



## Prof. Dr. Volkan Ş. Ediger Program Director



As a vital input of the economy, energy underpins the economic development of nations. Yet fossil fuels still constitute roughly 90 percent of the world energy system, a reality that is unsustainable in the long term due to resource scarcity, local environmental problems, and global climate change. At the same time, demand for natural gas, the world's cleanest fossil fuel, is growing due to its role as a transition fuel on the path towards a low-carbon energy system, and geopolitical rivalry surrounding gas will continue to deepen among major gas producers and consumers. This rivalry will, in turn, accelerate the struggle for energy resources and cause global economic and political destabilization.

These challenges are harder to tackle in developing countries than in the industrialized world. As one of the world's most important emerging markets, the Turkish energy system can be used as an example to other developing countries. Turkey requires considerable supplies of energy to support its rapid economic development, but it cannot meet this demand from domestic sources and has to import roughly three quarters of its energy from abroad. This dependence on foreign sources threatens Turkey's energy security and, in the process, its national security. In the twenty-first century, no economy is sustainable under such high level of energy-import dependence.

In recent years, a number of graduate programs on energy have been launched in various countries, but these fall short of meeting the needs of the sector due to their contextual and structural features. Specifically, they generally focus on a certain aspect of energy, whether it be in geological engineering or policy, and therefore neglecting energy's interdisciplinary nature. The Energy and Sustainable Development (ESD) Thesis/Non-Thesis Master's Program was launched in the 2016-2017 academic year at Kadir Has University (KHAS) in Istanbul to address this gap. The program brings together several disciplines in social sciences, physical sciences and engineering to allow students to make connections across different fields and learn to adapt to this constantly evolving field. Students benefit not only from their classroom studies, but also through the program's coordination with the Center for Energy and Sustainable Development (CESD), which further encourages interdisciplinary research and practice.

The Energy and Sustainable Development Master's Program enables international students to specialize in various areas of energy. Students can choose from a wide range of departmental and non-departmental elective courses in addition to the compulsory courses in four main areas: energy science and engineering, energy finance and economics, management and policies of sustainable development, and energy security and geopolitics. In addition to the theoretical knowledge provided by the courses, students gain real-life experience through seminars given by experts in the field.

## ADVISORY COMMITTEE

**Dr. Selahattin Anaç**, Former General Manager, Turkish Coal Enterprises  
**Değer Boden**, Boden Law Office

**Nusret Cömert**, Damnus Energy and Investment, CEO

**Haluk Direskeneli**, Free-lance Advisor, Germany

**Dr. Saltuk Düzyol**, General Director, TANAP

**Mete Göknel**, Energy Analyst

**Prof. Dr. İskender Gökalp**, Director of CNRS-ICARE, France

**Dr. Rıza Kadılar**, Representative of Turkey, Natixis

**Prof. Dr. Baha Karan**, Hacettepe Uni., Faculty of Economics and Administrative Sciences

**Dr. Sohbet Karbuz**, OME, Oil and Gas Director, France

**Mehmet Öğütçü**, The Bosphorus Energy Club, UK

**Necdet Pamir**, Bilkent University

**Dr. Uygur Özesmi**, Good4Trust

**Prof. Dr. Osman Sevaioğlu**, Electrical -Electronics Engineering Department of METU

## ACADEMIC STAFF



Prof. Dr. Mitat Çelikpala, Department of International Relations

Prof. Dr. Meltem Ş. Ucal, Department of Economics

Assoc. Prof. Dr. A. Deniz Yücekaya, Department of Industrial Engineering

Assoc. Prof. Dr. Gökhan Kirkil, Department of Industrial Engineering

Assoc. Prof. Dr. Cem Özen, Bioinformatics and Genetics Department

Assoc. Prof. Dr. Hamid Akın Ünver, Department of International Relations

Asst. Prof. Dr. Emre Çelebi, Department of Industrial Engineering

Asst. Prof. Dr. Oğuzhan Ceylan, Department of Management Information Systems

Dr. Uygur Özesmi, Good4Trust, Part-time Instructor

Dr. John Bowlus, Visiting Scientist, KHAS

Değer Boden, Lawyer, Part-time Instructor

L. Umut Feyzioğlu, Project Finance Manager, Türkiye İş Bankası, Part-time Instructor

## CURRICULUM

The Energy and Sustainable Development Master's Program, which was designed by taking the interdisciplinary nature of energy field into consideration, enables students to specialize in one of the four major tracks, including economy and markets, policy and geopolitics, sustainability and environment, and engineering and efficiency. The most important advantage of the program, which is open to students with bachelor degrees from different disciplines, is the opportunity provided to acquire expertise in energy and sustainable development, whose importance is continuously increasing. The program is designed to be conducted completely in English to increase the competitiveness of students in the careers they will pursue whether in Turkey or abroad. The program has the thesis and non-thesis options to fulfil the varying needs of the students.

The Energy and Sustainable Development Master's Program inculcates an interdisciplinary approach to the study of energy and sustainable development, whose importance in global affairs will only continue to grow. It enables students to specialize in one of the four major tracks - (1) economy and markets, (2) policy and geopolitics, (3) sustainability and environment, or (4) engineering and efficiency - while taking advantage of a host of elective courses. It is open to students with bachelor degrees from different disciplines and is conducted completely in English to increase the competitiveness of students in their subsequent careers, whether they choose to pursue them in Turkey or abroad.

For the thesis track, students are required to complete 120 ECTS course credits and complete their master's thesis in accordance with the procedures indicated in the university's regulations and directives. Students earn 60 out of their 120 credits from compulsory and elective courses and 60 from the thesis. On the other hand, for the non-thesis track, students are required to complete 90 ECTS course credits, 75 of which from compulsory and elective courses and 15 from graduation project.

## Departmental Elective Courses

ESD 510 Energy Science and Engineering  
ESD 511 Advanced Renewable Energy Technologies  
ESD 512 Energy Modelling, Simulation, and Optimization  
ESD 513 Computational Tools in Energy Science and Engineering  
ESD 514 Advanced Wind Energy  
ESD 520 Energy Markets and Economy  
ESD 521 Energy Project Development and Financing  
ESD 522 Energy Exchange Markets  
ESD 523 Turkish Energy System  
ESD 524 Energy Project Management and Law  
ESD 525 Econometric Modelling for Energy Policy Evaluation  
ESD 530 Sustainable Energy Policies and Management  
ESD 531 Energy Efficiency Management  
ESD 532 Sustainable Energy and Society  
ESD 533 Carbon Economy and Markets  
ESD 540 Energy Security and Geopolitics  
ESD 541 Energy Security of Turkey  
ESD 542 Energy Transportation and Logistics  
ESD 543 Oil and Gas Pipelines  
ESD 544 International Energy Policies  
ESD 550 Special Energy Topics

## Departmental Compulsory Courses

GSS 501 Research Methods  
GSS 580 Graduation Project  
GSS 598 Seminar  
GSS 599 Thesis

## Non-Departmental Elective Courses

IE 502 Engineering Project Management  
IE 503 Engineering Optimization and Applications  
IE 506 Financial Management  
MIS 513 Project Management  
IR 545 Energy Politics  
IR 546 Eurasian Security and Geopolitics  
IR 548 Middle Eastern Politics  
IR 645 Energy Politics  
IR 646 Geopolitics of Eurasia  
EC 522 Political Economy of Development  
EC 526 International Economy  
EC 531 Applied Econometrics  
EC 540 Public Finance  
EC 625 Economy of Growth  
CE 514 Data Mining  
FE 525 Financial Modelling

## SCHOLARSHIP AND TUITION FEES

KHAS has an extensive scholarship program to support well-qualified national and international students in their studies at KHAS. Tuition waiver scholarships are available for all qualified applicants up to 100%. The details are explained on the following websites:

<http://www.khas.edu.tr/2935/burslar>; <http://www.khas.edu.tr/2933/ucretler>;

<http://international.khas.edu.tr/tuition-fees>

## APPLICATION REQUIREMENTS

Criteria and requirements for graduate programs at Kadir Has University are stated comprehensively at:

<http://www.khas.edu.tr/2936/basvuru-kosullari>;

<http://international.khas.edu.tr/application-requirements>



### **NURİ BERK BÜYÜKER**

**Kadir Has University, Industrial Engineering, BSc, 2017**  
Bringing our energy needs under a correct economic model and becoming prosumers as individuals are the most important challenges of our future.



### **KELECHI ABRAHAM OMYEMAUCHE**

**Ananbra State University, Mechanical Engineering, BSc, 2015**  
The Energy and Sustainable Development MA Program is a great place for those who want to gain knowledge on the importance of sustainable energy in the world.



### **MELİKE EKEN**

**Bilkent University, International Relations, BA, 2016**  
Kadir Has University's Energy and Sustainable Development Program stands out by assisting its students to embrace an interdisciplinary approach to energy issues. I am so glad to have studied at this leading master's program in Turkey.

### **ARDA ÇANAKÇIOĞLU**

**İstanbul Aydın University, Mechanical Engineering, BSc, 2017**

I have always had a strong desire to be innovative and create value in our society through breakthroughs that help humanity. KHAS is a hub for diligent, innovative, dedicated students, and I feel fortunate to be a member of the CESD community.

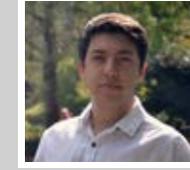


### **MESUT CAN YILMAZ**

**Istanbul Aydın University, International Trade, BA, 2015**

**Yasa Shipping, Purchasing Department Officer**

The Energy and Sustainable Development master program in Kadir Has University is unique for its interdisciplinary curriculum and having really one of the best specialists in their fields.



### **ELİF EZER**

**Istanbul Kültür University, Civil Engineering, BSc, 2016**

**Optimal Project Management, Cost Control and Planning Engineer**

The Energy and Sustainable Development master program in Kadir Has University is unique for its interdisciplinary curriculum and having really one of the best specialists in their fields.



### **ELİF GÜNEY**

**Boğaziçi University, Political Science and International Relations, BA, 2017**

**Friedrich Naumann Stiftung, Program Officer**

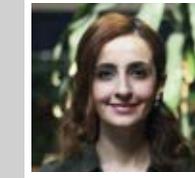
Since energy is a multidisciplinary area, it's a unique opportunity to experience different perspectives with this program.



### **EMAN ABUSAADA**

**Islamic University of Gaza (IUG), Civil Engineering, BSc, 2013**

I was searching for a full program in terms of sustainable energy courses. I have found this in Kadir Has University as it offers a wide range of unique courses in energy technology and sustainable development.



### **HAZAL MENĞİ DİNÇER**

**Istanbul Kültür University, International Relations, BA, 2015**  
**KHAS CESD, Administrative Assistant**

The Energy and Sustainable Development MA Program is a proper choice for my interest in examining energy policies of states and exploring energy's impact on human life.

### **GÖZDE NUR KARAGÖZ**

**Adnan Menderes University, International Trade, BA, 2017**

ESD is an interdisciplinary program with professional academicians where you can meet people from different cultures. It is a great opportunity for those who want to improve their knowledge on energy.



### **BATUHAN ALKAN**

**Kadir Has University, Industrial Engineering, BSc, 2013**

**TRANSPET, Logistics Specialist**

I work for an oil trade and transport company, and strongly believe that this master's program will change many things in my life in a positive way.



### **NEHİR GÜNDÜZ**

**Kadir Has University, International Relations, BA, 2015**

**Türkiye İş Bankası, Officer**

The program offers a great opportunity to study in interdisciplinary fields such as geopolitics, economics and engineering. Kadir Has University enables its students to specialize in such a complex field of energy and sustainable development.



### **BURAK ŞUŞOĞLU**

**Kadir Has University, International Trade and Finance, BA, 2017**

Energy has shaped the world in the last centuries and no doubt it will shape the future. This is a comprehensive program which covers world history and promising energy policies and their applications for the future.



### **VİLDAN DEMİRKİRAN**

**Izmir University of Economics, International Relations and European Union, BA, 2013**

I preferred the ESD program because it is part of Graduate School of Social Sciences and I'm coming from a bachelor degree in international relations. I'm very satisfied with the ESD program.



### **BAŞAR YILMAZ**

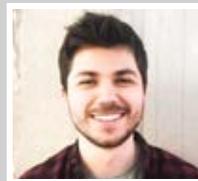
**Ankara University, Labour Economy and Industrial Relations, BA' 2006 / DenizLeasing, Project Finance Department**

This program is a unique resource to reflect both the historical background of the subject and shed light on the future. We have the opportunity to learn a great deal of information for our careers and our intellectual and academic enrichment.

### **MUSA ENES USLU**

**Marmara University, Political Science and International Relations, BA, 2017**

The ESD program not only increased my academic knowledge of the issue of energy, but also helped us change our lives and understand the consequences of what we do.



## **CONTACT INFORMATION**

**Center for Energy and Sustainable Development (CESD)**

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For International Applications: [international@khas.edu.tr](mailto:international@khas.edu.tr)

Web Page: <http://www.khas.edu.tr/en/2014/about-program>

### **TUNA ALPER SEZGİN**

**Uludağ University, Environmental Engineering, BSc, 2007**  
**TÜV Rheinland, Business Development Manager**

Besides the academic areas, the program focuses on industry and the energy sectors, which make it an excellent choice for those hoping to be professionals in energy business.

