



Bogazici University

Boğaziçi University's Carbon Emissions
Report for 2016-2023

We regularly report carbon emissions within the scope of our university's environmental sustainability efforts. These reports are carried out in accordance with internationally accepted standards. In particular, the GHG Protocol Corporate Standard is used as a basis for calculating and reporting greenhouse gas emissions. This standard provides an effective framework for managing and reducing carbon emissions.

Our university regularly measures greenhouse gas emissions to assess our environmental impact and monitor our carbon footprint. These reports enable us to evaluate our organization's environmental performance and progress towards achieving our sustainability goals.

This report has been prepared to provide a road map to understand, monitor and reduce our university's carbon emissions. Managing and reducing greenhouse gas emissions is a fundamental part of our organization's environmental sustainability efforts and helps us meet our commitments to our society.

Emission Standards and Definitions

The data included in the preparation of this report was obtained from existing sources and measurements made on campus. Calculation and reporting of carbon emissions was carried out in accordance with accepted standards.

Scope 1 Emissions

This includes the Greenhouse Gas (GHG) emissions the university directly produces when operating its boilers and vehicles.

Scope 2 Emissions

These are the indirect emissions made by the university; It covers Greenhouse Gas (GHG) emissions that occur when the electricity or energy purchased to heat and cool buildings is produced on behalf of the university.

CAMPUS	GROSS AREA (M2)	NET AREA (M2)
ANADOLU HİSARI CAMPUS	30,647	27,117
BURSA İZNİK EARTHQUAKE DAMAGE MITIGATION CENTER	2193	1625
SOUTH CAMPUS	62,143	53,116
HİSAR CAMPUS	13,529	11,240
KANDILLI CAMPUS	43,613	40,907
KILYOS CAMPUS	42,192	38,127
NORTH CAMPUS	91,961	78,452
MERSİN TARSUS GÖZLÜKULE RESEARCH CENTER	2,535	2,237
UÇAKSAVAR CAMPUS	42,803	30,356
TOTAL	331661 m2	283181 m2

Table 1. Closed Areas of Boğaziçi University (M2)

South Campus					
Year	Electricity Consumption (kWh)	Carbon Footprint (kgCo ₂)	Natural Gas Consumption (Sm ³)	Carbon Footprint (kgCo ₂)	Total Carbon Footprint(tonCo ₂)
2016	-	-	566527	1144384.54	1144.38
2017	3157513.21	1553496,498	707806	1429768.12	2983.26
2018	3107315.72	1528799,334	594049	1199978.98	2728.78
2019	3368317.80	1657212,358	568819	1149014.38	2806.23
2020	2681102.64	1319102,499	581008	1173636.16	2492.74
2021	2622979.82	1290506,071	573620	1158712.4	2449.22
2022	3083552.08	1517107,623	556963	1125065.26	2642.17
2023	2868436.61	1411270,812	350704	708422	2119.69

Table 2. Scope 1 and Scope 2 (tCO₂e) Emission Values of Boğaziçi University South Campus

North Campus					
Year	Electricity Consumption (kWh)	Carbon Footprint (kgCo ₂)	Natural Gas Consumption (Sm ³)	Carbon Footprint (kgCo ₂)	Total Carbon Footprint(tonCo ₂)
2016	0	0	849040	1715060.8	1715.06
2017	5797184,404	2852214,727	1170218	2363840.4	5216.06
2018	5571626.61	2741240,292	860811	1738838.2	4480.08
2019	6309464.88	3104256,721	914465	1847219.3	4951.48
2020	4578666.12	2252703,731	788639	1593050.8	3845.75
2021	4217154,615	2074840,071	801955	1619949.1	3694.79
2022	5493495.74	2702799,904	887159	1792061.2	4494.86
2023	4818350,992	2370628,688	695993	1405905.9	3776.53

Table 3. Scope 1 and Scope 2 (tCO₂e) Emission Values of Boğaziçi University North Campus

Ucaksavar Campus					
Year	Electricity Consumption (kWh)	Carbon Footprint (kgCo ₂)	Natural Gas Consumption (Sm ³)	Carbon Footprint (kgCo ₂)	Total Carbon Footprint(tonCo ₂)
2016	0	0	250284	505573.68	505.57
2017	1358726.49	668493,4331	284516	574722.32	1243.22
2018	1659640.69	816543,2195	242562	489975.24	1306.52
2019	1112980.35	547586,3322	201897	407831.94	955.42
2020	611184.25	300702,651	134742	272178.84	572.88
2021	588397.8	289491.7176	100576	203163.52	492.66
2022	845343,363	415908,9346	198306	400578.12	816.49
2023	750154,197	369075,8649	125731	253976.62	623.05

Table 4. Scope 1 and Scope 2 (tCO₂e) Emission Values of Boğaziçi University Ucaksavar Campus

Kandilli Campus					
Year	Electricity Consumption (kWh)	Carbon Footprint (kgCo ₂)	Natural Gas Consumption (Sm ³)	Carbon Footprint (kgCo ₂)	Total Carbon Footprint(tonCo ₂)
2016	-	-	218159	440681.18	440.68
2017	1938278.19	953632.8695	224131	452744.62	1406.38
2018	1803059.21	887105,1313	252903	510864.06	1397.97
2019	2223155.1	1093792,309	256754	518643.08	1612.44
2020	2198137.14	1081483,473	289642	585076.84	1666.56
2021	2556445.6	1257771,235	324554	655599.08	1913.37
2022	3718512.62	1829508,209	427834	864224.68	2693.73
2023	3697149,199	1818997,406	390767	789349.34	2608.35

(tCO₂e) Emission Values of Boğaziçi University Kandilli Campus

Saritepe Campus					
Year	Electricity Consumption (kWh)	Carbon Footprint (kgCo ₂)	Natural Gas Consumption (Sm ³)	Carbon Footprint (kgCo ₂)	Total Carbon Footprint(tonCo ₂)
2016	0	0	469069	947519.38	947.52
2017	1582202,204	778443,4843	483786	977247.72	1755.69
2018	1802338,255	886750,4215	448161	905285.22	1792.04
2019	1430738.85	703923,5142	430288	869181.76	1573.11
2020	1108318.78	545292.8398	291583	588997.66	1134.29
2021	1338034.6	658313.0232	400079	808159.58	1466.47
2022	1825736.27	898262,2448	315425	637158.5	1535.42
2023	1281252.84	630376,3973	218144	440650.88	1071.03

Table 6. Scope 1 and Scope 2 (tCO₂e) Emission Values of Boğaziçi University Saritepe Campus

Hisar Campus					
Year	Electricity Consumption (kWh)	Carbon Footprint (kgCo ₂)	Natural Gas Consumption (Sm ³)	Carbon Footprint (kgCo ₂)	Total Carbon Footprint(tonCo ₂)
2016	-	-	208620	421412.4	421.41
2017	830017.7	408368,7084	123751	249977.02	658.35
2018	820081.21	403479.9553	179297	362179.94	765.66
2019	880245,548	433080,8096	154086	311253.72	744.33
2020	500450.86	246221,8231	87554	176859.08	423.08
2021	525445	258518.94	103252	208569.04	467.09
2022	829113,319	407923,7529	175782	355079.64	763.00
2023	779717,484	383621.0021	128178	258919.56	642.54

(tCO₂e) Emission Values of Boğaziçi University Hisar Campus Campus

Carbon Footprint from University-Wide Personnel Service			
Year	Personal number	Total km/year	Total Carbon Footprint(tonCo₂)
2023	1148	813,020	269.83

Scope 1 (tCO₂e) Emission Values Sourced from Boğaziçi University's Personnel Services

Our university clearly demonstrates its commitment to renewable energy sources to achieve environmental sustainability goals. In this context, serious efforts are being made to provide some of the energy consumption on our campus from renewable sources. The total annual energy produced from renewable energy sources is monitored and reported in detail through the tables presented as part of our report. In this way, it is possible to monitor and evaluate our progress in reducing our institution's environmental impact and supporting sustainability efforts. Table 9 and Table 10 express the total annual energy (kWh equivalent) produced from renewable energy sources within Boğaziçi University .

Electricity Generation from RES Sources			
Year	Electricity Consumption (kWh)	Carbon Footprint (kgCo₂)	Total Carbon Footprint(tonCo₂)
2016	1669370	821330.04	821.33
2017	1410615	694022.58	694.02
2018	1535658	755543.74	755.54
2019	-	-	-
2020	1605211	789763.81	789.76
2021	1605537	789924.20	789.92
2022	1590320	782437.44	782.44
2023	1640827	807286.88	807.29

Emission Gain Values (tCO₂e) from Boğaziçi University's Wind Power Plant (BÜRES)

Electricity Generation from Solar Power Plant			
Year	Electricity Consumption (kWh)	Carbon Footprint (kgCo₂)	Total Carbon Footprint(tonCo₂)
2016	44866.05	22074.10	22.07
2017	34079.00	16766,868	16.77
2018	25335.50	12465,066	12.47
2019	22619.70	11128.8924	11,13
2020	16029.10	7886.32	7.89
2021	15115.98283	7437.06	7.44
2022	11025,46585	5424.53	5.42
2023	6934.94888	3411.99	3.41

Emission Gain Values (tCO₂e) from Boğaziçi University's Solar Power Plant (SPP)

BOĞAZIÇI UNIVERSITY CARBON FOOTPRINT	
Year	Total Carbon Footprint(tonCo₂)
2016	4331.23
2017	12552.16
2018	11703.03
2019	12631.87
2020	9337.66
2021	9686.23
2022	12157.82
2023	10300.32

(Tco₂e) for Reporting Years

These data on carbon dioxide emissions serve as an important resource in assessing the environmental impact of our university. Fluctuations in carbon footprint over the years show that it is under the influence of various factors. In particular, changes in energy consumption, infrastructure investments, and changes in environmental sustainability policies play a role in these fluctuations.

According to the data, a significant increase is observed in 2017, which can be explained by the fact that the data started to be fully collected. Subsequently, a decrease in the carbon footprint was recorded in 2020 and 2021, indicating that certain measures or policy changes are having positive effects.

In particular, the decrease in carbon footprint in 2020 and 2021 can be attributed to the effects of the COVID-19 pandemic . Restrictions and remote working practices during the pandemic have led to a decrease in energy consumption and therefore a decrease in carbon emissions.

of the pandemic , an increase was seen again in 2022 and 2023, and this was considered normal. Our university should continue its determination to reduce its carbon footprint by increasing its sustainability efforts and accelerating steps such as energy efficiency measures and the use of renewable energy. These data provide an important basis for developing more effective strategies to monitor and reduce carbon emissions.