia, without which an extension is uncertain. Russia's energy minister Alexander Novak was guarded when asked about Russia's support for an extension, declining to take a position while citing progress that has already been made in the reduction of oil stocks. "The situation has gradually been improving since the beginning of March," Novak said to reporters.

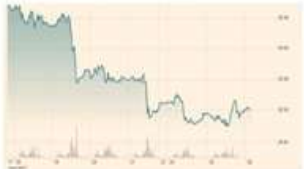


Fig. 1 Brent Crude Oil Price at ICE in London (April 17-21, 2017)

March 6, 2017 Issue No 28

IENE Energy Weekly Report

Global and Regional Developments

IEA Supply Deficit Looms Unless Drilling Rises

Global oil supply could struggle to keep pace with demand after 2016, raising a sharp increase in prices, unless new projects are approved soon, according to the latest five-year oil supply forecast from the International Energy Agency.

The global picture appears comfortable for the next three years but supply growth slows considerably after that, according to IEA 2017, the IEA's market analysis and forecast report previously released in the Middle East. The IEA Market Report. The demand will supply reach peak in a tight global market, with spare production capacity in 2017 falling to a six-year low.


In the near term, oil supply is growing in the United States, Canada, Brazil and elsewhere but the growth could stall by 2024 if the record run-up investment slump of 2015 and 2016 is not reversed, while investments in the US alone are slowing up strongly, with reductions of global spending for 2017 are not accounting.

Oil demand will rise in the near term, pushing the global oil deficit to 1.5 million barrels per day and reaching about 4.5 million by 2022. Overcoming customer demands for all of the growth and also derivatives, with about seven out of every 10 new barrels consumed globally, adds oil demand growth will outpace China by 2020, while electric vehicles are an important factor for oil demand, the IEA estimates they will depress only limited amounts of transportation fuel by 2022.

"We are witnessing the start of a second wave of oil supply growth, and its size will depend on where prices go," said on March 6th, the IEA's Executive Director. "But this is no time for complacency, as we don't see a peak in oil demand any time soon, and unless investments globally rebound sharply, a new period of price volatility looms on the horizon."

The largest contribution to new supplies will come from the United States. The IEA expects oil output to rise 1.7 million barrels per day to a strong comeback and grow by 4.4


IENE Energy Weekly Report January 6, 2017 Issue No 58



Brent Crude Oil Price at ICE in London (January 2017)

OPEC deal begins this week

The OPEC deal goes into effect this week at the start of the new year, but members are allowed to arrange their reductions over a six-month period, as immediate cuts are not a given. It will take a few weeks to figure out who is cutting and by how much with data for January to be released in February.



Brent Crude Oil Price at ICE in London (January 2017)

As "oil and energy market" reported by speculators have moved the needs of weather price movements. Hedge funds and other money managers have built up such speculative positions on rising oil prices that the risk of a significant drop if OPEC does not deliver on their promised cuts. "The bear is loaded to the teeth in the market right now," Novak has said. "People have piled in from the long side, waiting for these cutbacks to come through. If they don't, there's going to be big pain in the market."

5. Research Work and Studies Undertaken by IENE

5. IENE's Research Work & Studies Programme

Since its founding, IENE has set as a goal to carry out studies and research projects covering all aspects of the energy sector, with an emphasis on new and innovative technologies and SE Europe. Research and technological development is currently one of the main activities of the Institute which is engaged in the preparation and publication of papers, studies, working documents etc. related to energy, environmental and development issues covering Greece, SE Europe, but also the rest of the international arena. An important part of the studies and research work of IENE is conducted by the permanent (in-house) scientific staff of the Institute while in some cases, which are of broader interest and concern to SE Europe, external partners from different fields of the energy sector but also from the various countries of the region are involved.

With its main focus on research and studies and the need for a wider dissemination of results, IENE prepares publications either in the form of Studies, Working Papers, Research Monographs, Research Notes, and Briefing Notes. These publications are mainly circulated in electronic form, among its members while some of them are posted on its website and are freely available. Below is a brief description of the ongoing and planned studies and research projects of the Institute.

Current Research Work and Studies

(M03) Annual Review of Greece's Energy Market

This study primarily deals with Greece's fast changing energy market. The study, which was initially included in IENE's 2006/2007 study programme, was not carried out until now, due to a lack of funds. Today, IENE has made remarkable progress in its research work and has strengthened substantially its financing mechanisms, aiming to complete this study within 2018. The study is now planned for publication in early 2019. IENE's target is to publish it as an annual basis the beginning of each year. This report provides a well-researched review but also a guideline for energy market developments and prospects in Greece, as well as a benchmark for government, banks, companies and professionals in the energy sector.

(M28) Developing a Competitive Electricity Sector in Greece and the Role of Island Interconnections

This study is an updated version of an older IENE study carried out on behalf of the Energy Regulator (RAE) and published in November 2012 (M15). This updated study focuses on the ongoing liberalization of Greece's electricity market and the importance of island interconnections with the continental electricity grid. The study is supported by a number of industrial groups and will be completed by November 2019.

(M31) Renewable Energy Sources (RES) and their Importance for Economic Growth

This is a reference study about RES in Greece and SE Europe. The study will make extensive reference to Greece's experience in the development of RES, but will also incorporate useful data from other countries, mainly from SE Europe. The overall aim of the study is to examine the link between RES investments and their role in supporting economic development, job creation, innovation and differentiation of the energy mix. This is a multi client study and will be supported by companies which are IENE members. The study has already begun and is expected to be completed by the end of 2019.

(M34) Energy, Investment and Employment Prospects in Greece

This study is an updated version of an IENE study first published in December 2013 (M09). This updated study focuses on the investment prospects of Greece's energy sector in a rapidly evolving environment with innovative technologies as well as on their impact on job creation. This study is carried out on a multi-client basis with the active support of a group of companies in the Greek energy sector. Completion and disclosure of the study is planned for early 2020.

(M38) Energy Barometer for Greece

This study will seek the views of Greek energy professionals along the lines of UK's Energy Barometer survey which was carried out by the Energy Institute of the UK. The study will have the benefit of the advice of the Energy Institute, which has already published three similar Energy Barometer reports for the UK (2015, 2016 and 2017). The Energy Barometer for Greece is basically a survey based on carefully structured questionnaires addressed to senior energy market executives initially in Greece and later for other SE European countries.

IENE will seek financing for this research project on a multi-client basis from its member companies. The dispatch and collection of completed questionnaires is scheduled for the first quarter of 2019. This will be followed by the analysis of trends with the final findings of the study being announced no later than October 2019.

(M45) Kastelorizo Energy Sustainability Study

In September 2017, IENE embarked on a new study project focusing on Greece's southernmost island, Kastelorizo. The study aims to examine the conditions under which Kastelorizo could become energy autarkic taking into consideration environmental objectives and socio-economic development. The study will be part of the broader programme of initiatives developed by IENE for the island's energy security and sustainable development.

The Kastelorizo energy sustainability study is considered of great strategic importance to Greece and will cover issues related to electricity, water, energy efficiency, electrification in transport and high penetration of RES. The non-technical barriers and their removal, as well as the technical constraints for the required

applications with the participation of the Prefecture, the local authority and the private sector, will be explored. Overall, the study aims to produce a strategy as well as detailed guidelines in an effort to achieve the island's energy autonomy.

The above study is financially supported by PPC Renewables, Hellenic Petroleum (ELPE), HEDNO and Aegean Airlines and is being developed under the auspices of the Ministry of Environment and Energy. Based on the current timetable, it is estimated that the study will be completed by May 2019.

(M46) Gas Supply in SE Europe and the Key Role of LNG

At the end of 2017, IENE carried out a study to review the gas market in the Southeast European region, focusing on the role of LNG. The study, covers primarily the gas demand and supply conditions which together with critical gas storage issues are examined on a global and regional basis. Special reference is made to LNG because of its growing importance for the safe operation of the gas networks of various countries and because of its potentially crucial role in market development and competition. In this light, all ongoing and planned gas interconnection projects are examined together with the major cross-country gas pipelines currently under construction or in a development phase.

One of the main targets of the study is to review the global gas and LNG market as well as the gas markets of selected countries in Southeast Europe (i.e. Greece, Turkey, Bulgaria, Romania, Serbia, Croatia and FYROM), but also of Italy and Ukraine, with the view of examining as to how all these markets are expected to perform over the next few years. The study also analyses the geopolitical developments in the SEE region and how these are anticipated to impact the balance of regional gas markets, the emergence of FSRU projects and their strategic role in enhancing regional energy security, with special reference to the Alexandroupolis FSRU project and the possibilities for the establishment of a gas trading hub in Greece and in the region.

The study is expected to be completed in the first quarter of 2018.

(M47) "Prospects for the Development of the Electric Vehicles Market in Greece and SE Europe and Business Opportunities "

Following the rapid developments in the field of electric mobility in Europe and worldwide, the Institute has decided that it is useful to contribute a study on the promotion of the technology of Electric Vehicles (EVs) in Greece and SE Europe. The study is conducted on a multi-client basis with the participation and the financial support of leading energy companies. The study will provide a preview of the market for electric vehicles and their associated support technologies (batteries, charging mechanisms etc.), aimed at informing the country's business sector about developments in state-of-the-art technologies and the broader technology perspective of electric mobility. It also reviews scenarios and forecasts for the European and global EV market, while describing its relevant support legislation, including Paris Agreement policies and plans for alignment with European

environmental objectives. Consideration is also given to the prospects for additional incentives for consumers as well as the readiness of the automotive industry to adjust to the rapidly increasing demand for electric vehicles.

The study also examined the flexibility of the grid in view of the penetration of electric vehicles in the Greek market as well as in other countries of the South Europe. This part of the study explores the role of electric vehicles as a means of energy storage, their impact on power generation and distribution and their environmental benefits in parallel use with RES.

The study also explores opportunities for investment, support and exploitation of the EV market, and examines ways to commercialize EVs. The design of charging and service infrastructure is considered based on the current know-how and the peculiarity of the domestic market. Finally, the study will explore the impact on the national economy, such as the creation of new jobs and the development of new economic activities, and will propose plans to raise awareness among the public and on accelerating the penetration of new automotive technologies.

The above study is funded by Protergia S.A, Mytilineos Group, Systems Sunlight, Hellenic Petroleum and KG Law Firm.

Based on the timetable of the study, three meetings with the partner companies will be conducted in January, March and June 2018 respectively, with the final draft being completed by the end of June 2018. An IENE Working Paper summarizing the findings of the study will follow.

Selected IENE Studies (2017)



(B) Planned Studies

(M36) European Gas Supply and the Role of the East Mediterranean

This is a multi-client study, which examines thoroughly the alternative routes for the transmission of natural gas from the Eastern Mediterranean region to Europe. This project is basically an appraisal study taking into account the projected gas supply needs of the European market and the emerging competition for gas supply from

various producers. The possibilities of supplying the European market to the Eastern Mediterranean gas fields are being thoroughly examined in this specific context.

This study is an update of IENE's Research Note No3 that was published in December 2012 entitled "The Role of Greece as a Supply Route to Europe in View of the Latest Gas Discoveries in the East Mediterranean" and the ongoing study entitled "The East Mediterranean Energy Corridor"(M21).

The Eastern Mediterranean Energy Corridor deals with natural gas transport from East Mediterranean resources (i.e. Israel, Cyprus, Egypt) to Europe's markets, including the East Med pipeline. The Eastern Mediterranean Energy Corridor also includes power generation and power extraction through an electric cable, the EuroAsia Electricity Interconnector. The study is expected to be completed by the end of January 2019. The above study is being carried out on a multi-client basis and is due to be completed and published by the end of June 2019.

(M44) Prospects for an Expanded South Gas Corridor

This study aims to summarize IENE's work on new gas transit routes in SE Europe and how they are expected to contribute to the creation of an expanded Southern Gas Corridor (ESGC), which is not only limited to the TAP-TANAP system. The study takes advantage of already existing IENE studies (e.g. The East Med Gas Corridor-M21) and numerous analyses, summarizing the latest developments in terms of the under construction and under study gas pipelines (e.g. TAP-TANAP, IGB, IGI Poseidon, Turkish Stream, Vertical Corridor, IAP, East Med), as well as the development of LNG terminals for the supply of SE Europe with natural gas. It also examines the concept of the ESGC's dynamic operation as a single and integrated system for the gas transport and storage.

This study is expected to be completed and published by the end of March 2019.

SE Europe Energy Outlook 2020

Following its two previous editions in 2011 and 2017, IENE is now planning its new "SE Europe Energy Outlook" reference study with anticipated publication date in June 2020. The study is expected to provide a comprehensive analysis and forecasts of the energy sector in SE Europe, examining 15 core countries in total but also more than 10 peripheral countries in the East Mediterranean, Europe and Central Europe. This new "Outlook" study will also analyze in depth all economic, political, geopolitical, legal, financial, etc. parameters that affect the region's energy sector while focusing on key energy issues this area faces.

At the same time, the study will present a huge amount of data and information, including scenarios on how energy supply and demand will be shaped by 2030 and 2050, and estimates of energy investments for the full range of energy applications in the countries of the SE European region over the next ten-year period (i.e. 2021-

2030). The study commenced in the second half of 2018 and will be conducted mainly during 2019 and early 2020 with expected publication date on June 2020.

(M50) Investing in Greece's Energy Sector

This is a reference study for investments in Greece's energy sector. The study which is the English version of the study M34, provides a brief overview of key developments in the industry over recent years as well as latest developments concerning the Greek economy and employment in the energy sector. The main goal of the study is to highlight significant energy investments from various Greek energy companies between 2004 and 2018, with extensive reference to several investments per energy sector as well as presenting planned energy investments by 2030. The actual study is expected to start soon and to be completed by the end of 2018. This is a multi-client study that will be supported by member-companies of IENE and is anticipated to be completed and published by the end of 2019.

(M51) Prospects for Developing a Gas Trading Hub in SE Europe

This study is an updated version of IENE's former study M19 (2014) under the title: "The Outlook for a Natural Gas Trading Hub in SE Europe" that was completed in 2014. It covers the latest developments on the operation of European gas trading hubs, and the views of several well-known energy players operating in Central and Southeastern Europe. The study focuses on Greece and Turkey and their role in creating two major regional gas trading hubs and their interconnection with Central Europe.

The study will be developed on a multi-client basis and will be completed by the end of 2019.

Working Papers and Papers for Publication

The following is a brief description of the scientific papers which are intended as Working Papers (WP) but may also be submitted as papers for publication in recognized international scientific journals.

Energy as a Key Lever for Economic Growth in Greece in the 21st Century

This concerns the preparation of a Working Paper, based on existing studies and analyses by IENE. A brief presentation of the key investment options and directions in the Greek energy sector is being explored. It is scheduled to be completed and issued as WP by mid-2019.

A Gas Trading Hub for SE Europe

This paper is based on IENE's study M19 (2014), while it is expected to be enriched with latest data. Upon its publication, the new updated paper will contribute to a broader debate on the possibilities of creating a regional gas trading hub in SE Europe.

An Expanded South Corridor

This paper aims to summarize IENE's work on new gas transit routes in SE Europe and how they are expected to contribute to the creation of an expanded Southern Corridor, which is not only limited to the TAP-TANAP system.

This study takes advantage of already existing IENE studies (e.g. The East Med Gas Corridor-M21) and analyses, summarizing the latest developments in terms of the under construction and under study gas pipelines, as well as the development of LNG terminals for the supply of SE Europe with natural gas.

East Mediterranean Gas Resources and Export Options

This work, presented by IENE at a conference in Israel in November 2016, will be the basis for the preparation of Working Papers, and will be sent for publication in a scientific journal in early 2019.

The Outlook for the SE European Energy Sector

Based on the extensive IENE study as published in the "SE Europe Energy Outlook 2016/2017", this paper, which will be sent for publication in a scientific journal, aims at a concise presentation of the results of this study.

The Role of RES in Economic Cooperation and Development in SE Europe

This work focuses on the fact that the penetration of Renewable Energy Sources in the SEE region has been particularly important over the last few years and is expected to fuel further growth in the coming years.

Most SEE countries are currently at a crucial crossroad for choosing the right strategy that will smoothly drive to the greenhouse gas reduction target as well as to a more environmentally cleaner and sustainable development. Both of these objectives consist necessary conditions for boosting economic growth, especially since RES have emerged as a crucial factor in pursuing regional cooperation, cohesion and development.

The publishing of this analysis, at first as Working Paper (WP), and then as an article to be published in a scientific journal is expected to expand and enrich the ongoing debate on the role of RES in the economic and energy developments of SE Europe.

Tools for Research and Studies

As the Institute's research work and studies progress, and before their final publication, there needs to be a discussion of some or of all their content at draft stage in order for a first discussion and exchange of views can take place between the IENE scientific staff and associates but also amongst members, a process that

helps to improve content and reach the right conclusions. In order to facilitate this discussion, the results are published by the Institute, along with documented proposals and analyses, in the form of Briefing Notes or Working Papers. Below is a detailed list of Briefing Notes and Working Papers which are already published by IENE as well as those in progress. When Working Papers and Briefing Notes are published, they are sent to the Institute's members and they are also posted at the members area of the Institute's two sites, www.iene.gr and www.iene.eu.

Working Papers:

- **No. 1:** "Principles of Effective Operation of the Greek Electricity Market ", November 2014
- **No. 2:** "The Problem of the Summer Peak, Causes and Response Measures", November 2004
- **No. 3:** "The Emerging Role of LNG in Regional Energy Markets", January 2006
- **No. 4:** "The Cost of RES Development in Greece", December 2006
- **No. 5:** "The Priorities of European Policy in the Energy Sector, Dilemmas and Messages for Greece", December 2006
- **No. 6:** "The Energy Center of Agios Nikolaos in Viotia and its Impact on the Energy System", November 2005
- **No. 7:** "The New Landscape in the Electricity Market in Greece ", July 2009
- **No. 8:** "Solar Thermal Power Generation Systems Technologies and Their Perspectives in Greece", July 2009
- **No. 9:** "Infrastructure Unbundling in SE Europe", July 2009
- **No. 10:** "The Fourth Corridor Gas Pipelines; Perspectives, Uncertainties and Implications for SE Europe and Greece", July 2009
- **No. 11:** "CO₂ Capture and Storage in the Electricity Generation Sector; An Alternative for CO₂ Emissions Reduction", January 2011
- **No.12:** "Research, Exploration and Production of Hydrocarbons in Greece", January 2011
- **No.13:** "Energy as a Key Lever for Economic Development in Greece in the 21st Century", February 2017
- **No.14:** "Investigating the Potential Impact of the Liberalized Domestic Energy Market on the End User of Natural Gas", June 2012
- **No.15:** "Biofuels in the Transportation Sector in Greece", June 2012
- **No.16:**"Security of Energy Infrastructure", June 2012
- **No.17:** "The Greek EEZ: Principles of a Geopolitical Analysis", July 2013
- **No.18:** "Towards a National Energy Policy", December 2013
- **No.19:** "Renewable Energy Sources and Energy Efficiency and their Role in Energy Security in SEE", February 2014
- **No. 20:** «Vertical Corridor: From the Aegean to the Baltic ", January 2015
- **No.21:** "Greece's Experience in Using EU Structural Funds for Improving the Energy Performance of Buildings", December 2014
- **No. 22:** "Albania's Electricity Sector and the Role of Hydropower", May 2017
- **No. 23:** "Impact of Global Markets on East Med Gas Developments", January 2018

- **No. 24:** "Prospects for the Electric Vehicle Market and Business opportunities with special reference to SE Europe and Greece", September 2018

Briefing Notes:

- **No.1:** "Global and Regional Natural Gas Developments", December 2012
- **No. 2:** "An Overview of the South Corridor Gas Pipeline Projects", July 2013
- **No. 3:** "Energy Security at the Forefront of European Energy Policy", June 2014
- **No. 4:** "The Natural Gas Sector in SE Europe", March 2015
- **No. 5:** "The Real Impact of Carbon Emissions Reduction", April 2015
- **No. 6:** "The Nuclear Power Generation Programme of Turkey", June 2015
- **No. 7:** "China's Nuclear Power Play and its Impact in SE Europe", **in progress** (to be published by the end of 2018)
- **No. 8:** "Bulgaria and Romania: Under Turmoil on Geopolitical and Migration Grounds", May 2016
- **No. 9:** "Conclusions of the Study on the Installation of Antifouling Technologies at EAC-Generation Power Plants in Cyprus", June 2017

➤ **Forthcoming Working Papers (to be published)**

- "East Mediterranean Gas Resources and Export Options"
- "Turkey's New Regional Role in Energy"
- "The Key Role of Hydroelectricity in SE Europe"
- "The RES agenda for SE Europe: A Critical Assessment"
- "The Nuclear Energy Option for SE Europe"
- "Energy Security and the role of RES in SE Europe"

Recent IENE Working Papers



6. Special Research Projects and Studies

6. Special Research Projects and Studies

In response to the goals set since its founding, recognizing current social conditions and needs, and wishing to contribute with its experience and know-how as well as its organizational capabilities, IENE has created a series of programmes and projects of broader interest with the aim of: (a) improving the living conditions of vulnerable groups of the population in Greece and SE Europe and offering increased access to energy use; (b) promoting innovation in energy; (c) creating a paradigm through the application of best practices in energy use by IENE itself. These programmes aim to raise public awareness and contribute to specific issues which are expected to have a wider impact and to have positive effects in improving the living conditions of a large segment of the population, both in Greece and in other countries in SE Europe as well as to create new opportunities of employment.

(i). Programme for Energy Poverty Alleviation

IENE is planning a study and action programme with the aim of understanding and addressing energy poverty. This program, once having established its terms of objectives, geographical coverage and expected results, will be announced and promoted to sponsor groups in order to secure funding.

Part of the program will be the design and implementation of a series of demonstration projects, mainly in Greece, and then in Albania, Bulgaria, Romania and Serbia, aiming in using advanced low-cost technologies and techniques for the use of renewable energy sources and for the improvement of energy efficiency of buildings and similar domestic and public facilities (e.g. schools, medical centers, sports centers). The implementation of these demonstration projects will be carried out with the contribution of IENE member-companies that will offer support in the form of financial contribution but also through the provision of technical expertise, materials and know-how. With the completion of these demonstration projects, there will be an update aimed at disseminating the results widely in order to create interest for the reproduction of projects by local communities and citizens groups.

(ii). Programme for Energy and Employment

This program is a follow-up to the very successful IENE study on Energy & Employment completed in December 2013. The study had gathered detailed data on employment in the energy sector and had reached certain conclusions regarding the creation and maintenance of employment in the energy sector. The proposed new study will aim to update employment data but also to examine in detail the conditions for creating employment in the constantly evolving energy sector and assessing the conditions for maintaining it in the long term by using advanced analytical methods. The study will lead to a number of conclusions concerning policies to be followed and the choice of the most promising energy sub-sectors suitable for making efficient energy investments which will be capable of contributing effectively to job creation.

(iii). Innovation in Energy Contest

IENE aims to organize a first annual Research and Innovation Contest on Energy and Environment aiming to promote and exploit ideas and research results and to attract young scientists and energy professionals who are involved in research and innovative actions and new business activities.

Energy constitutes an important factor contributing to the competitiveness of the economy and social well-being while at the same time energy applications must be environmentally friendly by contributing to sustainable development and tackling climate change.

The proposed IENE contest, to be launched in 2018, aims at promoting research projects and results in order to connect with the market by developing collaboration between academia and research groups and industry, and to encourage and attract young scientists to research and innovative actions and new business activities. As the competitiveness in the energy sector and the economy is increasingly based on innovation and on highly-skilled human resources, research activities can contribute to these two key parameters, highlighting production capacities both within and outside national borders.

Another aim of the contest is to reward researchers for their work and to support the research community of the Energy and Environmental sector, anticipating benefits for the economy and society.

The scientific and technological scope of the contest covers research activities in the field of energy in relation to the environment as well as environmental issues directly related to energy. There is a wide range of technologies and applications ranging from primary forms of energy, research, production, transportation, management, use and new application domains, energy storage, energy efficiency, just to name a few areas, combined with sustainable development and the support of environmental objectives.

The results of research projects, the advent of new and innovative ideas, mainly emerging from applied research, must be relatively mature to enter the market and meet demands for commercial exploitation, without the need to follow up with new research projects or they should be new in the market. As expected, research projects which provide results that can make a significant contribution to the economy, society and sustainable development are encouraged as well as their promotion within and beyond national borders. In order to meet market needs and requirements, IENE will undertake to define specific research areas for the submission of new and innovative ideas where relevant work can be conducted.

IENE has prepared the Contest Rules and plans to conduct the contest once it has secured sponsorship and relevant support.

(iv). IENE Moving to New Zero Emission Offices

IENE's work is being developed both in the field of information and training, as well as in studies and research, but also in the organization of specialized events, which makes it imperative to seek a new larger space for the housing of all its activities. Hence, IENE will be able to develop a series of initiatives and activities that are now restricted by lack of suitable space and hence to organize its work by new, more functional and more effective standards.

In particular, by transferring to new and larger offices the Institute aims at:

(a) The creation of an organized library that can be visited by Institute members and researchers alike. IENE possesses extensive material in the form of books, research papers and various periodicals, as well as extensive material in electronic form produced by IENE itself, which will be easily accessible through fully equipped (with computers etc) seats within the space of the library.

(b) The creation of a seminar room so that IENE can organize inhouse courses, on a regular basis, since courses and other educational activities are now taking place, by necessity in rented hotel spaces or elsewhere. The availability of IENE's own space for organizing small-scale events will enable the Institute to meet a crucial need for information and training, especially for the sake of young scientists in a field that is rapidly evolving to serve societal, economic and environmental goals.

(c) The creation of conference rooms which can host simultaneously the various scientific and other committees of the Institute that today, due to the lack of suitable spaces, are unable to meet on a regular basis as required. This will contribute to the smooth and efficient operation of the Institute as a large part of its work is carried out in cooperation with partners from Greece and abroad, as well as with external consultants who are actively involved in various IENE projects.

(d) The acquisition and renovation of the new IENE offices into a zero-emission building, is an IENE ambition in line with the new energy transition era. The aim is, besides saving energy and emissions, for these new offices to become a model for demonstration and educational purposes by displaying appropriate performance indicators and systems performance.

IENE's new offices remains a goal and an actual need since its early years and the efforts to find a suitable space continue, optimistically, in order to provide better and a wider variety of services to its members and to the business community.

Funding of Studies and Research Projects

The funding of IENE's studies and research projects comes from various sources inside and outside Greece. These include EU research programmes (e.g. Energy Intelligence, Horizon, Smart Cities), collaboration with specialized EU agencies where IENE participates as a consultant (e.g. Building Performance Energy Institute (BPIE), Joint Research Centre (JRC, Petten) but also companies and organizations that sponsor specific studies of the Institute. Some typical examples are:

- **"Energy & Employment in Greece" (M09)**, December 2013: Funded by DEPA, EPA Attica, Energean Oil & Gas and PPC
- **"The Outlook for A Natural Gas Trading Hub in SE Europe"**, September 2014: Funded by DESFA, DEPA, LAGIE, Hellenic Exchange Group, Gastrade
- **"SE Europe Energy Outlook 2016/2017"**: Sponsors: Hellenic Petroleum, PPC, DEPA, Supporters: TERNA Energy, LAGIE, Energean Oil & Gas, ADMHE, ENSCO, KG Law Firm.

Reference studies such as the above are normally being carried out by IENE on a multi-client basis. Companies sharing common interests and goals are supporting IENE, considering that the work and scientific status of the Institute is helping to highlight specific issues that concern them.

IENE faces serious challenges regarding studies and research having planned a demanding program of studies and research projects in order to respond to developments. However, continued effort is required in order to attract adequate funding.

In this context, IENE has the ability to design, along with interested organizations or companies, tailor-made studies and research projects as well as educational programmes that will meet the goals and aspirations of the organizations concerned.

7. The Educational Work of the Institute

7. The Educational Work of the Institute

Being in constant touch with the energy market and the wider energy community within Greece and abroad, following closely energy developments and providing, on a continuous basis, high level information to its members, IENE is today an important and vital hub of accumulated knowledge and experience on energy both in Greece and in the wider region of SE Europe. Thanks to the valuable knowledge that IENE has accumulated over the years and to the extensive network of its collaborators in Greece and abroad, the Institute finds itself in a privileged position in the field of energy information. Hence, in fulfillment of its social agenda, over the last 5 years, IENE has organized seminars and workshops of a purely educational nature.

More specifically, IENE organized two series of introductory courses on energy under the title "**The Energy Circle**" (2011 and 2012), and a little later organized a postgraduate seminar on "**Energy & Geopolitics**" (2015). The above courses, attended by a total of about 80 people, helped IENE to prepare a suitable curriculum both at undergraduate and postgraduate level. The experience gained from the organization of these seminars is hugely important in every respect and has helped the Institute design future educational activities.

IENE is now examining the organization of a new series of seminars for spring and autumn 2019:

Suggested IENE educational courses

Six series of courses are proposed during the Academic Years 2019 - 2020 and 2020 - 2021. The above courses will be organized by IENE with the lecturers being members of the Institute's scientific staff as well as associates and external partners (academics, independent researchers, business executives)

(1) Postgraduate Seminar on Energy and Geopolitics (February - April 2019)

This seminar will be conducted at postgraduate level comprising of 18 - 20 lectures, including the preparation and submission of theses at the end of the seminar. It should be noted that IENE successfully organized the first aforementioned seminar in the first semester of 2015 with the participation of 15 students. The aim of the seminar is to highlight the ever-closer interdependence between energy and geopolitics, at a time when the geopolitical environment of SE Europe is in constant turmoil while in addition, the seminars will aim to showcase the tremendous energy potential of the region. The latest developments in Syria and Iraq, the destabilization of Ukraine and the confrontation of the West with Russia combined with the EU's energy needs, in the context of tackling climate change and safeguarding energy security, constitute a landscape, whose complexity is compounded, as the crisis in the Eurozone as well as in the world economy has not yet been overcome.

This new postgraduate IENE Course which covers all of the above topics with a broad curriculum, is addressed to business executives, professionals, military officers, diplomats, journalists and graduate scholars who wish to expand their knowledge and to be informed in depth and with scientific methodology regarding energy and geopolitical developments and concerns. The aim of the above seminar is to offer students a strictly scientific methodological and analytical approach, understanding and deepening their knowledge of the energy and geopolitics relationship so that they are able, after completing the course, to efficiently manage issues related to data analysis, and the assessment or forecast of future developments.

(2) Introduction to the New Energy Market (February - March 2019)

In view of the new energy market, which will start in 2019 and will be based on the target model and the Hellenic Energy Exchange, IENE intends to organize a series of seminars addressed mainly to market executives who wish to be informed about the way the new market operates. This will be a 25-hour, fast-track seminar with experienced professional as lecturers.

(3) The Energy Circle (October - November 2019)

A series of 14 courses aimed at introducing the student to the wider energy sector. The courses will take place twice a week, afternoons, with lecturers who are well-known scholars and executives with experience in the subject. Each course covers a specific topic (e.g wind energy, solar energy, energy efficiency) and usually involves two lectures from one or two different lecturers. It should be noted that during the periods 2009/2010 and 2010/2011, IENE organized two such courses with great success.

(4) Introduction to Energy Efficiency (May 2019)

An 8-10 lessons course on energy efficiency and ways to improve it in businesses, public buildings and homes. This seminar will be addressed to graduate engineers, architects or environmental engineers wishing to professionally engage in the implementation of innovative energy efficiency technologies and techniques in buildings.

(5) Techniques for the Energy Upgrade of Buildings (October - December 2019)

A module of technical orientation seminars addressed at graduate engineers, architects or environmental engineers who wish to professionally engage in the implementation of innovative energy efficiency technologies and techniques in buildings. It is presumed that it will be a 2 to 3 month seminar with at least 50 hours of attendance, including visits to specific projects and applications. In this case, the funding of the seminar in the form of sponsorship will allow to selected people who lack the financial resources to join the seminar at a reduced fee.

(6) Investing in the Energy Sector (October 2019)

An introductory series of 8 to 10 courses aiming in highlighting investment opportunities in the energy sector. In addition to one or two introductory lectures prepared by IENE's scientific staff, 8 to 10 presentations in the form of case studies will be held by market executives to cover most of the energy applications (RES, industry, buildings, oil and gas).

8. Conferences and Other Events (2017, 2018)

8. Conferences and Other Events

The organization of regular seminars, conferences, workshops as well as high level regional meetings is one of the core activities of IENE. The Institute organizes, on average, 8-10 events a year, some of which take place in Greece and other in SEE countries. Most of the events are organized by IENE itself, while some are co-organized with local organizations, especially in SEE countries. On pages 18-19, a full listing of the 14 events organized by IENE in 2017 is shown.

➤ Past and Scheduled Events for 2018

- Afternoon meeting on "Energy and Geopolitics: Recent Developments with Focus on the Eastern Mediterranean and the Middle East", in cooperation with KEPA, Athens, Thursday, January 25, 2018
- General Assembly of IENE Associates and Cut of New Year Cake Feast, Athens, Tuesday, February 6, 2018
- Afternoon meeting on "Prospects for an Expanded South Corridor", in collaboration with KEPA, Athens, 5 March 2018
- "Energy Market Integration and Transition in SE Europe", special event in cooperation with Eurelectric, Brussels, Friday 9 March 2018
- Afternoon meeting on "Energy Security and Energy Transition in SE Europe", in the Energy Institute, London, Thursday 15 March 2018
- Conference on "The Electricity Market in Transition - Latest Developments in Greece and Europe", Athens, Wednesday 28 March 2018
- Conference on "Investing in Energy Efficiency", Athens, Thursday 24 May 2018
- 4th IENE Energy and Shipping Seminar, in the framework of Posidonia 2018, Athens, Friday 8 June 2018
- 11th SE Europe Energy Dialogue, Thessaloniki, 26-27 June 2018
- 3rd Energy Tech Forum, Tuesday 16 October 2018, Athens
- 3rd SEE Hydrocarbons Upstream Workshop, Athens, 30-31 October 2018
- 23rd National Energy Conference "Energy and Development 2018", Athens, 22-23 November 2018
- 6th Energy Symposium of Cyprus, FMW-Financial Media Way and IENE, Nicosia, Tuesday 4 December 2018

➤ Scheduling of Events for the first half of 2019

- Planning for 2019 IENE events is at an advanced stage and the detailed list is due to be announced by the end of November 2018. Almost half of the events are to be held abroad (Vienna, Brussels, Istanbul, Nicosia) and will cover a wide range of the energy sector. The first major event in 2019 is planned for the second half of February in cooperation with Energy Center Europe in Vienna on "Key Challenges in European Energy Transition". An event will follow in Athens in early March on "The Greek Electricity Market in view of the Target Model", and in early April the event "Where Europe will get its gas from?" is being planned in cooperation with Eurogas in Brussels.

Highlights from the afternoon meeting on "The Security of the Greek Energy System" (15/03/2017)



Highlights from IENE's regional conference in Thessaloniki entitled "Oil Refining, Storage and Retail in SE Europe" (30 -31/03/2017)



Highlights from the IENE conference on "Energy: Investments, Employment and Exports" (26/04/2017)



Highlights from the IENE Presentation at the Athens Stock Exchange entitled "SE Europe Energy Outlook 2016/17" (07/03/2017)



Highlights from the "10th SE Europe Energy Dialogue" held in Belgrade (13 - 14/06/2017)



Highlights from the IENE Workshop entitled "Energy Security and the Role of LNG in Southeast Europe" (04 - 05/07/2017)



Highlights from IENE's Presentation in Bucharest at the Academy of Economic Sciences for the "SE Europe Energy Outlook 2016/17" (24/10/2017)



Highlights from IENE's Presentation at IIEC of Sabanci University in Istanbul for the "SE Europe Energy Outlook 2016/17" (15/11/2017)



Highlights from the 22nd National Energy Conference of IENE entitled "Energy & Development 2017" (23 - 24/11/2017)



Highlights from the 2nd EnergyTechForum, Athens (25/11/2017)



Annexes

ANEX I – IENE Personnel

At the end of 2018 the following comprised IENE's inhouse staff:

IENE Personnel



Costis Stambolis is a graduate of Athens College (1968), with degrees in Physics, Architecture, Strategy and Innovation, having studied at London (University of London, North East London Polytechnic (NELP) and Architectural Association) and Oxford (Said Business School, University of Oxford). He is a licensed architect by the Technical Chamber of Greece.

Based in London, he has worked for many years as an independent scholar for solar energy applications in buildings, having founded and run one of the first specialized research offices (1978-1983), after having organised one of the first solar energy laboratories in Great Britain (1975-1978). He has been particularly involved with innovation issues and RES applications in developing countries. He has been a consultant to international organizations and major corporations on energy infrastructure, markets and energy policy.

He has lectured as a visiting professor at Universities and educational institutions in Greece, USA, Europe and Asia. He has extensively published articles on energy, environment and technology in Financial Times, Kathimerini, Imerisia and many other newspapers and specialized magazines in Greece and abroad. He was editor and director of the "Energy" magazine (1994-2002), and he manages the specialized web site www.energia.gr since 2001. In 1996, he founded and has been organizing ever since the annual national conference "Energy & Development".

He is a founding member of the Institute of Energy for SE Europe (IENE), (2003), of which he was twice elected president (2003, 2005), and today he is Vice-President and Executive Director. He has taken part in scientific conferences in Greece and abroad as a guest speaker and has published papers in scientific journals and conference proceedings, while he has published and edited books and edited volumes on energy issues.



Dimitrios Mezartasoglou commenced his cooperation with IENE in 2015 as an inhouse researcher and he is currently Head of Studies. He has studied Economics and he holds two Master's degrees from the University of Strathclyde on Global Energy Management and from the University of Exeter on Money and Banking.

Whilst at IENE, Dimitrios has been part of a variety of projects, including "SE Europe Energy Outlook 2016/2017" study and "Greek Energy Directory 2016" publication, while he is Assistant

Editor of "Market Fundamentals and Prices", "Monthly Analysis" and several other IENE's newsletters. In addition, since 2016, he is an associate of energia.gr where he contributes with articles and analyses on banking analysis and banking analysis of the energy sector.



Alexandros Perellis is IENE's full time researcher focused on electricity. He is an Industrial Engineer (DUTH) holding an MSc degree in Sustainable Energy Engineering from the Technical University of Denmark. He has developed, through his education, strong skills in carrying out studies related to solar energy systems, modeling and analysis of energy systems, feasibility studies of energy projects, energy efficiency and inclimate. As a graduate student, he participated in the TOPWASTE project in collaboration with the Risø DTU research center, where he contributed to the development of the OptiWaste optimization model, which manages large-scale waste stream optimization and energy problems and can be integrated into other energy management optimization tools.

Alexandros joined Institute in November 2017. He is responsible for the issue of "Electric Mobility Update" (bimonthly Newsletter of IENE) and participates in the elaboration of the Institute's research projects with main focus on RES and sustainability.

He is the main author of IENE's recent study "Prospects for the Electric Vehicle Market in Greece and Business Opportunities".



Alina Gourgioti is IENE's knowledge officer since October 2018. She has graduated from the International and European Studies department of the University of Piraeus and holds a master's degree in Global Environmental Governance from Vrije Universiteit Amsterdam. She speaks English and French, has worked in NGOs and she has research experience.



Adam Adamopoulos is a journalist who works at IENE since May 2018 as Press Officer. He has been responsible for compiling international energy news for "Energy" magazine (Delos Communications), editor of international financial news in Financial Times for SKAI radio, TV show "Teleoikonomia" (ERT) and newspapers "FILEELEFTHEROS" of Cyprus, and DAILY of Athens, as well as editor-in-chief, international correspondent, commentator and TV broadcaster at "New Channel".

He has written the script for the international TV show of introducing the FTSE indexes, on the Athens Stock Exchange, on behalf of Delos Communications, as well as the script for the history of Energy on behalf of Delos Communications. He has

attended the Stavrakos Film School and he speaks English. Along with his collaboration with IENE, he works as an editor at Energia.gr.



Katerina Stergiou is the Marketing Manager of IENE. She has extensive experience in customer management, strategy and design and implementation of marketing plans. She has contributed to the organization of hundreds of conferences, seminars, press conferences and business meals and to the organization of events in Greece and abroad in general. She is also involved in the advertising and promotion of the Institute by establishing contacts with many companies as a representative of IENE. The design of promotional campaigns and targeted awareness and promotion actions is a key occupation of Katerina Stergiou.



Elena Iatridi has been working at IENE since September 2018, having joined the administrative support team and she is a graduate of the Department of Turkish Studies and Contemporary Asian Studies of the National and Kapodistrian University of Athens, while she is a postgraduate student of the University of Western Attica in Energy and Environmental Investments. In IENE, she is responsible for subscriptions and event coordination having as a main responsibility to organize and coordinate conferences and other events in Greece and SEE countries.



Christina Dima has been working at IENE since August 2018 as a member of the administrative support team. She is a graduate of the Department of Social Theology of the National and Kapodistrian University of Athens, while she is a postgraduate of the University of the Aegean's postgraduate program "Models for the Design and Development of Educational Units". She also knows Braille and the Greek Sign Language.

Permanent External Associates of IENE

The following comprise IENE's group of external research associates who contribute regularly to the preparation of newsletters, Briefing Notes and related work:



Nikolaos Sofianos worked for IENE for ten years (2007 - 2017) firstly as a Researcher and later as Research Coordinator of the Institute. He is a graduate of the department of History and Philosophy of Science of the National Kapodistrian University of Athens while he holds a master's degree in Economic Development from the University of Glasgow in Scotland. He has carried out extensive research into

Renewable Energy Sources and their implementation in SE Europe. He was the Coordinator of the EU funded research project Geofar. His main area of interest is energy policy issues. He participates as a publishing assistant in the "Energy Issues" (IENE Monthly Newsletter) and in the "SE Europe Energy Brief" (a series of newsletters issued by the Institute). In addition, he has written many articles on energy while he has participated as a speaker at numerous conferences, seminars and workshops in Greece and abroad. Since 2016, he participates in the Board of IENE as a partner. Finally, he is currently a permanent external research associate, regularly contributing to the analysis of energy market issues.



Anastasios Mastrapas worked for two years (2014-2016) at IENE as Researcher - Scientific Associate. He is an Electrical Engineer with a MSc in Economics and Finance (AUEB). He was Assistant Editor of "Market Fundamentals and Prices" (bi-monthly Newsletter of IENE) and participated in the development of Institute's research projects. He has a 6-year working experience in the Renewable Energy Sources (RES) sector. He is currently an external Research Associate contributing regularly analysis on energy market issues.



Dr. Charles Ellinas, is Managing Director of the Cyprus Hydrocarbon Company and Senior Research Associate of IENE. He has over 35-year experience in the oil & gas sector in senior management positions. Currently, he is CEO of e-CNHC, providing management and advisory services in the oil & gas and energy sectors in Cyprus and the SEE region. Prior to this, as CEO of KRETYK, he was responsible for implementing Cyprus's strategy for the development of its hydrocarbons sector. Until 2012, he was a Director of Mott MacDonald for 25 years and the Managing Director of Mott MacDonald's Oil, Gas & Petrochemicals business worldwide. Charles has participated on several occasions at IENE conferences and Workshops and has contributed analysis on hydrocarbon issues related to the East Med. He is currently an external Senior Research Associate of IENE based in London.

ANEX II – IENE Membership

As at the end of September 2019 IENE's membership included some 1,100 members. Of these 350 are individual members, including full members and students, associates and honorary members, while 750 come from companies. The 71 companies listed in the following pages have accredited between them 750 individuals who are employed in various capacities by these companies.

IENE Corporate Members (as of 30/09/2018)

- | | |
|--|---|
| ➤ ABB S.A. | ➤ GOLDECO S.A. |
| ➤ AEGEAN FIRST COMPANY AFCO S.A. | ➤ INTERNATIONAL TECHNOLOGICAL APPLICATIONS (ITA) S.A. |
| ➤ AERS (Energy Agency of Republic of Serbia) | ➤ LDK CONSULTANS |
| ➤ ALPIQ ENERGY HELLAS S.A. | ➤ MAS EUROPE |
| ➤ BLUE GRID GAS & POWER S.A. | ➤ MCKINSEY & COMPANY LTD |
| ➤ BP OIL HELLENIC SA | ➤ M & M Gas S.A. |
| ➤ C & M ENGINEERING | ➤ MOTOROIL HELLAS S.A. |
| ➤ CORAL S.A. | ➤ NAFTA INDUSTRIA SRBJE (NIS) (Serbia) |
| ➤ CENERGY S.A. | ➤ NORTON ROSE FULBRIGHT LLP |
| ➤ DNV GL | ➤ PE Electric Power Industry of Serbia |
| ➤ EDF EN HELLAS SA | ➤ PHOTOS PHOTIADES GROUP Ltd |
| ➤ EGNA Law Firm | ➤ PWC |
| ➤ ELPEDISON S.A. | ➤ ROEC |
| ➤ ENCOS HELLAS LTD | ➤ ROTA S.A. |
| ➤ ENEL GREEN POWER TRADING S.A. | ➤ SIEMENS S.A. |
| ➤ ENEL ROMANIA | ➤ SPECTRUM GEO Ltd (UK) |
| ➤ ENERGEAN OIL & GAS | ➤ SRIBJAGAS (Serbia) |
| ➤ ENERGY EXEMPLAR | ➤ SUNLIGHT RECYCLING S.A. |
| ➤ ENFINITY ENERGY GREECE LTD | ➤ SYSTEMS SUNLIGHT SA |
| ➤ ENSCO S.A. | ➤ ADMIE |
| ➤ EUROASIA INTERCONNECTOR | |

- ELECTRICITY AUTHORITY OF CYPRUS (EAC)
- ASPROFOS
- TRITOXO PROJECT MANAGEMENT
- PPC S.A.
- PPC RENEWABLES
- HEDNO
- DEPA S.A.
- ATHENS INTERNATIONAL AIRPORT S.A
- EDA ATTIKIS S.A.
- EDA THESSALONIKIS-THESSALIAS
- HHRM
- NATIONAL BANK OF GREECE (NBG)
- ELVAL S.A
- ELIN BIOFUELS
- CABLEL HELLENIC CABLES GROUP S.A.
- HELLENIC PETROLEUM S.A.
- ATHENS EXCHANGE GROUP S.A.
- EDEKA S.A
- HELLENIC UNION OF INDUSTRIAL CONSUMERS OF ENERGY (UNICEN)
- EPA ATTIKIS S.A
- EUDITI LTD
- HERON S.A.
- KYRIAKIDIS GEORGOPOULOS LAW FIRM
- OPERATOR OF ELECTRICITY MARKET (LAGIE S.A.)
- MESSARITIS RENEWABLES LTD
- NAVRIDIS & ASSOCIATES EGNA LAW FIRM
- MITILINEOS GROUP S.A.
- PROMETHEUS GAS S.A
- CORINTH PIPEWORKS S.A
- TERNA ENERGY S.A

It should be noted that 30% of IENE's corporate members are headquartered abroad and operate mainly outside of Greece

ANNEX III – List of IENE's Sponsors and Supporters

Sponsors and Supporters

Over the last 14 years IENE's work has been supported by a group of companies and organizations that either as Sponsors and or as Supporters, have assisted the Institute in carrying out studies and organizing events. These Sponsors and Supporters are separated into two main categories as follows:

Regular Sponsors

- | | |
|---|-----------------------|
| ➤ IPTO | ➤ MITILINEOS GROUP |
| ➤ Public Gas Corporation (DEPA) | ➤ Prometheus Gas S. A |
| ➤ Public Power Corporation (PPC) | ➤ Terna Energy S. A |
| ➤ PPC RENEWABLES | ➤ Energean Oil & Gas |
| ➤ HEDNO (Hellenic Electricity Distribution Network Operator S.A.) | ➤ ENSCO S.A |
| ➤ DESFA (Hellenic Gas Transmission System Operator S.A) | ➤ Gastrade S. A |
| ➤ Athens Exchange Group S.A | ➤ KG Law Firm |
| ➤ HELLENIC PETROLEUM | ➤ Systems Sunlight |
| ➤ NIS | ➤ Protergia S.A |
| | ➤ Siemens S. A |

Occasional Sponsors and Supporters

- | | |
|-------------------------------|---------------------------------------|
| ➤ Agroinvest SA | ➤ ENEL Green Power |
| ➤ Alpha Bank | ➤ GSP (Romania) |
| ➤ ALSTOM | ➤ J+P AVAX |
| ➤ ATLAS S.A. (Albania) | ➤ Jet Oil S.A |
| ➤ Banca Românească S.A. | ➤ KLC Law Firm |
| ➤ EDF energies nouvelles | ➤ M.T. Construction Sh. P. K(Albania) |
| ➤ EEN Hellas Renewable Energy | ➤ Martifer Group |
| ➤ EGL S.A. | ➤ MedGas S.A |
| ➤ EKO Bulgaria | ➤ Norton Rose Fulbright Law Firm |
| ➤ Elpedison Energy S.A | ➤ Middle East Economic Survey (MEES) |

- Prime Marine SA
- Shell Hellas SA
- Solar Cells SA
- Toyota
- Trans Adriatic Pipeline (TAP)
- VESTAS
- Thrace Wind Farms
- Aluminium of Greece S.A
- ATTICO METRO S.A
- Operator of Electricity Market (LAGIE)
- DESMIE (HELLENIC TRANSMISSION SYSTEM OPERATOR S.A.)
- Lykourazos Law Offices
- ENSCO
- UNICEN
- ELVAL S.A
- ELICA S.A
- ELINOIL SA
- HAIPP (Hellenic Association of Independent Power Producers)
- HELLASRES (Hellenic Union of Electricity Producers from Renewable Energy Sources)
- EPA Attika
- ILPAP (Electric Buses of Athens and Piraeus Region)
- ISAP S.S (Electrical Urban Railway)
- OASA (Athens Urban Transport Organisation)
- TRAINOSE
- RAE (Regulatory Authority for Energy)
- SEES (Council for National Energy Strategy)
- TRAM S.A
- EEN HELLAS S.A
- Sky Solar SA
- Wartsila SA
- Nuclearelectrica (Romania)
- Ministry of Economy and Development

ANEX IV – Research Work & Studies

The following is a detailed list of IENE's studies conducted over the last twelve years. This list includes completed studies as well as others that are in progress or under development.

➤ Completed Studies 2007-2018

- "National RES Targets Over the Next Five Years", published, April 2007 (M01)
- "The New Landscape in Greece's Electricity Market", published, February 2008 (M02)
- "The Critical Role of Transport in Energy", published, July 2009 (M04)
- "The Energy Security Policy of the Islamic Republic of Iran", published, December 2009 (M05)
- "SE Europe Energy Outlook 2011", An IENE Reference Study, published, June 2011 (M06)
- "The Role of Oil Imports in Greece's External Balance of Payments", published, July 2013 (M07)
- "Renewable Energy Sources in SE Europe: Current Situation and Future Prospects", October 2012, completed and published as Working Paper No 19 (M08)
- "Energy and Employment in Greece", an IENE Research Project, published, December 2013 (M09)
- "Europe's Natural Gas Supply Prospects, the South Corridor and the Role of Greece", an IENE Assessment Study, published, January 2012 (M10)
- "The Helios' Project: Can Solar Energy be Exported?" An IENE Assessment Study", published, February 2012 (M11)
- "Greece's experience in utilizing EU Structural Funds for improving energy efficiency in buildings", an IENE Research Note, published January 2015 (M13)
- "Hydrocarbon Exploration and Production in the East Mediterranean & the Adriatic Sea" an IENE Review Paper, published, May 2012 (M14)
- "A Strategy Study on the Electricity Interconnections of SE Europe and Greece's Role", Assessment Study carried out on behalf of Greece's Regulatory Energy Authority (RAE), published, November 2012 (M15)
- "SE Europe's Hydrocarbon Import Dependency", Research Note, in progress (M16)
- "The Role of Greece as a Supply Route to Europe in View of Latest Gas Discoveries in the East Mediterranean", A Research Note, published, December 2012 (M17)
- "Gas Storage in SE Europe and the Role of LNG", an IENE Study, carried out on behalf of Greece's Regulatory Energy Authority (RAE), March 2015 (M18)
- "The Outlook for a Natural Gas Trading Hub in SE Europe", an IENE Research Project, published, September 2014 (M19)
- "A Strategy for Unlocking Greece's Hydrocarbon Potential", A Strategy Study, published, September 2015 (M25)

- “The Vertical Corridor: From the Aegean to the Baltic”, A Study Project carried out with the support of Greece’s Public Gas Corporation (DEPA), published, May 2015 (M26)
- “Review of Turkey’s Nuclear Programme”, published as Briefing Note No 6, June 2015 (M27)
- “SE Europe Energy Outlook 2016-17”, An IENE Reference Study, published, January 2017 (M23)
- Gas Supply in SE Europe and the Key Role of LNG, An IENE Study Project, completed December 2017 (M46)
- “Prospects for the Development of Electric Vehicles Market in Greece and the SE European Region and Opportunities for Commercial Exploitation”, completed July 2018, (M47)
- “Global Energy Markets in Transition and the Role of Electricity Storage: Prospects and Challenges”, An IENE Study, first part completed in September 2017 (M48)

➤ **Studies in Progress or Under Preparation (2017-2020)**

- “The Energy Market in Greece: Recent Developments and Prospects”, (M03)
- “The Role of the Caspian and Black Seas in European Energy Security”, an IENE Research Project, in progress, 2015/2017 (M12)
- “Energy Review of SE European countries: Greece “, to be published as Country Profile 2017 (M20)
- “The East Mediterranean Energy Corridor” an IENE Study Project, in progress, 2015 /2017 to be published as a Research Note in 2017 (M21)
- “Energy and Transportation in Greece”, revised study (originally published by IENE in 2009) to be published revised in September 2017 (M22)
- “SE Europe Energy Outlook 2016/2017”, An IENE Reference Study, published in May 2017 (M23)
- “Developing Albania’s Hydroelectricity Sector”, an Assessment Study, completed, June 2016, to be published as Working Paper, in 2017 (M24)
- “Developing a competitive electricity sector in Greece and the role of island interconnections”, A Strategy Study, (based on a Study which IENE originally carried out on behalf of the Regulatory Energy Authority in 2012) (M28)
- “Demonstrating Low Cost Energy Efficiency Techniques and Systems for Buildings in SE Europe”, A Review Study, in progress (M29)
- “Strategy for Reducing Industrial Tariffs in Electricity and Natural Gas”, (M30)
- “Renewable Energy Sources (RES) and their Importance for Economic Growth”, (“Trends and Prospects of RES in Greece”) (M31)
- “Concept Development Study for the Further Utilisation of Kosovo's Lignite Deposits and Investment Prospects”, (M32), (pending)
- “East Mediterranean Gas Resources and Export Options”, to be published as Working Paper (M33)
- “Energy, Investment and Employment Prospects in Greece”, - (Update of M09 study that published in December 2013), published as a Working Paper on April 2017(M34)

- “Energy as a Main Pillar of Greece’s Economic Growth in the 21st Century», an IENE Study (M35)
- “European Gas Supply and the Role of the East Mediterranean’s”, A multiclient study project carried out with the support of companies active in the East Med region, anticipated publication date - October 2017 (M36)
- “A Carbon Capture Storage and Utilization (CCS/CCU) Strategy for Public Power Corporation (PPC)”, An IENE Strategy Study, to be published 2018 (M37)
- “SE Europe Energy Barometer”, a multiclient IENE Market Research Project, to be conducted in co-operation with the Energy Institute (EI) of the UK (M38)
- “Energy Review of SE Europe Countries: Turkey”, to be completed and published as Country Profile in 2017 (M39)
- “New Gas Transition Routes in SE Europe”, an assessment study to be published as an Assessment Study within 2017 (M40)
- “The Weaknesses and Challenges of the Refining Sector in the SE Mediterranean and Southeast European Region” (M41)
- "Study on Energy Efficiency in the Building Sector in Southeast Europe with Special Reference to Greece" (M42)
- “The Role of RES in the Economic Development of the Greek Archipelago: Current Situation, Examples and Prospects” (M43)
- “Prospects for an Expanded South Corridor” (M44)
- “Kastelorizo’s Energy Sustainability” (M45)
- “Gas Supply in SE Europe and the Key Role of LNG” (M46)
- “SE Europe Energy Outlook 2020” (M49)
- "Investing in Greece’s Energy Sector" (M50)
- “Prospects for Developing a Gas Trading Hub in SE Europe” (M51)