APPENDIX

Annex to the climate chapter

Direct, ie scope 1 emissions

Direct emissions include emissions from equipment under the operational control of Magyar Telekom Group. Changes in the amount of energy carriers used are presented in the Energy Consumption chapter. This year's report is also the first to present the time series of fluorinated greenhouse gases (F-gases) released into the atmosphere.

Magyar Telekom Group Scope 1 emissions (tCO_2e)

Scope 1 emissions	2015	2019	2020	2021	2022	2023
by source						
Natural gas	7 103	3 417	3 144	2 754	2 479	2 061
Diesel oil, heating oil – stationary	1 145	503	574	431	343	431
Fuels (total)	14 748	12 649	9 687	9 739	10 177	10 059
by member company						
F-gases - Magyar Telekom HU	1 767	2 258	2 201	1 655	1 764	1 879
F-gases - Makedonski Telekom A.D.	N.a.	N.a.	N.a.	N.a.	N.a.	202
Magyar Telekom Plc.	19 327	14 119	12 320	11 746	11 507	12 517
Telekom System Integration Ltd. Co.	3 131	3 425	2 102	1 715	2 222	837
Makedonski Telekom A.D.	2 305	1 282	1 184	1 118	1 033	1 279
						14
Total Scope 1 emissions	**24 764**	**18 827**	**15 606**	**14 579**	**14 762**	**632**

In the table, the time series for Makedonski Telekom A.D. is not consistent due to changes in the data source in 2023.

Vehicle fleet

The largest source of direct emissions is motor vehicle fuel use. There are two ways to reduce these emissions: one is to rationalise and reduce the vehicle fleet; the other is to change the composition of the fleet so that the specific emissions of vehicles are reduced. In the case of Magyar Telekom Group, both reduction measures are being implemented.

At Group level, the number of vehicles in the fleet decreased by 4% in 2023 compared to 2022: both the number of benefit cars and the number of vehicles for regular use decreased. Magyar Telekom Plc. has the largest fleet within the Group. Continuing with the green transition of the fleet, the number of hybrid cars increased by 5% compared to the previous year, while the number of diesel and petrol vehicles decreased. This increase also had an impact on consumption figures. Electricity consumption of electric and hybrid cars increased from 81.8 MWh to 132.6 MWh as the fleet grew. Hybrid vehicles continued to be purchased due to the slow development of the charging network.

Fleet composition, Magyar Telekom Group (number of vehicles)

Fleet composition (number of vehicle)	2015	2019	2020	2021	2022	2023
Total	3873	3489	3368	2883	2805	2687
By fuel						
Gas oil	2244	1956	2002	1659	1574	1502
Petrol	1541	1266	1064	838	730	661
Hybrid	85	260	295	381	496	519
Electric	3	7	7	5	5	5
By use						
Benefit car	1423	1587	1417	1217	1226	1148
Regular use	2450	1902	1951	1666	1579	1539

F-gases

Magyar Telekom Group makes every effort to manage the risks associated with equipment containing fluorinated greenhouse gases (F-gases). In the case of leaks or fire extinguishing gases in Hungary, the amount of F-gases released into the atmosphere during operations is recorded in the National Climate Protection Authority's records in each case. The Macedonian State Environmental Protection Inspectorate has similarly high expectations to reduce leakages in North Macedonia.

The processing of the data on the annual amount issued started in 2022 for Magyar Telekom Plc., and in 2023 the full time series data for the whole Magyar Telekom HU was available. For Makedonski Telekom A.D., no historical data are available yet.

Indirect, ie scope 2 emissions

The indirect, i.e. scope 2, emissions were determined in two ways by Magyar Telekom Group based on the GHG Protocol recommendation. The so-called location-based method shows the total actual emissions, i.e. it reflects the emissions during the feed of the energy mix of electricity and district heating into the grid. While market-based calculations reflect how a company, given the options available, can choose to promote the green transition by providing financial support.

Currently, the Group only uses market-based reduction options for electricity consumption. More information on renewable energy procurement can be found in the Energy consumption chapter.

Magyar Telekom Group's Scope 2 emissions (tCO_{2e})

Scope 2 emissions – locally	**2015**	**2019**	**2020**	**2021**	**2022**	**2023**
by source						
Electric power	105 640	79 514	69 162	68 791	68 895	64 564
District heating	2 994	3 380	3 048	3 068	2 838	1 866
by member company						
Magyar Telekom Plc.	79 326	51 901	46 009	46 931	46 512	42 240
Telekom Rendszerintegráció Ltd. Co.	5 341	6 856	6 186	6 209	7 501	6 096
Makedonski Telekom	*23 968*	*24 136*	*20 015*	*18 719*	*17 721*	18 094
Total Scope 2 emissions	**108 634**	**82 894**	**72 210**	**71 859**	**71 733**	**66 430**
Scope 2 emissions – market-based	**2015**	**2019**	**2020**	**2021**	**2022**	**2023**
by source						
Electric power (adjusted by green energy consumption)	36 212	27 516	21 038	6 032	0	0
District heating	2 994	3 380	3 048	3 068	2 838	1 866
by member company						
Magyar Telekom Plc.	9 841	2 794	2 270	2 400	2 034	1 582
Telekom Rendszerintegráció Ltd. Co.	5 398	7 094	6 719	5 300	407	22
Makedonski Telekom A.D.	*23 968*	*21 009*	*15 097*	*1 399*	*397*	262
Total Scope 2 emissions	**39 206**	**30 896**	**24 086**	**9 099**	**2 838**	**1 866**

In the table, the time series for Makedonski Telekom A.D. is not consistent due to changes in the data source in 2023.

Other indirect (scope 3) emissions

Magyar Telekom has started to measure scope 3 emissions in connection with the Science Based Target initiative. The first estimates have evolved and changed over the years as more data became available.

Magyar Telekom's operational figures, GHG Protocol indicators and suppliers' CDP disclosures or publicly available reports were taken into account when determining emissions. The emissions refer only to the operations of Magyar Telekom Plc.

In 2022, the methodology for several categories has been refined (business trips, use of products sold) and more detailed activity data (waste) have allowed more accurate calculations. Also in this year's report, several categories have been recalculated depending on the most accurate data and methodologies available. The largest increase is in categories 1 to 3, as the emissions linked to the whole value chain have been taken into account for acquisitions. This change required the largest suppliers of Magyar Telekom Plc to make their scope 3 emissions public and to continuously improve their calculation methodologies. The table below shows the scope 3 emissions for the base year 2017 and for 2022 and 2023 based on the data currently available.

Magyar Telekom Plc.'s Scope 3 emissions (tCO_{2e})

GHG-emissions (tCO_{2e}) by the following categories	Calculation basis	2017	2022	2023
1. Goods and services procured	procurement values and reported company emissions	72 379*	164 911*	84 683
2. Tangible goods	procurement values and reported company emissions	53 249*	34 605*	29 199
3. Fuel and energy-related activities	procurement values and reported company emissions	17 874*	6 634*	3 945
4. Upstream transport and distribution	products sold, DEFRA specific transport emissions	12 368*	11 529*	10 809
5. Waste	waste volumes produced and domestic/EU specific emissions	3 330	2 043*	1 904
6. Business trips	travel data and EU specific emissions	424*	169*	257
7. Employee commute	internal survey travel patterns and country-specific per-unit emissions	6 832**	713*	712
8. Az upstream leased assets			Not applicable	
9. Downstream transport	km driven by suppliers and specific emissions from DEFRA database	605*	914*	492
10. Processing products sold			Not applicable	
11. Use of products sold	energy used during the life cycle of products sold	37 620*	36 463*	33 250
12. Managing lifecycle end of products sold	products sold	931*	971*	813
13. Assets leased	energy used by CPE devices	59 102*	67 636*	74 173
14. Franchise activity			Not applicable	
15. Investments			Not applicable	
Total		**264 714 ***	**326 588***	**240 238**

* Compared to the previous report, the data have changed due to the update of specific emissions, changes in calculation methodology and the level of detail of the data available.

** In previous reports there was a large overestimation due to miscalculation, which also affected the trend in total scope 3 emissions.

Terminal equipment used by customers but owned by Magyar Telekom

CPE equipment (set top boxes, modems, terminals) is a significant energy consumer, but it is essential for the use of services. Since 2016, Magyar Telekom has been accurately tracking all the devices connected to the network and located at customers' premises, and their performance. Taking into account the user numbers at the end of 2023, the energy consumption of the devices used by our customers in connection with our services was 253.2 GWh of electricity, which caused 74 kilotonnes of CO2e emissions. The specific energy consumption of CPE devices increased by 6% compared to 2022, driven by an increase in time of use. Although the specific energy consumption of CPE devices is still below 2017 levels due to more efficient technology, the one and a half times as many devices in use resulted in a 10% increase in emissions in this category compared to 2017.

Business trips

In 2023, the number of business trips continued to increase compared to previous years, approaching the 2019 level again. In this category, the emissions of air and rail transport were taken into account based on the European Environment Agency's 2021 publication, while for cars the specific emissions of Magyar Telekom Plc's fleet were taken into account. For emissions related to accommodation services, the specific emissions were taken from the database collected by DEFRA.

Telework and employee commute

Magyar Telekom Plc. strongly supported the possibility of teleworking during the epidemic, which has mutual benefits for both employees and employers. Teleworking time increased in 2020 thanks to the pandemic, rising from under 20% to over 50%, and has remained at this level since then. For more information on atypical forms of employment, see Diversity and equal opportunities.

This category was recalculated by Magyar Telekom Plc. in 2023. The previous high figure of 2017 has been corrected based on the number of working days and teleworking days, taking into account the distribution of transport modes. The emission factors are now based on consistent background data: for passenger cars, the specific emissions of company cars are reported, while for public transport, the information was derived from the sustainability report of the Budapest Transport Centre and statistical data. In 2021, based on a very detailed and representative survey, Magyar Telekom Plc. obtained an accurate picture of commuting patterns, which provide an accurate picture of the move to the new headquarters and the period during and after the pandemic. For the period 2020 to 2023, this detailed data set was used to estimate the output. Taking care to avoid duplication, the calculations take into account that emissions from company cars were already included in the scope 1 category.

In the commuting category, energy consumption during teleworking has been included in the scope 3 emissions based on the EcoAct 2020 methodological guidance.

Biological diversity

The construction in the Upper Tisza Natura 2000 area required a statement from the relevant authority before a building permit could be granted. The resolution was issued by the Department of Environment Protection, Nature Protection and Waste Management of the Szabolcs-Szatmár-Bereg County Government Office, subject to the following conditions:

- 5 days prior to the start of the work, consultation with the nature guard is required
- The construction works should not have any negative impact on the surrounding Natura 2000 site
- The strip of land used must be kept to a minimum during the works
- No night work is allowed
- Heavy machinery may only be driven on dry or frozen ground
- Waste generated during construction must be treated in accordance with the law
- Shrub clearence must be carried out outside the nesting season
- Stop work if protected species are observed during construction.

Noise measurements and results

In 2023, 3 noise measurements were carried out at one rural and two Budapest sites. In two cases, action was taken to eliminate the noise impact, in one case the authority did not detect any noise exceedance and no further action was necessary.

Taxonomy eligible and aligned activities

CCM 8.1: Data processing service

Data centres operated by Telekom System Integration Ltd. Co. in 2023 were included in the taxonomic suitability assessment for this activity. Currently, none of the three data centres meet the taxonomy criteria, therefore the revenues from the reported activities are reported as taxonomy eligible activities. Magyar Telekom is striving to achieve this compliance, and taxonomic compliance has been given priority in the future refurbishment programme of its data centres.

Telekom System Integration Ltd. Co's cloud-based services (Instant DC, AzureStackHub) are based on infrastructure as a service model: the customer's IT systems are unified on platforms operated by Telekom System Integration Ltd. Co. Centralising the service in this way not only reduces hardware consumption, but also greenhouse gas emissions thanks to the energy-efficient operation of the data centres. The platform gives businesses the flexibility to purchase computing capacity, memory resources and network resources, among other things. Improved server utilisation and energy-efficient data centre operations can lead to energy savings of up to 20-30%, according to some industry calculations. This scenario is based on the assumption that customers use their own decentralised server infrastructure to store and process data, rather than a cloud-based solution. Since the lifecycle analyses were conducted in Germany and have not yet been adapted to workplace and cloud solutions in Hungary, they are reported as a non-taxonomy-aligned, but taxonomy-eligible activity for the time being.

CCM 8.2: Data-driven solutions for GHG emissions decrease

For this activity, solutions and products that Deutsche Telekom has included in the Enablement Factor and Sustainable Revenue Share ESG KPIs and/or that have been awarded the #GreenMagenta label are included. Within our Group-wide business activities, the following taxonomic services are included:

- Business video conferencing (reducing CO2 emissions from travel)
- Workplace and cloud solutions (increase energy efficiency by improving server utilisation)
- IoT solutions (save CO2 emissions through smart thermometers, for example)

Taxonomy-aligned solutions under economic activity 8.2 account for 0.6% of total sales. The main contributors are business-related video conferencing and cloud-based solutions.

As evidence of taxonomy alignment, a life-cycle analysis is required to show that a solution will deliver significant GHG emission reductions over its entire life-cycle compared to a relevant standard, i.e. reference, solution available on the market.

Based on Deutsche Telekom's analysis, a comparison of face-to-face meetings with business videoconferencing solutions that can be adapted to the taxonomy of the analysis provided evidence of significant GHG reductions. Hybrid meetings reduce greenhouse gas emissions by about 28 percent (small meetings) or 37 percent (large meetings). Given the demonstrated reduction in GHGs, all web conferencing solutions are reported as taxonomy-aligned.

Magyar Telekom does not yet have a lifecycle analysis of IoT services, so they are not yet included among the taxonomy-aligned activities.

CCM 6.15 Infrastructure for low-carbon road transport and collective transport

Magyar Telekom HU is upgrading its charging infrastructure in line with its vehicle fleet, enabling the electric charging of company and service vehicles in line with CCM 6.5 support activities.

CCM 6.5 Transport by motorcycles, passenger cars and light commercial vehicles

Magyar Telekom Group's vehicle fleet includes both company cars and service vehicles. The economic activity of motorcycle, passenger car and light commercial vehicle transport (6.5) is therefore a cross-cutting activity supporting the core activity.

Together, Magyar Telekom HU leased more than 400 vehicles meeting the taxonomic criteria in 2023.

The taxonomy regulation requires from 2024 onwards that, in addition to the activities related to climate change, the scope of activities that can be aligned with the taxonomy must also be reported for the remaining 4 environmental elements - for the time being only. Magyar Telekom HU is involved in promoting circular economy through the following two activities.

CE 5.4 Sale of second-hand goods

In 2023 Magyar Telekom Plc. launched a new product on the market, offering refurbished appliances with A+ premium rating. By increasing the lifetime of the device, the amount of electronic waste can be reduced. The refurbishment of the devices is carried out by a refurbishment centre certified ISO9001, ISO14001, ISO27001, ECOVADIS PLATINUM LABEL, RCUBE MOBILE LABEL.

CE 5.5 Product as a service and other circular use and results-oriented service models

Following the industry standard, Magyar Telekom HU leases a number of CPE devices (set-top boxes, terminal equipment, fixed line equipment, etc.) to its customers and sells leased line products. In the latter case, the IP Complex Plus and IP Sound services have been considered, where the primary purpose of the services is to provide a closed connection between the customer's premises and its headquarters (virtual private network). The equipment providing the termination of the service is owned by Magyar Telekom HU and the service is provided on a monthly fee basis.

				Substantial Contribution Criteria						DNSH criteria ('Does Not Significantly Harm')										
Economic Activities (1)	Code (2)	Absolute turnover (3)	Proportion of Turnover (4)	Climate Change Mitigation (5)	Climate Change Adaptation (6)	Water (7)	Pollution (8)	Circular Economy (9)	Biodiversity and ecosystems (10)	Climate Change Mitigation (11)	Climate Change Adaptation (12)	Water (13)	Pollution (14)	Circular Economy (15)	Biodiversity (16)	Minimum Safeguards (17)	Taxonomy aligned proportion of total turnover, year N (18)	Taxonomy aligned proportion of turnover, year N-1 (19)	Category (enabling activity) (20)	Category (transitional activity) (21)
MAGYAR TELEKOM		*Millions, HUF*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*Y/N*	*Y/N*	*Y/N*	*Y/N*	*Y/N*	*Y/N*	*Y/N*	*%*	*%*	*E*	*T*
A. TAXONOMY-ELIGIBLE ACTIVITIES			**159%**																	
A.1. Environmentally sustainable activities (Taxonomy-aligned)																				
Data-driven solutions for GHG emissions r	CCM 8.2	67	0,01	0,01	0,01	N/A	N/A	0,01	NA	Y	Y	N/A	N/A	Y	NA	Y	0,01	0,02	E	
Turnover of environmentally sustainable activities (Taxonomy-aligned) (A.1)		**67**	**0,01**	**0,01**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	Y	Y	N/A	N/A	Y	NA	Y	**0,01**	**0,02**	**E**	
A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																				
Data processing, hosting and related activ	CCM 8.1	2 576	0,30																	
Data-driven solutions for GHG emissions r	CCM 8.2	5 136	0,60																	
Sale of second-hand goods	CE 5.4	578	0,07																	
Product-as-a-service and other circular us	CE 5.5	5 143	0,61																	
Turnover of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		**7 712**	**1,58**														**1,58**	**0,39**		
Total (A.1+A.2)		**7 779**	**1,59**														**1,59**	**0,41**		
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																				
Turnover of Taxonomy-non-eligible activities		**841 593**	**98,41**																	

				Substantial Contribution Criteria						DNSH criteria ('Does Not Significantly Harm')									
Economic Activities (1)	Code (2)	Absolute CAPEX (3)	Proportion of CAPEX (4)	Climate Change Mitigation (5)	Climate Change Adaptation (6)	Water (7)	Pollution (8)	Circular Economy (9)	Biodiversity and ecosystems (10)	Climate Change Mitigation (11)	Climate Change Adaptation (12)	Water (13)	Pollution (14)	Circular Economy (15)	Biodiversity (16)	Minimum Safeguards (17)	Taxonomy aligned proportion of total CAPEX, year N (18)	Taxonomy aligned proportion of CAPEX, year N-1 (19)	Category (enabling activity) (20)	Category (transitional activity) (21)
MAGYAR TELEKOM		*Millions, HUF*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*Y/N*	*Y/N*	*Y/N*	*Y/N*	*Y/N*	*Y/N*	*Y/N*	*%*	*%*	*E*	*T*
A. TAXONOMY-ELIGIBLE ACTIVITIES			**19%**																	
A.1. Environmentally sustainable activities (Taxonomy-aligned)																				
CAPEX of environmentally sustainable activities (Taxonomy-aligned) (A.1)		**0**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**								**0,00**	**0,00**		
A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																				
Infrastructure enabling low-carbon road transport and public transport	CCM 6.15	196	0,19																	
CAPEX of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		**196**	**0,19**														**0,19**	**0,34**		
Total (A.1+A.2)		**196**	**0,19**														**0,19**	**0,34**		
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																				
CAPEX of Taxonomy-non-eligible activities		**104 918**	**99,81**																	
Total (A+B)		**105 114**	**100,00**																	

				Substantial Contribution Criteria						DNSH criteria ('Does Not Significantly Harm')									
Economic Activities (1)	Code (2)	Absolute OPEX (3)	Proportion of OPEX (4)	Climate Change Mitigation (5)	Climate Change Adaptation (6)	Water (7)	Pollution (8)	Circular Economy (9)	Biodiversity and ecosystems (10)	Climate Change Mitigation (11)	Climate Change Adaptation (12)	Water (13)	Pollution (14)	Circular Economy (15)	Biodiversity (16)	Minimum Safeguards (17)	Taxonomy aligned proportion of total OPEX, year N (18)	Taxonomy aligned proportion of OPEX, year N-1 (19)	Category (enabling activity) (20)	Category (transitional activity) (21)
MAGYAR TELEKOM		*Millions, HUF*	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*Y/N*	*Y/N*	*Y/N*	*Y/N*	*Y/N*	*Y/N*	*Y/N*	*%*	*%*	*E*	*T*
A. TAXONOMY-ELIGIBLE ACTIVITIES			**0,16**																	
A.1. Environmentally sustainable activities (Taxonomy-aligned)																				
Data-driven solutions for GHG emissions reductions	CCM 8.2	0	0,00	0,00	0,00	0,00	0,00	0,00	0,00								0,00	0,01	E	
Transport by motorbikes, passenger cars and light commercial vehicles	CCM 6.5	331	0,16	0,16	0,16	NA	0,16	0,16	NA	Y	Y	NA	Y	Y	Y	NA	0,16	0,16		T
OPEX of environmentally sustainable activities (Taxonomy-aligned) (A.1)		**331**	**0,16**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	Y	Y	NA	Y	Y	Y	NA	**0,16**	**0,17**		
A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																				
OPEX of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		**0**	**0,00**														**0,00**	**0,39**		
Total (A.1+A.2)		**331**	**0,16**														**0,16**	**0,56**		
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																				
OPEX of Taxonomy-non-eligible activities		**205 558**	**99,84**																	
Total (A+B)		**205 889**	**100,00**																	