

2018 Annual Report

and Review of Activities for 1st Half of 2019



Athens, September 2019

Table of Contents

Introduction.....	3
1. The Institute of Energy for South East Europe	4
2. Administration and Organisation of IENE.....	9
3. Annual Report 2018.....	16
4. Members' Briefing	34
5. Research Work and Studies Undertaken IENE (2019 -2020).....	40
6. Special Research Projects and Studies	52
7. The Educational Work of the Institute	57
8. Conferences and other Events (2018, 2019).....	61
Annex I –IENE Personnel	73
Annex II –IENE Membership.....	78
Annex III –List of Sponsors and Supporters	80
Annex IV –IENE's Research work and Studies	81

1. The Institute of Energy for SE Europe

Introduction

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

The first part of their report covers the Institute's activities for 2018, including financial data, as well as a review of the first half of 2019.

A quick glance at the Annual Report helps to understand the work carried out by IENE including the regular information gathered, analysed and subsequently sent to its members which constitutes one of the Institute's core activities, in addition to research, study work and educational activities undertaken by it. 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 through which its members not only acquire expert knowledge in the area of energy but also gain access to recognized experts of the broad energy sector. At the same time IENE's members can participate in high level discussions with important actors of the energy sector as well as representatives from the academic and research community.

The second part of the annual report focuses on the research and study activities of the Institute, which constitute another very important activity. The presentation of relevant data originating from completed studies, reveals the depth and breadth of the work undertaken by the Institute. Finally, there is an extensive presentation of both the Conferences and other Events organized by the Institute in Greece and in other countries of SE Europe, as well as of its educational work, which was significantly enhanced during 2019.

The overall aim of the present publication is to present the reader with a comprehensive picture of IENE and more specifically of its organization and set of activities. IENE is essentially a regional institute operating in the area of South East Europe, and which through its limited resources and thanks to the voluntary work of its partners has emerged in recent years as a leading energy think tank in the wider SE area.

1. The Institute of Energy for SE Europe

➤ Aims and Objectives

The Institute of Energy for South East Europe (IENE) is a non-profit organization active in the region whose main purpose is the study, analysis and research of key energy issues as well as the provision of information to professionals active in the energy sector and to the public opinion in general. IENE's aim is to become a pivotal actor in the discussions pertaining to regional energy issues and thus to constitute an unbiased, objective and reliable forum where energy issues can be discussed, analyzed and presented to the scientific and technological communities, to all different stake holders and to the relevant government institutions. IENE's objectivity, reliability and credibility is ensured by its scientific competence and administrative rectitude as well as by the absolute transparency guiding each and every one of its actions.

IENE's vision is to become an independent, reliable and scientifically competent organization in the areas of studies and analysis and therefore in a position to formulate well thought out policy proposals on the rational production, transportation and use of energy in South East Europe with the overall aim being the achievement of sustainable socioeconomic development and environmental protection.

The Institute was founded in 2003 by a small group of independent energy professionals who were, and still are, actively involved in the energy sector under various capacities. This initial group of IENE partner-founders has gradually expanded, consisting of 29 individuals, who also constitute the Institute's Board of Directors (BoD).

The Institute, with its headquarters in Athens, Greece, is a non-profit civil partnership and its charter can be found on the Institute's website, namely www.iene.eu.

IENE's ultimate goal is to participate in the formulation of energy policies at national, regional and global level, within the wider region of South-East Europe. These policies focus on the rationalization of the production and utilization of both conventional and renewable sources of energy as well as the promotion of new environmentally friendly energy sources including energy efficiency. IENE's work is in line with the European Union's sustainable development strategy, which is environment sensitive, provides for energy security and supports the adoption of climate goals towards long-term carbon neutrality.

In this context IENE pursues in parallel policies aiming at economic and social development whilst ensuring competitiveness in the energy sector.

Areas of Interest

The energy sub-sectors covered by IENE, through its various activities include:

- Energy policy/energy planning, energy strategy
- Production, transmission and distribution of electricity, smart grids and storage
- Hydrocarbon research, exploration and production
- Oil refining, storage and trade
- Transportation, storage and trade of natural gas
- RES exploitation in order to achieve maximum penetration in the energy mix
- Energy Market Development and Competition
- Waste management in relation to the production and energy use.
- Clean energy technologies
- Energy, Environment and Climate Change
- Energy and transportation
- Energy efficiency and advanced technology use and management
- Heating and cooling of buildings, and construction of buildings of zero or close to zero CO₂ emissions.

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

- Study, analysis and research work
- Information dissemination through specialized newsletters, reports, studies and conference proceedings
- Press briefings
- Educational work, professional courses, seminars and lectures
- Organisation of events (workshops, seminars, and conferences)
- Participation in European and international programmes and projects

➤ Organisation and Operation

The partners of IENE constitute the General Assembly of Partners (GAoP), which is the highest administrative body of the Institute and has the responsibility for all critical decisions concerning the direction and the work of the Institute. At present GAoP also acts as the Institute's Board of Directors.

In addition to the General Assembly of Partners, an Executive Committee (EC), which consists of 7 members- and is elected by the General Assembly (GA) 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 Board of Directors and undertakes the implementation of the General Assembly's resolutions.

Besides, the work of the Institute is supported by its inhouse staff and external research associates, as well as by the Scientific Committees, which effectively contribute to the Institute's activities by analyzing latest developments, by formulating views and by tabling proposals for further work. In consultation with the Executive Director, the Scientific Committees also undertake the assessment of proposals, and studies and also assist in the participation of the Institute in public consultations.

More information about the Institute's management, its partners, staff and its Scientific Committees is provided in "Administration and Organisation of IENE". Information on IENE's personnel is given in greater detail in ANNEX I.

➤ IENE Members

Like most scientific institutes, IENE relies on its members for its operation and development. These may be individuals, companies and organizations. IENE members play an active role in the Institute's activities through participation in its events, its scientific committees and in various working groups convened by the Institute. All professionals, active in the energy sector may 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 programme of events and publications. Members can actively get involved in the scientific and other committees according to their interests and specialization as well as participate in all Institute events. In order to become a full 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 funding for its operation are contributions by its members in the form of annual fees, sponsorship by companies and organizations which support specific various aspects of the Institute's work (studies, research programs, publications, events) and its

participation in EU funded or other research programmes. A detailed list of IENE's sponsors and supporters is presented in Annex III.

2. Administration and Organisation

2. IENE: Administration and Organisation

➤ IENE's Executive Committee

The Executive Committee of the Institute elected on July 6, 2018, for a two (2) year term, until June 2020, was the following:

Chairman

- Mr. John Chadjivassiliades

Deputy Chairman and Executive Director

- Mr. Costis Stambolis

Alternate Deputy Chairman:

- Mr. Gus Papamichalopoulos

Secretary General

- Mr. Konstantinos Theofylaktos

Members

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

The composition of IENE's Executive Committee, which was elected on June 20, 2019, for a two (2) year term, until June 2021, is as follows:

Chairman & Executive Director:

- Mr. Costis Stambolis

Deputy Chairman:

- Mr. Gus Papamichalopoulos

Secretary General:

- Mr. Konstantinos Theofylaktos

Members:

- Mr. Anastasios Tosios
- Mr. Thomas Lamnides
- Mr. Dionysios Xenos
- Mr. Christos Dimas

➤ IENE's Board of Directors (BoD)

IENE's General Assembly of Partners, which also acts as its "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 29 members* as follows:

- Emiliós Bousios, Mechanical Engineer, ex- Managing Director of PPC
- Professor Pantelis Capros, Engineer-Economist, ex-Chairman of RAE, Prof. of Energy Economics, School of Electrical Engineering, NTUA, Director of E3M Lab
- Ioannis Chadjivassiliades, Mechanical-Electrical Engineer, Independent Energy Consultant
- Dr John Desypris, Chemical Engineer, Director, Department of Regulatory Affairs, Mytilineos SA
- Mr. Christos (Christodoulos) Dimas, Civil Engineer, NTUA, ex General Director, HELPE – THRAKI SA
- 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
- Professor, Emmanouil Kakaras, Mechanical Engineer, Professor of Electrical Engineering, NTUA
- 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
- Dr. Konstantinos Nikolaou, Geologist and Technical Advisor, Energean Oil & Gas, ex Managing Director of Hellenic Petroleum Upstream
- Spyros Palaogiannis, Chemist (MBA), MEDGAS Managing Director and ex Chief Executive Officer of DEPA
- Alexandros Papadopoulos, Mechanical Engineer, Consultant Engineer
- Konstantinos (Gus) 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
- Nick Sofianos, Economist, Research Coordinator, IENE
- Costis Stambolis, Architect-Energy Scientist and Engineer, Director of www.energia.gr, Columnist-Analyst
- Konstantinos Theofylaktos, Mechanical Engineer, Chairman, HACHP Greece
- Anastasios Tosios, Mechanical Engineer, Commercial Director, EDA Attica
- Alexandros Vrachnos, Chemical Engineer, ex-Chairman of the Standing Committee on Green Transport, Ministry of Transport and Communications
- Dionysios Xenos, Chemical Engineer

***Following the last elections of June 2019, 4 new members were added and include**

- Yannis Grigoriou, CEO, Hellenic Petroleum Upstream SA
- Dr. Eugenia Giannini, Attorney at Law, E. Giannini & Associates Law Firm
- Dr. Konstantinos Karayannakos, Executive Director Gas Supply, Commercial and International Activities, DEPA
- Sophia Politopoulou, Regulatory Branch Director, Strategy & Regulatory Department, Hellenic Electricity Distribution Network Operator (HEDNO)

➤ 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 personnel but also by external research associates, 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 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 which oversee a variety of issues in the energy sector. The Scientific Committees constitute advisory bodies which nevertheless 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 as well as 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 established companies with significant professional experience in their field, with most of them being members of IENE's Board of Directors. The members of the Committees are executives of energy companies, organizations and institutions which are corporate members of IENE, but also individual energy professionals from Greece as well as other countries in SE Europe.

The chairmen of IENE's Scientific Committees for the period of 2018-2019 were the following:

- Christos Dimas, Energy and Geopolitics,
- Costas Theofylaktos, Energy Efficiency
- Andreas Petropouleas, Electricity

- Anastasios Tosios, Natural Gas
- Tereza Fokianou, Hydrocarbons Research and Production (Upstream)
- Liana Gouta, Refinery, Trade and Storage of Petroleum (Downstream)
- Nicholas Sofianos, Renewable Energy Sources

➤ **IENE's Scientific Council**

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

➤ **Collaboration with other Organisations**

The establishment of contacts with institutions and organizations, research centers and scientific institutes which are active in the energy and environment sectors in 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), The Oxford Institute for Energy Studies (OIES) (UK), the SEA Consulting (Tirana) and others. Through these collaborations, IENE aims at becoming a bridge of communication on energy issues among the South East European countries, by enhancing and supporting the efforts and strategies of businesses and organizations which operate in the broader geographical area of SE Europe and the East Mediterranean.

➤ **International Advisory Board**

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

Moreover, the International Advisory Board (IAB) has the capacity to make recommendations to IENE, either collectively or through a group of its members, for the undertaking of certain 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.

Members of IENE International Advisory Board (IAB)

- Prof. Vesna Borozan, Professor, University "Sts. Cyril and Methodius"-Faculty of Electrical Engineering and Information Technologies, **North Macedonia**
- Professor Pantelis Capros, Engineer-Economist, ex-Chairman of RAE, Prof. of Energy Economics, School of Electrical Engineering, NTUA, Director of E3M Lab, **Greece**
- Dr Gina Cohen, Lecturer & Consultant on Natural Gas, **Israel**
- 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 Charles Ellinas, Senior Associate, Atlantic Council **Cyprus – UK**
- Prof. Nicholas Farantouris, Jean Monnet Professor of EU & Energy Law, University of Piraeus, **Greece**
- Dr. Narsi Ghorban, Secretary to the Environment and Energy Commission of the International Chamber of Commerce, Iran Committee, **Iran**
- Ms. Eugenia Gusilov, Director, Romanian Energy Centre (ROEC), **Romania**
- Dr. Hans Hutta, General Manager, ICM, **Austria**
- Dr. Gjermani Ilia, Regulatory & Management, Petroleum Sector, Ministry of Energy, **Albania**
- Prof. Andrey Konoplyanik, Adviser to Director and Professor of International Oil & Gas Business, Gazprom Export and Russian State Gubkin Oil & Gas University, **Russia**
- Mr. Solon Kassinis, Director Kassinis, International Consulting, **Cyprus**
- Prof. Abbas Maleki, Energy Policy, Dpt. of Energy Engineering, Sharif University of Technology, **Iran**
- Prof. Dimitris Mavrakakis, Director of KEPA, University of Athens, **Greece**
- 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**
- 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. Simon Uzunov, Head of Electricity Sector, Energy Community Secretariat, **Vienna**

- Mr. Gokhan Yardim, Partner and Manager, ADG Anadolu Naturalgas Consultancy and Trade Ltd., **Turkey**
- Dr. Yurdakul Yigitguden, Independent Consultant, (former co-ordinator of OSCE Economic and Environment Activities, OSCE), **Ankara, Turkey**
- Dr Katja Yamifava, Senior Research Fellow Oxford Institute for Energy Studies (OIES), **Oxford, UK**
- Mr. Tim Yeo, Chairman New Nuclear Watch Institute, **London, UK**
- Mr. Milan Zdravkovic, Development Sector Director, Srbijagas, **Serbia**

3. Annual Report 2018

3. Annual Report 2018

The Annual Report 2018, reports on the Institute's activities, the work undertaken and the financial performance of the Institute for the year 2018.

As a result of IENE's development strategy, which was first formulated in 2012 and hence periodically revised, the Institute's management has focused its efforts over the last year on four main axes:

- (i). Upgrading and improving the information sent on a regular basis to its members, associates and partners with emphasis on the broadening and 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 countries of SE Europe and beyond which contribute towards 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

As part of the IENE's overall effort to upgrade and expand its range of publications, the Institute launched a number of new regular and occasional publications. IENE continued throughout 2018, the consistent briefing of its members by sending them regularly, its monthly and weekly publications as well by preparing occasional briefings.

▪ Regular Publications

The following publications were regularly sent to all IENE members:

- ✓ **S.E. Europe Energy Brief:** *Market Watch, Market Insight, Monthly Analysis, Market Fundamentals and Prices and Regional Insight*. Issues No. 250 – 276 (Jan 2018 – DEC 2018)
- ✓ **Energy Issues:** Issues No. 141 – 150 (Jan 2018 -Dec 2018)
- ✓ **Events Bulletin:** Issues No. 29 – 32 (Jan 2018 - Dec 2018)
- ✓ **Energy Weekly Report:** Issues No. 102-147 (Jan 2018 – Dec 2018)

- ✓ **Geopolitic Bulletin: Issue 12 (April 2018)**
- ✓ **Views and Opinions on Energy and the Environment Issues (No. 13 – 20)**

▪ Occasional Briefings

Within the framework of IENE's efforts to provide accurate information to its members and in view of important developments or outstanding events, the following occasional briefings were prepared and sent:

- ✓ **News Flashes:**
 - News Flash No. 18 **"As USA Allies Strike Syria the Potential for a Broader Conflict Looms Large"**, April 2018
- ✓ **IENE Comment:**
 - No. 17 **"East Med's Hydrocarbon Exploration Axis Shifts West"**, February 2018
 - No. 18 **"The Trans Caspian Gas Pipeline is destined to transport natural gas from Turkmenistan and Kazakhstan to Europe, bypassing Russia and Iran"**, March 2018
 - No. 19 **"EU's new renewable targets and SE Europe's divergent path"**, June 2018
- ✓ **IENE Company Profile:**
 - No. 4 **"NIS"**, January 2018

▪ New Newsletters

The following new newsletters were launched and hence regularly sent to all IENE's members:

✓ **Analysis of the Greek Energy Sector (in Greek)**

The particular newsletter aims at informing the members of IENE on the current market developments in the Greek energy sector and more specifically on the electricity and gas markets. During 2018 5 issues with the title "Monthly Market Analysis of the Greek Energy Sector" were sent via e-mail and by the end of June 2019 the **Issues No. 1-80** were sent to IENE's members. The particular newsletter is being published on a weekly and monthly basis. Issues pertaining to the Electricity Market are covered on a weekly basis, whilst issues regarding the Greek electricity and gas energy markets are covered on a monthly basis.

✓ **Electromobility on a National and International level**

The particular newsletter aims at informing IENE's members on the developments in the electromobility sector both on a national and international scale. It is being

published in both Greek and English. During 2018 the Greek Issue was sent during July, whereas the English editions were sent during the months of August and December.

✓ SEE Electricity Market Analysis

This new newsletter, which was first published in September 2018, aims at informing IENE members on the developments in the electricity market sector in SEE as well as on the performance of the electricity energy systems in the region. This latest IENE newsletter is published on a weekly basis. During 2018 Issues **No. 1-13** were sent.

B. Studies

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

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.

<https://www.iene.gr/articlefiles/gas%20supply%20in%20se%20europe%20and%20the%20key%20role%20of%20lng%20test.pdf>

- **Energy Sufficiency of Kastellorizo (M45)**

In September 2017, IENE embarked on a new study project focusing on Greece's southernmost island, Kastellorizo. The study aims to examine the conditions under which Kastellorizo 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 Kastellorizo 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 Annual Report 2017 and Activities Review of 2018's First Semester Institute of Energy for South East Europe 43 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.

- **"Prospects for the Electric Vehicle Market in Greece and Business Opportunities" (M47)**

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 provides 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 Annual Report 2017 and Activities Review of 2018's First Semester Institute of Energy for South East Europe 44 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 explores 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 were conducted in January, March and June 2018 respectively, with the final draft finally completed at the end of June 2018. An IENE Working Paper summarizing the findings of the study follows.

For more information regarding the WP please click on the following link:

<https://www.iene.gr/articlefiles/working%20paper%20no%2024.pdf>

- **(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 2018, due to a lack of funds and available personnel. IENE has since made remarkable progress in its research work, its managements but has also strengthened substantially its finances. The study was finally published in early 2019. IENE's target is to publish it on an annual basis at the beginning of each year. This report provides a well-researched review but is 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.

<https://www.iene.gr/articlefiles/file/meletes/iene-meleti-2019.pdf>

C. Events

During 2018, IENE organized 14 events. Some of them were organized entirely by the Institute whereas others were jointly convened with other bodies. More information regarding the particular events can be found on IENE's websites. Members have also access to the proceedings of those events through the relevant microsites where details of which become available soon after each event and are forwarded to all members.

For most events, especially for the conferences, specialized microsites were set up where all papers have been uploaded. The list is as follows.

- Evening colloquium on **"Energy and Geopolitics: Recent developments with special reference to the East Mediterranean and the Middle East"**, in collaboration with the Energy Policy and Development Centre of the University of Athens (KEPA), Athens, January 25, 2018. (For further information about the colloquium, please visit the following link: <http://www.iene.eu/en/congress/3/energy-and-geopolitical>)

- **IENE's Board of Directors General Assembly and New Year Feast**, Hotel Electra Palace, Athens, Thursday, February 6, 2018
- Evening Colloquium on **"Prospects for an Expanded South Corridor"**, organized by IENE in collaboration with KEPA, at the Museum of the University of Athens, Plaka, Athens, March 5, 2018. (For further information about the colloquium, please visit the following link: <http://www.iene.eu/en/congress/5/prospects-for-an-expanded-south-corridor>)
- **"Energy Market Integration and Transition in SE Europe"**, a special half-day event in co-operation with Eurelectric, Friday, March 9, 2018 (For further information about the colloquium, please visit the following link: <http://www.iene.eu/en/congress/4/conference-brussels>)
- An IENE evening lecture on "Energy Security and Energy Transition in SE Europe", at the Energy Institute, London, Thursday March 15 2018 (The presentations are available on the following: https://www.iene.eu/articlefiles/1aaaaaenergy%20security%20and%20energy%20transition%20in%20se%20europe_gjp.pdf)
- A seminar at the Oxford Institute for Energy Studies, in Oxford, regarding the energy situation on SE Europe was held on March 16, 2018 where Costis Stambolis as a guest speaker presented IENE's findings based on the "SEEE Outlook 2016-2017 Study. The Presentations are available on the following links: <https://www.iene.eu/introduction-to-the-expanded-south-corridor-concept-oxford-institute-for-energy-studies-march-16-2018-p4152.html>
[https://www.iene.eu/articlefiles/1aaaaacostis%20stambolis%20\(oxford\).pdf](https://www.iene.eu/articlefiles/1aaaaacostis%20stambolis%20(oxford).pdf))
- Half Day Conference on **"Electricity Markets in Transition- Latest Developments in Greece and Europe"**, Athens, Wednesday, March 28 2018 (For further information about the conference, please visit the following link: <http://www.iene.eu/el/congress/6/agora-ilektrikis-energeias>)
- One Day Conference on **"Investing in Energy Efficiency"**, Eugenides Foundation, Athens, May 24, 2018 (For further information about the conference, please visit the following link: [http://www.iene.eu/en/congress/7/investing-in-energy-efficiency?p="38](http://www.iene.eu/en/congress/7/investing-in-energy-efficiency?p=))
- **4th IENE Energy and Shipping Seminar**, Posidonia 2018, Athens, Friday, June 8, 2018 (For further information about the conference, please visit the following link: <http://www.iene.eu/en/congress/9/4th-international-energy-and-shipping-seminar?p=40>)
- **11th SE Europe Energy Dialogue**, The Met Hotel, Thessaloniki, June 26-27, 2018 (For further information about the conference, please visit the following link: <http://www.iene.eu/en/congress/8/11th-se-europe-energy-dialogue>)

- **3d Energy Tech Forum**, organised by Energia.gr with the support of IENE, Eugenides Foundation, Athens, October 16, 2018. (For further information about the Forum, please visit the following link: <https://www.iene.eu/el/congress/10/3rd-energy-tech-forum?p=61>)
- **3d SEE Hydrocarbons Upstream Workshop**, Royal Olympic Hotel, Athens, October 30-31, 2018. (For further information about the Workshop, please visit the following link: <http://www.iene.eu/en/congress/11/3rd-se-europe-hydrocarbons-upstream>)
- **23d National Conference, “Energy and Development 2018”**, Eugenides Foundation, Athens, November 22-23, 2018. (For further information about the conference, please visit the following link: <https://www.iene.eu/el/congress/12/energy-and-development-2018?p=57>)
- **6th Cyprus Energy Symposium**, organized jointly by FMW-Financial-Media-Way and IENE, Hilton Park Hotel, Nicosia, December 4, 2018. (For further information about the symposium, please visit the following link: <http://www.iene.eu/el/congress/13/6o-energiako-symposio-cyprus>)

D. Scientific Committees

IENE’s Scientific Committees have contributed significantly to the work of the Institute throughout 2018 and in the first half of 2019 through targeted interventions and their well-founded proposals. Throughout 2018, the following Scientific Committees met, as follows:

The **Energy Efficiency Committee** convened twice (on February 7 and on May 4) under the chairmanship of Kostas Theofylaktos. The Committee focused on the organization of a workshop which was held with great success on May 24 with the topic: “Investing in Energy Efficiency” (Eugenides Foundation).

The **Natural Gas Committee** convened twice (on February 12 and on May 23), under the Chairmanship of Anastasios Tosios. The committee focused on the organization of an ad hoc evening meeting which took place on March 5, in cooperation with Professor Dimitris Mavrakakis of KEPA, on the topic “Prospects for an Expanded South Corridor.” Also, the Committee has made a progress with the preparation of the study on “The critical role of Natural Gas in the transformation of the Greek energy market”, which was published in 2019 as a Working Paper with Anastasios Tosios as the principal author.

The **Hydrocarbons Committee (Upstream)** convened three times (on February 14, on May 11 and on September 12), under the chairmanship of Ms. Tereza Fokianou. The Committee focused on the preparation of the 3d SE Europe Hydrocarbons Upstream

Workshop, whose organization was met with great success and took place on December 30-31 at the hall of the Royal Olympic Hotel, in Athens.

The **Geopolitics Committee** convened four times (12/1, 2/4, 1/6 and 1/12) under the chairmanship of Mr. Christos Dimas. The Committee focused on the analysis of current developments and the preparation of a specialized event under the title “Energy and Geopolitics” (1st IENE Colloquium on Energy and Geopolitics), which was realized in cooperation with Professor Dimitris Mavrakakis of KEPA on January 25, 2018. In addition to that, the Committee contributed to the organization of the successful 11th SEE Energy Dialogue, which was held in Thessaloniki on June 26-27, 2018. The Committee has also contributed to the 23d National Energy Conference “Energy and Development 2018” held at the Eugenides Foundation, on November 22 & 23, 2018. Moreover, the Committee has made progress in the drafting of the Geopolitics Bulletin No. 12, which was sent to IENE’s members on the April 24.

The **Electricity Committee** convened only once during 2018 on November 21, under the chairmanship of Mr. Andreas Petropouleas after the passing away of the dear and well respected IENE, funding member and partner and former President of the Committee Mr. George Synantzakis.

E. Executive Committee

The Executive Committee of IENE convened 6 times in total under the chairmanship of John Chadjivassiliades. The meetings took place at the premises of IENE and at the offices of the Deputy Chairman, Mr. Gus Papamichalopoulos. Detailed minutes of the aforementioned committee were held and are available, through which all IENE partners have been informed.

F. Visits, meetings and IENE’s participation in Conferences and Events organized by Third Parties

During the period from January to December 2018 and upon invitation IENE participated in several international and local meetings, conferences and events as follows:

- *Costis Stambolis, Deputy Chairman and Executive Director, IENE participated in the following events:*
 - **11th Annual European Gas Conference 2018**, with the topic: «Developing gas trading opportunities in SE Europe», 29-31 January 2018, Vienna

- **3rd Conference organized by the Hellenic Association of Energy Economics – HAEE:** Presentation of study with the title: «Energy Transition: European and Global Perspectives», May 3-5, 2018, Athens
- **Seminar at the Centre of International Strategic Studies with the topic:** Greece, a geostrategic energy hub of Europe” 9th of May 2018, Athens
- **Flame Conference 2018,** Mr. Stambolis has participated in a panel discussion on a topic regarding Energy Developments in the East May 14-17, Amsterdam.
- **Eurelectric Power Summit 2018,** Mr. Stambolis has participated in «The Clean Energy Investment Challenge for SE Europe», June 4-5, 2018, Ljubljana
- **Institute of International Relations,** «Turkey: a Hegemonic Revisionism within a fluid Environment”, June 13, 2018, Athens
- **3rd Iraqi-European Business and Investment Forum:** July 11-12, 2018, Athens
- **Security and Crisis Management International Conference Athena '18,** with the title: «The Role of Greece in Enhancing European Energy Security», 13th of November 2018, Athens, organized by the Ministry of Defense.
- **AHEPA - Athens Armed Forces Officers Club,** with the title: «The role of Greece in the reinforcement of European Energy Security», December 14, 2018, Athens

▪ **Costas Theofylaktos, Member of IENE’s Executive Committee and Chairman of the Committee of Energy Sufficiency, participated in the following Conference:**

- **3rd IEA Global Conference on Energy Efficiency,** an International Energy Agency (IEA) high-level conference, October 31, 2018, Paris

▪ **Dimitris Mezartasoglou, Head of Research at IENE participated in the following Conferences:**

- **Institute of International Relations,** with the topic: «Energy profile of Turkey” 13th of June 2018, Athens.
- **19th International Energy Conference STEAM,** with the title: «Supply Prospects and Market Realities in Advancing Gas Use in SE Europe», 21 September 2018, Istanbul
- **6th International Conference on RES and Energy Efficiency – New Challenges,** with the title: «Renewable Energy Sources in SE Europe: Challenges and Lessons to be Learned», 1-2 November 2018, Nicosia

▪ **Alexandros Perellis, Researcher at IENE participated in the following Conferences:**

- **3d Conference of the Hellenic** [Presentation of a study with the title “Anticipated Penetration Rate of Electric Vehicle Market”, May 3-5, 2018, Athens
- **Energy Institute,** «EV Charging Strategies and the Role of PEV Aggregators», June 19-20, 2018, London.

- **Connected Cars – Conference**, with the title: «Prospects for the Electric Vehicle Market and Business Opportunities with Special Reference to SE Europe and Greece», October 24, 2018, Varimpompi Attica
- **Nikos Sofianos, Partner, Chairman of IENE’s Renewables Committee, participated in the following event:**
- **Public Consultation meeting, European Bank of Reconstruction and Development EBRD** (EBRD), Friday, October 19, Belgrade

G. National Council for Energy and Climate (NCEP)

Upon the invitation of the General Secretary of the Ministry of Environment and Energy, Mr. Michalis Veriopoulos and on the basis of a ministerial decree (see Official Government Gazette 28/12/2017, Issue, 204) the Executive Director of IENE Costis Stambolis has participated as an energy expert, to the work of the National Council for the Energy and the Climate (NCEP). The participation of Costis Stambolis as an energy expert in the above Committee had a positive impact regarding IENE. The work of NCEP started in February and continued till the end of 2018, with the completion of the National Plan on Energy and Climate. Within the framework of NCEP’s work, IENE prepared and submitted two studies concerning the following:

- (a) “The Energy Security of Greece and Proposals for its improvement” (M51) and
- (b) “Prospects for the Electric Vehicle Market in Greece and Business Opportunities” (M47)”.

H. Participation of IENE in Public Consultations

Public Consultation by the Ministry of Environment and Energy regarding the drafting of a Bill with the title “Research, exploitation and management of Greece’s geothermal potential and other provisions”, August 1

The Institute of Energy of South East Europe (IENE) participated in the public consultation organized by the Ministry of Environment and Energy regarding the drafting of a new bill on the research, exploitation and management of the geothermal potential of the Greece and other provisions. Wishing to contribute in **the efforts** towards shaping a functional and efficient institutional framework in the particular sector, IENE contributed detailed comments in the above consultation and commented on particular articles of the Bill. For more information you may click on the link below:

<http://www.opengov.gr/minenv/?p=9454>

- **Public Consultation by RAE for the installation of Renewable Energy Units**

IENE welcomed RAE's initiative to introduce modifications in the present legal framework regarding net metering and autoproduction by putting forward comments and remarks regarding Article 8 of the relevant Ministerial Decree. More specifically article 8 (Implementation of Energy offsetting through Energy Storage", creates specific problems particularly because of some terms that cannot be justified in view of latest technological developments. For more information you may click on the link below:

http://www.rae.gr/site/file/categories_new/about_rae/activity/global_consultation/history_new/2018/2201_lix_081018?p=file&i=6

- **Public consultation by RAE regarding the regulatory framework for the installation and operation of recharging infrastructure for Electric Vehicles in Greece, on December 6)**

IENE contributed with observations and comments in the Public Consultation organized by RAE regarding the regulatory framework for the installation and functioning of recharging infrastructure for electric vehicles in Greece. More specifically the Institute has set forward its position regarding the development of the electrical recharging market, which has to be implemented on the basis of competitive standards and according to the rules underlying the energy market as they have been described in the relevant EU Directives 2009/72/EU and 2014/94/EU. For more information please click the following link:

[http://www.rae.gr/site/file/categories_new/about_rae/activity/global_consultation/history_new/2018/1711_lix_141118?p=file&i=4\)](http://www.rae.gr/site/file/categories_new/about_rae/activity/global_consultation/history_new/2018/1711_lix_141118?p=file&i=4)

- **Public Consultation convened by the Ministry of Energy and Environment on Long Term Energy Planning, December 7, 2018**

IENE participated in the public consultation organized by the Ministry of the Environment and Energy regarding the drafting of a national long- term energy plan. IENE contributed specific comments and proposals aiming towards the improvement of the institutional framework in the energy sector. (For more information you may click the following link: <http://www.opengov.gr/minenv/?p=9704>)

I. New IENE members

A number of important companies operating not only in the energy sector but also in other sectors, have joined the Institute as corporate members. Seven new companies in total, including big consulting and construction firm operating across SE Europe, joined IENE during 2018.

IENE's new corporate members of IENE are as follows:

- Hellenic Electricity Distribution Network Operator Greek (HEDNO) <https://www.deddie.gr/>
- LDK Consultants (<https://www.ldk.gr/index.php/en/>)
- Egna Law Firm - Navridis & Associates (<https://www.navridis.com/el/>),
- Operator of RES & Guarantees of Origin (DAPEEP SA) / Former LAGIE
- Energy Exchange Group (EnEx Group)
- Zenith SA (<https://www.zenith.gr/>)
- Enel Green Power Romania (<https://www.enelgreenpower.com/country-romania>)

The membership of the aforementioned companies strengthens the work of IENE enhancing its prospects for further development while at the same time it constitutes a recognition for its high level of work and services offered and its positive role in the area of SE Europe, as well as of the high quality of its services.

J. Financial Results

The Institute's total revenue for 2018 was almost at the same level as that of 2017. Compared to the 2017 accounts there has been a slight improvement in terms of profits. More specifically, total revenue for 2018 amounted to €278.200, (€ 282.090 in 2017), while the operational costs were €259.526 (€275.647 in 2017). As a result, there has been an increase in profits of €18.673,92, or about 289% higher than the corresponding profits that was achieved during the same period in 2017 (€ 6.443).

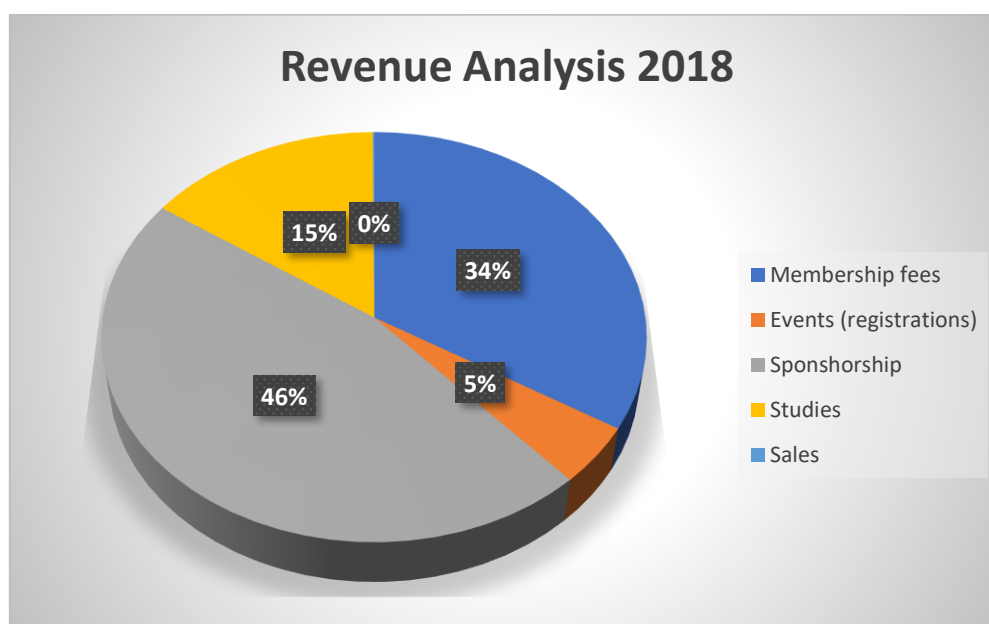
The following table (Table 1) shows the income statement for financial years 2016, 2017 and 2018 while Figure 1 shows the revenue analysis for 2018.

Table 1 – Total Revenue -Expenditure 2018

		2018	2017	2016
Revenue	Net Value	278.200,64	282.090	230.058,00
	VAT	65.383,36	63.220	48.291,80
	Total	343.584	345.310	278.349,80
Expenses	Net Value	259.526,72	275.647,11	207.966,01
	VAT	25.802,28	25.280,62	19.574,59
	Total	285.329	300.927, 73	227.540,60

Revenue Analysis 2016-2018

	2018	2017	2016
Membership Fees	93.753,4 (33,7%)	86.510 (30.7%)	89.708 (39%)
Event Registration	12.797,4 (4,6%)	28.700 (10.3%)	15.258 (6.6%)
Sales	278,00 (0,0153 %)	10.110 (3.5%)	-
Sponsorship	128.806,6 (46,3%)	130.010 (46%)	83.092 (36.1%)
Studies	42.564,6 (15,3%)	26.760 (9.5%)	42.000 (18,3%)
Total Revenue	278.200	282.090	230.058
VAT	65.383,36	63.220	48.291
Total	343.584	345.310	278.349



Graph 1. Revenue Analysis 2018

Expenditure Analysis 2018

	2018
Services Public Utilities	14.027,36
Office Services (Electricity, Telephone, Repair Conservation, Electronic Platform, Courier, H/Y, Accounting)	22.182,28
Salaries source, Insurance Contributions etc.	76.141,56
Consulting Fees to Associates	43.220,10
Expenses for the organization of conferences and events	103.955,42
Total Expenditure	259.526,72
VAT	25.802,28
Gross Expenditure	259.526,72

2018 Balance Sheet

The financial statement for 2018 provides the opportunity for some useful observations regarding IENE's financial activity for the past year.

- (a) The revenue originating from membership fees represents an increase of €7.243 compared to 2017. This is mostly justified by the renewal of membership by IENE corporate members from both Greece and other countries in SE Europe as well as the registration of new ones. The revenue originating from membership fees for 2018 represents 37.3% of the total IENE's income as compared to 30,7% for 2017.
- (b) There has been an important increase in the 2018 revenue from research and studies thanks to work that has been undertaken by the Institute regarding topics that the Institute had proposed to some of its corporate members. The studies undertaken were the following:
 - (i) Gas Supply in SE Europe and the key role of LNG (M46),

(ii) Prospects for the electric Vehicle Market in Greece and Business Opportunities (M47), which was undertaken on a multi-client basis and was funded by Mytilinaios Group, Systems Sunlight, HELPE and KG Law Firm.

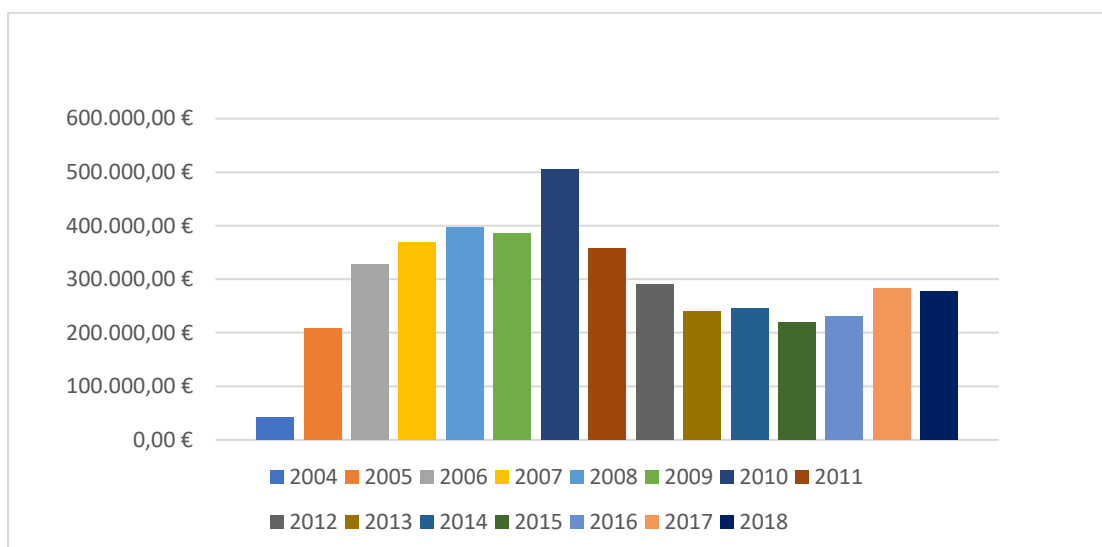
(iii) “Energy sufficiency of Kastellorizo Island” (M45). This is another important study which was undertaken by IENE. It was funded by PPC Renewables S.A, HELPE, HEDNO and Aegean Airlines.

The total revenue originating from studies reached € 42.564,6. There has been an increase of 37% compared to the corresponding amount of revenues for 2017 and this represents 15,3% of IENE’s total revenue.

- (c) IENE’s revenue coming from event sponsorship (conferences, seminars, workshops) reached the same level as the corresponding one for 2017, that is €128.806,6, thus contributing 46,3% of the total amount of IENE’s revenue.
- (d) IENE’s expenditure in 2018 decreased by about 5,8% compared to the corresponding amount of 2017. In spite of expanding activities expenditure was kept low as a result of rationalization of the Institute’s expenditure. This was most evident in the area of event organization, where the Institute undertook the organization of several events, jointly with other bodies and as result managed to sharply reduce costs. The expenditure for 2018 amounted to a total € 259.526, including salaries, insurance fees, payroll taxes, public levies, consulting fees to research associates, accountant’s fees, travel expenses, conference room rental fees, hospitality fees, drafting of publications and creation and maintenance of electronic sites, office rental, repair and maintenance, building maintenance costs, (such as electricity, water and telephone bills),and miscellaneous expenses (i.e. office maintenance, travel expenses)

IENE Expenditure Analysis 2018

IENE has already completed 15 annual accounting years. At this point it is of interest to see a revenue analysis for the particular period as shown in Table (Table 2) covering the 15 year span of IENE’s operation.



Graph 2. Income Analysis 2003-2018

ΙΝΣΤΙΤΟΥΤΟ ΕΝΕΡΓΕΙΑΣ ΝΑ ΕΥΡΩΠΗΣ
ΑΛ ΣΟΥΤΣΟΥ 3 - 10671 - ΑΘΗΝΑ
ΑΦΜ 999600362 - ΔΟΥ ΑΘΗΝΩΝ Δ'

BALANCE SHEET

	2018		
	Acquisition Value	Depreciation	Net Book Value
Non-Current Assets			
<u>Property, plant and equipment</u>			
Other tangible assets	36.079,44	9.516,61	26.562,83
Property, plant and equipment	36.079,44	9.516,61	26.562,83
<u>Intangible assets</u>			
<u>Financial assets</u>			
Non-Current Assets	36.079,44	9.516,61	26.562,83
Current Assets			
<u>Inventories</u>			
<u>Financial assets and Advances</u>			
Trade receivables			24.667,54
Cash and cash equivalents			4.920,35
Financial assets and Advances	0,00	0,00	29.587,89
Current Assets	0,00	0,00	29.587,89
Total	36.079,44	9.516,61	56.150,72

	2018
Net Position	
<u>Paid-up capital</u>	
Capital	20.000,00
Paid-up capital	20.000,00
<u>Fair value differences</u>	
<u>Reserves and Retained earnings</u>	
Retained earnings	24.244,17
Reserves and Retained earnings	24.244,17
Net Position	44.244,17
Provisions	
Liabilities	
<u>Long-term liabilities</u>	
<u>Short-term liabilities</u>	
Other taxes and charges	5.415,44
Social Security Funds	6.491,11
Short-term liabilities	11.906,55
Liabilities	11.906,55
Total	56.150,72

4. Information provided to Members

4. Information provided to Members

One of the most important activities of IENE is the regular and consistent dispatch of information to members in the form of newsletters and bulletins. The following is a list of IENE regular publications which are sent to all members regarding the developments in the energy sector in SE Europe and beyond.

In English

- (1) 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) Electric Mobility (quarterly)
- (7) IENE Comment (occasional)
- (8) News Flashes (occasional)
- (9) Country Updates (occasional)
- (10) Briefing Notes (occasional)
- (11) Research Notes (occasional)
- (12) IENE Company Profiles (quarterly)
- (13) IENE News (quarterly)

In Greek

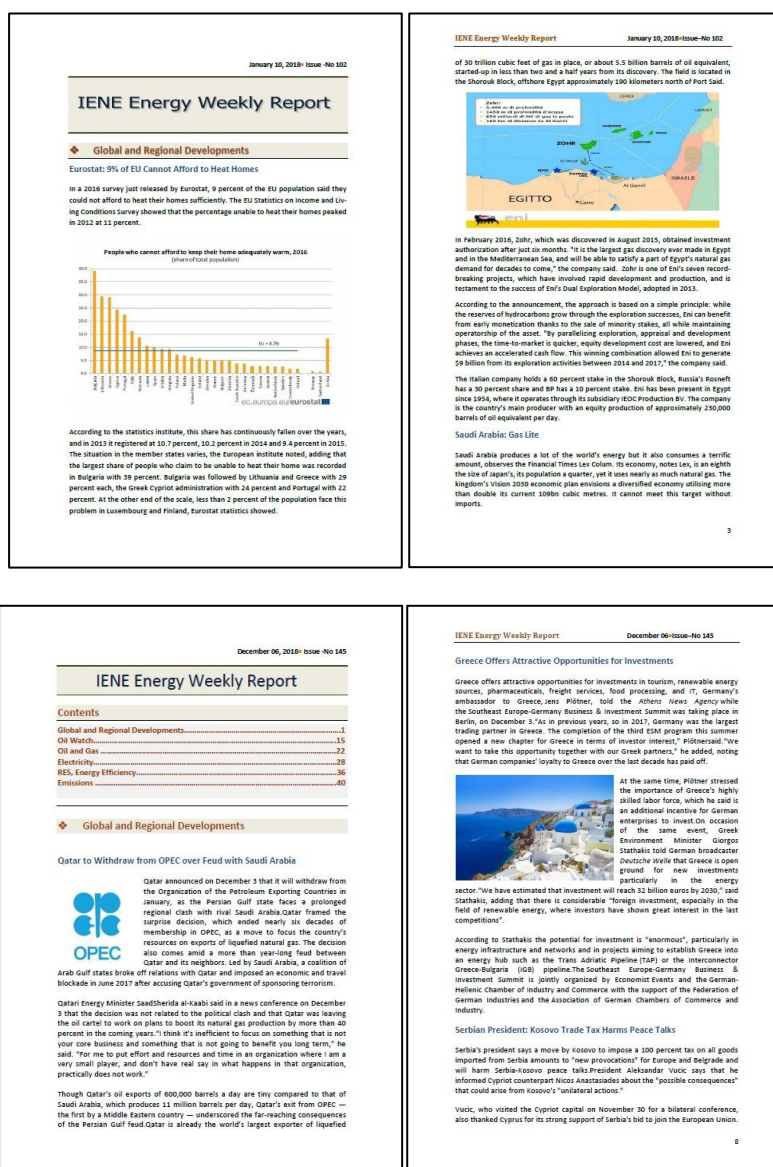
- (1) Energy Market Analysis Bulletin (weekly and monthly)
- (2) Energy Issues (monthly)
- (3) Views and Opinions on Energy and Environment (monthly)
- (4) Electromobility/Electric Vehicles Review (occasional)
- (5) IENE News (occasional)

In the following pages sample pages of the aforementioned publications are shown.

IENE Newsletters

IENE Newsletters

In the following section selected pages from some of the newsletters that were sent to IENE's members are shown. The preparation and dispatch on a systematic basis, of a whole series of newsletters, to IENE's members, constitutes the Institute's basic activity.





Issue No. 4, January 15, 2018

IENE Company Profile



NIS

GAZPROM NEFT


Overview

Located in the centre of the Balkans, NIS is today Serbia's biggest company and one of the largest vertically integrated energy groups in Southeast Europe. Its principal activities include exploration, production and refining, sales and distribution of a broad range of petroleum products, as well as the implementation of energy projects not only in Serbia but increasingly so in the whole Balkans area. The Group's head office is in Novi Sad, and its main production capacities are located all over the Republic of Serbia, which by virtue of geography is considered as the center of trade and investments in the Balkans.

In Serbia, NIS owns a refining compound with two units, one in Pančevo and the other in Novi Sad, which produce a wide range of petroleum products – from motor fuel and diesel fuel, through aviation fuel, to industrial lubricants and feedstock for petrochemical industry. In 2012, NIS completed the first stage of the modernization of Pančevo Oil Refinery (PNP), enabling the transition to the production according to the European standards for fuel quality. The sales structure consists of export and domestic wholesale deliveries of crude, gas and petroleum products, as well as retail sales of finished petroleum products, liquefied petroleum gas and a series of related products. NIS owns the largest retail network in Serbia, which has been expanding across the region since 2012. NIS is represented in the market by two retail brands – NIS Petrol and Gazprom.


The "IENE 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.

1



Issue No. 4, January 15, 2018


NIS in SE Europe



The Exploration and Production block covers exploration, production, infrastructure and operational support to production, management of oil and gas reserves, oil and gas reservoir engineering, and major exploration and production projects. The majority of NIS' oil deposits are in Serbia, but NIS has also expanded into the region, conducting exploration activities in Bosnia and Herzegovina, Hungary and Romania. NIS has been operating in Angola since 1990 and launched oil exploitation in that country in 1985. This block operates an Elemir-based plant for processing of natural gas, production of LPG and natural gasoline and CO₂ capture, which has a design capacity of 65,000 tons of LPG and natural gasoline per year. In 2016 a new Amine Plant was added to the complex, which enhanced gas quality and output and had positive environmental impact reflected in the prevention of carbon dioxide emissions into the air. Through its subsidiary NTC NIS Naftagas d.o.o. Novi Sad, NIS provides scientific and technical support to the main activities of the parent company and brings development and innovation into its operations.

The Services block covers in oil and gas exploration and production through geophysical surveying, well construction, completion and workover, and performance of special operations and measurement on wells. The block also delivers equipment maintenance services and the construction and maintenance of oil and gas systems and facilities. Apart from carriage of goods and truck services, it also provides passenger transportation and vehicle rental services. NIS has its own servicing capacities, which are able to fully meet Group's demand and to provide services to third parties. All this is delivered through subsidiaries Naftagas – Naftni servisi d.o.o. Novi Sad, Naftagas – Tehnički servisi d.o.o. Zrenjanin and Naftagas –

3



November 13, 2018 • Issue No.7

South East Europe Electricity Market Analysis

Week 45: 5 – 11 November 2018¹

Imports from Central Europe and Bulgaria balance the rising demand

During last week, weather decline drove demand to higher levels, while low-cost electricity imports from Central Europe and Bulgaria limited the increase of electricity prices in the region. At the same time, hydropower balanced the demand, especially in Italy and Turkey, as the region experienced electricity shortages due to low windpower generation.

More specifically, in Greece, the marginal price of electricity increased by 1.89%, reaching 68.86 €/MWh. The increase was attributed, according to several market experts, to the slight rise at the load of the system (+12.8 GWh or +1.5%), to a small decline in the weekly energy yield of local RES units (-1.2 GWh or -7%) and to the reduction of low-cost electricity net imports (-3.2 GWh or -12% for the week). The demand increased slightly reaching 881.74 GWh/week, while the weekly transaction volumes on the HEXEX energy exchange reached 895.1 GWh (+3.48%). On the other hand, in Italy, the weekly average marginal electricity price decreased by 4.61%, down to 63.09 €/MWh. Even though wind power generation fell significantly to 123.75 GWh (-71.26%), high discharges from large hydroelectric units and increased imports from Switzerland (390.6 GWh) and MIB markets, namely Slovenia (129.46 GWh), France (265.98 GWh) and Austria (25.24 GWh), balanced the weather driven electricity demand increase (+9.3% or 955.27 GWh) and maintained electricity prices at a low level. Moreover, the electricity exchange volumes on GME recovered, following the demand increase, reaching 5,501.8 GWh for the week.

In Bulgaria, the electricity prices bounced back above 40 €/MWh (40.4 €/MWh), up by 6.23%, as weather drove local demand to 739.71 GWh, increased by 6.04% in comparison to Week 44 (+43.47 GWh). However, high low cost capacity availability (coal/nuclear) kept the

¹ The weekly analysis of SEE electricity markets draws data provided by SEE Energy Exchanges and processed on behalf of IENE by Energy Live. The commentary of the analysis is prepared by IENE's Research and Analysis Department. Data on the regional power generation and distribution is drawn from IPTD (Greece), Terna (Italy), Transelectrica (Romania), EMAS (Republic of Serbia), YTBIS (Turkey), Balzan Energy (Hungary, Bulgaria, Croatia)

SEE ELECTRICITY MARKET ANALYSIS, NO7, NOVEMBER 2018

1



November 13, 2018 • Issue No.7

Electricity Market Volumes - Week 45: 5 – 11 November 2018

1. Weekly Volumes (GWh) - SEE Region

Weekly Volumes



2. Detailed Market Volume (GWh) - SEE Region

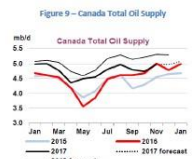

Daily Volumes



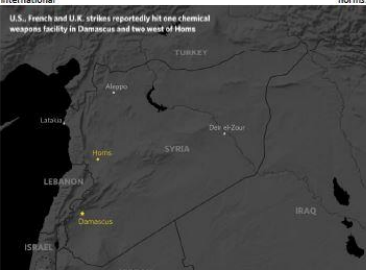
SEE ELECTRICITY MARKET ANALYSIS, NO7, NOVEMBER 2018

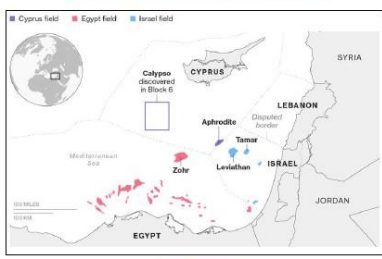
1



2018 Annual Report and Review of Activities for 1st Half of 2019

SOUTH-EAST EUROPE ENERGY BRIEF	
Market Fundamentals & Prices	
Published by the Institute of Energy for South East Europe	
<p>Issue No 259 - January - February 2018</p> <p>Figure 9 - Canada Total Oil Supply</p>  <p>Source: IEA Oil Market Report, January 18, 2018</p>	
<p>Oil Prices</p> <p>Outright crude oil prices climbed to a three-year high in early January, reflecting ongoing geopolitical tensions and steady crude and oil product stock falls globally. Net long positions held by money managers in crude futures broke a new historical record at the end of December. However, bulls have been more moderate than in November, suggesting that, unless fresh fundamental factors push prices up over the next few weeks, they could go into reverse.</p>	
<p>Figure 10 - Benchmark Crude Prices (LHS) and NYMEX WTI vs ICE Brent (RHS)</p>  <p>Source: IEA Oil Market Report, January 18, 2018</p> <p>Physical crude markets mostly failed to catch up with higher futures prices during December. North Sea, Urals and West African crude followed Brent futures higher, but elsewhere markets</p>	

SOUTH-EAST EUROPE ENERGY BRIEF	
News Flash	
Published by the Institute of Energy for South East Europe	
<p>Issue No 260 - April 16, 2018</p> <p>As USA, Allies Strike Syria the Potential for a Broader Conflict Looms Large</p> <p>Late last Friday evening and early morning on Saturday (12-14 April), after markets had closed on both sides of the Atlantic, the US, supported by Britain and France launched more than 100 missiles against Syrian targets in a strike against the Assad regime's chemical weapons capabilities, but stopped short of attacking Russian or Iranian targets in order to avoid triggering a broader conflict. The western allies had "marshalled their righteous power against barbarism and brutality," Donald Trump said in a national television address. The strikes were in response to a suspected poison gas attack in the Syrian town of Douma last weekend that killed at least 70 people. "The evil and the despicable attack left mothers and fathers, infants and children, thrashing in pain and gasping for air. These are not the actions of a man; they are crimes of a monster instead," said Mr Trump.</p> <p>Loud explosions and flashes lit up the sky over Damascus with the Pentagon stating on Saturday that it was conducting a detailed damage assessment. "They have lost a lot of equipment and material. It will have a significant effect," Lieutenant General Kenneth McKenzie, director of the US joint staff, said. "The words cripple and degrade are accurate." Targets included a scientific research centre in Damascus and chemical weapons storage and assembly facilities west of Homs. The attack followed days of sabre-rattling by Mr Trump as he sought ways of deterring further chemical attacks while minimising the risk of becoming embroiled in a deeper conflict involving Russia. Moscow deployed troops and war planes to Syria three years ago to back President Bashar al-Assad in his country's seven-year civil war.</p> <p>In a triumphant tweet message on Saturday US President Donald Trump said it was "mission accomplished". "So proud of our great Military which will soon be, after the spending of billions of fully approved dollars, the finest that our Country has ever had. There won't be anything, or anyone, even close!" he said, praising France and the UK for their "wisdom" and "fine military". Meanwhile, Russian president Vladimir Putin condemned the attack "in the most serious terms", saying it had violated the principles of international law and constituted "an act of aggression against a sovereign state that is at the forefront of the fight against terrorism".</p> <p>However, in contrast to threats made by a senior Russian military officials last month and other officials over the past week, the Russian president made no mention of the possibility that Russian forces could strike back at the US military. Western leaders</p>	

SOUTH-EAST EUROPE ENERGY BRIEF	
News Flash	
Published by the Institute of Energy for South East Europe	
<p>Issue No 261 - April 16, 2018</p> <p>stressed the attacks were focused on chemical weapons rather than on broader strategic goals. "This is not about intervening in a civil war. It is not about regime change," said Theresa May, the UK prime minister. "It is about a limited and targeted strike that does not further escalate tension in the region and that does everything possible to prevent civilian casualties."</p> <p>Both France and the UK said on Saturday that no further strikes were planned at this stage. However, Mr Trump had suggested on Friday night that the US could strike again. "We are prepared to sustain this response until the Syrian regime stops its use of prohibited chemical agents," he said. Mrs May said the military strikes were justified not just in terms of deterring the Assad regime from further use of chemical weapons but also as a signal to Russia that its alleged use of nerve agents in Salisbury broke all international norms.</p> <p>US defence secretary Jim Mattis and General Joseph Dunford, chairman of the joint chiefs, said the strikes involved aircraft and Tomahawk missiles and were aimed at three facilities. The first was a scientific research centre in the Damascus area for development and testing of chemical and biological warfare technology; the second was chemical weapons storage facility west of Homs; and the third contained chemical weapons equipment.</p> 	

<p>Issue No 255 - March 2018</p> <p>SOUTH-EAST EUROPE ENERGY BRIEF</p> <p><i>Monthly Analysis</i></p> <p>Published by the Institute of Energy for South East Europe</p> <p>Will Latest Tensions in East Mediterranean Affect Hydrocarbon Activities?</p> <p>The race towards the exploitation of substantial gas reserves in the eastern Mediterranean is raising regional tensions as disputes over ownership of offshore fields escalate into a war of words between states with stakes in the potential energy findings. Turkey, Egypt, Cyprus, Israel and Lebanon have involved in numerous verbal conflicts during recent weeks over contested claims to gas reserves, the first of which were discovered about a decade ago. With Turkey going a step further by even attempting a pointed military standoff in Cyprus's Exclusive Economic Zone (EEZ), whereby in block 3, last month Turkish naval vessels, prevented a planned exploration drilling by Italian oil firm Eni.</p> <p>The huge deposits could in time transform the fortunes of the regional economies, but currently seem more likely to be the source of further confrontation. The process of exporting gas from the Levant Basin fields to energy-hungry Europe and worldwide will be difficult even without the emerging tensions which, if they continue to grow, could complicate plans to build pipelines linking producer countries to consumer markets.</p> <p>Over the last few years, the eastern Mediterranean has been attracting the interest of international energy companies, eager to explore the region's substantial gas fields. In theory, the gas reserves may not only meet domestic demand in littoral countries but could also facilitate Europe to diversify its supplies; thus, declining its reliance on Russia. The political turbulences as well as economic and engineering challenges may frustrate extraction and export plans. Notably, there is an emerging dispute between Turkey and Egypt over Cyprus's exploration activities and Israeli opposition to Lebanon's intention to drill in the vicinity of their contested maritime border.</p> <p>Tensions between Turkey and Cyprus</p> <p>The crisis between Turkey and the Republic of Cyprus is becoming progressively militarized. More specifically, a tense military standoff took place on February 9, 2018, between the</p>	<p>SOUTH-EAST EUROPE ENERGY BRIEF</p> <p><i>Monthly Analysis</i></p> <p>Issue No 255 - March 2018</p> <p>exploring for hydrocarbons in the eastern Mediterranean and did not recognize Nicosia and Cairo's 2013 agreement to cooperate on the development of oil and gas reserves in the vicinity of their shared maritime border. In response to Mr Cavusoglu's remarks, Egyptian Foreign Ministry spokesman Ahmed Abu Zeid warned that Egypt would not tolerate any violation of its "economic rights" to the eastern Mediterranean [3].</p> <p>In early February 2018, Italian Eni and its French partner Total announced that they had discovered promising gas reserves off the southwest coast of Cyprus, known as Calypso gas field in island's Block 6, which looks geologically similar to Egypt's Zohr field, to date the biggest find in the Mediterranean (see Map 1).</p> <p>Buoyed by the success of Zohr, which could make Egypt self-sufficient in gas in the next 18 months, Cairo is keen to expand exploration in the region. It has said that it will not be put off by Ankara's threats, which have stirred anti-Turkish sentiment in Egypt, rooted in Turkey's support for Mohammed Morsi's government, overthrown in 2013.</p> <p>Map 1: The Race to Sell Gas from New Fields in the East Mediterranean</p>  <p>3</p>
--	---

<p>Issue No 261, May 2018</p> <p>SOUTH-EAST EUROPE ENERGY BRIEF</p> <p><i>Market Watch</i></p> <p>Published by the Institute of Energy for South East Europe</p>  <p>Contents</p> <table border="0"> <tr> <td>International and Regional News</td> <td>1</td> </tr> <tr> <td>Country Roundups</td> <td>10</td> </tr> <tr> <td>IENE Announcements and Events</td> <td>44</td> </tr> </table> <p>INTERNATIONAL AND REGIONAL NEWS</p> <p>IEA Warns Global Oil Demand May Suffer as Crude Nears \$80</p> <p>Global demand for oil is likely to moderate this year, as the price of crude nears \$80 a barrel and many key importing nations no longer offer consumers generous fuel subsidies, the International Energy Agency said on May 16. The Paris-based IEA cut its forecast for global demand growth to 1.4 million barrels per day for 2018, from a previous estimate of 1.5 million bpd.</p> <p>Oil has risen 51 percent in the last year, driven by coordinated supply cuts and, this month, by concern over Iranian supply after the United States said it would reimpose sanctions on Tehran over its nuclear activities. "It would be extraordinary if such a large jump did not affect demand growth, especially as end-user subsidies have been reduced or cut in several emerging economies in recent years," the IEA said.</p> <p>Oil inventories in the world's richest nations, the most transparent and easy to track, have now fallen 1 million barrels below the five-year average, the level targeted by the Organization of the Petroleum Exporting Countries and its partners, as the group restrains crude output for a second year. "For now, the rapidly changing geopolitical landscape will move the attention away from stocks as producers and</p>	International and Regional News	1	Country Roundups	10	IENE Announcements and Events	44	<p>SOUTH-EAST EUROPE ENERGY BRIEF</p> <p><i>Market Watch</i></p> <p>Issue No 261, May 2018</p> <p>Bulgaria, Serbia Push forward with 1.8 Bcm/Year Gas Pipeline Interconnector</p> <p>The energy ministers of Bulgaria and Serbia have agreed to push forward with plans to build the much-delayed gas interconnector between the two countries in a bid to further improve the gas pipeline infrastructure in southeast Europe. Bulgaria and Serbia – both heavily dependent on Russian gas imports – have said they want to be able to diversify their gas supplies in the future.</p>  <p>The European Commission said the deal was signed in Sofia on May 18 by Bulgarian energy minister Temenuzhka Petkova and her Serbian counterpart Aleksandar Antic. "To boost the diversification of energy sources in the Western Balkan region, reduce dependency on one dominant supplier and increase energy security, a joint commitment to implement the gas interconnector between Bulgaria and Serbia has been signed," the EC said. "This new political impetus to the project showcases the political will of all parties," it said.</p> <p>The 62 km interconnector will allow for the transfer of up to 1.8 Bcm/year of gas in the direction Bulgaria-Serbia and 0.15 Bcm/year in the reverse direction. The maximum daily capacity will be 5 million cu m/d. According to an EC fact sheet on the project, the interconnector is set for commissioning in 2022. "Once completed, the interconnector will constitute a major contribution to the solidarity in the Energy Union," the EC said. The EC is contributing notably to the Serbian side of the Bulgaria-Serbia interconnector with a pre-accession grant of Euro49.6 million. "The EC is actively facilitating progress on this priority project in close contact with both the Bulgarian and the Serbian authorities," it said.</p> <p>The new gas pipeline will provide a new supply route from Bulgaria not only to Serbia, but also to other parts of the southeast European region. This will enable access to LNG from Greece, Azeri gas from the Southern Gas Corridor, as well as gas from Black Sea offshore production. Bulgaria and Serbia signed</p> <p>6</p>
International and Regional News	1						
Country Roundups	10						
IENE Announcements and Events	44						

5.IENE's Research Projects and Studies

5. Research Projects and Studies (2018 -2019)

Since its foundation IENE's has set as a major goal the undertaking of studies and research projects across the energy sector as this usually fosters the basis for informed opinion and analysis. Special emphasis is accordingly placed on new and innovative technologies and systems which can be applied in SE Europe. The sectors of energy and technological development constitute one of the basic activities of the Institute which is participating in the setting up and undertaking of research projects and the preparation of studies, working papers and publications regarding energy, the environment and development issues covering not only Greece and SEE but also the global scene. The bulk of the study and research work at IENE is undertaken by its in-house scientific team. In certain occasions when a project of wider interest concerning the area of SEE is undertaken, external collaborators may participate, coming not only from various sectors of the energy sector but also from many countries in the area.

The results of the institute's research projects and studies are reported in the form of working papers, published papers in learned journals, research monographs, newsletters and briefing notes. Most of this information is available in electronic form and is regularly presented and dispatched to IENE's members and other interested parties. A detailed report on the projects undertaken by IENE, in the past year scheduled as well as those already in progress follows.

IENE's Research Work in Progress

- **The Greek Energy Sector: Annual Review 2019 (M03)**

This particular study, which was completed at the end of 2018 and published in February 2019, primarily deals with Greece's fast changing energy market and provides a thorough analysis of Greece's energy sector. IENE's aspires is to publish the Review on an annual basis at the start of each year, in order to provide an extensive review of the energy market with focus on completed and planned projects and investments. IENE hopes that this report will provide a much-needed 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. The Annual Review of 2019 is an overview of the most important energy developments which take place in 2017 and 2018 in the various branches of the energy sector. For more information please click on the following link:
<https://www.iene.eu/articlefiles/executive%20summary%201.pdf>

- **Energy Transition of the Island of Kastellorizo (M45)**

In September 2017, IENE embarked on a new study project focusing on Greece's southernmost island, Kastellorizo. The study examined the conditions under which

Kastellorizo could become energy autarkic taking into consideration environmental objectives and socio-economic development. The study is part of a broader programme of initiatives developed by IENE for the island's energy security and sustainable development. The Kastellorizo 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 various non-technical barriers are identified, and policies are worked out for the removal in cooperation with the local authority and prefecture. 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 conducted under the auspices of the Ministry of Environment and Energy. The study was completed in May 2019. An executive summary of the IENE study is available at: articlefiles/kastellorizo%20executive%20final%20eng.pdf

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

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 was 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 North Macedonia), 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 development 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 was completed in January 2018. For more information please click on the link below: <https://www.iene.gr/articlefiles/gas%20supply%20in%20se%20europe%20and%20the%20key%20role%20of%20lng%20test.pdf>

- **“Prospects for the Development of the Electric Vehicles Market in Greece and SE Europe and Business Opportunities” (M47)**

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 Electric Vehicle (EVs) technology in Greece and SE Europe. The study was conducted on a multi-

client basis with the participation and the financial support of leading energy companies. The study provides 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 Institute of Energy for South East Europe 44 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 study was funded by Protergia S.A, Mytilineos Group, Systems Sunlight, Hellenic Petroleum and KG Law Firm. In the context of the study, three meetings with the partner companies were conducted in January, March and June 2018 respectively. The study was completed in July 2018. For more information please click on the following link: <https://www.iene.gr/articlefiles/working%20paper%20no%2024.pdf>

Selected IENE Studies (2018)



Ο Ελληνικός Ενεργειακός Τομέας
Έκθεση 2019

IENE
INSTITUTE OF ENERGY
FOR SOUTH-EAST EUROPE

3. Η Παγκόσμια Ενεργειακή Αγορά

Ο κλάδος διαφέρει, σταδιακά, ένα διαφορετικό είδος ενεργειακού συστήματος, από απλώς ένα προηγούμενο που βασίζεται κυρίως:

- **Προσπορευτικότητα (affordability):** Το κόστος των ηλεκτροκίνητων οχημάτων και των ηλεκτρικών συστημάτων είναι ακόμα υψηλό, αλλά η τιμή των ηλεκτρικών οχημάτων να είναι πλέον από 100.000 ευρώ, αλλά η τιμή των ηλεκτρικών οχημάτων να είναι πλέον από 100.000 ευρώ, αλλά η τιμή των ηλεκτρικών οχημάτων να είναι πλέον από 100.000 ευρώ.
- **Αξιοπιστία (reliability):** Οι κίνδυνοι για την ενεργειακή ασφάλεια και την ενεργειακή ανεξαρτησία είναι ακόμα υψηλοί, αλλά η τιμή των ηλεκτρικών οχημάτων να είναι πλέον από 100.000 ευρώ, αλλά η τιμή των ηλεκτρικών οχημάτων να είναι πλέον από 100.000 ευρώ.
- **Βιωσιμότητα (sustainability):** Η τιμή των ηλεκτρικών οχημάτων να είναι πλέον από 100.000 ευρώ, αλλά η τιμή των ηλεκτρικών οχημάτων να είναι πλέον από 100.000 ευρώ.

Ο κλάδος αυτός βασίζεται κυρίως στην ενέργεια, αλλά η τιμή των ηλεκτρικών οχημάτων να είναι πλέον από 100.000 ευρώ, αλλά η τιμή των ηλεκτρικών οχημάτων να είναι πλέον από 100.000 ευρώ.

Παράγοντας	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Ενεργειακή Κατανάλωση (Mtoe)	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000
Ενεργειακή Παραγωγή (Mtoe)	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000
Ενεργειακή Αποθήκευση (Mtoe)	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000



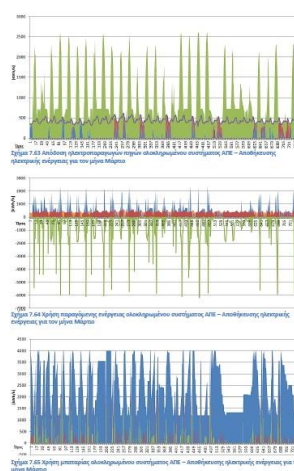
«Η Ενεργειακή Αυτάρκεια του Καστελλόριζου»



Μελέτη IENE (M45)

Final Report

Αθήνα, Ιούνιος 2019



[117]



Gas Supply in SE Europe and the Key Role of LNG



An IENE Study Project (M46)

Final Report

Athens, December 2017

100% dependent from imports, while the rest of the countries, with the exception of Croatia and Romania, depend on imports for more than 30% of their demand.

Map 3 – The Gas System Network in SE Europe



Source: ENTSOG³

Currently, the region can cover around 37% of its gas consumption through indigenous production, while the rest is imported almost entirely from Russia. Due to this single supplier dependence, the countries of the region consume the most expensive natural gas in Europe.

³ <http://www.oracle.com/technetwork/java/javase/downloads/JDK7-downloads-2134941.html>

19



“Prospects for the Electric Vehicle Market in Greece and Business Opportunities”

An IENE Study Project (M47)

Final Report



Athens, July 2018

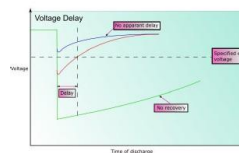


Figure 13 illustration of the voltage delay effect during battery discharge

- **Battery death due to aging:** Over the life time of the cell the morphology of the components will change, with effects that are detrimental to the functioning of the cell. (a) The crystals formed in the cell grow larger, increasing the impedance, (b) metallic dendrites grow on the cells causing the electrodes to swell, forcing them closer together and increasing the self-discharge. (c) The dendrites may penetrate the separator giving very high self-discharge, or even a short circuit. Eventually, the internal impedance and the self-discharge will be so high that the battery will be no longer usable.

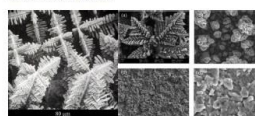


Figure 14 Metabolic activities formed in Batten

In Lithium ion batteries, which are widely used in TVs, the most significant capacity reduction inducing aging mechanisms responsible for a battery's death, according to researchers, have identified to be:

[47]

Scheduled Studies

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

This is a multi-client study, which examines the alternative routes for the transportation of natural gas from the Middle East to Europe. This project constitutes essentially an assessment study, taking into account the anticipated needs of natural gas supply of the European Market and the competition of supply amongst various producers. The possibilities for gas purveyance of Europe from the gas fields of Eastern Mediterranean, is being extensively examined within the particular framework.

The particular study is a follow up to Research Note No. 3 of December 2012 which was entitled “The Role of Greece as a Supply Route to Europe in View of the Latest Gas Discoveries in the East Mediterranean” and also relates to the study in progress on “The East Mediterranean Energy Corridor” (M21). The latter is dealing with the ways natural gas is being transported from the gas fields of the Eastern Mediterranean (i.e. Israel, Cyprus, Egypt) to the markets of Europe, including the East-Med pipeline. In addition, the M21 study is referring to the production and export of energy via the high-voltage direct current (HVDC) subsea cable system of Euro-Asia Electricity Interconnector. This study is in progress.

(M44) Prospects for an Expanded South Gas Corridor

The particular study aims to summarize the work of IENE regarding the new transit routes for natural gas in SE Europe as well as the anticipated infrastructure projects and how they are expected to contribute to the creation of an extended South Corridor which is not limited in the pipeline system of TAP-TANAP.

The particular study is making good use of existing studies (such as “The East Med Gas Corridor”, M21), as well as IENE analyses referring to the latest pipeline and LNG terminal developments. The particular report will be completed and published in early 2020.

(M49) SE Europe Energy Outlook 2020

As a follow up to the past two editions of IENE’s SEE Energy Outlook (2011, 2017), the institute has initiated the preparation of a new reference study under the title “SE Europe Energy Outlook 2020” which will be published in September 2020. The study is expected to provide a well-informed view of the energy sector in SE Europe, examining 15 countries in total (“core countries”) and more than 10 peripheral countries of Europe and the Eastern Mediterranean. The particular study will analyze in depth all the economic, political, geopolitical, legal, fiscal and other parameters which are influencing the energy sector of the area, whilst focusing on the basic issues that are being addressed.

At the same time, the particular study will comprise a huge number of data and information, including scenarios regarding the way the energy market (demand and supply) will be shaped by 2030 and 2050, as well as estimations on the course of investments for the whole spectrum of energy applications in the countries of SE Europe during the next decade (2021-2030). The work on the particular study commenced in early 2019 and will be completed to a large extent during 2019 and the first half of 2020. The study is expected to be published in September 2020.

(M50) Investing in Greece's Energy Sector

This is meant to be a basic reference study regarding investments in the energy sector of Greece. The study also provides a brief review on latest developments regarding the Greek economy and labor market in the energy sector. The goal of the particular report is to identify important investment projects in Greece's energy sector and also discuss the potential and outlook for their implementation. The particular study will be conducted on a multi-client basis and will be largely funded by members companies of IENE. It will be initiated in due course and will be completed in mid-2020.

(M51) Prospects for the Establishment of a Regional Gas Trading Hub

The particular report constitutes an updated version of an older study undertaken by IENE back in 2014 under the title "The Outlook of a Natural Gas Trading Hub in SE Europe" (M19). The present study covers the latest experience acquired in the European gas trading hubs, whilst it includes the views of many well respected players in the energy market who are operating in Central and SE Europe. The particular study focuses on Greece and Turkey as well as on their role in the creation of two major regional gas trading hubs and their connection with Central Europe. The study will be undertaken on a multi-client basis and will be completed by the end of 2019.

Working Papers and Papers for Publication

A brief description follows of studies and projects undertaken by IENE, which will be published as Working Papers (WP) with some of them to be submitted for publication in learned international scientific journals

Energy as a basic tool for Economic Growth in Greece in the 21st Century

This is a Working Paper which will draw material from existing studies and analyses prepared by IENE. It will include a summary of basic investment choices and directions in the Greek Energy Sector and discuss their impact on Greece's economic development. The study will be published as a WP in 2020.

A Gas Trading Hub for SE Europe

The particular work will be based on IENE's studies (M19 and M51) and analyses the role of gas hubs in the development of gas markets in SE Europe. To be published as a Working Paper in 2020.

The Expanded South Corridor

The particular study draws material from previous studies by IENE and refers to the new gas transiting routes in SE Europe and on how these contribute to the creation of a much wider South Corridor to the already existing one, that is the TAP-TANAP Gas Pipeline.

The study constitutes a summary of the latest developments regarding the pipeline system under construction as the one that is being currently designed. It also takes into account the development of LNG terminals for the gas supply of the wide region of SE Europe through the design and construction of a new pipeline system.

East Mediterranean Gas Resources and Export Options

The particular work which was presented by IENE in a conference organized in Israel during November in 2016, will constitute the basis for the drafting of a Working Paper and it will also be submitted for publication in a scientific journal.

The Outlook for the SE European Energy Sector

The particular work, which is based on IENE's major study, the "SE Europe Energy Outlook 2016/2017 and will be submitted for publication in a scientific journal. It aims in providing a concise presentation of IENE' results but also include some latest analysis.

Innovation in the RES sector and its contribution to Economic Development in SE Europe

The particular work discusses innovation aspects in Renewable Energy Sources (RES) in the SE European region and how it is expected to gain full momentum in the years ahead.

Most of the countries of SE Europe are currently at the crossroads regarding the choice of the proper strategy that will gradually lead to the achievement of greenhouse gas reduction as well as to an environmentally cleaner and sustainable development. Both targets constitute the necessary conditions for the promotion of economic growth especially since the development of RES constitute a critical factor in ensourcing cooperation, cohesion and development in the region.

The particular analysis, initially in the form of a Working Paper and then in the form of a paper to be submitted for publication in a learned journal, is expected to broaden and enrich the discussion which is currently underway regarding the role of RES in the economic and energy development in SE Europe.

Research and Study Tools

As the various research and study projects of the Institute evolve, there is a need for publicizing them in order to initiate a first discussion and exchange of views among IENE members and associates with the view of improving the research and study work at hand. With the view of facilitating the particular discussion, the results of the studies as well as of well-founded proposals and analyses are being circulated by the Institute in the form of Briefing Notes and Working Papers. An extensive list of such Briefing Notes and Working Papers that have already been published but also those under preparation is included in the following section. Once published the Working Papers as well as the Briefing Notes, are being circulated to the members of the Institute and at the same time they are posted on the members' area of both sites of IENE www.iene.gr and www.iene.eu respectively. The following is a list of WP already published by IENE:

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 Prospects 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: "The Potential Impact of the Liberalized Domestic Energy Market on the End Users of Natural Gas in Greece", June 2012
- No.15: "Biofuels in the Transportation Sector in Greece", June 2012
- No.16:" The Security of Energy Infrastructures", 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: «The 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: “The 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
- No. 25 The critical role of Natural Gas in the transformation of the Greek Energy Market”, March 2019
- No. 26: Natural Gas Import and Export Routes in South-East Europe and Turkey, July 2019
- No. 27: What Kind of Energy Transition? The Case of CE and SE Europe, August 2019

Working Papers under Preparation

- “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”

Briefing Notes: (2012-2019)

- No.1: “Global and Regional Developments in the Natural Gas Sector”, 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”, pending
- 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
- No. 10: “A Look Ahead to 2019 and Beyond”, January 2019
- No. 11: “China’s Entry in SE Europe’s Energy Sector”, May 2019

IENE Working Papers

  Working Paper No 23 Impact of Global Markets on East Med Gas Developments <small>ATHENS, JANUARY 2018</small>	<p>intimidation. The gas companies are aware of these risks and will continue with their plans and drilling, regardless of what Turkey does, unless it affects the safety of their personnel¹⁰. Turkey's threats have not changed anything so far. Despite tensions, the gas companies believe that the political risk is manageable.</p> <p>Fig 6 Offshore exploration licenses of the Republic of Cyprus</p>  <p>Source: Cyprus MCT</p> <p>http://thelocalcypriot.blogspot.nl/2017/05/cyprus-approves-east-med-econ.html</p> <p>ExxonMobil confirmed that it plans to drill two exploratory wells in block 10 during the second half of 2018, where seismic data show good prospects¹¹.</p> <p>Decisions on future exploitation of any gas finds off Cyprus were always going to be left until after completion of all planned drilling, by the end of 2018. Much hangs on the more optimistic indications that block 10 may hold significant amounts of natural gas.</p> <p>However, there is still a long-way between discoveries and successful exploitation through international gas sales. Global gas prices are low, and are expected to stay low in the long-term, and the global gas market is challenging. The challenge has been and still is securing export gas sales.</p> <p>12</p>
 "Prospects for the Electric Vehicle Market and Business opportunities with special reference to SE Europe and Greece" IENE Working Paper No24  <small>Athens, September 2018</small>	<p>A new analysis by MIT researchers indicates that without proper planning there would be short-term shortages of some metals required for the rapidly increasing lithium-ion EV battery manufacturing¹⁰. This specific study, by Olivetti et al. The specific study, by Olivetti et al. showed that while nickel and manganese, being materials used much more widely in other industries, are not affected even if the battery production ramps up in very high levels in the next decade, a short term scarcity could appear in Cobalt and lithium supply.</p>  <p>Figure 6 Global Reserves of key ingredients for battery production (Source: MIT Department of Materials and Engineering)</p> <p>Moreover, according to BNEF the global reserves of lithium are not close to depletion even with the consideration of the great growth of the EV market, which is expected to increase more than thirtyfold by 2030 dragging upwards the battery manufacturing and the lithium demand.</p>  <p>Figure 7 Major lithium deposits by type (Source: Deutsche Bank, U.S.G.I., BNEF)</p> <p>¹⁰ D. L. Chandler, (2017), "Will metal supplies limit battery expansion? Rise of electric vehicles and grid storage may cause bottlenecks, but no showstoppers, analysis suggests".</p> <p>230</p>

6. Special Research and Study Programmes

6. Special Research and Study Programmes

Having taken into consideration its targets and acknowledging the current social conditions and needs in SE Europe, IENE is willing to contribute, based on its experience as well as its technological know-how and its organizational capacity, through a series of programmes and projects of a wider interest with the view to (a) improve the living conditions of vulnerable groups in Greece and SE Europe and their access to energy sources (b) promote energy innovation (c) set an example through the implementation by IENE of best practices in energy use.

These programmes aim at raising public awareness and in contributing to particular issues of wider public interest. IENE is aspiring not only in generating positive results in the improvement of living conditions of a great part of the population, both in Greece as well as in other countries of SE Europe, but also in the creation of employment opportunities.

(i). Programme in Addressing Energy Poverty

The preparation and implementation of a series of pilot projects especially in Greece and then in Albania, Romania, Bulgaria, and Serbia will constitute a part of the particular programme. The aim will be to make use of established technologies and low-cost techniques for the use of renewable energy and the improvement of the energy performance of buildings and similar installations in domestic and community level (i.e. schools, medical centers, sport centers). The implementation of these works will be possible through the financing by member companies of IENE as well as through their contribution with technical means, material and know-how. After the completion of the particular pilot projects, the results will be disseminated to a wider audience so that there will be an interest for the replication of the particular project by local communities and citizen groups.

(ii). Programme on Energy and Employment

This programme is a follow up to the most successful study by IENE on “Energy and Employment” which was completed in December 2013. (For further information you may click on the link below

<https://www.iene.gr/articlefiles/m09%20-%20meleti%20final.pdf>

The particular study includes detailed data and a mapping of the state of employment in the whole of the energy sector and has managed to arrive at specific conclusions regarding the creation and the maintenance of employment in Greece’s energy sector. The proposed new study is aiming at the updating of the 2013 study data but also in undertaking a detailed examination of current

conditions for the creation of jobs in the energy sector which is continuously evolving as well as estimations regarding the conditions for their long-term maintenance through the use of advanced analytical methods. The study will provide specific conclusions regarding the implemented policy and the choice of the most promising energy sub-sectors which are appropriate for the realization of effective energy investments that are in position to contribute effectively in the creation of employment.

(iii). Energy and Innovation

IENE has taken the initiative to organize the first annual competition of Energy and Innovation in the Energy sector with the view of presenting and making good use of ideas and research results, as well as drawing new researchers and businesses in research and innovative activities.

The Energy sector constitutes an important factor in the competitiveness of the economy and social growth. At the same time, it should be environmentally friendly, leading to sustainable development and meeting the challenges posed by Climate Change.

The above Competition by IENE is aiming at presenting various research projects and their results so that a connection with the market is established. The aim is to promote a broad network of cooperation and to make a good use of studies' results. At the same time, it is trying to encourage and attract new researchers in various research and innovation projects and business ventures. As the energy and economic sectors are highly competitive, it will all the more be sustained through innovation and highly qualified and specialized personnel. This is why, IENE's research activities may contribute in these sectors, through the presentation and promotion of the existing production capacity both at home and abroad.

Finally, the target of this "competition" is to award researchers for their work and generate support for the research community which is operating in the energy and environmental sectors, in anticipation of economic and social benefits.

The Scientific and Technological sections of the competition cover the research activities in the area of energy-in relation to the environment-, as well as environmental issues directly related to the energy sector. A wide range of technologies and applications here been identified starting with the primary sources of energy, energy production, transportation, use and management, and leading to new energy application sectors such as storage, energy efficiency. These are some of the many areas to be covered by the "competition", including

those of sustainable development and the achievement of environmental targets.

(iv). IENE in new Offices of Zero CO2 Emissions

IENE urgently needs to move into new and bigger premises in order to accommodate its expanding activities. Larger offices will also facilitate its operational mode.

Especially through the relocation of IENE into bigger offices, the Institute is aiming at:

- (a) The creation of an organized library so that its premises can be visited by the members of the Institute and researchers. IENE possesses of a wide range of material including books, reports, periodicals, as well as abundant educational material in electronic form produced by IENE which will be accessible through fully equipped spaces (i.e. public access computer terminals), which will be created within the library area.
- (b) The creation of a seminar room, so that IENE has the possibility to organize inhouse on a regular basis a series of courses and other educational activities. IENE is currently renting spaces in hotels and elsewhere. However, the Institute must acquire a seminar room of its own and equip it with state of art facilities, in order to be able to conduct a wide variety of educative courses.
- (c) The creation of conference rooms so that various scientific and other committees of the Institute assemble -which at present due to a lack of adequate spaces to meet outside the Institute. This will contribute to the orderly and effective functioning the Institute since a big part of its activities is being conducted in cooperation with its partners from both Greece and abroad as well as with external consultants who actively participate in various activities of IENE.
- (d) Moving into new offices will provide the opportunity for their upgrading in terms of energy efficiency and CO2 reduction. Depending on the premises to be found IENE could turn this into a demonstration project of successful energy renovation.

The acquisition of new offices constitutes is a strategic target and an actual need. The efforts towards achieving this goal are continuous and IENE is optimistic in being able to locate suitable premises and move in sometime in 2020.

Financing of Studies and Programmes

Funding for IENE's research and study work is provided for by various sources. These include, EU research programmes (i.e. Energy Intelligence, Horizon, Smart Cities), in cooperation with specialized EU organizations where IENE is participating as a consultant (i.e. Building Performance Energy Institute (BPIE), Joint Research Centre (JRC, Petten)) as well as companies and organizations which through funding are supporting specific studies of the Institute. The following are some examples:

- **Energy and Employment in Greece** (M09), December 2013: Funding provided by DEPA, Attiki Gas Supply, Energean Oil & Gas and PPC
- **"The Outlook for A Natural Gas Trading Hub in SE Europe"**, September 2014: Funding provided by Hellenic Gas Transmission System Operator S.A. (DESFA), DEPA, LAGIE, /Hellenic Exchanges S.A, Gastrade
- **"SE Europe Energy Outlook 2016/2017"**: funding provided by HELPE, PPC, DEPA, Supported by: TERNA Energy, LAGIE, Energean Oil & Gas, Independent Power Transmission Operator S.A. (ADMIE), ENSCO, KG Law Firm, Hellenic Exchanges S.A.

Benchmark studies such as the aforementioned, are undertaken by IENE on a multi-client basis, where a whole team of companies sharing common interests agree to participate. The companies are thus supporting the work of IENE after having evaluated its importance in relation to their own work and targets.

IENE is facing a lot of challenges in the area of research. It has already designed a demanding programme of study and research projects in order to address the fast-changing priorities in the energy sector. However, this entails a continuous effort in securing the necessary funding.

Within the aforementioned framework, IENE has the ability to design in collaboration with other interested parties (organizations or companies), an adjusted research and educational program which will respond to the needs and the aspirations of all parties involved.

7. IENE's educational work

7. IENE's educational work

Being in constant touch with the energy market and the wider energy community in Greece and abroad, keeping track of energy developments in general and providing on a continuous basis high quality information to its members, IENE constitutes today a core platform where accumulated knowledge and experience on energy both in Greece and in the wider area of SE Europe is being provided for. IENE's extensive experience coupled with the Institute's wide network of collaborators and associates, has enhanced the Institute's privileged position in the field of energy information. Given IENE's wide experience and excellent credentials, the Institute has organized over the last five-years, a series of workshops and seminars in the energy domain.

More specifically, IENE has organized a series of introductory courses regarding energy under the title "The Cycle of Energy" (2011 and 2012). This was followed by the postgraduate seminar under the title "Energy and Geopolitics" (2015). The aforementioned series of courses, where more than 80 people attended, have helped IENE to select and organize the teaching material at both graduate and postgraduate level. The experience acquired through the organization of these particular seminars is of huge importance and has contributed to the Institute's latest initiative to organize both graduate and postgraduate educational activities in the near future.

Hence, IENE is preparing the organization of a new series of seminars to take place during spring and autumn in 2019 and 2020 respectively.

Proposed series of IENE Educational Courses

Six series of courses are proposed during the academic years 2019-2020, and 2020-2021. The aforementioned courses will be organized by IENE with guest lecturers having been selected through IENE's pool of scientific personnel, corporate membership as well as external consultants (academics, independent researchers, business professionals).

(1) Postgraduate Seminars on Energy and Geopolitics (March – April 2019)

This is a postgraduate level seminar which can be completed in approximately 18 to 20 sessions. It includes the preparation and the submission of a dissertation at the end of the seminar. It should be noted that IENE has successfully organized this type of seminar during the first quarter of 2015 with the participation of 15 students. The target of the seminar is to expose and analyze the ever-growing interdependence between energy and geopolitics, at a time when the geopolitical environment of SE Europe is in constant upheaval whilst the greatest energy potential of the region is gradually revealing itself. The latest developments in Syria and Iraq, the destabilization of Ukraine, the constant

struggle between Russia and the West combined with the energy needs of the EU within the framework of climate change, and the ever growing need for greater energy security in the area, create a complicated situation which is further impeded by the unresolved crisis in the EU and the world economy.

IENE's particular course at a postgraduate level covers a wide range of topics which will cover all the aforementioned issues. It is addressed to business professionals, military officers, current diplomats, journalists but also scientists who wish to broaden their knowledge and to be informed in depth and on the basis of a scientific methodological/approach on the energy and geopolitical developments. The aim of the particular seminar is to give the trainees a strictly scientific methodology and an analytical approach, understanding and a deepening of understanding of the relationship between energy and geopolitics so that they are able after the completion of their educational course to manage effectively issues referring to data analysis and to the evaluation or prediction of future developments.

(2) Introduction to the New Electricity Market (First Seminar Cycle, May-June 2019)

In view of the new electricity market which will become operational within 2019 and will be based on the "target model" and the Hellenic Energy Exchange, IENE is intending to organize a series of courses addressed mainly to business professionals in the energy sector who wish to be informed on the way this new energy market will function. It will be a fast track seminar of 25 hours of teaching by experienced energy professionals as lecturers who have a thorough knowledge of the subject.

(3) Introduction in the New Electricity Market (Second Seminar Cycle, October - November 2019)

(4) Introduction in Energy Efficiency (November 2019)

A series of 8 to 10 courses covering energy efficiency as well as ways of its improvement in companies, public buildings and houses. The particular seminar will be addressed to engineers, architects or environmental engineers who wish to become energy professionals and to apply innovative technologies and technical energy efficiency applications on buildings.

(5) Investing in the Energy sector (December 2019)

An introductory series comprising 8 to 10 courses through which energy investment opportunities are being explored. In addition to 2 introductory lectures which will be

prepared by the scientific personnel of IENE, there will be 8 to 10 presentations made by business professionals operating within the energy market in the form of case studies, with the target to cover the greatest part of energy applications (RES, industry sector, buildings, oil and gas).

(6) Techniques for the buildings' energy upgrade (December 2019-January 2020)

A module of courses of technical orientation, which will be addressed to engineers, architects or environmental engineers, who wish to professionally apply innovative technologies and energy technical efficiency applications on buildings. There will be a two to three-month seminar with almost 50 hours of attendance including on-site visits.

(4) The Energy Cycle (January-February 2020)

A series of 14 courses is aiming at introducing students in the energy sector. Evening courses will take place twice a week and lectures will be given by experienced and renowned scientists and managers of the energy sector. Each course covers a particular topic (i.e. wind energy, solar energy, energy autarky) which will be taught by two different lecturers.

8. Conferences and Other Events (2018, 2019)

8. Conferences and Other Events (2018, 2019)

The organization on a regular basis of seminars, conferences, workshops as well as of regional high-level conferences, constitutes one of the core activities of IENE. In average, IENE is organizing 8 to 10 events per year, some of which are taking place in Greece while others in countries around SE Europe. Most of these events are organized by IENE itself, while others in collaboration with regional agents, especially in the countries in SE Europe. In 2018 IENE organized 14 events alone or in collaboration with other parties. Details for the particular events have been posted on IENE's sites, and all IENE members have access to the particular studies and proceedings through IENE's website membership area. For each event there is a corresponding microsite where most of IENE's work as well as of IENE's publicly disclosed documents, are posted. The detailed list of IENE events is as follows:

➤ 2018

- Evening colloquium on **“Energy and Geopolitics: Recent developments with special reference to the East Mediterranean and the Middle East”**, in collaboration with the Energy Policy and Development Centre of the University of Athens (KEPA), Athens, January 25, 2018. (For further information about the colloquium, please visit the following link: <http://www.iene.eu/en/congress/3/energy-and-geopolitical>)
- **IENE's Board of Directors General Assembly and New Year Feast**, Hotel Electra Palace, Athens, Thursday, February 6, 2018
- Evening Colloquium on **“Prospects for an Expanded South Corridor”**, organized by IENE in collaboration with KEPA, at the Museum of the University of Athens, Plaka, Athens, March 5, 2018. (For further information about the colloquium, please visit the following link: <http://www.iene.eu/en/congress/5/prospects-for-an-expanded-south-corridor>)
- **“Energy Market Integration and Transition in SE Europe”**, a special half-day event in co-operation with Eurelectric, Friday, March 9, 2018 (For further information about the colloquium, please visit the following link: <http://www.iene.eu/en/congress/4/conference-brussels>)
- An IENE evening lecture on "Energy Security and Energy Transition in SE Europe", at the Energy Institute, London, Thursday March 15 2018 (The presentations are available on the following: https://www.iene.eu/articlefiles/1aaaaaenergy%20security%20and%20energy%20transition%20in%20se%20europe_gip.pdf)
- A seminar at the Oxford Institute for Energy Studies, in Oxford, regarding the energy situation on SE Europe was held on March 16, 2018 where Costis Stambolis as a guest speaker presented IENE's findings based on the “SEEE Outlook 2016-2017

Study. The Presentations are available on the following links:
<https://www.iene.eu/introduction-to-the-expanded-south-corridor-concept-oxford-institute-for-energy-studies-march-16-2018-p4152.html>
[https://www.iene.eu/articlefiles/1aaaaacostis%20stambolis%20\(oxford\).pdf](https://www.iene.eu/articlefiles/1aaaaacostis%20stambolis%20(oxford).pdf)

- Half Day Conference on **"Electricity Markets in Transition- Latest Developments in Greece and Europe"**, Athens, Wednesday, March 28, 2018 (For further information about the conference, please visit the following link: <http://www.iene.eu/el/congress/6/agora-ilektrikis-energeias>)
- One Day Conference on **"Investing in Energy Efficiency"**, Eugenides Foundation, Athens, May 24, 2018 (For further information about the conference, please visit the following link: <http://www.iene.eu/en/congress/7/investing-in-energy-efficiency?p=38>)
- **4th IENE Energy and Shipping Seminar**, Posidonia 2018, Athens, Friday, June 8, 2018 (For further information about the conference, please visit the following link: <http://www.iene.eu/en/congress/9/4th-international-energy-and-shipping-seminar?p=40>)
- **11th SE Europe Energy Dialogue**, The Met Hotel, Thessaloniki, June 26-27, 2018 (For further information about the conference, please visit the following link: <http://www.iene.eu/en/congress/8/11th-se-europe-energy-dialogue>)
- **3d Energy Tech Forum**, organised by Energia.gr with the support of IENE, Eugenides Foundation, Athens, October 16, 2018. (For further information about the Forum, please visit the following link: <https://www.iene.eu/el/congress/10/3rd-energy-tech-forum?p=61>)
- **3d SEE Hydrocarbons Upstream Workshop**, Royal Olympic Hotel, Athens, October 30-31, 2018. (For further information about the Workshop, please visit the following link: <http://www.iene.eu/en/congress/11/3rd-se-europe-hydrocarbons-upstream>)
- **23d National Conference, "Energy and Development 2018"**, Eugenides Foundation, Athens, November 22-23, 2018. (For further information about the conference, please visit the following link: <https://www.iene.eu/el/congress/12/energy-and-development-2018?p=57>)
- **6th Cyprus Energy Symposium**, organized jointly by FMW-Financial-Media-Way and IENE, Hilton Park Hotel, Nicosia, December 4, 2018. (For further information about the symposium, please visit the following link: <http://www.iene.eu/el/congress/13/6o-energiako-symposio-cyprus>)

➤ 2019

- **New Year's Celebration**, Electra Palace Hotel, 18 – 20 Nikodimou Str. Athens, Monday, January 14, 2019 (18:30)

- Presentation of IENE's 2019 **Annual Report on the Greek Energy Sector**, Divani Caravel Hotel, 2 Vassileos Alexandrou ave., Athens, Wednesday, February 13, 2019 (11:30 – 15:00)
- Roundtable meeting on the " **The Geopolitics of Energy Transition**", (part of IENE's Energy Transition Roundtable Meetings), under the auspices of the Ministry of Foreign Affairs, Athens, Tuesday, March 5, 2019
- One day conference on the "**Challenges and Opportunities in Greece's Electricity Market**", Divani Caravel Hotel, 2 Vassileos Alexandrou ave., Athens, Thursday, May 9, 2019 (For further information, please visit the following link:
<http://www.iene.eu/el/congress/16/oi-prokliseis-stin-leitourgia-tis-agoras-ilektrikis-energeias>)
- Workshop INNOPATHS with theme: "**Towards carbon neutrality, the perspective of investors**" organized by E3 Modeling in partnership with IENE Electra Palace Hotel, 18 – 20 Nikodimou Str. Athens, Wednesday 15 May 2019 (16: 00-19: 00)
- IENE Regional Conference "**Vienna Energy Transition Forum**", (part of IENE's Energy Transition Meetings), in co-operation with Energy Centre Europe, Vienna, Thursday - Friday, June 6 - 7, 2019 (For further information, please visit the following link:
<http://www.iene.eu/el/congress/18/ekpaideutiko-seminario-leitourgia-tou-ellinikou-xrimatistiriou-energias>)
- "**Hydrocarbons in SE Mediterranean**", in co-operation with the Technical Chamber of Greece (TEE), Athens, Tuesday, June 18, 2019 (For further information, please visit the following link:
http://portal.tee.gr/portal/page/portal/SCIENTIFIC_WORK/EKDILOSEIS_P/ekdiloseis_2019/hydrogonanthrakes/eishghseis)

The following events are scheduled for the second semester of 2019

- One day conference on "**East Mediterranean: The new natural gas frontier**", in cooperation with the Energy Institute, London, Monday, October 7, 2019
- Regional Workshop "**Energy Transition and Investment Challenges in SE Europe**", in co-operation with ROEC, Bucharest, Romania, Wednesday, October 16, 2019
- Presentation of IENE's Study on the "**Energy Transition of the Island of Kastellorizo**", Armed Forces Club (LAED) (Rigillis 1 & Vassilissis Sofias (Pavlou Mela Square), 10675), Athens, Thursday, October 24, 2019, 11:00 – 13:00
- **24th National Conference "Energy and Development 2019"**, Athens, Tuesday – Friday, November 21 – 22, 2019

- **7th Cyprus Energy Symposium**, in co-operation with FMW, Nicosia, Wednesday, December 5, 2019

Highlights of the evening meeting

“Prospects for an Expanded South Corridor”, which was organized in cooperation with the University of Athens, at the Museum of the UoA in Plaka (5/3/2018)



Highlights of the event:

“Energy Market Integration and transition in SE Europe”, which was organized in Brussels in cooperation with Eurelectric (9/3/2018)



Highlights of the Half Day Conference on “Electricity Markets in Transition- Latest Developments in Greece and Europe”, which took place at the Wyndham Grand Hotel, Athens (28/3/2018)



**Highlights of the one-day conference
“Investing on Energy Efficiency”, which took place at the Eugenides Foundation (24/5/2018)**



**Highlights of the
“4th IENE Energy and Shipping Seminar” organized in Athens, within the framework of Poseidonia 2018 (8/6/2018)**



Highlights of the “11th SE Europe Energy Dialogue (SEED), which took place at the MET Hotel in Thessaloniki (26-27/6/2018)”



**Highlights of the
“3rd Energy Tech Forum”, the event was organized in co-operation with Energia.gr, at the
Eugenides Foundation (16/10/2018)**



Highlights of the “3rd SEE Hydrocarbons Upstream Workshop”, which took place at the Royal Olympic Hotel, in Athens (30-31/10/2018)



Highlights of the 23rd National Conference “Energy & Development 2018”, which took place at the Eugenides Foundation (22-23/11/2018)



Highlights of the “6th Cyprus Energy Symposium”, which was organized in co-operation with the Financial Media Way (FMW) in Nicosia (4/12/2018)



Annexes

Annex I – IENE' staff

IENE' Staff



Costis Stambolis is the current Chairman and the Executive Director of IENE. He is also a member of the standing committee on Energy and Climate (ESEK) which is the foremost energy policy group of the Greek government. Has a background in Physics and Architecture having studied at the University of London, the North East London Polytechnic (NELP) and the Architectural Association in London from where he holds a Graduate Diploma in Architecture and Energy Studies (AA Dip. Grad). He also holds a professional practice license from the Technical Chamber of Greece (TEE), and a Masters Degree from the Said Business School, University of Oxford, where he studied "Strategy and Innovation".

Costis has carried out numerous studies and projects on Renewable Energy Sources in developing countries. He has consulted widely on solar building applications for both private and institutional clients in various European countries. He has worked as a consultant and strategy advisor on natural gas, oil markets and energy security issues for large multinational companies and international organizations.

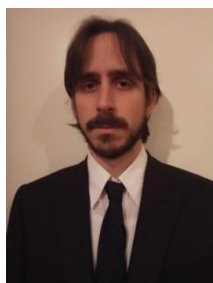
Costis has lectured widely on energy issues and has organised several national, regional and international conferences, seminars and workshops. He has pursued a parallel career as a specialized technical writer as for many years he was Athens correspondent for the Financial Times Newsletters and the Athens Daily "Kathimerini". He coordinated the introduction of the highly successful joint FTSE/ASE-20 index in the Athens Stock Exchange (1997/1998). He has edited several books, conference proceedings and has published many research papers and studies on energy policy, solar energy, RES and energy markets. "The Greek Energy Directory" (1984, 2016), "The Greek Energy Market" (2001) and the "S.E. Europe Energy Outlook 2011" and "SEE Energy Outlook 206/17", all edited by Costis, are considered basic references on energy policy and energy applications in Greece and SE Europe.

Since 2001 he supervises and edits daily Greece's foremost energy site www.energia.gr. He is a founding member of the Institute of Energy for South East Europe (IENE), where he has been elected three times as its Chairman (2003, 2005, 2019). He is a member of the Energy Institute (UK), the International Passive House Association (IPHA), The Technical Chamber of Greece (TEE) and the Chartered Institute of Journalists (UK).



Dimitrios Mezartasoglou commenced his cooperation with IENE in 2015 as an inhouse researcher and he is currently Head of Research. 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 a Researcher at IENE. He is an Industrial Engineer, graduate of Democritus University of Thrace's School of Engineering (DUTH). In addition, he holds an MSc degree in Sustainable Energy Engineering from Technical University of Denmark (DTU). He has experience in the elaboration of projects related to solar energy systems, modeling and analysis of sustainable energy systems, energy efficiency, feasibility studies and system assessment of energy technologies. As master student,

he participated in TOPWASTE project in collaboration with Risø DTU, where he contributed in the development of OptiWaste, a mathematical modeling tool, which handles optimization of waste and energy flows and can be integrated into large energy optimization models.

He joined IENE's research team in November 2017. He is responsible for the publication of "Electric Mobility Update" (bimonthly Newsletter of IENE) and "SEE Electricity Market Analysis" (Weekly Newsletter of IENE) and participates in the elaboration of the Institute's research projects and analyses, with main focus on RES and sustainability. He is the main author of the recently elaborated studies of IENE, "Prospects for the Electric Vehicle Market in Greece and Business Opportunities" and "Energy Transition of the Island of Kastellorizo".



Alina Gourgoti 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.

External Associates



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 an 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.



Vasilis Rallis is an Energy and Business Development expert, focusing on Energy Efficiency, Renewables and Fintech and an external Senior Research Associate of IENE. Previously he was an Economist at Greek Regulatory Authority of Energy (RAE) responsible for issues concerning financing and liquidity of the market, creation and implementation of the Energy Exchange & Clearing, Supervision. He has also managed various large-scale projects with multiple stakeholders on the Electricity and Natural Gas Markets and participated in the Target Model Task Group. In the past he has worked in Greek and foreign multinational companies in Greece and Great Britain. He holds an MBA (Alliance Manchester Business School), an Economics Degree (Athens University of Economics and Business -former ASOEE) and the Global Energy Certificate (Harvard Business School).



Dr Charles Ellinas, has over 35-years experience in the oil & gas sector in senior management positions. Currently CEO of e-CNHC (E-C Cyprus Natural Hydrocarbons Company Ltd), providing management and advisory services in the oil & gas and energy sectors in Cyprus and the region. A lot needs to be done and the aim of the company is to contribute to the successful development of these sectors for the future of Cyprus. Prior to this, as CEO of KRETYK I was responsible for implementing Cyprus government's strategy for the development of its hydrocarbons sector. Until 2012 I was a Director of Mott MacDonald for 25 years and the Managing Director of Mott MacDonald's Oil, Gas & Petrochemicals business world-wide.

Charles Ellinas is also Features Editor, Natural Gas World, and Senior Associate, Atlantic Council. Charles has also 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.



John Roberts is an Energy Security Expert and an external Senior Research Associate of IENE. He is also a senior partner with Methinks Ltd, a consultancy specializing in the inter-relationship between energy, economic development, and politics. He is also a non-resident Senior Fellow at the Global Energy Centre, Atlantic Council, Washington DC. He is currently researching European energy security issues, including the role of Turkey in European energy security, Russian gas deliveries to Europe, the development of new supply pipelines and interconnectors within Europe, and the energy security implications of gas discoveries in the Eastern Mediterranean.

Roberts is a respected energy analyst who has testified to UK parliamentary committees on Middle Eastern, Russian, Caspian, Turkish and Kurdish energy security issues. He has lectured widely on a variety of subjects, including the development of Arctic oil and gas, the impact of social and political unrest in the Middle East and boundary disputes in the Caspian Sea.

Roberts has recently completed studies for the Atlantic Council on oil and gas in the Kurdistan Region of Iraq, on gas interconnectors in Europe, and on the development of Russia's Turkish Stream pipeline and its impact on the development of the Southern Gas Corridor to connect the Caspian to Europe. Private consultancy work has included investigation of investment conditions in Abu Dhabi and Saudi Arabia's Vision 2030 programme. He is currently preparing a study on the Russia-China-Turkmenistan gas triangle.

ANNEX II – LIST of IENE’s CORPORATE MEMBERS

IENE CORPORATE MEMBERS

As of the end of June 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 76 companies listed below have accredited between them 750 individuals who are employed in various capacities by these companies.

- | | |
|--|---|
| ➤ ABB S.A. | ➤ ENSCO S.A. |
| ➤ AEGEAN FIRST COMPANY AFCE AE | ➤ EUROASIA INTERCONNECTOR |
| ➤ AERS (Energy Agency of Republic of Serbia) | ➤ GOLDECO S.A. |
| ➤ AES Bulgaria | ➤ INTERNATIONAL TECHNOLOGICAL APPLICATIONS (ITA) S.A. |
| ➤ ALPIQ ENERGY HELLAS S.A | ➤ LDK CONSULTANS |
| ➤ BLUE GRID GAS & POWER S.A | ➤ MCKINSEY COMPANY LTD |
| ➤ BP OIL HELLENIC S.A | ➤ M & M Gas A.E. |
| ➤ 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 |
| ➤ E3 Modelling | ➤ PHOTOS PHOTIADES GROUP Ltd |
| ➤ EDF EN HELLAS S.A. | ➤ PWC |
| ➤ EGNA Law Firm | ➤ ROEC |
| ➤ ELPEDISON S.A. | ➤ ROTA A.E. |
| ➤ ENCOS HELLAS Ltd | ➤ SIEMENS S.A. |
| ➤ ENEL GREEN POWER TRADING S.A | ➤ SPECTRUM GEO Ltd (UK) |
| ➤ ENEL ROMANIA | ➤ SRIBJAGAS (Serbia) |
| ➤ ENERGEAN OIL & GAS | ➤ SUNLIGHT RECYCLING S.A |
| ➤ ENERGY EXEMPLAR | ➤ SYSTEMS SUNLIGHT S.A. |
| ➤ ENFINITY ENERGY GREECE Ltd | |

- | | |
|-------------------------------------|--|
| ➤ TRANSADRIATIC PIPELINE - TAP | ➤ ATHENS EXCHANGE GROUP S.A. |
| ➤ ADMIE | ➤ ENEX GROUP S.A. |
| ➤ Electricity Authority of Cyprus | ➤ ENTEKA S.A. |
| ➤ ASPROFOS | ➤ HELLENIC UNION OF INDUSTRIAL CONSUMERS OF ENERGY (UNICEN |
| ➤ TRITOXO PROJECT MANAGEMENT | ➤ EPA ATTIKIS S.A. |
| ➤ PPC S.A. | ➤ EUDITI Ltd |
| ➤ PPC RENEWABLES | ➤ ZENITH S.A. |
| ➤ HEDNO | ➤ HERON S.A. |
| ➤ DEPA S.A. | ➤ KYRIAKIDIS GEORGOPOULOS LAW FIRM |
| ➤ ATHENS INTERNATIONAL AIRPORT S.A. | ➤ MESSARITIS RENEWABLES Ltd |
| ➤ EDA ATTIKIS S.A. | ➤ NAVRIDIS & ASSOCIATES EGNA LAW FIRM |
| ➤ EDA THESSALONIKIS THESSALIAS | ➤ MITILINEOS GROUP S.A. |
| ➤ HHRM | ➤ PROMETHEUS GAS S.A. |
| ➤ NATIONAL BANK GREECE (NBG) | ➤ CORINTH PIPEWORKS |
| ➤ ELVAL S.A. | ➤ TERNA ENERGY S.A. |
| ➤ ELIN Verd (former ELIN BIOFUELS) | ➤ BANK OF GREECE S.A. |
| ➤ CABLEL HELLENIC CABLES GROUP S.A | |
| ➤ HELPE S.A. | |

ANNEX III – List of IENE’s Sponsors and Supporters

Sponsors and Supporters

Over the last years IENE’ work has been financially supported by a group of companies and organizations who sometimes as Sponsors and other times as supporters have assisted the Institute in carrying out studies and organizing events. The list of IENE’s Sponsors and Supporters is as follows:

Regular Sponsors and supporters

- | | |
|---|---|
| ➤ Independent Power Transmission Operator (IPTO or ADMIE) S.A. | ➤ PROMETHEUS GAS S.A. |
| ➤ Public Gas Corporation DEPA S.A. | ➤ Regulatory Authority for Energy (RAE) |
| ➤ Public Power Corporation (PPC) | ➤ TERNA ENERGY S.A. |
| ➤ PPC RENEWABLES | ➤ Aegean Airlines |
| ➤ HEDNO (Hellenic Electricity Distribution Network Operator S.A.) | ➤ ALSTOM |
| ➤ DESFA (Hellenic Gas Transmission System Operator S.A) | ➤ Elpedison |
| ➤ UNICEN S.A. | ➤ Energean Oil & Gas |
| ➤ ELVAL S.A. | ➤ ENSCO AE |
| ➤ ENEX GROUP S.A. | ➤ ENEL Green Power |
| ➤ HELPE S.A | ➤ Gastrade A.E. |
| ➤ Attiki Gas Supply Co. S.A. | ➤ KG Law Firm |
| ➤ Mytilineos S.A | ➤ Protergia SA |
| ➤ PROMETHEUS GAS S.A. | ➤ Siemens SA |
| | ➤ Systems Sunlight |

Annex IV – IENE’s Research Work & Studies

The following is a detailed list of IENE’s studies conducted over the past years. This list includes completed studies as well as others which are in progress.

➤ Completed Studies (2007-2019)

- “National RES Targets Over the Next Five Years”, published, April 2007 (M01)
- “The New Landscape of Greece’s Electricity Market”, February 2008 (M02)
- “The Critical Role of Transport in Energy”, July 2009 (M04)
- “The Energy Security Policy of the Islamic Republic of Iran”, December 2009 (M05)
- “SE Europe Energy Outlook 2011”, an IENE Reference Study, June 2011 (M06)
- “Greece’s Petroleum Dependency: an Economic Perspective”, July 2013 (M07)
- “Renewable Energy Sources in SE Europe: Current Situation and Future Prospects”, published as Working Paper No.19, October 2012 (M08)
- “Energy and Employment in Greece”, an IENE Research Project, December 2013 (M09)
- “Europe’s Natural Gas Supply Prospects, the South Corridor and the Role of Greece”, an IENE Assessment Study, January 2012 (M10)
- “The Helios’ Project: Can Solar Energy be Exported?” an IENE Assessment Study”, February 2012 (M11)
- “Greece’s experience in utilizing EU Structural Funds for improving energy efficiency in buildings”, an IENE Research Note, January 2015 (M13)
- “Hydrocarbon Exploration and Production in the East Mediterranean & the Adriatic Sea” an IENE Review Paper, May 2012 (M14)
- “A Strategy Study on the Electricity Interconnections of SE Europe and Greece’s Role”, an assessment study carried out on behalf of Greece’s Regulatory Energy Authority (RAE), November 2012 (M15)
- “SE Europe’s Hydrocarbon Import Dependency”, a Research Note, 2017 (M16)
- “The Role of Greece as a Supply Route to Europe in View of Latest Gas Discoveries in the East Mediterranean”, a Research Note, 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, September 2014 (M19)
- “SE Europe Energy Outlook 2016/2017”, an IENE Reference Study, May 2017 (M23)
- “A Strategy for Unlocking Greece’s Hydrocarbon Potential”, a Strategy Study, September 2015 (M25)
- “The Vertical Gas Corridor: From the Aegean to the Baltic”, a Study Project carried out with the support of Greece’s Public Gas Corporation (DEPA), May 2015 (M26)
- “Review of Turkey’s Nuclear Programme”, Briefing Note No. 6, June 2015 (M27)

- “The Energy Sufficiency of Kastellorizo” a research project completed July 2019 (M45)
- “Gas Supply in SE Europe and the Key Role of LNG” January 2018, (M46)
- “Prospects for the Development of an 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)
- “The Greek Energy Sector-Developments and Prospects”, Annual Review, February 2018 (M48)

➤ Studies in progress (2019-2020)

- “The Role of the Caspian and Black Seas in European Energy Security”, an IENE Research Project, in progress (M12)
- “Energy Review of SE European countries: Greece “, to be published as Country Profile, in progress (M20)
- “The East Mediterranean Energy Corridor” an IENE Study Project, in progress, to be also published as a Research Note, in progress (M21)
- “Energy and Transportation in Greece”, revised study (originally published by IENE in 2009) to be published revised, in progress (M22)
- “Developing Albania’s Hydroelectricity Sector”, an Assessment Study, completed, June 2016, to be published as Working Paper, in progress (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)
- “A Strategy for Reducing Industrial Tariffs in Electricity and Natural Gas”, in progress (M30)
- “Trends and Prospects of RES in Greece” (M31)
- “Concept Development Study for the Further Utilisation of Kosovo's Lignite Deposits and Investment Prospects”, in progress (M32)
- “East Mediterranean Gas Resources and Export Options”, to be published as Working Paper, in progress (M33)
- “Energy, Investment and Employment in Greece 2017”- (An Update of the study M09 issued in December 2013) will be issued as Working Paper, in progress (M34)
- “Energy as the Basic Economic Development Lever Greece 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, in progress (M36)

- “A Carbon Capture Storage and Utilization (CCS/CCU) Proposed Strategy for the Public Power Corporation (PPC)”, An IENE Strategy Study, in progress (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, in progress (M38)
- “Energy Review of SE Europe Countries: Turkey”, to be completed and published as Country Profile, in progress (M39)
- “New Gas Transition Routes in SE Europe”, an assessment study to be published as an Assessment Study, in progress (M40)
- “The Weaknesses and Challenges of the Refining Sector in the SE Mediterranean and SE Europe Region” (M41)
- “Energy Efficiency Study in the Building Sector in SE Europe: with Special Reference to Greece” (M42)
- “The Role of RES in the Economic Development of the Greek Archipelago. Current Status, Examples and Prospects” (M43)
- “Prospects for an Expanded South Corridor” (M44)
- “SE Europe Energy Outlook 2020” (M48)
- “Investing in Greece’s Energy Sector” (M49)