

2024–2025 ACADEMIC YEAR AFFORDABLE AND CLEAN ENERGY REPORT SDG 7

ISTINYE UNIVERSITY

İSÜ İSTİNYE ÜNİVERSİTESİ İSTANBUL

CONTENTS

ABOUT US..... 3
Our Mission..... 3
Our Vision..... 3
Our Values..... 3
ENERGY POLICY AND MANAGEMENT..... 4
CLEAN ENERGY RESEARCH AND EDUCATION..... 5
EVENTS..... 6
STUDENT ACTIVITIES AND TECHNOLOGY..... 7
ENERGY STORAGE AND KNOWLEDGE SHARING..... 8
Event List..... 8
PROJECTS..... 9
Academic Projects..... 9
Student Projects..... 10
SOURCES..... 11

ABOUT US

Our Mission

Istinye University's mission is to provide innovative and sustainable education in a student centred institution working closely with industry; to conduct research based on advanced technology; to produce new knowledge and technologies; and to contribute to society by developing solutions to local and global problems.

Our Vision

Istinye University's vision is to become one of the world's leading universities pursuing excellence in education, research, innovation and technology development, with artificial intelligence at its centre.

Our Values

- Respect for people and differences
- Commitment to professional ethics and human values
- Social and community responsibility
- Justice and merit
- Environmental awareness and sustainability
- Lifelong learning
- Collective wisdom
- Participation
- Innovation
- Entrepreneurship
- Leadership

Source: [1] Mission and Vision

ENERGY POLICY AND MANAGEMENT

Energy and Climate Policy

Istinye University includes reducing energy use and transitioning to renewable energy among its institutional objectives. Its Energy and Climate Policy supports good practices to reduce the University's impact from air pollutants, including greenhouse gas emissions.

Climate change mitigation and adaptation are considered alongside education, research and community engagement. The University encourages its stakeholders to develop awareness of energy and climate issues.

Source: [2] Energy and Climate Policy

Energy Management

Energy management is organised to use resources efficiently, prevent waste and reduce energy costs. Responsibilities and coordination between energy managers and the units responsible for buildings and technical systems form the basis of this structure.

Its responsibilities include the efficiency of electrical, lighting, heating, cooling and other mechanical systems, maintenance processes and awareness activities. The Energy Management Unit Directive, based on the Senate decision of 15 December 2021, defines the institutional framework for these duties.

Source: [3] Energy Management Unit Directive

CLEAN ENERGY RESEARCH AND EDUCATION

Clean Energy Research Centre

The Clean Energy Research Centre (TEAM) aims to conduct research on clean energy technologies and translate knowledge into industrial applications. Its areas of work include interdisciplinary solutions, national and international research projects, and cooperation with industry.

Education programmes and seminars, specialist training, public awareness and carbon capture research also fall within its remit. The Clean Energy Research Centre Directive dated 30 April 2025 regulates the Centre's governance and operating principles.

Source: [4] Clean Energy Research Centre Directive

International Sustainability Application and Research Centre

ISU-IRCOS addresses sustainability through governance, economic and cultural dimensions alongside environmental and social responsibility. Supported by research and education, this approach provides an institutional basis for considering energy issues across disciplines.

Source: [5] International Sustainability Application and Research Centre

Renewable and Sustainable Energy Education

The MEE007 Renewable and Sustainable Energy course in the Mechanical Engineering programme covers solar, wind, hydropower, biomass, geothermal and ocean energy, as well as hydrogen and fuel cells. Its learning areas include energy conversion technologies, thermodynamic principles, environmental and social impacts, energy efficiency and conservation.

Source: [6] MEE007 Renewable and Sustainable Energy

EVENTS

Technical Visit to Legrand Gebze Factory

18 April 2025 · Gebze

The Energy and Engineering Club organised a technical visit to Legrand's Gebze factory. Students examined energy efficiency in production and the use of automation systems on site.

Observations of production lines and quality control were complemented by presentations on research and development and sustainable manufacturing. The visit enabled students to connect their engineering studies with industrial practice.



A view of the production area at Legrand's Gebze factory.

Source: [7] Technical Visit to Legrand Gebze Factory

STUDENT ACTIVITIES AND TECHNOLOGY

Istinye Technology Summit

2 May 2025 · Istinye University

The Energy and Engineering, Artificial Intelligence, Cybersecurity, Industrial Engineering and Software Development clubs jointly organised Istinye Technology Summit 2025. Energy technologies were discussed alongside artificial intelligence, cybersecurity, industrial digitalisation and software development. Specialist speakers shared technological developments with students and industry participants.



A view from Istinye Technology Summit 2025.

Source: [8] Istinye Technology Summit 2025

Exploring Sustainable Energy Ventures

On 11 December 2024, the Energy and Engineering Club organised a visit to Take Off Istanbul. Students explored sustainable energy solutions and engineering ventures. Discussions with industry professionals helped them learn about entrepreneurship processes and career opportunities.

Source: [9] Visit to Take Off Istanbul

ENERGY STORAGE AND KNOWLEDGE SHARING

Energy Storage in Rail Vehicles

On 22 November 2024, the IEEE Club held a conference on energy storage in modern rail vehicles and MATLAB/Simulink training at the Vadi H Campus. The conference explored how storage technologies relate to energy efficiency and sustainable transport.

The practical training addressed modelling and simulation of energy storage systems. Participants examined the use of MATLAB and Simulink tools in railway system design.

Source: [10] Energy Storage in Rail Vehicles and MATLAB/Simulink Training

An Interdisciplinary View of Energy Risks

The Radio, Television and Cinema Department held an RTC Projections discussion at the Vadi H Campus on 2 May 2025. Entitled Assessing Global Risks and the Increasing Need for Solution-oriented Approaches, the meeting addressed environmental, climate, energy and health risks. It brought sustainable solutions into discussion with communication and media students.

Source: [11] RTC Projections Global Risks and Solution-oriented Approaches

Event List

Date	Event	Source
22.11.2024	Energy Storage in Rail Vehicles and MATLAB/Simulink Training	News
11.12.2024	Visit to Take Off Istanbul	News
18.04.2025	Technical Visit to Legrand Gebze Factory	News
02.05.2025	Istinye Technology Summit 2025	News
02.05.2025	RTC Projections Global Risks and Solution-oriented Approaches	News

PROJECTS

Academic Projects

Funding Institution	Programme or Call	Project Title
TÜBİTAK	Connecting and Coordinating European Research and Technology Development with Japan	Machine Learning-driven Bottom-up Design of Atomically Layered Heterostructures for Green H2 Production
TÜBİTAK	2023 Joint Call for Proposals of Science and Technology, Innovation (STI) in the Thematic Areas of Clean, Accessible, and Secure Energy Supply	Circular Economy for Waste-to-energy Conversion: Transforming Local Plastic Waste into Multifunctional Catalysts for Green H2 Production
EU	ERA-Net Smart Energy Systems EnerDigit Joint Call	An AI-based Cognitive Platform for Smart Renewable Energy Management (CASREM)
TÜBİTAK	ERA-NET Digitalisation of Energy Systems and Networks EnerDigit	An AI-based Cognitive Platform for Smart Renewable Energy Management (CASREM)
TÜBİTAK	TÜBİTAK Industrial R&D Projects Support Programme	Development of a Hybrid Energy Generation and Optimisation System for Energy-efficient Buildings

Source: [12] Technology Transfer Office Academic Project List · [13] Community Engagement Projects CASREM

Student Projects

TÜBİTAK 2209 Programme 2024/1 Call

Project Title	Funding Institution
An AI-supported Campus Sustainability and Energy Optimisation System Developed with Python	TÜBİTAK
Application of the Synthesis of Magadiite, a Layered Silicate Derived from Waste Glass, for Sustainable Energy and the Environment	TÜBİTAK
Forecasting and Analysis of Energy Generation Using Machine Learning and Real-time Sensor Data from Renewable Energy Sources	TÜBİTAK

TÜBİTAK 2209 Programme 2025/1 Call

Project Title	Funding Institution
An AI-based Real-time Battery Health Monitoring and Management System for Electric Vehicles	TÜBİTAK
Assessing the Economic and Environmental Performance of Electric Heavy-duty Vehicles: A Case Study	TÜBİTAK
A LoRa-based Solar-powered Underwater Acoustic Sensor Buoy	TÜBİTAK
Energy and Economic Analysis of a Solar-powered Thermoelectric Generator System	TÜBİTAK
Development of a Smart Glove System with Multiple Integrated Sensors Powered by Hybrid Energy Harvesting	TÜBİTAK

Source: [14] TÜBİTAK 2209 Student Project List 2024/1 and 2025/1

SOURCES

[1] Mission and Vision

[2] Energy and Climate Policy

[3] Energy Management Unit Directive

[4] Clean Energy Research Centre Directive

[5] International Sustainability Application and Research Centre

[6] MEE007 Renewable and Sustainable Energy

[7] Technical Visit to Legrand Gebze Factory

[8] Istinye Technology Summit 2025

[9] Visit to Take Off Istanbul

[10] Energy Storage in Rail Vehicles and MATLAB/Simulink Training

[11] RTC Projections Global Risks and Solution-oriented Approaches

[12] Technology Transfer Office Academic Project List

[13] Community Engagement Projects CASREM

[14] TÜBİTAK 2209 Student Project List 2024/1 and 2025/1

Event images are drawn from the University's relevant news items.