



Kadir Has University

2019 & 2020

SDG 7 – AFFORDABLE AND CLEAN ENERGY

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Energy and Sustainable Development Application and Research Center Activities

Projects

- **2020-2023 ENGINE–Engineering curricula modernization in renewable energy in Albanian Universities**, supported by Erasmus+ 619338-EPP-1-2020-1-AL-EPPKA2-CBHE-JP. **Meltem Ucal (Executive Coordinator), Volkan Ş. Ediger (Researcher), Gökhan Kirkil (Researcher), Emre Çelebi (Researcher), Ahmet Yücekaya (Researcher).**
- **2019-2020 Strategic communication plan for energy efficiency (*Energy Efficiency Strategic Communication Plan*)**, supported by Ministry of Energy, Energy Efficiency and Environment Directorate (EVÇED). **Volkan Ediger (Executive Coordinator), Eser Selen (Researcher).**
- **2019-2023 GEOSMART-Technologies for geothermal to enhance competitiveness in smart and flexible operation, supported by H2020-LC-SC3-2018-2019-2020:** Geothermal energy has the potential to become an excellent source for both base and flexible energy demands, providing much lower environmental footprint than both fossil and biomass fuels, as well as much less risks and societal resistance than nuclear power. In GeoSmart, we propose to combine thermal energy storages with flexible ORC solutions to provide a highly flexible operational capability of a geothermal installation. We will demonstrate Geosmart solutions in a geothermal powerplant located in Denizli./ The Geosmart project focuses on thermal storage solutions in order to widely use geothermal energy with a low environmental footprint. The solutions produced will be used by a geothermal power plant installed in Denizli. **Gökhan Kirkil (Executive Coordinator), Volkan Ediger (Researcher).**
- **2018-2021 GEORISK-Developing geothermal and renewable energy projects by mitigating their risks**, supported by H2020-LC-SC3-RES-28-2018-2019-2020. **Volkan Ediger (Consultant).**
- **2018-2021 Open ENTRANCE-Open ENERGY TRansition ANalyses for a low-carbon Economy, supported by H2020-LC-SC3-2018-NZE-CC:** Open ENTRANCE addresses the development, use and dissemination of an open, transparent and integrated modelling platform for assessing low-carbon transition pathways./ The Open ENTRANCE project evaluates the paths to be followed by countries while switching to low-carbon energy systems with the help of an open and transparent energy-environment model platform. **(Gökhan Kirkil (Executive Coordinator), Volkan Ediger (Researcher), Ahmet Yücekaya (Researcher), Emre Çelebi (Researcher).**

- Managing Electricity Supply, Power Generation Resources and Demand During the Covid-19 Outbreak; Tübitak Ardep 1001 Covid Specific Call-Out. **Ahmet Deniz Yücekaya (Executive Coordinator)**.

Relevant Publications

- **Ediger, V.Ş.**, Dursun, A.F., Bowlus, J.V., 2021, "Chapter 14: Multi-Energy Transition from Fossil Fuels to Renewable Energy: Supply Security Improvement in China", in: Jingzheng Ren, ed., *China's Energy Security: Analysis, Assessment and Improvement*, World Scientific Publishing, U.K. ISBN-13: 978-178634921
- **Ediger, V.Ş., Bowlus, John V.**, Aydın, M., 2020, "Chapter 10: Geopolitics and Security of Gas-Transit through Pipelines", in: André Dorsman, André Bastiaan, Ozgur, Arslan-Ayaydin, Thewissen, James, eds., *Regulations in the Energy Industry: Financial, Economic and Legal Implications*, Springer International Publishing, Cham, Switzerland, 271 p., ISBN-13: 978-3-030-32295-3
- Aktunç, E. A., Yükseltan, E., **Yücekaya, A.**, & Hümeýra, A., 2020, Managing Natural Gas Demand for Free Consumers under Uncertainty and Limited Storage Capacity. *Journal of Natural Gas Science and Engineering*, vol. 79, 103322.
- **Kirkil, G.**, Lin, CL., 2020, "Large Eddy Simulation of Wind Flow over A Realistic Urban Area", *Computation* 8 (2), 47.
- Yükseltan, E., **Yücekaya, A.**, Bilge, A., Aktunç, E. A., 2020, "Forecasting Models for Daily Natural Gas Consumption Considering Periodic Variations and Demand Segregation", *Socio-Economic Planning Sciences*, 100937. <https://doi.org/10.1016/j.seps.2020>
- Yükseltan, E., **Yucekaya, A.**, Bilge, A., 2020, "Hourly Electricity Demand Forecasting using Fourier Analysis with Feedback", *Energy Strategy Reviews*, vol.31, 100524
- **Ediger, V.Ş.**, 2019, "An integrated review and analysis of multi-energy transition from fossil fuels to renewables", *Energy Procedia*, 156: 2-6.** [SSCI].
- Gayretli, G., **Yucekaya, A.**, Bilge, A., 2019, "An analysis of price spikes and deviations in the deregulated Turkish power market", *Energy Strategy Reviews*, Vol.26, 100376

- **Ediger, V.Ş., Kirkil, G., Çelebi, E., Ucal, M.,** Kentmen, Ç., 2018, Turkish Public Preferences for Energy, *Energy Policy*, 120: 492-502.** [SCI-SSCI].
- Dorsman, A., **Ediger, V.Ş.,** Karan, M.B., eds., 2018, Energy Economics, Finance, and Geostrategy, Springer International Publishing, Cham, Switzerland, 274 p. ISBN: 978-3-319-76866-3.
- Dorsman, A., **Ediger, V.Ş.,** Karan, M.B., 2018, "Chapter 1. Introduction: Energy Economics, Finance, and Geostrategy", in: André Dorsman, Volkan Ş. Ediger, Mehmet Baha Karan, eds., Energy Economics, Finance, and Geostrategy, Springer International Publishing, Cham, Switzerland, pp. 1-10.
- **Ediger, V.Ş.,** Berk, İ., 2018, Chapter 13. "Geostrategic Challenges in the Oil and Gas Sectors", in: André Dorsman, Volkan Ş. Ediger, Mehmet Baha Karan, eds., Energy Economics, Finance, and Geostrategy, Springer International Publishing. Cham, Switzerland, pp. 173-197.

Presentations

- Şuşoğlu, B. and **Ediger, V.Ş.,** 2020, Decentralized Energy Applications and Barriers in Turkey, AESMT'20-Alternative Energy Sources, Materials and Technologies, 8-9 June, 2020, Varna, Bulgaria.
- Abusaada E. and **Ediger, V.Ş.,** 2020, Renewable Energy Transition in the United Arab Emirates, AESMT'20-Alternative Energy Sources, Materials and Technologies, 8-9 June, 2020, Varna, Bulgaria.
- **Ediger, V.Ş.,** 2019, "Geopolitical Considerations of the Global Energy Transition to Renewable Energies", Keynote Speaker, Global Transitions 2019, 14-16 October 2019, Beijing.
- Mengi Dinçer, H. and **Ediger, V.Ş.,** 2019, "Contribution of IRENA in Global Transition to Renewable Energy", ESCC 2019-6th International Conference on Energy, Sustainability and Climate Change, 3-5 June 2019, Crete, Greece.
- Şuşoğlu, M.B. and **Ediger, V.Ş.,** 2019, "Switching to Decentralized Renewable Energy Systems for Sustainable Development in Turkey", Multinational Energy and Value Conference, 23-25 May 2019, Ankara, Turkey.

News Bulletins <https://cesd.khas.edu.tr/tr/haber-bulteni>

KHAS CESD Energy Bulletin, Issue: 5, January-February 2019
 KHAS CESD Energy Bulletin, Issue: 6, March-April 2019
 KHAS CESD Energy Bulletin, Issue: 7, May-June 2019
 KHAS CESD Energy Bulletin, Issue: 8, July-August 2019
 KHAS CESD Energy Bulletin, Issue: 9, September-October 2019
 KHAS CESD Energy Bulletin, Issue: 10, November-December 2019
 KHAS CESD Energy Bulletin, Issue: 11, January-February 2020

KHAS CESD Energy Bulletin, Issue: 12, March-April 2020
KHAS CESD Energy Bulletin, Issue: 13, May-June 2020
KHAS CESD Energy Bulletin, Issue: 14, July-August 2020
KHAS CESD Energy Bulletin, Issue: 15, September-October 2020
KHAS CESD Energy Bulletin, Issue: 16, November-December 2020

Courses

- ESD 540, Energy Security and Geopolitics (2018-2019, 2019-2020 Spring)
- ESD 520, Energy Markets and Economy (2019-2020, 2020-2021 Fall)

Thesis

- Mehmet Burak Şuşoğlu, January 2020, “Switching to Decentralized Renewable Energy Systems for a Sustainable Development of Turkey”, Kadir Has University, Energy and Sustainable Development Program, M.A. Prof. Dr. Volkan Ş. Ediger (Advisor) and Assoc.Prof.Dr. Gökhan Kirkil (Co-advisor)
- Elif Güney, January 2020, “Renewable Energy Cooperation in the BRICS: A Realistic Option”, Kadir Has University, Energy and Sustainable Development Program, M.A. Thesis. Prof. Dr. Volkan Ş. Ediger (Advisor) and Assoc.Prof.Dr. H. Akın Ünver (Co-advisor)
- Eman Bassam Abusada, January 2020, “The Renewable Energy Transition in the United Arab Emirates”, Kadir Has University, Energy and Sustainable Development Program, M.A. Thesis. Prof. Dr. Volkan Ediger (Advisor)
- Tuna Alper Sezgin, May 2019, Eastern Mediterranean Gas: Does Turkey’s Energy Future Lay Under the Sea?, Master’s Graduation Project. Prof.Dr. Volkan Ş. Ediger (Advisor)
- Gözde Nur Karagöz, May 2019, Renewable Energy in Turkey: A Cleaner, Self-Sufficient Alternative to Coal, M.Sc. Thesis. Prof.Dr. Volkan Ş. Ediger (Advisor) Assoc.Prof.Dr. Gökhan Kirkil (Co-advisor)
- Mesut Can Yılmaz, May 2019, The Renewable Energy Transition in Turkey, M.Sc. Thesis. Prof.Dr. Volkan Ş. Ediger (Advisor), Assoc.Prof.Dr. Gökhan Kirkil (Co-advisor)
- M. Batuhan Alkan, March 2019, Importance of LNG in Turkey’s Natural Supply Security, M.Sc. Thesis. Prof.Dr. Volkan Ş. Ediger (Advisor), Assoc.Prof.Dr. Gökhan Kirkil (Co-advisor)

Relevant Conferences

Energy Talks <https://cesd.khas.edu.tr/tr/enerji-sohbetleri>

- Energy Talks 8- Starring: Dr. Değer Saygın, Director of SHURA Energy Transition Center, 21.02.2019

- Energy Talks 9- Starring: Kahraman Günaydın, Deniz Finansal Kiralama A.Ş. CEO, 21.03.2019
- Energy Talks 10- Starring: Defne Sadıklar Arslan, Director of Atlantic Council Turkey, 04.04.2019
- Energy Talks 11- Starring: Dr. Sohbət Karbuz, Energy Companies Association of Mediterranean Countries (OME) Oil and Gas Director, 26.04.2020
- Energy Talks 12- Starring: Atty. Murat Yazıcı, Founding Partner of Yazıcı Law Office, 03.10.2020
- Energy Talks 13- Starring: İsmail Çıldır, Axpo Turkey CEO, 31.10.2019
- Energy Talks 14- Starring: Levent Umut Feyzioğlu, Türkiye İş Bank Head of Project Finance Department, 05.12.2020

Online Energy Talks:
https://www.youtube.com/playlist?list=PLIkh1J3SImHjWNBLC_2sbnbwYVragvxU9

- Online Energy Talks 1- Enerji Journalism, Starring: Mehmet Kara, Enerji Diaries News Platform, 28.04.2020
- Online Energy Talks 2- Recent Courses in Oil Prices, Dr. Okan Yardımcı, Oxford University Visiting Scholar, 05.05.2020
- Online Energy Talks 3- Outlook on Energy Industry in Turkey, Oğuz Türkmen and Orhan Aytaç, President and Member of TMMOB Chamber of Mechanical Engineers Energy Working Group, 12.05.2020
- Online Energy Talks 4- Energy, Environment, R&D and Technology, Prof. Dr. İskender Gökalp, METU Department of Mechanical Engineering, 19.05.2020
- Online Energy Talks 5- Environment, R&D and Technology, Prof. Değer Boden, Managing Partner of Boden Law Office, 26.05.2020
- Online Energy Talks 6- Opportunities Offered by Energy Transition Throughout the COVID 19 Outbreak, Dr. Değer Saygın, Director of SHURA Energy Transition Center, 02.06.2020
- Online Energy Talks 7- Energy and Geopolitics from the Eastern Mediterranean and Cyprus Perspective, Necdet Pamir, Cyprus International University Petroleum and Gas Engineering Senior Instructor, 09.06.2020
- Online Energy Talks 8- Innovative Technologies in the Development of Geothermal Energy in Turkey, Ural Halaçoğlu, Zorlu Enerji A.Ş. Project Development Manager, 16.06.2020
- Online Energy Talks 9- Are you IN or OUT? Energy & Lifestyle, Dr. Uygur Özesmi, Founder of Good4Trust.org, 23.06.2020
- Online Energy Talks 10- Energy Geopolitics and Diplomacy, Retired Ambassador Mithat Rende, 30.06.2020

Energy Outlook Meeting

- Energy Outlook Presentation by TMMOB, Starring: Oğuz Türkyılmaz and Orhan Aytaç, President and Member of TMMOB Chamber of Mechanical Engineers Energy Working Group, 16.05.2019

Faculty of Communication Activities

Ediger, Volkan Ş., **Eser Selen**, and John V Bowlus. 2020. **Publication**. “Perception, petroleum, and power: Mythmaking in oil-scarce Turkey and Jordan,” Energy Research & Social Science 66: 101499, <https://doi.org/10.1016/j.erss.2020.10149>