

Tunç Durmaz

CONTACT INFORMATION	Yıldız Teknik Üniversitesi, Davutpaşa Kampüsü İktisadi ve İdari Bilimler Fakültesi, İktisat Bölümü, G2-101 34210 Esenler, İstanbul, TÜRKİYE	E-mail: tdurmaz@yildiz.edu.tr WWW: tuncdurmaz.com avesis.yildiz.edu.tr/tdurmaz
PERSONAL	Marital status: Married, two children Citizenship: Turkish	
SHORT BIO	I am a Professor of Economics specializing in energy economics, climate policy, and the economics of mitigation pathways. My work bridges theory and practice, with deep expertise in Carbon Capture, Utilization, and Storage (CCUS), electricity market dynamics, and climate policy evaluation. I contribute economic insight to energy transitions and sustainable development strategies through advisory roles with national planning bodies and international organizations, and was recently recognized as a Climate Pioneer by the Technology Development Foundation of Turkey's (TTGV) Climate Lab Program. With a strong foundation in quantitative methods, I thrive in interdisciplinary research environments that connect economics with technology and engineering to solve complex, real-world problems.	
RESEARCH INTERESTS	Economics of Climate Change, Carbon Capture, Utilization, and Storage (CCUS), Technological Change and Green Growth, Circular Economy, Electricity Markets, and Environmentally-Extended Input-Output Models.	
EDUCATION	Norwegian School of Economics (NHH) , Bergen, Norway, Ph.D. , November 2015 University of Southern California (USC) , Los Angeles, USA, M.A. , Economics, May 2009 Marmara University , İstanbul, Türkiye, M.A. , Economics, Jul 2007 Dokuz Eylül University , İzmir, Türkiye, B.S. , Economics (En.), June 2003	
WORK EXPERIENCE	Yıldız Technical University (YTU) , Professor , Department of Economics Apr 2026 - to date, İstanbul, Türkiye Technology Development Foundation of Turkey (TTGV) , Climate Pioneer (<i>Climate Lab Community Program</i>), Mar 2025 - to date, Ankara, Türkiye Yıldız Technical University (YTU) , Associate Professor , Department of Economics Nov 2020 - Apr 2026, İstanbul, Türkiye TTGV , Consultant (<i>Climate Technologies Radar</i>), Nov-Dec 2024, Ankara, Türkiye Presidency of Strategy and Budget (SBB) , Rapporteur , Twelfth Development Plan (2024-2028) Growth Dynamics and Green Growth Specialization Commission Dec 2022 - June 2023, Ankara, Türkiye Institut National de L'Énergie Solaire , Visiting Professor , Solar Academy Graduate School Fall 2021 / Spring 2022 / Fall 2022 / Spring 2023 / Spring 2024 Le Bourget du Lac, France YTU , Assistant Professor , Department of Economics Sep 2016 - Nov 2020, İstanbul, Türkiye International Finance Corporation (IFC) - World Bank , Short-term Consultant Mar - Jun 2020, Washington, D.C., USA City University of Hong Kong , Postdoctoral Fellow , School of Energy and Environment, Aug 2015 - Aug 2016, Hong Kong SAR YTU , Research Scholar , Department of Economics Oct 2013 - Jul 2015, İstanbul, Türkiye Toulouse School of Economics , Visiting Fellow Sep 2012 - Mar 2013, Toulouse, France USC , Graduate Assistant , Department of Economics Aug 2007 - Dec 2008, Los Angeles, CA, USA	

YTU, Research-Teaching Assistant, Department of Economics

Nov 2005 - Jul 2007, İstanbul, Türkiye

Robert Bosch GmbH, Intern, Logistics Department

Sep 2003 - Mar 2004, Salzgitter, Germany

PROFESSIONAL ORGANIZATIONS AND ACTIVITIES	<p>Working Group 1 (WG1) Co-Leader, EU Cost Action, Techno-economic analysis of carbon mitigation technologies (TrANsMIT)</p> <p>Topic Editor, Green Financing and Development, <i>Frontiers in Environmental Science</i>, 2024-to date</p> <p>Field Editor, <i>Yildiz Social Science Review</i>, 2024-to date</p> <p>Member: European Association of Environmental and Resource Economists (EAERE) International Association for Energy Economics (IAEE)</p>
PUBLICATIONS	<p>The Circular Bioeconomy: Concepts, Opportunities, and Limitations. In D. Zilberman, J. Zhuang, J. Wesseler, & M. Khanna (Eds.), <i>Handbook of Circular Bioeconomy</i>, pp. 127–157. Springer Nature (2026). Open Access. DOI: 10.1007/978-3-032-07112-5_9</p> <p>Comprehensive technical and economic evaluations of using second-life batteries as energy storage in off-grid applications: A customized cost analysis (with Feyza Turan and Ali Rifat Boynuegri). <i>Journal of Energy Storage</i>, 120, April 2025, 116379</p> <p>Empirical Insights into Economic Viability: Integrating Bitcoin Mining with Biorefineries Using a Stochastic Model (with Georgeio Semaan, Guizhou Wang, and Gopalakrishnan Kumar). <i>Systems</i>, 13, May 2025, 359</p> <p>Generation failures, strategic withholding, and capacity payments in the Turkish electricity market, <i>Energy Policy</i>, Vol. 184, January 2024, 113897</p> <p>AI Revolution and Coordination Failure: Theory and Evidence (with Burak Ünveren and Seçkin Sunal), <i>Journal of Macroeconomics</i>, Vol. 78, December 2023, 103561</p> <p>Feed-in tariff policy in Hong Kong: Is it efficient (with Aude Pommeret and Prudence Dato), <i>City and Environment Interactions</i>, Vol. 10, April 2021, 100056</p> <p>Evaluating Carbon Capture and Storage in a Climate Model with Endogenous Technical Change (with Fred Schroyen), <i>Climate Change Economics</i>, Vol.11, 2020</p> <p>Estimation of Residential Electricity Demand in Hong Kong under Electricity Charge Subsidies (with Aude Pommeret and Huseyin Tastan), <i>Energy Economics</i>, Vol. 88, May 2020, 104742</p> <p>Levelized Cost of Consumed Electricity (with Aude Pommeret), <i>Economics of Energy & Environmental Policy</i>, Vol.9, No.1, 2020</p> <p>Smart Grids and Renewable Electricity Generation by Households (with Aude Pommeret and Prudence Dato), <i>Energy Economics</i>, Vol.86, Feb 2020, 104511</p> <p>A two-sector model of economic growth with endogenous technical change and pollution abatement (with Jean-Pierre Amigues), <i>Environmental Modeling & Assessment</i>, Vol. 24 (6), pp 703-725</p> <p>Intermittent renewable electricity generation with smart grids (with Prudence Dato and Aude Pommeret) in <i>Climate and Energy protection in the EU and China</i>. Springer-Verlag, 2019</p> <p><i>Environmental Catastrophes and Deep Uncertainties Surrounding the Economics of Climate Change in Environment and Sustainability</i>. Peter Lang, 2019</p> <p>The Economics of CCS: Why have CCS technologies not had an international breakthrough?, <i>Renewable & Sustainable Energy Reviews</i>, Vol.95, pp.328-340, 2018</p> <p>Are households ready to pay for solar panels and smart grids? (with Aude Pommeret), <i>IAEE Energy Forum</i>, 1st Quarter, pp. 25-28, 2018</p> <p><i>Non-Cooperative Duopoly Games under Uncertainty of Discount Rates in Firms' Strategic Decisions Theoretical and Empirical Findings</i> Vol. 3. Bentham Science (2018).</p> <p>Optimal storage under uncertainty: investigating the implications of frugality and prudence, <i>Economics Bulletin</i>, Vol. 37, Issue 3, pp.1624-1629, 2017</p> <p>Strategic Dynamic Climate Policy: The Role of CCS, <i>Journal of Management and Economics Research</i>, Vol.15, pp.212-228, 2017</p>
WORKS IN PROGRESS	<p>Plant Heterogeneity and CCS: Evaluating Investment, Abatement, and Policy Strategies (with Demet Taç and Unal Zengiobuz)</p>

	<p>Optimizing Prosumer Investments: Welfare Gains Under Economic Incentives (with Aude Pommeret and Ian Ridley) (<i>under review</i>)</p> <p>Recycling and Resource Optimization in a Circular Economy: An Analytical Exploration and Policy Analysis (with Ahmet Sahin)</p> <p>A Simple Model of Car Purchase Decisions: Comparing Vehicles with Different Fuel Types</p> <p>Electricity pricing policy for optimal decentralized generation and investments (with Aude Pommeret)</p> <p>Precautionary Storage in Electricity Markets. FAERE Working Paper</p>
RESEARCH PROJECTS	<p>2023: BioBarrier4Fiber (CORNET: COLlective Research NETworking): Multifunctional biobased water vapor barrier coatings for fiber based packaging materials (Economic Analysis). 04.2023 - to date</p> <p>2021: Electricity Generation Failures, Strategic Capacity Withholding, and Capacity Remuneration Mechanism in Turkey. Project funded by Yıldız Technical University. 04.2021 - 04.2023.</p> <p>2019: Turkish Capacity Remuneration Mechanism: An evaluation based on economics, environment, and energy security. Project funded by Greenpeace (Mediterranean). 12.2019 - 12.2020.</p> <p>2017: Sustainably REducing energy poVerty (REVE), Agence nationale de la recherche. 12.2019 - 12.2020.</p> <p>2015: General Research Fund (GRF) in Hong Kong, Irreversible decisions and thresholds under specific uncertainty: Designing the energy source mix for electricity generation.</p> <p>2015: Center for Sustainable Energy Studies (CenSES), Research Area 3: Economic Analysis.</p>
REFEREEING	<p>Nature Energy; The Economic Journal; The Energy Journal; Resource and Energy Economics; Scandinavian Journal of Economics; Review of Industrial Organization; Energy Economics; Energy; Economics Bulletin; Environmental Modeling and Assessment; Cleaner Environmental Systems; City and Environment Interactions; Natural Resource Modeling; Energy Sources, Part B: Economics, Planning, and Policy; Energy Policy</p>
LECTURES, CONFERENCES, AND SEMINARS	<p>2025: 34. Quality Congress, Effective productivity solutions in engineering, Turkish Quality Association (<i>KalDer</i>), 20 Nov, Istanbul, Türkiye (<i>invited</i>); Carbon Capture Utilization and Storage: Economic Viability, Policy Insights, and Industrial Applications, 9 April, Oslo, Norway (presenter); Karbon Yakalama, Değerlendirme ve Depolama (KYDD): Ekonomik Uygulanabilirlik, Politika Perspektifleri ve Endüstriyel Uygulamalar, 12 May, Istanbul Türkiye (presenter) 2024: 5^{ème} Édition des Journées Scientifiques de L'economie Béninoise (JSEB), Cotonou, Benin Republic (presenter); The 31st TEA Conference on Economics, Fethiye, Türkiye, 31 Oct-2 Nov (presenter); The VII. International Conference on Economics, Eskişehir, Türkiye, May 31-Jun 02 (presenter); <i>Agriculture, Bioenergy, and Biomaterials in the Circular Bioeconomy</i> Workshop, 3-4 Oct 2024 (<i>Keynote speaker</i>), Ankara, Türkiye; TrANsMIT Training School on TEA for CCUS/NETs and process modelling, 1-5 July, Prague, Czechia (<i>lecturer</i>); TrANsMIT Cost Action CA21127 Working Groups meeting, Tennessee, UK, 14-15 March (<i>invited</i>); European Association of Environmental and Resource Economists (EAERE) 29th Annual Conference, 1-4 Jul(presenter), Leuven, Belgium;</p> <p>2023: Bergen Economics of Energy and Environment Research Conference 2023 (BEEER 2023), 5-6 June (presenter); TrANsMIT COST Action (CA21127) Workshop on Understand synergies and differences of TEA of CCUS and NETs, Trondheim, Norway (<i>invited</i>); WIRE's MC Meeting & 2nd WGs Workshop (COST Action: CA20127), 29-30 Mar (poster presentation), Thessaloniki, Greece;</p> <p>2022: WIRE's Working Groups Workshop (COST Action: CA20127), 6-7 Oct (Moderator for WG3), Naples, Italy (<i>invited</i>); International DAAD-TGU Conference on Economic Dimensions of Sustainability, 12-13 May, Istanbul, Turkey(<i>invited</i>)</p> <p>2021: 40th Congress On Operations Research / Industrial Engineering, 4-7 Jul (presenter/Online), Istanbul, Turkey</p> <p>2020: Scientific Solar Summer School, Plenary Lecture: Solar and Economy, Oct 21, Bourget-du-Lac, France (<i>invited</i>); 4th Annual Conference on Social Sciences (AICCS 2020), 10-11 Sep (presenter/Online), Istanbul, Turkey; The 5th AIEE Energy Symposium on Energy Security, 15-17 Dec (presenter/Online), Milan, Italy; CESifo Area Conference on Economics of Digitization, 19–20 Nov (Presenter/Online)</p> <p>2019: 2019 Asset Conference, Oct 25-27, Athens, Greece; World Energy Strategies Congress and Exhibition (WESCE), Aug 27 Istanbul, Turkey (<i>invited</i>); EAERE 24rd Annual Conference, 26-29 Jun (presenter), Manchester, UK; Lunch Seminar, SCCER Competence Center for Research in Energy, Society and Transition (CREST), University of Basel, Feb 8, Basel, Switzerland (<i>invited</i>)</p> <p>2018: International Conference on Economics Turkish Economic Association - ICE-TEA 2018, 1-3 Nov (presenter), Antalya, Turkey</p>

2017: 4th FAERE Annual Conference, 12-13 Septembre, Nancy; EAERE 23rd Annual Conference, 28 Jun-01 Jul (presenter), Athens, Greece; EconAnadolu 2017, 11 - 13 May, Eskisehir, Turquie; 3rd International Conference on Applied Economics and Finance (ICOAEF 2017), 6 - 7 Decembre, Kyrenia, Cyprus

2016: The 65th Annual Meeting of the French Economic Association, 27-29 June (presenter), Nancy, France; European Association of Environmental and Resource Economists (EAERE) 22st Annual Conference, 22-25 Jun (presenter and discussant), Zurich, Siwtzerland; The 39th International Association for Energy Economics (IAEE) International Conference, 19 - 22 June (presenter), Bergen, Norway; Rokko Forum, Graduate School of Economics, Kobe University, 8 Jun, Kobe, Japan (*invited*)

2015: 10th Conference on The Economics of Energy and Climate Change, 8-9 Sep, Toulouse, France (*invited*); EAERE 21st Annual Conference, 24 - 27 Jun (presenter and discussant), Helsinki, Finland; Bergen Economics of Energy and Environment Research Conference 2015 (BEEER 2015), 4-5 May (presenter and discussant), Bergen, Norway; The 38th IAEE International Conference, 25 - 27 May (presenter), Antalya, Turkey

2014: 5th World Congress of Environmental and Resource Economists, 28 Jun - 02 Jul (presenter and discussant) Istanbul, Turkey; The 37th IAEE International Conference, Special PhD Session, 15 - 18 Jun (presenter), New York City, New York; BEEER 2014, 12-13 May (presenter and discussant), Bergen, Norway; The 36th Annual Meeting of the Norwegian Association of Economists, 6-7 Jan (presenter and discussant), Oslo, Norway; FIBE 2014, 9-10 Jan (presenter), Bergen, Norway

2013: EAERE 20th Annual Conference, 26 - 29 Jun (presenter and discussant), Toulouse, France; BEEER 2013, 13-14 May (presenter and discussant), Bergen, Norway; The Economics of Energy Markets, 17-18 Jan (discussant), Toulouse, France (*invited*)

2012: BEEER 2012, 15-16 May (presenter and discussant), Bergen, Norway; Nordic Workshop in Industrial Organization, NORIO VIII, 8-9 June (presenter), Copenhagen, Denmark

2011: Research Conference: Energy and the Environment, 20-21 Jan (presenter), Bergen, Norway

TEACHING AND
ADMINISTRATIVE
EXPERIENCE

CCUS TrANsMIT Training School

Teaching - *Master*: Economics of Carbon Capture - A Brief Intro

YTU, Department of Economics

Teaching - *PhD*: Advanced Environmental Economics; Advanced Microeconomics ***Master*:** Environmental Economics; Input-Output Analysis ***Bachelor*:** Economic Planning; Statistics; Energy and Natural Resource Economics; Environmental Economics; Microeconomics; Principles of Economics; Introduction to Environmental Economics; Economics of Regulation and Competition; Introductory Computer Science (in Matlab or Python)

Administrative: Vice Head of Department (2021 - 2023); Departmental Erasmus+ Coordinator (2017-2020)

YTU, Clean Energy Technologies Institute

Teaching - *Master*: Energy Economics and Climate Change Policy

Solar Academy Graduate School (USMB, CNRS AND CEA)

Teaching - *Master*: Economics of Energy and Climate Policies; Price Dynamic Modeling; Long Run Optimization (Dynamic Control); 100% Renewable Objective

NHH, Department of Economics

Graduate Assistant / Courses - *Master*: Optimization and Microeconomic Theory; Petroleum Economics; Growth and Architecture of Financial Systems

USC, Department of Economics

Graduate Assistant / Courses - *Bachelor*: Principles of Microecon.; Principles of Macroecon.

YTU, Department of Economics

Graduate Assistant / Courses - *Bachelor*: Mathematics for Economists I-II

HONORS AND AWARDS	<p>Erasmus+ Staff Mobility for Teaching Grant, Faculty of Economy, University of Tirana, Tirana, Albania, July 2025</p> <p>The Scientific and Technological Research Institution of Türkiye (TÜBİTAK), Above-Threshold-Award, 2023</p> <p>TÜBİTAK, Coordinators Support Award, 2022</p> <p>Erasmus+ Staff Mobility for Teaching Grant, IAE Savoie Mont Blanc, Annecy, France, Feb 2019</p> <p>University Award, Publication Score, Yıldız Technical University, 2018</p> <p>Best Paper Award: Ecological Economics, 3rd International Conference on Applied Economics and Finance, Dec 2017</p> <p>Graduate Assistantship, Department of Economics, NHH, 2009-2013</p> <p>Norges Bank Fund for Economics Research, 2012</p> <p>Professor Wilhelm Keilhaus Memorial Fund for Economic Scientific Research, 2012</p> <p>Graduate Assistantship, Department of Economics, USC, 2007-2008</p>
COMPUTER SKILLS	<p>Modelling Languages and Applications</p> <p>Matlab, Python, GAMS, Stata, Mathematica, L^AT_EX, EViews</p>
LANGUAGE SKILLS	<p>Turkish (native), English (fluent), Norwegian (advanced—Test i norsk/høyere nivå), German (advanced), Swedish (intermediate), French (pre-intermediate)</p>