SDG 7 - AFFORDABLE AND CLEAN ENERGY

The seventh goal is to ensure access to affordable, reliable, sustainable and modern energy for all. Renewable energy solutions are becoming cheaper, more reliable and more efficient every day.Our current reliance on fossil fuels is unsustainable and harmful to the planet, which is why we have to change the way we produce and consume energy. Implementing these new energy solutions as fast as possible is essential to counter climate change, one of the biggest threats to our own survival.

- Does your university as a body have a policy in place for ensuring all renovations / new builds are following energy efficiency standards? (relevant standards to be indicated)

The 'ENERGY EFFICIENCY LAW', which covers the procedures and principles to be applied for increasing and supporting energy efficiency in the production, transmission, distribution and consumption stages of energy, industrial enterprises, buildings, electrical energy generation facilities, transmission and distribution networks and transportation, agriculture and service sectors, improving energy awareness throughout the society, and utilising renewable energy resources, has been in force since 2007.

https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=5627&MevzuatTur=1&MevzuatTertip=5

Acting within the framework of this law, our university contributed to raising awareness on energy efficiency by sharing the 'Energy Efficiency at Work, at Home, on the Road' booklet prepared by the Ministry of Energy and Natural Resources in 2022 with all its staff and publishing it on its website.

https://uskudar.edu.tr/en/icerik/8342/energy-efficiency-at-work-at-home-on-the-road

As a result of the internal evaluation studies carried out by our university, a report was prepared in 2023 and preparations for the 2024-2028 Strategic Plan were started. In the strategic plan studies, the issue of energy efficiency was addressed and the issues of efficient use of energy resources and raising environmental awareness, making investments in sustainable energy resources, limiting carbon emissions by reducing the rate of utilisation of fossil-fuel energy systems were especially included.

https://uskudar.edu.tr/assets/uploads/sayfa/526/file/uskudar-universitesi-stratejik-plan-2024-2028.pdf

- Does your university as a body have plans to upgrade existing buildings to higher energy efficiency?

Üsküdar University's campus and buildings, which are in the service of all students and academic staff, are equipped in accordance with the smart building system. Technology has been utilised in many areas such as heating/heating and security. Materials with thermal insulation continue to be used in newly constructed buildings. Products with high insulation

value are selected in our buildings and solar energy panels are used to meet the building hot water needs. Efforts are being made to increase renewable energy sources. The production and assembly of solar panels continues.

- Does your university as a body have a process for carbon management and reducing carbon dioxide emissions?

Üsküdar University carries out carbon footprint monitoring and takes energy saving measures to keep greenhouse gas emissions to a minimum. With the 'REGULATION ON SMOKE-FREE CAMPUS APPLICATIONS', which entered into force in 2022, smoke-free airspace practices continue in 2023. Smoke-free airspace targets were added to the 2024-2028 strategic plan, which was planned in 2023 in order to strengthen social responsibility and social contribution, within the framework of efficient use of energy resources and raising environmental awareness

https://uskudar.edu.tr/assets/uploads/sayfa/18/file/dumansiz-kampus-uygulamasi-yonergesi.pdf

- Does your university as a body have an energy efficiency plan in place to reduce overall energy consumption?

Our university carries out internal audits with various commissions and units and reports the results of these audits. As a result of the analyses made through these reports, it develops strategies and directives that coincide with government policies on energy efficiency. These directives and plans are shared with all academic and administrative departments and it is aimed to include them in the process.

https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=5627&MevzuatTur=1&MevzuatTertip=5

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https://uskudar.edu.tr/assets/uploads/sayfa/18/file/uu-kalite-gelistirme-ve-guvencesi-yonergesi.pdf?1

https://uskudar.edu.tr/assets/uploads/sayfa/526/file/uskudar-universitesi-stratejik-plan-2024-2028.pdf

https://uskudar.edu.tr/assets/uploads/sayfa/18/file/uskudar-universitesi-surdurulebilirlik-koordinatorlugu-yonergesi.pdf

- Does your university as a body undergo energy reviews to identify areas where energy wastage is highest?

Reports are prepared by making examinations to determine the areas with the highest energy waste within our university. As a result of the examinations, necessary saving measures are taken. These measures are shared with university employees

- Does your university as a body have a policy on divesting investments from carbon-intensive energy industries especially coal and oil?

Üsküdar University has no investments in carbon-intensive energy industries, but the university invests in solar energy systems to reduce the use of fossil fuels in its campuses and buildings.

- Does your university as a body provide programmes for local community to learn about importance of energy efficiency and clean energy?

Üsküdar University actively participates in efforts aligned with Sustainable Development Goals. It focuses on increasing for clean, energy and affordable energy. Üsküdar University's campuses and buildings, available to all students and staff, are designed with smart building systems. These technologies manage functions such as heating and security. New constructions incorporate heat insulation materials, with a focus on products that offer high insulation efficiency. Additionally, solar energy panels are installed to provide hot water for the buildings, and the university is investing in solar energy systems to minimize dependence on fossil fuels. The university organizes conferences and media talks to inform public.

Korkutucu görünse de nükleer santraller en az radyasyon yayan… (uskudar.edu.tr)

In the next 20-30 years, we are expected to be a country experiencing… (uskudar.edu.tr)

It is possible to stop and reduce the climate crisis! (uskudar.edu.tr)

New World wants 'engineers who are sensitive to the environment'! (uskudar.edu.tr)

3 bölgedeki ormanlara dikkat! | Üsküdar Üniversitesi (uskudar.edu.tr)

Electromagnetic pollution increasing due to technological development… (uskudar.edu.tr)

usbid-sayi-15.pdf (uskudar.edu.tr)

https://cdn.uha.com.tr/content/files/cop-presidencies-comparative-analysis-tracked7073-230927011708.pdf

https://uskudar.edu.tr/tr/icerik/42312/cop28-ilerleme-mi-gerileme-mi-raporu-tanitildi

- Does your university as a body promote a public pledge toward 100% renewable energy (petitions, meetings, discussions, events) beyond the university?

Al Mizan, a joint work contributed by Muslim thought leaders around the world under the umbrella of the United Nations Environment Programme (UNEP): A Covenant for the Earth continues to be supported by Uskudar University.

In Al-Mizan May 2023 Bulletin, a publication of Üsküdar University Environmental Ethics Forum, attention is drawn to renewable energy and environmental issues.

https://www.unep.org/al-mizan-covenant-earth

Prof. Dr. İbrahim Özdemir, Director of Üsküdar University Environmental Ethics Forum, who attended the reception held within the framework of the events at the UN in New York,

https://al-mizan.uskudar.edu.tr/uploads/files/6482f89a6649edunya-cevre-sozlesmesi-mayis-2023.pdf

introduced the COP28: Progress or Regression? Report was prepared under the leadership of Üsküdar University Environmental Ethics Forum.

The report "COP28 Progress or Regression? An Empirical and Historical Comparative Analysis of COP Summits" examines the trajectory of climate negotiations through various COP summits, particularly focusing on the upcoming COP28. This report is a collaborative publication between the Faculty of Humanities and Social Sciences at Üsküdar University in Istanbul, Turkey, and the Caribbean ASEAN Council based in Dominica. Contributors come from various countries, including Turkey, Dominica, Nigeria, Kenya, Chad, the Gambia, and Bangladesh. The agenda aims for ambitious goals, including increased climate financing and agreements on renewable energy, suggesting that meaningful progress could be achieved if delegates focus on negotiating a robust global climate agreement. It contrasts COP28's agenda with previous summits to evaluate whether there has been progress or regression in addressing climate change. Key points typically discussed in this report include "Emissions Reduction", “Renewable Energy Goals", "Climate Financing", and "Challenges and Criticisms". Overall, the analysis seeks to clarify whether the upcoming summit can effectively build on past progress or if it risks falling into the patterns of previous failures.

https://uskudar.edu.tr/en/icerik/42331/cop28-progress-or-regression

https://cdn.uha.com.tr/content/files/cop-presidencies-comparative-analysis-tracked7073-230927011708.pdf

- Does your university as a body provide direct services to local industry aimed at improving energy efficiency and clean energy (energy efficiency assessments, workshops, research renewable energy options)

The Electrical-Electronics Engineering Department’s focus on renewable energy is vital for advancing sustainable technologies. Faculty members contributing to research and collaboration in this field make a significant impact on both academia and industry.

1) Faculty members at our university actively engage in research and collaborative initiatives focused on renewable energy, systematically disseminating their findings to the public through peer-reviewed articles and academic presentations. As a faculty member, Research Assistant Nazmiye Kopacak likely engages in research that aligns with SDG 7, focusing on enhancing access to affordable, reliable, sustainable, and modern energy for all. Her profile includes details about her research interests, projects, and contributions to renewable energy.

https://uskudar.edu.tr/en/academic-staff/nazmiye-kopacak

https://ieeexplore.ieee.org/document/10415989

2) The establishment of the **Power and Machines Laboratory** under project number **ÜÜBAP-YP-2023-002** marks a significant milestone for the **Electrical-Electronics Engineering Department** at **Üsküdar University**. Here's a refined overview highlighting its key aspects:

The Power and Machines Laboratory has been established for students of the Faculty of Engineering and Natural Sciences, specifically within the Department of Electrical and Electronics Engineering. This lab represents a commitment to enhancing education and research in renewable energy and related technologies.

Key Features:

- **Hands-On Experience:** The lab provides students and researchers with practical opportunities to design, test, and implement various renewable energy technologies.
- **Research Opportunities:** Faculty and students can conduct experiments and innovate new technologies in areas such as power systems, electrical machines, and energy efficiency.
- **Collaboration:** The lab fosters partnerships with industry, facilitating collaborative projects that tackle real-world energy challenges.
- **Innovation Hub:** It serves as a center for innovation, allowing new ideas to be tested and refined, which can lead to patents or significant academic publications.
- **Enhanced Education:** Equipped with various training sets, including power systems, electrical machines, and renewable energy systems, the lab enriches the curriculum, aligning theoretical knowledge with practical application.

Project Details:

- **Budget:** The total budget for the laboratory project is **1.686.672 TL**.
- **Installation Completion:** All installations were completed in **2023**, ensuring that students can benefit from state-of-the-art facilities.

Additional Initiatives:

As part of this laboratory installation, technical documentation and all training sessions for the Electrical and Electronics Engineering faculty have been recorded by **Üsküdar TV Studio** and uploaded to the **OneDrive platfor**m. This initiative ensures that resources are accessible for ongoing education and training.

By integrating research and practical applications, the Power and Machines Laboratory will significantly strengthen the department's contributions to sustainable energy solutions and the broader community, preparing students for future challenges in the field.

3) Another project that underscores the commitment of the Department of Electrical and Electronics Engineering to advancing both technological innovation and environmental considerations in renewable energy is the report titled "Investigation of Environmental Impact Assessment of Electromagnetic Fields for the ATARES-2 Wind Power Plant Project (23 Turbines) with Simulation Model". Authored by **Prof. Dr. Osman ÇEREZCi**, Dean of the Faculty of Engineering and Natural Sciences, this report was prepared for ATASEVEN ENERJİ ÜRETİM A.Ş. It focuses on assessing the electromagnetic fields generated by the operation of 23 wind turbines, employing advanced simulation modeling techniques to evaluate their potential environmental impacts. However, it is important to note that, due to confidentiality agreements, only the cover page of the report is publicly accessible, limiting wider dissemination of its findings.

- Does your university as a body inform and support government in clean energy and energy-efficient technology policy development?

Üsküdar University academicians organise meetings and publications on clean energy and energy efficient technology policy development. Üsküdar University Application and Research Centres contribute to the policies to be developed in this field by conducting scientific activities related to clean energy and energy efficient technologies.

usbid-sayi-15.pdf (uskudar.edu.tr)

https://uskudar.edu.tr/en/research-and-application-centers

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https://uskudar.edu.tr/usgumer/en

https://uskudar.edu.tr/verimer/en

https://uskudar.edu.tr/yazamer/en

https://uskudar.edu.tr/en/istanbul-protein-research-development-and-innovation-application-and-research-center-promer

- Does your university as a body provide assistance for start-ups that foster and support a low-carbon economy/technology?

Although the initiatives supported by our university are mostly in the field of Health and Biotechnology, the initiatives that provide Online Health Services support low carbon emission as they provide remote health services. BrainPark Technology Transfer Office and BrainPark

Incubation Centre continue their activities in order to increase the R&D outputs of our University and to ensure the transfer of the knowledge and technology produced.

Energy Related Project List

Kadıköy Belediyesi Elektromanyetik Kirlilik Tesbiti, Azaltılması ve Bilinçlendirme Projesi	Tamamlandı	Kadıköy Belediyesi	Prof.Dr. Osman Çerezci
EKOGEN Halk.Sağlığı ve Çevre Tic.Ltd . "ENERJİSA Çanakkale RES Rüzgar Enerji Santralleri EMF İnceleme Projesi	Tamamlandı	EKOGEN	Prof.Dr. Osman Çerezci
NARTUS Enerji ve Çevre ve Yaturım Ltd.Şti "ENERJİSA "Aydın ,Denizli Balıkesir RES Rüzgar Enerji Santralleri için EMF İnceleme Projesi"	Tamamlandı	Nartus Enerji	Prof.Dr. Osman Çerezci
Rüzgar Enerji Santrali (RES) için Elektromanyetik Alanların Çevresel Etki Değerlendirme projesi	Tamamlandı	Üsküdar Üniversitesi	Prof.Dr. Osman Çerezci
Airres-4 RES kapasite artışı için Elektromanyetik Alanların Çevresel Etki Değerlendirme projesi	Tamamlandı	Üsküdar Üniversitesi	Prof.Dr. Osman Çerezci
EN 2 Rüzgar Enerjisi Yatırım A.Ş. Bodrum, Milas Rüzgar Enerji Santralleri (RES) EM Radyasyon Çevresel Etki inceleme Projesi	Tamamlandı	Üsküdar Üniversitesi	Prof.Dr. Osman Çerezci
Çevre sağlığında gemi atıkları tehdidi: Biyoelektrokimyasal hücrelerle çevresel giderimi ve enerji dönüşümü	Değerlerdirme Aşamasında	Üsküdar Üniversitesi	Prof.Dr. Tunç Çatal
Güvenli Gaz Hidrojen Tankı Tasarımı Geliştirilmesi ve Prototip İmalatı	Kabul Edildi-Devam Ediyor	KARBONSAN BASINÇLI KAPLAR SAN. VE TİC. A.Ş.	Doç.Dr. Müge Ensari Özay