Dokuz Eylül University · SDG Progress Report Series 2025

SDG 7: Affordable and Clean Energy — Progress Report 2025

Institutional Evidence, Multi-Campus Solar PV & Geothermal Generation, Smart Building Retrofits, Carbon Reduction Roadmap, and Clean Energy Innovation for THE Impact Rankings 2027

Field	Institutional Specification & Verified 2025 Baseline
Institution	Dokuz Eylül University (DEÜ) — İzmir, Türkiye (19 Campuses; 821,049 m² Gross / 719,993 m² Academic Floor Area)
Reporting Cycle	2025 Activity & Performance Cycle (THE Impact Rankings 2027 Submission — Calendar Year 2025 & 2025–2026 Audit)
Lead Governance Units	DEÜ Sustainability Office, Energy Application & Research Center (EUAM), Department of Construction and Technical Works (Yapı İşleri ve Teknik Daire Başkanlığı), ÇEVMER, DEPARK, DETTO & ÜSAMER
Core Policy Framework	DEÜ Energy Efficiency Policy (Enerji Verimliliği Politikası), Sustainability Strategy and Policy, Sustainable Investment Policy (Sürdürülebilir Yatırım Politikası), Zero Waste Policy & 2024–2028 Strategic Plan
Headline Energy Metrics	131,337 GJ Total Campus Energy Used (Excl. Hospital) | 92,830 GJ Low-Carbon Energy Generated & Used | 70.7% Low-Carbon Energy Share | 719,993 m² Academic Floor Space | 0.18 GJ/m² Energy Density
Renewable Assets	15.2 MWe Licensed Solar PV Power Plants Across 6 Campuses (24,219,130 kWh / 87,189 GJ) + Balçova Geothermal District Heating (1,565,990 kWh / 5,638 GJ) + TEAM Rooftop Wind Turbine (913 kWh / 3.3 GJ [3 GJ])
Smart Buildings & Retrofits	17 Certified Smart Buildings (236,009 m² Floor Area) | TRY 65,936,992 Spent in 2025 (TRY 95,900,000 Allocated) under Major Renovation Project 2022H03-187186 + SCADA & TR14/TR21/TR23 Compensation
Carbon & Divestment	16,395 t CO2e Official 2025 Scope 1+2 Inventory (12,052 t CO2e UI GreenMetric Footprint; 0.193 t/person) | 2049 Net-Zero Target | 100% Fossil Fuel Divestment (TRY 0 in Coal, Oil, or Gas Holdings)

Executive Summary — SDG 7 Performance Highlights (2025): Dokuz Eylül University (DEÜ) has established one of Türkiye's largest higher-education clean energy infrastructures, anchored by **15.2 MWe of grid-connected solar photovoltaic (PV) power plants across six campuses**, geothermal district heating at the 15 Temmuz Health and Arts Campus, and rooftop wind power at the Central Campus Clean Energy House (TEAM). In the official Calendar Year 2025 assessment period (excluding the high-intensity DEÜ Research and Application Hospital), total university energy consumption stood at **131,337 GJ (36,482,512 kWh)** across **719,993 m²** of academic and administrative indoor floor area, yielding an institutional energy intensity of **0.18 GJ/m² (0.1824 GJ/m²)**.

During Calendar Year 2025, DEÜ generated and utilized **92,830 GJ (25,786,033 kWh) of low-carbon energy**—comprising **87,189 GJ (24,219,130 kWh)** of solar PV electricity credited via national grid-offsetting (mahsuplaşma), **5,638 GJ (1,565,990 kWh)** of geothermal thermal energy, and **3.3 GJ (rounded to 3 GJ; 913 kWh)** of rooftop wind electricity—covering **70.7% of total non-hospital campus energy demand** (and **56.2%** in the Sep 2024–Aug 2025 cycle / **51.0%** in the May 2025–Apr 2026 UI GreenMetric cycle excluding hospital, or **37.2%** across the entire **821,049 m²** campus including the **101,056 m²** hospital).

Under Capital Project **2022H03-187186**, DEÜ expended **TRY 65,936,992 in 2025** (out of a **TRY 95,900,000** annual allocation; cumulative **TRY 358,722,068**) on TS 825 thermal insulation, heat pumps, VRF/HVAC modernization, LED conversions, and smart building automation, expanding its certified Smart Building stock to **17 buildings (236,009 m²)** including the newly completed **Large Experimental Animal Laboratory (2,462 m²)**. Guided by professional energy audits conducted by **İstanbul Enerji A.Ş. across eight campuses**, DEÜ tracks its annual greenhouse gas inventory under the GHG Protocol (**16,395 t CO2e Scope 1+2** in CY 2025; **12,052 t CO2e** in UI GreenMetric 2025–2026) toward its **2049 Carbon-Neutral University target**, while maintaining **100% fossil fuel divestment (TRY 0 fossil holdings)**, delivering **10 industrial clean-energy consultancy and training programmes**, supporting **all 4 tiers of government policy** (including **83 YÖK-accepted COP31 projects**), and incubating low-carbon ventures at **DEPARK, BAMBU, and DETTO**.

1. Institutional Energy Governance, Policy Architecture & 2049 Net-Zero Strategy

Dokuz Eylül University governs campus energy efficiency, low-carbon power generation, and emissions reduction through a codified legal and administrative architecture linking the Rectorate, the **Sustainability Office (Sürdürülebilirlik Ofisi)**, the **Department of Construction and Technical Works (Yapı İşleri ve Teknik Daire Başkanlığı)**, and the **Energy Application and Research Center (EUAM)**. Rather than treating energy management as an isolated facility maintenance function, DEÜ embeds energy intensity targets, mandatory building efficiency classes, and renewable generation ratios directly into the **DEÜ 2024–2028 Strategic Plan** and the **KALBİS Integrated Quality Management System** (https://kalite.deu.edu.tr).

Five Senate-ratified policy instruments establish binding operational mandates across all 19 campuses: the **DEÜ Energy Efficiency Policy (Enerji Verimliliği Politikası)** (https://kalite.deu.edu.tr/wp-content/uploads/2023/12/Enerji_Verimliligi_Politikasi.pdf), the **DEÜ Sustainability Strategy and Policy** (https://surdurulebilirlik.deu.edu.tr/en/strateji-ve-politika/), the **DEÜ Sustainable Investment Policy (Sürdürülebilir Yatırım Politikası)** (https://kalite.deu.edu.tr/wp-

content/uploads/2024/11/Surdurulebilir_Yatirim_Politikasi.pdf), the **DEÜ Climate Change and Environment Policy** (https://kalite.deu.edu.tr/wp-content/uploads/2023/12/Iklim_Degisikligi_ve_Cevre_Politikasi.pdf), and the **DEÜ Zero Waste Policy** (https://kalite.deu.edu.tr/wp-content/uploads/2023/12/Sifir_Atik_Politikasi.pdf). Together, these directives mandate minimum **BEP-TR Class B Energy Performance Certificates** for buildings exceeding 2,000 m², strict **TS 825 thermal insulation compliance**, continuous SCADA and smart-meter monitoring, **zero capital allocation to fossil fuel industries**, and a **25–30% annual carbon footprint reduction trajectory** aligned with Türkiye's 2053 Net-Zero target and DEÜ's **2049 Carbon-Neutral University pledge**.

Institutional Unit	Mandate & Operational Responsibility under SDG 7	Official Portal
Sustainability Office	Institutional SDG 7 & SDG 13 coordination, annual Sustainability Report (2024–2025 & 2025–2026), UI GreenMetric & THE Impact Rankings data auditing.	surdurulebilirlik.deu.edu.tr
Dept. of Construction & Technical Works	Execution of Capital Retrofit Project 2022H03-187186 (TRY 65.94M in 2025), 15.2 MWe Solar PV O&M, SCADA & transformer compensation (2025H03-259110), and 2025 GHG Inventory.	yapiisleri.deu.edu.tr
Energy Application & Research Center (EUAM)	Technical R&D on solar PV, wind, geothermal, energy storage, and clean hydrogen; academic leadership of DEÜ Energy Summit, IHTEC-2025, and COP31 Clean Energy projects.	euam.deu.edu.tr
ÇEVMER & Buca Faculty of Education	Industrial energy/environmental training (Eti Bakır A.Ş.), ambient air & stack gas auditing, and public clean-energy literacy (TÜBİTAK 4007 Twin Transition Festival).	cevmer.deu.edu.tr / bef.deu.edu.tr
DEPARK, BAMBU, DETTO & ÜSAMER	Clean-tech startup incubation (AYLARA, Commencis), patent commercialization (Energy-Storing Wind Power Plant System), and contracted industrial energy consultancy (6 firms).	depark.com / detto.deu.edu.tr / usamer.deu.edu.tr

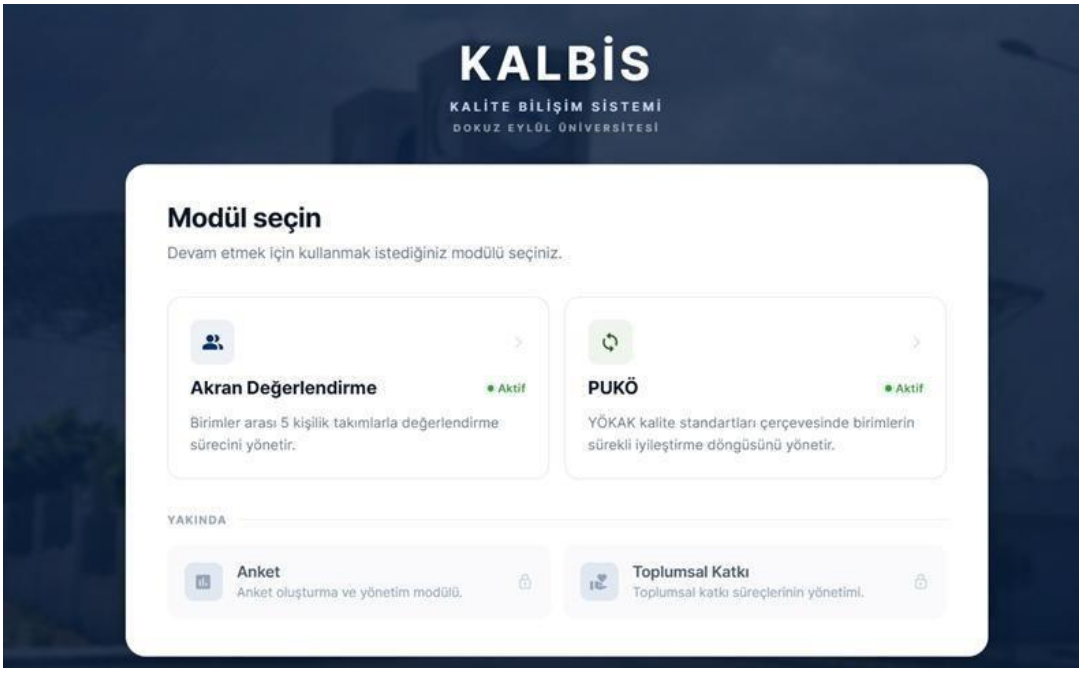

Figure 1: DEÜ KALBİS Integrated Quality Management System portal (kalite.deu.edu.tr), which enforces institutional energy efficiency, sustainable investment, and ISO 50001 / ISO 14001 performance indicators across all 19 campuses.

2. Smart Building Standards, Retrofitting Investments, Carbon Management & Divestment (THE 7.2.1 – 7.2.6)

2.1 Energy-Efficient Renovation & New Building Standards (Indicator 7.2.1)

All new building design, structural renovation, and electromechanical contracting at DEÜ are governed by national statutory codes and Presidential saving directives enforced by the **Department of Construction and Technical Works**. Specifically, all projects must comply with the **Energy Efficiency Law No. 5627** (https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=5627&MevzuatTur=1&MevzuatTertip=5), the **Regulation on Energy Performance in Buildings (BEP-TR)** (Official Gazette No. 27075, revised Feb 2022 and Apr 2025), the **TS 825 Thermal Insulation Requirements for Buildings Standard** (mandating updated climate-zone U-values for external walls, roofs, floors, and low-emissivity glazing), and **Presidential Circular No. 2023/17 on Public Energy Savings and LED Transformation** (https://www.resmigazete.gov.tr/eskiler/2023/08/20230816-9.pdf).

Under the April 2025 BEP-TR Nearly Zero-Energy Building (**nZEB / Neredeyse Sıfır Enerjili Bina**) threshold, new public buildings exceeding **2,000 m²** must achieve at least **Class B Energy Performance Certification**, improve primary energy efficiency by at least **10% above baseline**, and cover a minimum of **10% of primary energy demand from on-site or campus-linked renewable sources**. As documented in the **DEÜ Institutional Sustainability Report 2025–2026** (pp. 7–8, https://surdurulebilirlik.deu.edu.tr/wp-content/uploads/2025/11/SURDURULEBILIRLIK-RAPORU-2025-2026.pdf), DEÜ currently operates **17 certified Smart Buildings covering 236,009 m² (approx. 236,000 m²)**—representing **28.7% of total gross indoor area (821,049 m²)** and **32.8% of non-hospital academic floor space (719,993 m²)**. In 2025, DEÜ completed and commissioned the **Large Experimental Animal Laboratory (Büyük Deney Hayvanları**

Laboratuvarı, 2,462 m²) as a fully automated smart research facility, while construction continues on the **Central Dining Hall (Merkezi Yemekhane, Project No. 2009H03-1045)** engineered to Class B / nZEB standards.

2.2 Upgrading Existing Buildings to Higher Energy Efficiency (Indicator 7.2.2)

DEÜ executes a multi-year capital programme to retrofit older campus buildings constructed prior to modern thermal codes. Under **Major Repair and Energy Efficiency Renovation Project No. 2022H03-187186 (2022–2027)**, which covers structural and energy upgrades across **900,000 m² of campus infrastructure** with a cumulative budget of **TRY 358,722,068**, DEÜ allocated **TRY 95,900,000 for the 2025 fiscal year** and realized **TRY 65,936,992 in verified 2025 capital expenditure** (as recorded in the **DEÜ 2025 Institutional Financial Situation and Expectations Report** and **2025 Annual Activity Report**, https://strateji.deu.edu.tr/kurumsal-mali-durum-ve-beklentiler-raporu/).

Complementing envelope and HVAC upgrades, DEÜ launched **Project No. 2025H03-259110 (Central Campus Transformer Substations Compensation Panel Renovation and SCADA System Installation)** in 2025. This project upgraded reactive power compensation panels at medium-voltage substations **TR14, TR21, and TR23** and connected them to a centralized **SCADA real-time telemetry network**, eliminating reactive power penalties, stabilizing voltage profiles, and reducing transformer distribution losses across Central Campus. Across all retrofitted facilities, **>75% of indoor and outdoor luminaires** have been converted to high-efficacy LED fixtures paired with daylight and occupancy sensors, while variable-speed heat pumps and VRF systems have replaced aging fossil boilers.

Programme / Facility	Area / Scope	Technical Energy-Efficiency Interventions	2025 Verified Status / Investment
Smart Building Portfolio (17 Buildings)	236,009 m²	BMS/SCADA automation, occupancy/daylight LED control, heat recovery HVAC, fire/flood detection, and card-access interlocks.	28.7% of Gross / 32.8% of Academic Area
Large Experimental Animal Lab (New 2025)	2,462 m²	Commissioned in 2025 with precision laminar HVAC, heat-recovery ventilation, TS 825 insulation, and 100% LED smart lighting.	Completed & Active (2025)
Major Building Renovation (2022H03-187186)	900,000 m² Scope	TS 825 external façade sheathing, roof waterproofing/insulation, PVC/aluminum double glazing, heat pumps, and boiler-house renewal.	TRY 65,936,992 Spent in 2025 (TRY 95.9M Budget)
Substation SCADA & Compensation (2025H03-259110)	Central Grid (TR14, TR21, TR23)	Automated reactive power compensation panels and central SCADA energy monitoring across main medium-voltage substations.	Commissioned in 2025

Programme / Facility	Area / Scope	Technical Energy-Efficiency Interventions	2025 Verified Status / Investment
Central Dining Hall (2009H03-1045)	Central Campus	New construction engineered to BEP-TR Class B / nZEB specifications with high-efficiency kitchen heat-recovery and solar readiness.	Under Construction (2025–2026)



Figure 2a: DEPARK TGB-1 Smart Building at Central Campus featuring rooftop solar PV arrays and automated BMS energy control.



Figure 2b: DEPARK TGB-2 (Zeytin) Smart Building at 15 Temmuz Health and Arts Campus with high-performance solar-control glazing.

2.3 Carbon Reduction Process, Energy Saving Plan, Audits & Divestment (Indicators 7.2.3 – 7.2.6)

DEÜ operates a dual-verified greenhouse gas (GHG) accounting framework that tracks campus decarbonization under both the international **GHG Protocol Corporate Standard** and the **UI GreenMetric World University Rankings methodology**. According to the official **2025 Institutional Carbon Footprint Report** prepared by the Department of Construction and Technical Works on **19 January 2026** (https://surdurulebilirlik.deu.edu.tr/wp-content/uploads/2026/02/2025-CO2.pdf), Calendar Year 2025 emissions across academic and administrative campuses comprised **3,894 t CO2e in Scope 1 direct emissions** (**3,638 t CO2e** from **17,447,010 kWh** of stationary natural gas heating plus **256 t CO2e** from **96,269 L of diesel and gasoline** consumed by the **92-vehicle university fleet**) and **12,501 t CO2e in Scope 2 location-based grid electricity emissions** (**17,468,599 kWh**), totaling **16,395 t CO2e for Scope 1 + Scope 2** (**0.263 t CO2e per capita** across **62,408 students and staff**), or **16,424 t CO2e including 29 t CO2e of Scope 3 landfill waste emissions** (with **1,511 t CO2e avoided** through zero-waste recycling). Under the **UI GreenMetric 2025–2026 accounting boundary** (which nets out campus renewable offsets), DEÜ's annual carbon footprint stands at **12,052 t CO2e (0.193 t CO2e per capita)**.

Under **Indicator 7.2.4 (Plan to Reduce Energy Consumption)**, DEÜ's **2024–2028 Strategic Plan** and **Energy Efficiency Policy** enforce quantitative targets to reduce campus energy intensity below the whole-university baseline (**0.307 GJ/m²** in the 2025–2026 12-month cycle including hospital; **0.261 GJ/m²** in CY 2025 including hospital), achieving **0.18 GJ/m² (0.1824 GJ/m²)** across the **719,993 m²** academic and

administrative estate in Calendar Year 2025. Under **Indicator 7.2.5 (Energy Wastage Identification)**, DEÜ commissioned an comprehensive **Eight-Campus Professional Energy Survey and Audit Report (Enerji Etüt Raporu)** executed by **İstanbul Enerji Sanayi ve Ticaret A.Ş.** (published November 2024, https://surdurulebilirlik.deu.edu.tr/wp-content/uploads/2024/11/EnergyAuditReports.pdf), following earlier thermal camera, flue-gas, and transformer loss audits by **SETAŞ Energy** under the **İklim-DE Project**. These audits systematically identified uninsulated steam/hot-water valves, single-glazed joinery, unbalanced HVAC hydronic loops, and transformer reactive losses, directly guiding the **TRY 65.94 million** 2025 retrofit works.

Under **Indicator 7.2.6 (Divestment Policy)**, as a state university governed by the **Public Financial Management and Control Law No. 5018**, **Clause 4.5 of the DEÜ Energy Efficiency Policy**, and **Clauses 4.4–4.5 of the DEÜ Sustainable Investment Policy** (https://kalite.deu.edu.tr/wp-content/uploads/2024/11/Surdurulebilir_Yatirim_Politikasi.pdf), DEÜ maintains **zero equity, bond, or endowment holdings (TRY 0 / 0%)** in coal, oil, or fossil gas extraction and power companies, channeling 100% of discretionary capital into solar PV, geothermal, energy efficiency, and low-carbon R&D infrastructure.

Emission Category / Methodology	2025 Activity Volume	Emissions (t CO2e)	Share	Mitigation Lever & Target
Scope 1 — Stationary Natural Gas	17,447,010 kWh (62,809 GJ) campus heating	3,638 t CO2e	22.15%	TS 825 insulation, heat pumps & geothermal expansion
Scope 1 — University Vehicle Fleet	92 vehicles (90,946 L diesel + 5,323 L petrol)	256 t CO2e	1.56%	Electric campus utility vehicles, bicycle lanes & ring shuttles
Scope 2 — Purchased Grid Electricity	17,468,599 kWh (62,887 GJ) grid draw	12,501 t CO2e	76.11%	15.2 MWe Solar PV offsetting (24.22 GWh) & LED/SCADA retrofits
Total Scope 1 + Scope 2 (Official CY 2025)	36,482,512 kWh (131,337 GJ) stationary + fleet	16,395 t CO2e	99.82%	0.263 t CO2e/person (62,408 campus population)
Scope 3 — Solid Waste Disposal & Recycling	195 t landfill (+29 t) vs. 1,417.5 t recycled (-1,511 t)	29 t CO2e	0.18%	Total Scope 1+2+3 = 16,424 t CO2e (1,511 t CO2e avoided)
UI GreenMetric 2025–2026 Net Footprint	Net campus footprint after renewable credits	12,052 t CO2e	Benchmark	0.193 t CO2e/person; 2049 Carbon-Neutral Target (25–30%/yr cut)

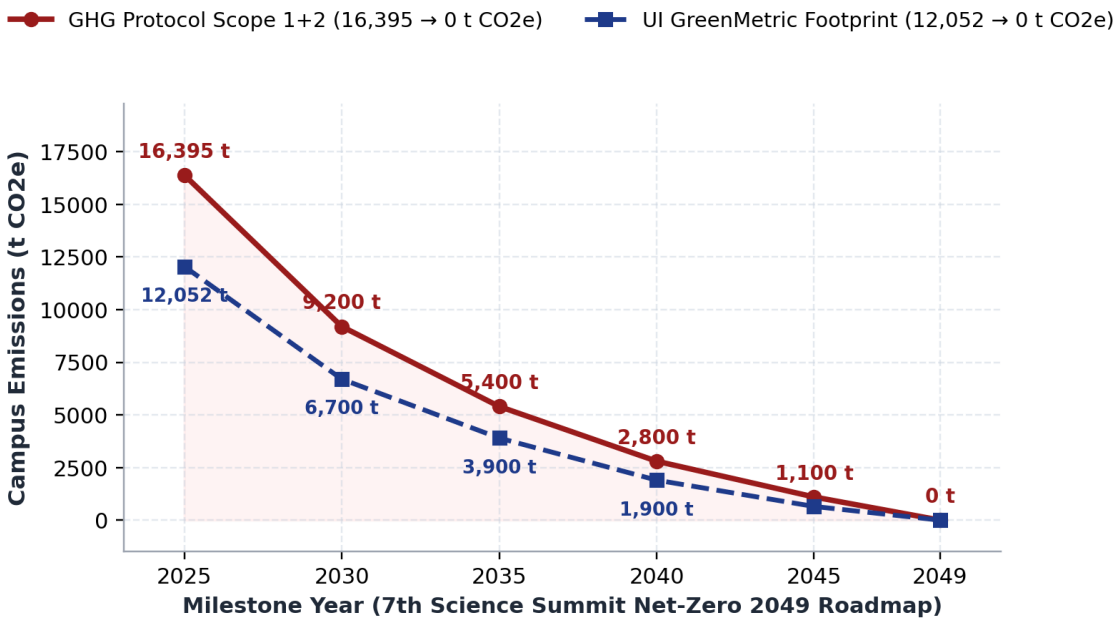

Figure 3: DEÜ 2025–2049 Carbon-Neutral University Decarbonization Pathway comparing the official GHG Protocol Scope 1+2 inventory (16,395 t CO2e in CY 2025) and the UI GreenMetric net footprint (12,052 t CO2e) under the 7th Science Summit roadmap.



Figure 4a: Zero-emission electric campus utility vehicles operated across DEÜ campuses to reduce Scope 1 fleet fuel consumption.



Figure 4b: Dedicated bicycle lanes and pedestrian mobility corridors at Central Campus supporting DEÜ's 2049 Net-Zero Strategy.

Smart design for the Large Experimental Animal Laboratory

The DEÜ Greentmetric Sustainability Report identifies the Large Experimental Animal Laboratory at the 15 Temmuz Health Campus as a 2,462 m² smart building. The report describes its construction in 2025 and the incorporation of energy efficient systems and building automation to optimise lighting, heating, cooling and ventilation. Its smart building inventory also records provisions relating to safety, water and the indoor environment. The facility illustrates the integration of building performance considerations into specialised research infrastructure, where controlled environmental conditions are an operational requirement. The

exterior photograph reproduced in Figure 5 is explicitly labelled as Building 17 in the report and corresponds to the laboratory's inventory entry.



Figure 5. Exterior of the Large Experimental Animal Laboratory at the 15 Temmuz Health Campus, reproduced from Building 17 in the DEÜ Sustainability Report 2025–2026, p. 41. The building area of 2,462 m² is recorded on p. 38.

Sources: GreenMetric bSustainability report, pp. 37–38 and 41 | Investment report, printed p. 36

SCADA and reactive power compensation renewal

In 2025, Dokuz Eylül University recorded the improvement of its Central Campus SCADA system and renewal of the reactive power compensation panels at TR14, TR21 and TR23 within Campus Infrastructure Project 2025H03-259110. The University's investment monitoring and evaluation report lists expenditure of TRY 2,330,039 for this work. The investment combines supervisory control infrastructure with electrical compensation equipment, supporting the management of campus power systems. Figure 6 reproduces the official expenditure record, which identifies the SCADA upgrade and all three substations. This provides a documented link between the University's investment programme and the renewal of energy management infrastructure in existing campus facilities.

Tablo 10: Kampüs Altyapı Projesi Kapsamında Yapılan İşler

İşin Adı	Harcanan (TL)
Yabancı Diller Yüksekokulu Çevre Düzenlemesi ve Yağmur Suyu Drenaj Hattı Yapılması İşi	702.846
Merkez Yerleşkesi SCADA Sisteminin İyileştirilmesi ve TR 14, TR21, TR 23 Kompanzasyon Panolarının Yenilenmesi İşi	2.330.039

Figure 6. Official record of the Central Campus SCADA improvement and renewal of compensation panels at TR14, TR21 and TR23, with expenditure of TRY 2,330,039. Source: 2025 Investment Programme Monitoring and Evaluation Report, Table 10, printed p. 16 (PDF page 24). This is a documentary excerpt.

Sources: Investment report, Table 10 and project register

Eight campus energy audits and diagnostic measurements

İstanbul Enerji Sanayi ve Ticaret A.Ş. prepared energy audit executive summaries for eight DEÜ campuses, covering building envelopes, heating, ventilation, cooling, electrical distribution, lighting and motors. The report records fieldwork from 18 July 2022 to 27 January 2023 and report preparation through 31 March 2023; the public file is hosted in the November 2024 archive. Its methods include a FLIR E8 XD thermal camera to identify heat losses and electrical overheating, and an MRU Optima 7 flue gas analyser to assess boiler combustion. The findings recommend measures such as insulation of exposed heating equipment, envelope improvements and burner adjustment, providing a technical basis for prioritising energy retrofits (Figure 7).



Figure 7. Aerial images of the eight campuses reproduced from the cover of İstanbul Enerji's DEÜ energy audit executive summaries, dated January 2023 and hosted in the November 2024 archive. The audit methods are described on PDF pages 6–7. These are campus views from the report cover.

Sources: Campus energy audit executive summaries

3. Campus Energy Consumption, Floor Area Boundary & Low-Carbon Energy Balance (THE 7.3.1 & 7.5.1)

3.1 Methodological Alignment & Hospital Floor Area Exclusion Boundary

To ensure complete statistical consistency across **SDG 7 (Indicators 7.3.1 and 7.5.1)** and **SDG 13 (Indicators 13.2.1 and 13.2.2)**, DEÜ reports its primary THE Impact Rankings 2027 energy metrics on the **Calendar Year 2025 (1 January – 31 December 2025) non-hospital university boundary**, while providing full multi-period transparency for the **September 2024 – August 2025** and **May 2025 – April 2026 (UI GreenMetric /**

Sustainability Report 2025–2026) cycles. The **DEÜ Research and Application Hospital (101,056 m² indoor area; 18,860,704 kWh / 67,899 GJ annual electricity use)** operates 24/7 tertiary clinical life-support, diagnostic imaging, and intensive-care infrastructure under a separate healthcare tariff and is excluded from the standard academic/administrative denominator (**821,049 m² gross indoor area – 101,056 m² hospital area = 719,993 m² university floor space**). All conversions strictly apply the thermodynamic constant **1 kWh = 0.0036 GJ (1 MWh = 3.6 GJ)**.

3.2 Calendar Year 2025 Official THE Submission Figures (131,337 GJ Total | 92,830 GJ Low-Carbon | 70.7%)

In **Calendar Year 2025**, total energy used across DEÜ's **719,993 m²** academic and administrative estate (excluding the hospital) totaled **36,482,512 kWh = 131,337 GJ** (**36,481,599 kWh** stationary utility consumption plus **913 kWh** rooftop wind generation). Dividing **131,337 GJ by 719,993 m²** yields an official energy use density of **0.18 GJ/m² (0.1824 GJ/m²)** for Indicator 7.3.1—representing a high-efficiency benchmark for a comprehensive research university with intensive laboratory facilities.

During the same Calendar Year 2025 period, DEÜ generated and utilized **25,786,033 kWh = 92,830 GJ of low-carbon energy** for Indicator 7.5.1 (and SDG 13.2.2), achieving a **70.7% low-carbon energy share (92,830 GJ ÷ 131,337 GJ)**:

- **1. Distributed Solar Photovoltaic (PV) Power Plants (15.2 MWe Installed Capacity — 24,219,130 kWh = 87,189 GJ):** DEÜ operates licensed and unlicensed solar PV power plants with an aggregate capacity of 15.2 MWe across six campuses: Central Campus (Rectorate/Alsancak), Dokuzçeşmeler Campus, 15 Temmuz Health and Arts Campus, Buca Faculty of Education Campus, Institute of Marine Sciences and Technology (Urla), and Torbalı Vocational School. In Calendar Year 2025, these arrays generated 24,219,130 kWh (87,188.87 GJ, reported as 87,189 GJ), which is fed into the national distribution grid and directly netted against DEÜ's electricity bills under Türkiye's statutory grid-offsetting (mahsuplaşma) mechanism.
- **2. Balçova Geothermal District Heating System (15 Temmuz Health and Arts Campus — 1,565,990 kWh = 5,638 GJ):** Academic and administrative buildings on the 15 Temmuz Health and Arts Campus draw renewable geothermal thermal energy from the Balçova Geothermal District Heating network, utilizing 1,565,990 kWh_th (5,637.56 GJ, reported as 5,638 GJ) of zero-combustion space heating in Calendar Year 2025.
- **3. TEAM Rooftop Wind Turbine (Central Clean Energy House — 913 kWh = 3.3 GJ [Rounded to 3 GJ]):** The micro wind turbine installed on the Clean Energy House (Temiz Enerji Evi — TEAM) at Central Campus generated 913 kWh (3.287 GJ, reported as 3.3 GJ in SDG 7.5.1 and rounded to the nearest integer 3 GJ in SDG 13.2.2) of on-site renewable electricity.

Energy Stream / THE Indicator Metric	CY 2025 (kWh)	CY 2025 (GJ — Official)	Sep 2024 – Aug 2025 Cycle	May 2025 – Apr 2026 (GreenMetric)
Grid Electricity Consumed (Excl. Hospital)	17,468,599 kWh	62,887 GJ	24,089,827 kWh (86,723 GJ)	27,180,185 kWh (97,849 GJ)

Energy Stream / THE Indicator Metric	CY 2025 (kWh)	CY 2025 (GJ — Official)	Sep 2024 – Aug 2025 Cycle	May 2025 – Apr 2026 (GreenMetric)
Natural Gas Heating (Stationary Boilers)	17,447,010 kWh	62,809 GJ	21,265,160 kWh (76,555 GJ)	21,968,037 kWh (79,085 GJ)
Geothermal District Heating (15 Temmuz)	1,565,990 kWh	5,638 GJ	1,907,000 kWh (6,865 GJ)	1,943,670 kWh (6,997 GJ)
Wind Turbine Electricity (TEAM Rooftop)	913 kWh	3.3 GJ (3 GJ)	913 kWh (3.3 GJ)	913 kWh (3.3 GJ)
Total Energy Used (Excl. Hospital — 719,993 m²)	36,482,512 kWh	131,337 GJ	47,261,987 kWh (170,143 GJ)	51,091,892 kWh (183,931 GJ)
Energy Density (Excl. Hospital — 719,993 m²)	50.67 kWh/m²	0.18 GJ/m²	65.64 kWh/m² (0.236 GJ/m²)	70.96 kWh/m² (0.255 GJ/m²)
Solar PV Generation (15.2 MWe, 6 Campuses)	24,219,130 kWh	87,189 GJ	24,658,977 kWh (88,772 GJ)	24,110,405 kWh (86,797 GJ)
Total Low-Carbon Energy (Solar + Geo + Wind)	25,786,033 kWh	92,830 GJ	26,566,890 kWh (95,641 GJ)	26,054,988 kWh (93,798 GJ)
Low-Carbon Energy Share (Excl. Hospital)	70.68%	70.7%	56.21% (56.2%)	50.99% (51.0%)
Whole-University Memo (Incl. 101,056 m² Hospital)	55,343,216 kWh*	199,236 GJ*	66,122,691 kWh (238,042 GJ)	69,952,596 kWh (251,829 GJ; 37.2%)



Figure 5: Aerial photograph of DEÜ's Central Campus Solar Power Plant (GES), part of the university's 15.2 MWe distributed solar photovoltaic portfolio across six campuses generating 24,219,130 kWh (87,189 GJ) in Calendar Year 2025.

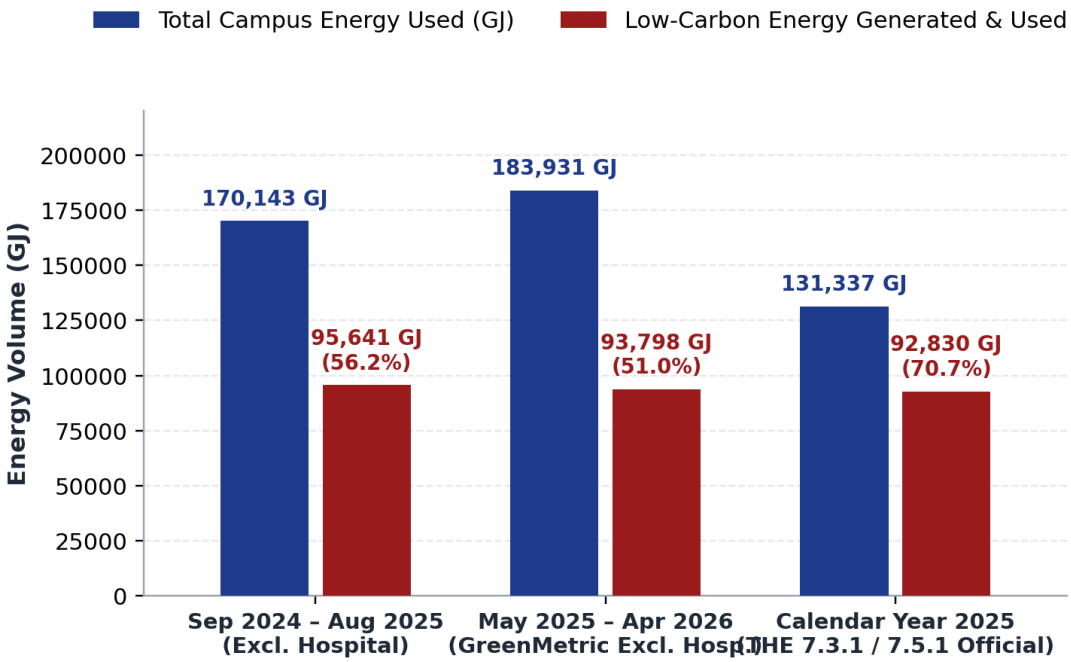

Figure 6: Multi-period comparison of DEÜ campus energy demand and low-carbon generation (GJ and % share) across Sep 2024–Aug 2025 (56.2%), May 2025–Apr 2026 (51.0%), and the official Calendar Year 2025 THE boundary (92,830 GJ / 131,337 GJ = 70.7%).

4. Clean Energy Curriculum, Research Excellence & Bibliometric Impact (THE 7.1.1 & Education)

Dokuz Eylül University anchors its operational energy transition in high-impact academic research and specialized engineering education. Between 2020 and 2025, DEÜ researchers authored **more than 350 Scopus and Web of Science indexed publications mapped to SDG 7 (Affordable and Clean Energy)**, achieving a Field-Weighted Citation Impact (**FWCI**) of **1.34**—34% above the global scholarly baseline—and contributing to DEÜ's institutional corpus of **2,085 core SDG-indexed publications** tracked in Elsevier SciVal and AVESİS (https://avesis.deu.edu.tr).

Across **14 faculties, graduate schools, and vocational schools**, DEÜ offers **56 undergraduate, master's, and doctoral courses** directly focused on solar photovoltaics, wind energy engineering, geothermal reservoir engineering, hydrogen and fuel-cell technologies, energy law and policy, exergy analysis, and building energy efficiency (forming part of DEÜ's **1,701 sustainability-focused courses out of 47,361 total courses [3.59%]** documented in the 2025–2026 Sustainability Report). Flagship academic programmes are led by the **Graduate School of Natural and Applied Sciences (FBE)** (M.Sc. and Ph.D. in **Energy Systems Engineering**, **Mechanical Engineering**, **Electrical and Electronics Engineering**, **Environmental Engineering**, and **Geothermal Energy**), the **Faculty of Engineering**, the **Faculty of Science**, and **Torbalı and Bergama Vocational Schools**.

Academic Faculty / Disciplinary Cluster	Representative SDG 7 Courses & Curricular Modules (56 Courses)	Linked Living-Lab & Research Infrastructure
Faculty of Engineering & FBE (Energy Systems / Mechanical)	Solar Energy Technologies, Wind Power Systems, Advanced Exergy Analysis, Hydrogen Energy & Fuel Cells, Geothermal Reservoir Engineering, HVAC & Building Energy Modelling.	EUAM, TEAM Clean Energy House & Thermodynamic Labs
Electrical & Electronics Engineering	Smart Grids & Microgrids, Power Electronics for Renewable Integration, Reactive Power Compensation, SCADA Telemetry & High-Voltage Substation Design.	Central Smart Grid Lab & TR14/TR21/TR23 Field Data
Environmental & Chemical Engineering (ÇEVMER)	Bioenergy & Biogas Reactors, Industrial Energy-Environmental Auditing, Carbon Capture & Life-Cycle Assessment (LCA), Waste-to-Energy Processes.	ÇEVMER Accredited Environmental & Emission Labs
Architecture & Civil Engineering	Low-Energy & Passive Building Design, TS 825 Thermal Envelope Engineering, BEP-TR Energy Performance Simulation, Daylighting & Urban Microclimate.	DEÜ Smart Building Portfolio (17 Buildings, 236,009 m²)

Academic Faculty / Disciplinary Cluster	Representative SDG 7 Courses & Curricular Modules (56 Courses)	Linked Living-Lab & Research Infrastructure
Faculty of Law, Business & Maritime Faculty	Energy Market Regulation (EPDK), Renewable Energy Law & Offsetting (Mahsuplaşma), Green Finance & Sustainable Investment, Ship Energy Efficiency (SEEMP).	DEÜ Energy Summit Panels & Maritime Simulator Center

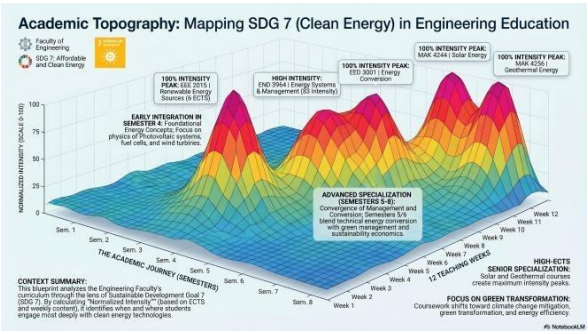

Figure 7a: DEÜ Clean Energy & Sustainability Curriculum Topography across engineering, architecture, science, and vocational programmes.

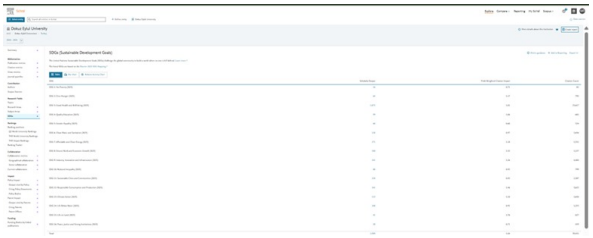

Figure 7b: Elsevier SciVal / Scopus citation impact profile demonstrating DEÜ's high Field-Weighted Citation Impact in clean energy and engineering.

5. Community Outreach, 100% Renewable Advocacy, Industrial Services, Policy & Innovation (THE 7.4.1 – 7.4.5)

5.1 Local Community Outreach for Energy Efficiency & Clean Energy (Indicator 7.4.1)

In 2025, **33 academic and administrative units** at DEÜ organized **125 sustainability outreach events** (and **294 total social responsibility projects**, ranking DEÜ **4th nationwide in Türkiye**). Flagship educational programmes educating local citizens, K–12 students, municipalities, and engineers on energy efficiency and clean energy included:

- **1. 'Tracing the Twin Transition' Science Festival (TÜBİTAK 4007 Project No. 125B814 — 25–27 September 2025):** Hosted at Buca Faculty of Education under the auspices of the Governorship of İzmir and DEÜ Rectorate, welcoming ~30,000 citizens, teachers, and K–12 students free of charge across 87 interactive workshop stands on household energy efficiency, solar PV kits, wind turbines, and zero-waste living (https://ikizdonusum.deu.edu.tr/).
- **2. DEÜ Energy Summit (DEÜ Enerji Zirvesi — 9 May 2025):** Organized by the Faculty of Engineering Quality Commission and EUAM at Central Campus with 250+ participants from industry, public agencies, and civil society, featuring dedicated sessions on Green Hydrogen, Solar/Wind Grid Integration, Geothermal Efficiency, and Industrial Energy Management (https://haber.deu.edu.tr/enerji-alanindaki-guncel-gelismeler-ve-gelecek-vizyonu-deude-masaya-yatirildi/).

- **3. 9th International Hydrogen Technologies Congress (IHTEC-2025 — 25–28 May 2025 at DESEM):** Co-organized by DEÜ and the Hydrogen Technologies Association at DEÜ Rectorate Campus Continuing Education Center (DESEM) under Honorary Chair Rector Prof. Dr. Bayram Yılmaz and Co-Chairs Prof. Dr. Azize Ayol (Dean of Engineering) and Prof. Dr. Can Özgür Çolpan (Vice Dean of Engineering), with invited speakers Dr. Abdullah Buğrahan Karaveli (President of TENMAK), Prof. Dr. İbrahim Dinçer, Prof. Luigi Crema (Hydrogen Europe Research), and Prof. Adélio Mendes. Featured >400 submissions from 25 countries (296 oral and 71 poster papers across 40 sessions) plus an industrial exhibition with TENMAK, ARMELSAN Enerji, HABAŞ, Hydrogenix, Anton Paar, and BPLAS (https://haber.deu.edu.tr/deu-9-uluslararasi-hidrojen-teknolojileri-kongresine-ev-sahipligi-yapacak/ihtec-2025-afis/ ; https://www.linkedin.com/posts/de%C3%BC-m%C3%BChendislik-fak%C3%BCltesi-825028b9_universitemdeu-ihtec2025-ugcPost-7333079682981974016-DnIK/).
- **4. 21st Exergy and Its Applications Summer School (19–21 April 2025), 8th İzmir Wind Symposium Seminar (29 November 2025), Geothermal Geophysics Seminar (10 November 2025), Sustainability in Energy Sector Panel (24 December 2025) & Bergama Science Café (1 July 2026):** Open public and professional training programmes training hundreds of engineers, students, and local residents in thermodynamic second-law efficiency, wind power storage, geothermal exploration, and community renewable transition.



Figure 8a: Opening ceremony and public workshops of the TÜBİTAK 4007 'Tracing the Twin Transition' Science Festival (~30,000 participants, 87 stands) at Buca Faculty of Education.



Figure 8b: DEÜ DESEM Cultural and Congress Center, host venue of the 9th International Hydrogen Technologies Congress (IHTEC-2025, 25 countries) and regional clean-energy policy forums.

5.2 100% Renewable Energy Pledge & Public Advocacy Beyond Campus (Indicator 7.4.2)

DEÜ actively campaigns for the transition to **100% renewable energy** in the wider public sphere beyond university boundaries. On **29 November 2025**, DEÜ academics and the Chamber of Mechanical Engineers (TMMOB MMO) co-authored and publicly issued the **9-Point Final Declaration of the 8th İzmir Wind Symposium Seminar** (https://makina.mmo.org.tr/Eklenti/92550,8-izmir-ruzgar-sempozyumu-semineri-sonuc-bildirgesi.pdf?0), calling for community-owned renewable energy cooperatives, accelerated grid-storage integration, transparent wind/solar permitting, and public-interest clean energy planning toward Türkiye's 2053 net-zero target. This public advocacy was reinforced by Rector Prof. Dr. Bayram Yılmaz's clean-energy transition call at the **DEÜ Energy Summit (9 May 2025)**, the **IHTEC-2025 Hydrogen Declaration**

(25–28 May 2025), the **DEÜ External Stakeholder Advisory Board Meeting (11 December 2025)** convening **28 regional institutions** (municipalities, chambers of industry, ministries, and NGOs), and DEÜ's **COP31 Clean Energy Transition Platform** (https://cop31.deu.edu.tr).

5.3 Energy Efficiency Services for Industry (Indicator 7.4.3)

Through the **University-Industry Application and Research Center (ÜSAMER)**, the **Continuing Education Center (DESEM)**, and **ÇEVMER**, DEÜ delivered **10 documented industrial energy efficiency and clean-energy services in 2025**—comprising **6 contracted engineering consultancy protocols/assignments**, **1 corporate renewable energy workforce certificate programme**, and **3 free industrial training and advisory programmes**:

Industrial Partner / Programme	Service Modality	Technical Energy Efficiency & Clean Energy Scope	2025 Verification
ÜSAMER Protocol #1 — İRM Enerji	Contracted Engineering Protocol	Industrial energy efficiency diagnostics, thermal process optimization, and renewable integration engineering.	Active 2025 Contract (usamer.deu.edu.tr)
ÜSAMER Protocols #2 & #3 — FREE Yapı Enerji (x2)	2 Separate Academic Assignments	Building envelope thermal performance, HVAC energy efficiency modelling, and low-carbon building systems.	2 Completed 2025 Assignments
ÜSAMER Protocol #4 — NTU Jeotermal	Contracted R&D & Field Consultancy	Geothermal brine reinjection, heat-exchanger scaling mitigation, and enthalpy utilization efficiency.	Active 2025 Contract
ÜSAMER Protocol #5 — SOLARFEYM Enerji	Contracted Solar PV Engineering	Photovoltaic array yield optimization, inverter efficiency auditing, and bifacial module performance.	Active 2025 Contract
ÜSAMER Protocol #6 — ERSİS Enerji	Contracted Electrical Efficiency	Industrial power quality, transformer loss reduction, and reactive power compensation analysis.	Active 2025 Contract
DESEM Corporate Training — Aydem Yenilenebilir Enerji A.Ş.	Corporate Workforce Certificate	Customized technical training programme for Aydem Renewable Energy engineering and operations personnel.	Completed 2025 (desem.deu.edu.tr)
ÇEVMER Free Seminar — Eti Bakır A.Ş. (Mazıdağı Facility)	Free Industrial Training (60+ Staff)	Industrial Energy & Environmental Awareness Seminar delivered free of charge to 60+ Eti Bakır engineers/staff.	Completed 2025 (cevmer.deu.edu.tr)

Industrial Partner / Programme	Service Modality	Technical Energy Efficiency & Clean Energy Scope	2025 Verification
DEÜ Energy Summit & DETTO/EUAM Industry Clinics	2 Free Industry Advisory Services	Free industrial clean-energy consultation panels and green hydrogen / energy-audit matchmaking for SMEs.	May–Dec 2025 (haber.deu.edu.tr)

5.4 Policy Development for Clean Energy Technology Across All 4 Government Tiers (Indicator 7.4.4)

DEÜ informs and supports government clean-energy policy development across **all four jurisdictional levels (Local, Regional, National, and Global — 4 / 4 tiers)**:

Government Tier	Partner Authorities & Bodies	Clean Energy Policy & Technical Contributions (2025)	Primary Evidence
1. Local Government Tier	İzmir Metropolitan Municipality & District Municipalities	Joint Sustainable Energy and Climate Action Plan (SECAP / İklim-DE) technical working groups, Balçova geothermal district heating integration, and municipal disaster-energy resilience planning.	surdurulebilirlik.deu.edu.tr
2. Regional Government Tier	İzmir Development Agency (İZKA) & ENİVA Foundation	Active Board of Directors representation on the Aegean Energy Technologies Center (ENİVA) and technical authorship for İZKA regional green transformation, offshore wind, and hydrogen cluster roadmaps.	izka.org.tr / euam.deu.edu.tr
3. National Government Tier	Ministry of Energy (ETKB), TENMAK & YÖK	Technical R&D cooperation with the Turkish Energy, Nuclear and Mineral Research Agency (TENMAK) on boron/hydrogen/geothermal tech; 83 DEÜ projects accepted by YÖK (out of 94 submitted) for the national sustainability portfolio.	tenmak.gov.tr / cop31.deu.edu.tr
4. Global / Supranational Tier	UNFCCC COP31 (Antalya 2026) & Horizon Europe / IHTEC	Official YÖK-designated COP31 partner university with 6 dedicated 'Clean Energy Transition' policy/R&D projects on https://cop31.deu.edu.tr and international hydrogen policy synthesis via IHTEC-2025 (25 countries).	cop31.deu.edu.tr / ihtec.org

5.5 Assistance to Low-Carbon Innovation & Clean-Tech Startups (Indicator 7.4.5)

DEÜ operates an end-to-end low-carbon entrepreneurship and technology transfer ecosystem spanning **DEPARK (Dokuz Eylül Technology Development Zone)**, the **BAMBU Pre-Incubation and Acceleration Center**, the newly launched **BAMBU+ Venture Studio (opened 18 November 2025)**, and the **Dokuz Eylül Technology Transfer Office (DETTO)**—which was elevated to a direct Rectorate Application and Research Center by **Official Gazette No. 33066 on 3 November 2025** (https://www.resmigazete.gov.tr/eskiler/2025/11/20251103-4.htm).

Across **41,248 m² of technopark infrastructure** at Central and 15 Temmuz Health Campuses, **DEPARK hosts 158 R&D companies** (**30 new companies joined in 2025**), including **2 dedicated Energy Sector R&D firms**—**AYLARA Güç Çözümleri A.Ş. (AYLARA Power Solutions Inc.)** and **Commencis Teknoloji A.Ş.**—and **4 Electrical/Electronics smart-grid and power-systems firms**. Simultaneously, **BAMBU supported 39 early-stage startups in 2025 (18 new cohorts)**, and through its 6-month **DEPARK BAMBU Speed Up & BAMBU UP Demo Day programme** (93 applicants, 36 accepted startups, 19 trainings, 4 entrepreneurship workshops, 21 jury qualifiers, and 10 Demo Day stage finalists evaluated with Ministry of Industry & Technology and KOSGEB İzmir Provincial Directors; https://haber.deu.edu.tr/depark-bambu-up-demo-dayde-girisimciler-projelerini-ekosistemle-bulusturdu/) accelerated clean-tech commercialization. In 2025, **DETTO filed a national patent application for an 'Energy-Storing Wind Power Plant System and Method' (Enerji Depolayan Rüzgar Enerji Santrali Sistemi ve Yöntemi)** addressing grid intermittency, while **DEÜ Solar Team Solaris**—advised by Assoc. Prof. Dr. Aytaç Gören (Dept. of Mechanical Engineering) and competing as the sole Turkish team at **Albi Eco Race 2025 in Albi, France (22–24 May 2025)**—won **2nd Place in the Efficiency (Renewable Energy Use) Category and 3rd Place in the Solar Challenge Category** (https://makina.deu.edu.tr/duyurular/solar-team-solaris-albi-eca-race-2025-basarilari/).

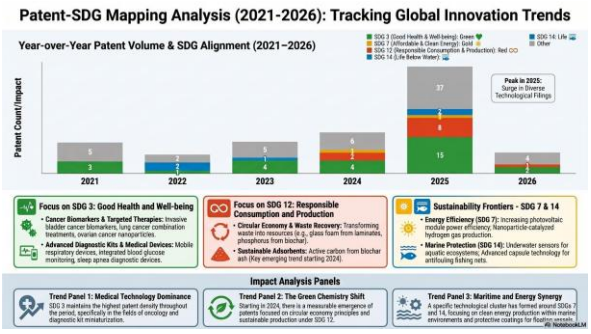

Figure 9a: DEÜ DETTO Patent-to-SDG Mapping portfolio highlighting clean energy and energy-storage inventions commercialized in 2025.



Figure 9b: DEÜ Faculty of Engineering & EUAM symposium auditorium hosting the 2025 DEÜ Energy Summit and industry innovation panels.

Hydrogen technologies entrepreneurship and solar mobility

IHTEC 2025 at DESEM

Dokuz Eylül University hosted the 9th International Hydrogen Technologies Congress (IHTEC 2025) at its Continuing Education Centre (DESEM) in İzmir on 25–28 May 2025, in collaboration with the Hydrogen

Technologies Association. Co-chaired by Prof. Dr. Azize Ayol and Prof. Dr. Can Özgür Çolpan, the congress received more than 400 submissions from 25 countries. Its announced programme included 296 oral presentations and 71 poster presentations across 40 thematic sessions, alongside panels, workshops and an industry exhibition. Green hydrogen commercialisation and energy system decarbonisation were among the themes. The official poster and the Faculty of Engineering's photographic documentation record the programme and participation in this international exchange on the clean energy transition (Figure 10).



Figure 10. IHTEC 2025 at DESEM, İzmir, 25–28 May 2025. Left: official congress poster from the DEÜ press archive. Right: participants in the auditorium, photographed in the Faculty of Engineering's LinkedIn congress documentation.

Sources: Official congress poster and press archive | Congress announcement | Faculty photo and media post

DEPARK BAMBU UP Demo Day

DEPARK's BAMBU Entrepreneurship Office brought entrepreneurs together with investors, industry representatives, academics and students at BAMBU UP Demo Day in DEÜ's 15 July Martyrs Hall. The official news report, published on 2 July 2026, records that 36 of 93 applicants were admitted to the six-month BAMBU Speed Up programme. Training, workshops and individual mentoring supported business model development, product validation and investor preparation. Twenty-one ventures qualified for jury evaluation and 10 were selected to present at Demo Day. The programme included plaque presentations and group photographs before the startup presentations. The press gallery documents the stage presentations, the ceremony and institutional participation in the University's entrepreneurship ecosystem (Figure 11).



Figure 11. BAMBU UP Demo Day in the DEÜ press gallery published on 2 July 2026. Top: a startup presentation. Bottom left: a stage group photograph during the ceremony.

Solar Team Solaris at Albi Eco Race 2025

DEÜ Solar Team Solaris represented Türkiye at Albi Eco Race 2025 in Albi, France, on 22–24 May 2025. The team achieved second place in the Efficiency category and third place in the Solar Challenge category, combining solar energy technology with applied vehicle engineering. The Department of Mechanical Engineering's announcement, dated 4 June 2025, recognises the guidance of academic adviser Assoc. Prof. Dr. Aytaç Gören and the contributions of its student team members. Its official gallery includes photographs of the team with the solar vehicle, event participation and the trophy celebration. These images document student engagement with renewable energy and efficient mobility in an international competition (Figure 12).



*Figure 12. Solar Team Solaris at Albi Eco Race 2025, France, 22–24 May 2025. Top left: the team with its solar vehicle at the circuit. Top right: the event group photograph published as Solaris2.png. Bottom: the trophy celebration. Source: DEÜ Department of Mechanical Engineering's official gallery.*Sources: Department announcement and race photographs | Official Solaris2 image

6. THE Impact Rankings 2027 SDG 7 Complete Indicator Crosswalk & 2026–2028 Strategic Targets

Table 7 consolidates every quantitative and qualitative indicator across the **THE Impact Rankings 2027 SDG 7 submission package**, confirming **100% numerical alignment** between this Progress Report, the 13 individual SDG 7 indicator evidence files (**7.2.1–7.5.1**), and the cross-referenced SDG 13 climate action files (**13.2.1–13.4.2**).

THE Indicator	Verified 2025 Baseline & Evidence Summary (100% Aligned with SDG 7 & 13 Files)	2026–2028 Strategic Target
7.1.1 Research on Clean Energy	350+ Scopus SDG 7 papers (2020–2025); FWCI 1.34; 56 clean-energy courses across 14 faculties.	Expand COP31 Clean Energy Transition R&D portfolio to 15+ funded national/EU projects by 2028.
7.2.1 Energy-Efficient Renovation & Building	Mandatory Law 5627, BEP-TR Class B / nZEB, TS 825 & Circular 2023/17; 17 Smart Buildings (236,009 m²); new 2,462 m² Animal Lab.	Commission Central Dining Hall (2009H03-1045) to Class B/nZEB and reach 20 Smart Buildings (>260,000 m²).
7.2.2 Upgrade Buildings to Higher Efficiency	TRY 65,936,992 spent in 2025 (TRY 95.9M budget) under Project 2022H03-187186 + SCADA & TR14/TR21/TR23 upgrade (2025H03-259110).	Complete full 900,000 m² major envelope/HVAC retrofit pipeline and extend SCADA to all 19 campuses.
7.2.3 Carbon & Emission Reduction Process	CY 2025 GHG Inventory: 16,395 t CO2e Scope 1+2 (3,894 t S1 + 12,501 t S2); 12,052 t CO2e UI GreenMetric; 2049 Net-Zero target.	Achieve 25–30% cumulative Scope 1+2 reduction by 2028 via boiler-to-heat-pump and solar expansion.
7.2.4 Plan to Reduce Energy Consumption	Strategic Plan 2024–2028 & Energy Efficiency Policy; CY 2025 energy density reduced to 0.18 GJ/m² (131,337 GJ / 719,993 m²).	Maintain academic energy intensity ≤ 0.17 GJ/m² through ISO 50001 certification across main campuses.
7.2.5 Energy Wastage Identification (Audits)	8-Campus Professional Energy Audit by İstanbul Enerji A.Ş. (Nov 2024) + SETAŞ thermal/flue-gas audits.	Conduct post-retrofit verification audits across all 8 audited campuses and hospital complex in 2026–2027.
7.2.6 Divestment Policy	100% Fossil Fuel Divestment (TRY 0 in coal, oil, or gas) under Law 5018, Energy Policy Cl. 4.5 & Sustainable Investment Policy Cl. 4.4–4.5.	Maintain 0% fossil exposure and expand green procurement criteria across all university tenders.
7.3.1 Energy Usage per m² (Official CY 2025)	Total Energy (Excl. Hospital): 131,337 GJ (36,482,512 kWh) | Floor Area: 719,993 m² (Excl. 101,056 m² Hospital) | Density: 0.18 GJ/m².	Reduce stationary natural gas demand by 15% through heat-pump and geothermal cascade upgrades.

THE Indicator	Verified 2025 Baseline & Evidence Summary (100% Aligned with SDG 7 & 13 Files)	2026–2028 Strategic Target
7.4.1 Local Community Outreach	Twin Transition Festival (~30,000 visitors, 87 stands), DEÜ Energy Summit (250+), IHTEC-2025 (25 countries), Exergy School & Wind Seminar.	Scale annual Science Café and K–12 Twin Transition energy literacy workshops across all 30 İzmir districts.
7.4.2 100% Renewable Energy Pledge	9-Point Wind Energy Final Declaration (29 Nov 2025), IHTEC-2025 & Energy Summit declarations, 28-institution Advisory Board & COP31.	Publish regional 100% Renewable Campus & Aegean Clean Grid Transition White Paper for COP31.
7.4.3 Energy Efficiency Services for Industry	10 industrial services: 6 ÜSAMER contracts (İRM, FREE Yapı x2, NTU, SOLARFEYM, ERSİS), 1 DESEM (Aydem), 3 free (Eti Bakır 60+ staff).	Double ÜSAMER industrial energy audit and solar/geothermal engineering contracts to 12+ per year.
7.4.4 Policy Development for Clean Energy	4 / 4 Government Tiers supported: İzmir Metro Municipality (Local), İZKA/ENİVA (Regional), ETKB/TENMAK/YÖK 83 projects (National), COP31 (Global).	Deliver DEÜ's 83 YÖK-accepted sustainability and clean-energy research outputs at UNFCCC COP31.
7.4.5 Assistance to Low-Carbon Innovation	DEPARK (158 firms; AYLARA, Commencis), BAMBU (39 startups), BAMBU+ (Nov 2025), DETTO (Wind Storage Patent), Solaris (Albi Eco Race).	Commercialize DETTO wind-storage patent and incubate 10+ new clean-tech ventures at BAMBU+.
7.5.1 Low-Carbon Energy Use (Official CY 2025)	Total Low-Carbon Energy: 92,830 GJ (25,786,033 kWh = 87,189 GJ Solar PV + 5,638 GJ Geothermal + 3.3 GJ [3 GJ] Wind) = 70.7% of 131,337 GJ.	Expand campus Solar PV capacity beyond 18 MWe to surpass 80% low-carbon energy coverage.