CURRICULUM VITAE

Professor KONSTANTINOS (Kostas) MATHIOUDAKIS, Athens, April 2020

Dr Kostas Mathioudakis is a Professor in the School of Mechanical Engineering of the National Technical University of Athens (NTUA), Head of the Laboratory of Thermal Turbomachines, (www.ltt.ntua.gr), teaching and performing research in the field of energy conversion through thermal machines. He has been Secretary-General[1] in the Ministry of Environment, Energy and Climate Change (MEECC) of the Hellenic Republic from December 2009 through to March 2015.

Professor Mathioudakis has had a distinguished academic career. His academic record includes numerous publications and international invitations to lecture, whereas leading companies worldwide have adopted methods and innovations based on his collaborative research. His research has been internationally recognized with numerous citations of his publications and the receipt of five international best paper awards.

His academic work has a strong international dimension, deriving from his significant international exposure and from the many partnerships he has developed with European companies, institutes and universities in the energy field. He has performed technical work under contract with industrial outfits across Europe, including all major European gas turbine manufacturers. Moreover, he has participated as an organizer and/or speaker in many international conferences and has been actively involved in international boards.

His work as Secretary-General has provided him with hands-on experience in planning, formulating and implementing energy policy. Serving in this post, he spearheaded extensive reforms, from their conception to their successful implementation while cooperation with stakeholders, especially industry and public bodies, constituted the cornerstone of this process. He was chairing key committees that support the development of Greece's energy sector, including the National Energy Planning Committee and the Committee for Emergency Fuel Supply Management.

He has extensive European and international experience. He has regularly represented his country in EU institutions while, during Greece's 2014 Presidency of the EU Council, he had the opportunity to represent the Energy Council in numerous events. He has led national delegations in various international organizations, notably representing Greece at the IEA's Governing Board. He has been actively involved in Greece's increasingly strategic role in international energy affairs, chairing bilateral Energy Cooperation Committees with several countries and negotiating complex Intergovernmental Agreements.

He has significant management experience, accumulated since his University career. He served as Director of the Fluids Section as well as of the Laboratory of Thermal Turbomachines, where he developed Experimental Facilities from scratch and managed the execution of many sizeable projects. His work at the Ministry has provided him with substantial experience in large-scale personnel management, running the 200-strong General Secretariat of Energy. As Secretary-General he has managed the preparation, adoption and implementation of various policy measures, the drawing up and execution of the budget and of support programs for energy investments. He has headed financial activities and analyses performed by the General Secretariat. Moreover he has been in charge of several evaluation committees of major public tenders.

[1] *December 1, 2009 to November 13, 2014, Secretary General for Energy and Climate Change. Since November 14, following a restructuring of the MEECC organization, Secretary General of Energy and Mineral Resources.*

His mother tongue is Greek and he is fluent in English and French with basic knowledge of German.

Following is the timeline of Professor Mathioudakis' education and professional career, while his academic achievements and his extensive experience in Energy policy are further detailed in Appendices I and II respectively.

Education

- Degree in Mechanical Engineering from the National Technical University of Athens (NTUA), Greece (1980). Ranked first amongst his peers from entry and throughout his studies.
- Postgraduate Degree in Fluid Dynamics, from the Von Karman Institute for Fluid Dynamics, Brussels, Belgium (1981). Obtained with "Honours".
- Doctorate in Applied Sciences from the Katholieke Universiteit Leuven, Leuven, Belgium (1985). Obtained with "The Highest Distinction". The research for his thesis was performed at the Von Karman Institute for Fluid Dynamics.

Career

● March 2006 – present	Professor, School of Mechanical Engineering, National Technical University of Athens (NTUA).
● December 2009 – March 2015	Secretary-General for Energy in the Ministry of Environment, Energy and Climate Change, Athens, Greece.
● August 2000 – Feb. 2006	Associate Professor, School of Mechanical Engineering, NTUA.
● February 1994-Aug. 2000	Assistant Professor, School of Mechanical Engineering, NTUA.
● May 1990 - January 1994	Lecturer, School of Mechanical Engineering, NTUA.
● May 1987- May 1990	Research Associate, Laboratory of Thermal Turbomachines, School of Mechanical Engineering, NTUA.
● October 1987- Feb. 1988	Appointed Lecturer (provisions L.407/80), Technical University of Crete.
●.. July 1985- May 1987	Researcher, Department of Propulsion, Air Force Technology Research Center, Athens, (military service).
● October 1981- May 1985	Research Assistant, Von Karman Institute for Fluid Dynamics, Brussels, Belgium.
● Summer 1981	Trainee, Department of Large Steam Turbines, Brown Boverie & Cie, Baden, Switzerland.

APPENDIX-I

HIGHLIGHTS OF ACADEMIC CAREER

Key achievements of Professor Mathioudakis' Academic Career can be summarized as follows:

-The formation of a research group in an area of activity field that he initiated at the Laboratory of Thermal Turbomachines (LTT), National Technical University of Athens' (NTUA), the area of Gas Turbine Condition Monitoring and Diagnostics, with globally acknowledged achievements, which gave international visibility to the group.

-The development of close ties between the LTT and industry in Greece and Europe, through the successful completion of research and service contracts.

-The establishment of New Test Facilities in LTT/NTUA.

-An intense and creative teaching career at the NTUA, in under and post-graduate curricula, including the introduction of four new courses for which he authored supporting books.

Academic Achievements, Distinctions

His research has led to a significant number of publications, with over 180 scientific articles (Appendix III) in International Journals and Conferences, and is widely cited internationally[2].

International Distinctions for his research:

- Best paper award of the Controls and Diagnostics Committee, at ASME International TURBO-EXPO, 1992.
- Outstanding service award of the 2002 Gas Controls, Diagnostics and Instrumentation Committee of ASME, International Gas Turbine Institute.
- Best paper award of the Controls and Diagnostics Committee, at ASME International TURBO-EXPO, 2002.
- Best paper award of the Education Committee, at ASME International TURBO-EXPO, 2003.
- PE Publishing Award for the best paper published in the Journal of Power and Energy, 2004.
- Best paper award of the Cycle Innovations Committee, at ASME International TURBO-EXPO, 2012.

As a result of the international recognition for his research work, he was asked to regularly Chair/Vice Chair sessions of international conferences, including the Annual International Conference on Gas Turbines (known as TURBO EXPO) of the International Gas Turbine Institute of ASME, the Biannual International Conference of ISABE (International Society of Air Breathing Engines) and the Biannual European Turbomachinery Congress.

He has been invited to give lectures at many institutions in different countries including Pratt & Whitney, East Hartford, CT, in the USA, the von Karman Institute for Fluid Dynamics, in Belgium, the Institute of Engineering Thermophysics-Academy of Science, at the Shanghai Marine Diesel Engine Research Institute as well as at the Zhejiang University- Institute of Thermal Power Engineering, in China and the University of Ferrara in Italy.

He has been appointed a Panel Member of the European Research Council, for years 2016 and 2018.[3]

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2 Publications are listed under the Lab's site: http://www.ltt.ntua.gr/index.php/publication. They are also included in international data bases, such as:
144 in Google Scholar, http://scholar.google.gr/citations?user=pfbLjpgAAAAJ&hl=el&oi=ao *, (h=24,i10=6 as of 22/12/2016)*
125 in SCOPUS, http://www.scopus.com *(Author: Mathioudakis K, h=16, as of 22/12/2016)*

[3] https://erc.europa.eu/evaluation-panels

Work with Industry

He has performed work under contract with:

- Large industrial outfits in Greece (Public Power Corporation, Hellenic Petroleum, METKA, Hellenic Railways) as well as with the Hellenic Air Force and Hellenic Navy. Since 2018, his Lab has been accredited for the certification of gas meters, supporting gas distribution companies (e.g. EDAA, EDATHES).
- Industry in various European countries, either under direct contract or within the frame of EC funded Research Projects (e.g. SAFRAN Aircraft Engines, SNECMA, Metravib RDS and TURBOMECA in France, Rolls-Royce and European Gas Turbines in the UK, MTU in Germany, ENEL and FIAT Avio in Italy). A South Korean company, Doosan Heavy Industries, has recently contracted his Lab for conducting applied research.

Under his leadership, the Diagnostics Group of LTT/NTUA has designed built and installed diagnostic systems in several power generation sites as well as a jet engine test facility.[4]

Sample Energy Projects in Greece

- Design, construction, installation and operation of diagnostic systems in gas turbines (HELLENIC PETROLEUM,2000, and PPC,2004).
- Technical support for the Project of the "Small Lavrio" Combined Cycle Gas Turbine power plant (PPC, 1998).
- Technical support for the Commissioning of the ABB GT10 gas turbine at Soroni, Rhodes, and technical training for monitoring its operation by PPC (PPC, 1998).
- Technical support for the Commissioning of two SIEMENS V 64.3gas turbines for the Thermal Power Station of Chania (PPC, 2000).
- Technical support for the Commissioning of the CCGT plant "Megalo Lavrio", net output of 550 MW with emphasis on issues related to its three gas turbines EGT 9171E (PPC, 2001).
- Technical Support for the Commissioning of the CCGT plant "Komotini", net output of 476.3 MW, with emphasis on issues related to the gas turbines ABB GT13E2 (PPC,2003*).*

Sample International Projects

- DEVELOPMENT OF A PERFORMANCE DIAGNOSTIC SYSTEM FOR INDUSTRIAL GAS TURBINE ENGINE. Contract with South Corean DOOSAN HEAVY INDUSTRIES, 6/6/2017-31/12/2020.
- DEMOS : Developing Advanced Engine Multi-Disciplinary Optimization Simulations. EU Horizon 2020, Clean Sky Undertaking. Withth AIRBUS Industies, Cranfield University, Empressarios Argupados (Spain), 1/1/16-31/12/19.
- CRESCENDO: Collaborative And Robust Engineering Using Simulation Capability Enabling Next Design Optimisation (Integrated Project financed by the EU, 1/5/09-3010/12)
- OBIDICOTE: On Board Identification Diagnosis and Control of Gas Turbine Engines, financed by the EU (Collaboration with MTU Motoren-und Turbinen-Union München GmbH, Techspace Aero SA, Rolls Royce Plc, Lufthansa Technik AG, Fiat Avio SPA, Volvo Aero Corporation AB), 1/2/98-31/1/02.
- EVI-GTI: The European Virtual Institute For Gas Turbine Instrumentation, financed by the EU (Consortium of 15, including MTU, SNECMA, Rolls Royce), 1/7/02-30/6/05.
- VIVACE: Value Improvement through a Virtual Aeronautical Collaborative Enterprise. *Integrated Project,* financed by the EU, 1/1/04-31/12/-07,

[4] *Diagnostic Systems description at* http://www.ltt.mech.ntua.gr/index.php/services/diagnsysmn

- AEROTEST: Remote Sensing Technique for Aeroengine Emission Certification and Monitoring. *Specific Targeted Project,* financed by EU, 1/3/04-28/2/07.
- TATEM: Technologies and Techniques for New Maintenance Concepts. *Integrated Project,* financed by the EU,1/3/04-28/2/07.
- NEWAC: New Aeroengine Core Concepts. *Integrated Project,* financed by the EU, 1/5/06-30/4/10,
- Effects of Gas Dynamics on Transient Performance. Contract with SNECMA, 1/6/02-30/11/02.
- Study of Heat Transfer Effects on Turbine Performance. Contract with SNECMA, 20/1/02-19/6/03.
- Water and Hail Ingestion: Modelling of Water Phase Changes through the Compressor. Contract with SNECMA, 1/4/03-30/6/03.

Setting-up Laboratory Infrastructure

He was responsible for developing the experimental infrastructure for the Lab of Thermal Turbomachines. At the beginning of his engagement with the Lab, there were no test facilities. Through his leadership, management and personal involvement, the Lab today comprises modern infrastructure of test facilities and instrumentation[5].

The main test facilities that were developed under his leadership are: A compressor test rig (750 kW/24000 rpm or 400 kW/80000 rpm arrangement), a transonic peripheral cascade test rig with rotating hub, two small "Free Jet" facilities, a test stand for industrial small blowers (DIN 24163), linear cascade tunnel, a contra- rotating low speed compressor test rig and a small jet engine test rig. The most recent development is a unit for certification of natural gas meters, that was put in operation in September 2016.

The testing infrastructure now available at LTT/NTUA allows the performance of high quality research and services for industry, while supporting educational activities of a high standard for under and post-graduate students.

Management/Administration at NTUA

- Director, Lab of Thermal Turbomachines, 2006-2009, 2015 to date.
- Director, Fluid Section, School of Mechanical Engineering, 2007-2008, 2015-2016.
- Member of the Dean's Committee of the School of Mechanical Engineering (2016/09-2018/09, 2018/12-2020/8)
- Member of the NTUA Senate Committee for University Publications, representing the School of Mechanical Engineering, 2001-2009.
- Member of the NTUA Senate Committee for University Premises and Facilities, representing the School of Mechanical Engineering, 2009.
- Head of the Diagnostics Group of the Lab of Thermal Turbomachines at the NTUA, since 1988, with a number of major academic and industrial achievements.

Teaching

He has taught since 1990 at the School of Mechanical Engineering. He has taught for a number of years the course "Introduction to Turbomachinery", while he introduced four new courses in the Curriculum: "Gas and Steam Turbine Operation", "Introduction to Jet Engines", "Jet Engine Operation: Performance, Gas and Acoustic Emissions" and "Gas Turbine Diagnostics". He authored

[5] *A description of Research & Testing facilities and Instrumentation can be found at* http://www.ltt.mech.ntua.gr/index.php/lttfcl

the following books (in Greek), published by the NTUA Press:

1. Gas and Steam Turbine Operation. (510 pages), Athens 2016.
2. Jet Engine Operation: Performance, Gas and Acoustic Emissions. (300 pages), Athens 2007.
3. Gas Turbine Diagnostics. (250 pages), Athens 2016.
4. Jet Engines. (350 pages), Athens 2016.
5. Introduction to Turbomachinery. (Co-authored with K.D.Papailiou, K. Giannakoglou), Athens 1997.

He has supervised a large number of Degree Theses, many in cooperation with industrial outfits in Greece.

He has taught in the Interdepartmental Post Graduate program of NTUA "Energy Generation and Management" and supervised PhD theses.

He has pioneered the introduction of modern teaching methods for engineering. He led the creation of the Virtual Laboratory of Gas Turbines[6] which was enthusiastically received when it was first publicly presented (see above: Best Paper Award of the Education Committee, ASME TURBO-EXPO, 2003). It is currently being used by a number of educational institutions.

Member of the following bodies:

- Society of Mechanical and Electrical Engineers of Greece.
- Technical Chamber of Greece.
- Turbomachinery Committee, IGTI (International Gas Turbine Institute), ASME (American Society of Mechanical Engineers).
- Controls & Diagnostics Committee, IGTI, ASME.
- Propulsion and Energetics Panel of AGARD and RTO (NATO), from 1996 to 2002.

Other Activities

- Panel Member of the European Research Council, ERC review panel, Products and Processes Engineering (PE8), ERC Starting Grant 2016, 2018.
- Expert at the General Secretariat for Research and Technology in "Aerospace Aeronautics", for the 6th Framework Program, 2002-2004.
- Vice Chair of the Controls and Diagnostics Committee of the International Gas Turbine Institute, ASME, 2004-2006.
- Chair of the Controls and Diagnostics Committee of the International Gas Turbine Institute, ASME, 2006-2008.
- External Evaluator of the Turbomachinery Department of Chalmers University, Gothenburg, Sweden, 2007.
- External Reviewer for research proposals by the General Secretariat of Research and Technology.
- Regular Reviewer of research papers for the American Society of Mechanical Engineers – ASME, as well as other international journals and conferences.
- External Examiner of Cranfield University, UK, for PhD and Master Theses. External Examiner of the University of Liege, Belgium.
- Advisor to DOATAP (Hellenic National Academic Recognition Information Centre), for degrees awarded by foreign higher education institutions, in Mechanical Engineering.

[6] *Description at* http://www.ltt.mech.ntua.gr/index.php/softwaremn/virtualmn

APPENDIX-II

EXPERIENCE IN ENERGY POLICY AND ADMINISTRATION

Professor Kostas Mathioudakis has extensive experience in the energy field, addressing and managing energy security, climate change, regulatory and economic development issues, both within a domestic/EU as well as an international context. He has a demonstrated record of success in getting initiatives off the ground and leading them to fruition.

He was instrumental in setting up the Ministry of Environment, Energy and Climate Change (MEECC) of the Hellenic Republic[7], ensuring its development as well as the administrative and policy cohesiveness between energy, environmental and climate change policies. In doing so, he skillfully directed and managed fundamental administrative reforms, demonstrating creative leadership, impressive problem-solving and decision–making skills, coupled with a deep understanding for formulating complementing and cohesive policies in these fields. As a result, this integrated new Ministry has effectively contributed to Greece's modernization and transition towards a lower carbon economy, in accordance with the EU's strategy and international best practice.

Energy Sector Reforms

Professor Mathioudakis took up his tenure as Secretary-General at a critical time for the Greek economy; Reforms of the energy sector were urgently required in order to develop the prerequisites for more secure, competitively priced and affordable energy for households and businesses. Convinced of the importance of market principles, he provided strong leadership in promoting and implementing the necessary reforms. Under his guidance these have led to a more open, competitive and liberalized market, with reduced bureaucratic procedures to facilitate investments.

He had an active involvement in the transposition of the EU's 3rd Energy Package into national legislation in 2011, through which Greece became one of the first Member-States to adopt the Package. This landmark legislation included, inter-alia, provisions for unbundling both the Gas and Electricity System Operators from the vertically integrated companies and enhancing the role of the independent regulator regarding security of supply, licensing, monitoring of the market and consumer protection.

Regarding natural gas, he has driven to achieve a more diversified regional market with more gas-to-gas competition and the conditions for a more prominent role for hub-pricing. Towards this goal, he was instrumental in the adoption of legislation which effectively opened up the domestic market, including the 2010 «National Gas Transmission System Management Code", which notably achieved open access to the LNG regasification terminal in Revithousa. He was involved in the preparation of legislation for liberalizing the Retail Gas Market in Greece, which will shortly be tabled to Parliament.

Regarding oil, he was involved in the introduction of primary and secondary legislation concerning oil stocks and reforms of the retail oil market. In upstream oil activities, he played a key role in the enactment of the legislative reforms introduced in 2011, while he was involved in

[7] *The MEECC was formed as part of the Government re-structuring introduced after the October 2009 elections. A new Secretariat General for Energy and Climate Change was formed and he was the first Secretary General appointed to head it.*

designing and executing tenders for geophysical surveys and granting concessions for exploration and exploitation. As a result of his hands-on involvement and collaboration with leading international firms, he has gained valuable insights in this dynamic sector.

Strongly advocating a climate change strategy that balances ambitious targets with the need to ensure viable economic development, Professor Mathioudakis played a key role in the adoption by Parliament in 2010 of major legislation for Renewable Energy Sources. This introduced ambitious targets and innovative measures for investors, and its significance was duly lauded in the IEA's Greece-2011 Energy Policy Review. Under successive administrations to date, he has continued to take initiatives to promote and further adapt the respective framework through legislative interventions, in accordance with developments in this sector's fast changing landscape. His team has designed the framework for performing the auctions of Greece's Emissions Allowances in 2011.

In the energy efficiency field, he has coordinated and overseen the design and implementation of a series of measures, notably concerning the energy characteristics of buildings and the launch of support programs for energy efficiency interventions in municipalities and households.

He has taken an active role in designing and implementing the Greek Energy Sector's privatization program.

Professor Mathioudakis was the head of the Ministry's technical team responsible for structural Energy reforms, as specified in the "Memoranda of Understanding on Specific Economic Policy Conditionality" and the "Economic Adjustment Programme for Greece" from 2010 onwards[8]. A long series of provisions have been successfully implemented.

Introduction of Legislation

As Secretary-General he had a decisive involvement in the design, preparation and adoption of primary and secondary legislation[9] for the Energy sector. During his tenure, key legislation has been adopted, including, in chronological order:

1. Law 3851 of June 2010, introducing a flexible framework for Renewable Energy Sources and further adjustments to the market through Laws 4093 (Nov 2012), 4203(Nov 2013), 4254(Apr 2014).
2. Ministerial Decree Δ6/Β/5825 of April 2010, regarding the Regulation for Energy Performance of Buildings.
3. Ministerial Decree Δ1/Α/5436 of April 2010, regarding the National Gas Transmission System Management Code which, inter alia, opens up access for third parties to the LNG regasification terminal.
4. Presidential Decree 100 of October 2010, regarding the introduction of Inspectors and Certificates for the Energy Efficiency of Buildings.
5. Ministerial Decrees ΟΙΚ.186310, 186446 of April 2011, for defining the terms of Auctions of Emissions Allowances.
6. Ministerial Decree Δ5−ΗΛ/Β/Φ29/16027 of September 2010, regarding Social Electricity Tariffs.
7. The energy law 4001 of August 2011, regarding the EU's 3rd Energy Package and comprising four parts:
    i. Electricity Market: harmonizing Greek law with Directive 2009/72 concerning common rules for the internal market in electricity. Pursuant to the law's provisions on unbundling the independent Power Transmission Operator (ADMIE), the Hellenic

[8] *http://ec.europa.eu/economy_finance/publications/occasional_paper/2014/op192_en.htm*

9 All legislation is publicly available at the site of National Printing House: www.et.gr

Electricity Distribution Network Operator S.A (DEDDIE) and the Operator of the Electricity Market (LAGIE) were established.

ii. Gas Market: harmonizing Greek law with Directive 2009/73.
iii. Market operation: a new framework extending the powers of the Independent Energy Regulator, RAE.
iv. Hydrocarbons: new legislative framework for the development of the sector and Exploration and Exploitation activities.

8. Law 4063 of March 2012, establishing a new framework for biofuels.
9. Law 4070 of April 2012, revising the framework for the operation of petrol stations.
10. Law 4123 of February 2013, for petroleum stockholding (harmonizing Greek law with Directive 2009/119).
11. Ministerial Cabinet Decree of September 2013, on an Emergency Response Plan for oil supply disruption.
12. Law 4172 of July 2013, readjusting requirements for minimum capital and storage facilities and compulsory insurance alternative for wholesale licenses.
13. Law 4145 of April 2013, ratifying the Intergovernmental Agreement amongst the Republic of Albania, the Hellenic Republic and the Republic of Italy.
14. Law 4203 of November 2013, on the framework for Renewable Energy Sources.
15. Ministerial Decree D1/B/21196 of November 2013, regarding the regulation on maintenance of emergency petroleum stocks.
16. Law 4217 of December 2013, regarding the Host Government Agreement for the Trans Adriatic Pipeline.
17. Law 4254 (Art 1, par ΙΓ) of April 2014, revising Feed in Tariffs for RES.
18. Law 4237of February 2014, regarding the ownership unbundling of the Electricity Transmission System Operator.
19. Law 4273 of July 2014, for the privatization of part of the Public Power Corporation through the creation of a new vertically integrated company.
20. Laws 4298, 4299 and 4300 of October 2014, ratifying the Agreements for Hydrocarbons Exploration and Exploitation of the areas Katakolo, Patraikos, and Ioannina respectively.

Management

His decisive and effective management skills have been most recently demonstrated by his performance running the Ministry's General Secretariat. Apart from organizing the preparation, adoption and implementation of the abovementioned legislation, he has been in charge of personnel and financial management, as well as leading various ad hoc High-Level Committees in support of the Ministry's work.

His pivotal role in restructuring the Ministry's organization, which resulted in a new organizational chart, effective from November 2014 demonstrates his ability to re-organize, streamline, modernize and create an efficient administration supporting the tasks at hand.

His role has been far-reaching extending over a broad range of functions, including budgetary issues. Notably, overseeing the drawing up and execution of the General Secretariat's annual budget and supervising the "Department of Coordination and Implementation" for Greece's Energy Structural Funds from the EU. The latter has supported energy projects with investments of about 1.5 billion Euro in the context of the National Strategic Reference Framework 2007-13.

Regarding climate/energy policies, he has been chairing the Ministerial Committee managing the "Saving Energy at Home" program launched in 2010, one of the most successful energy efficiency programs implemented, supported by the "Savings at Home Fund", financed by the EU's structural funds, with the participation of private banks. He proved instrumental in designing the

program, setting up the fund and obtaining the participation of the banking sector. He successfully headed the Government's team in the respective negotiations with the banks.

He led his team's work on performing Greece's emissions allowances auctions (EUA) during the second trading period of the EU ETS. In 2011 and 2012 about 19 million EUAs were auctioned, bringing to the State an income of 174 million Euros.

Moreover, he supervised the financial analysis on which the revised Feed In Tariff scheme for renewables was based. The new regime was adopted by Law 4254 in April 2014.

In the hydrocarbons sector, he chaired the tender evaluation committee for the "International Public Invitation for the Participation in Non-Exclusive Seismic Survey Offshore Western and Southern Greece"[10]. This was a major Tender which resulted in the largest seismic survey ever carried out in Greece. The Committee was mandated with ensuring transparent procedures, throughout the selection process involving diligent assessments and technical, economic and legal negotiations. A bidder was selected and a contract was negotiated and signed in October 2012.The project was then successfully completed and provided the data for Greece's 2nd Open Door round, for 20 blocks in the Ionian Sea and South of Crete, launched in November 2014[11].

Within the same framework, he chaired another tender evaluation committee, which fruitfully completed the selection of bidders for the "Open Door Invitation for granting and using authorizations for the exploration and exploitation of hydrocarbons", in three areas (off-shore Patraikos Gulf, Western Katakolo and on-shore Ioannina)[11]. A diligent selection process resulted in the selection of bidders and contracts were signed in May 2014.

His managerial skills have also been proven and tested in his work regarding crisis-prevention and crisis-management. He coordinated MEECC's response to an emergency in January 2012, when a small scale disruption of gas supply to Greece occurred. He also coordinated the response to electricity supply disruptions which occurred as a result of nation-wide strikes of the Worker's Union of the Public Power Corporation, in May 2011 and July 2014. He directed the team that prepared the natural gas "Stress Test" requested by the European Commission in the summer of 2014, in view of possible supply disruptions in the winter of 2014-15, and managed preparations for safeguarding security of supply in case of such an event.

International Relations

Professor Mathioudakis has supervised the Ministry's Department of International Relations for energy, and was involved daily in exchanges with other governments or institutions, preparation of missions, formulation of positions and work promoting the conclusion and implementation of various types of cooperation agreements.

He was also responsible for dealing with issues arising in the framework of the EU's Energy Council. In this regard, he was in regular contact with representatives of other Member States and EU institutions and actively involved in delicate and complex negotiations and discussions. Such activities were particularly intense during Greece's 2014 Presidency of the EU Council, during which the Ministry of Energy presided over the EU Energy Council, successfully organizing a number of meetings and events. This led, inter alia, to the adoption of Conclusions on "Energy prices and costs, protection of vulnerable consumers and competitiveness"[12] as well as to a political agreement on the Indirect Land-Use Change Directive[13]. Furthermore he participated in high level

[10] http://www.ypeka.gr/Default.aspx?tabid=768&language=en-US
[11] http://www.ypeka.gr/Default.aspx?tabid=765&locale=en-US&language=el-GR

12 http://www.consilium.europa.eu/meetings?lang=en&id=57b895b8-d71e-495a-8b87-b5c377f1211d
[13] http://www.consilium.europa.eu/homepage/showfocus?focusName=agreement-on-indirect-land-use-change-directive-at-the-council

negotiations regarding the adoption of the EU's "2030 Framework for Climate and Energy Policies" in October 2014.

Developing policies contributing to and implementing energy security strategy has constituted a major part of his work. This has been a dynamic process entailing anticipating, adjusting and responding to an evolving geopolitical landscape, taking into account the challenges and opportunities associated with the country's broader region at the crossroads of Europe's emerging supply routes and resources.

Professor Mathioudakis has been actively involved with developing, drafting and concluding various bilateral cooperation agreements in the field of energy between Greece and other countries, including Bulgaria (2010), Qatar (2010), Turkey (2010), Switzerland (2012), Germany (2013), Israel (2013), and Russia (2013).

He has been especially concerned with actions promoting the development of diversified sources and routes and an interconnected EU market. In this respect, apart from regulatory reforms, he has also advanced gas and electricity interconnection projects. In cooperation with regional partners, 12 projects pertaining to Greece were selected as Projects of Common Interest (PCI) by the EU in 2013. Moreover, he has successfully led complex negotiations which have resulted in the conclusion of a series of International Agreements on certain (PCI) interconnection projects, notably for the Trans Adriatic Pipeline (TAP) and for the Interconnector Greece-Bulgaria (IGB).

He has participated in numerous international missions, mostly leading them, and represents Greece in the work of International Organizations, including at the IEA's Governing Board, Energy Charter and IRENA. He has also regularly represented his country in EU institutions and during Greece's 2014 Presidency the EU's Energy Council in numerous events.