



# 7. CLIMATE AND ENVIRONMENTAL PROTECTION



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The key strategic objective of the Group is to reduce its CO<sub>2</sub>-emissions by 20% by 2015 compared to the 2004 benchmark level.

Magyar Telekom Group, although not directly responsible for significant environmental emissions, realizes its role and potential within the information society, and thus contributes to the decrease of negative environmental impacts in its region by performing activities in a regulated and controlled way, fulfilling environmental requirements and complying with international and local standards. In addition, the Group also allows its customers to decrease their environmental footprint and places an emphasis on environmental awareness. Through the provision of ICT (info-communications technology) services the Group can further contribute to savings on travel, energy and fuel, thus reducing CO<sub>2</sub>-emissions.

Issues have been put into three categories based on an assessment of importance, considering the direct and indirect effects of the activity, the seriousness, their positive or negative nature, the expectations of stakeholders (including sustainability analysts), environmental policy, and climate strategy:

- The most important topics/effects: climate protection (CO<sub>2</sub>-emissions) and energy efficiency, waste management, products and services, supplier management;

- According to our evaluation and from the point of view of our performance, areas of lesser importance: paper consumption, transportation;
- Aspects with low importance: biodiversity, water consumption, use of other materials.

The most important topics are described in more detail in the report. For those aspects that are not so essential, but are significant to Magyar Telekom Group we presented some examples.

Magyar Telekom Group's Sustainability Strategy will be implemented through tasks concerning 22 topics, based on 5 key priorities. The most important is in the area of environmental protection: climate strategy to reduce CO<sub>2</sub>-emissions.

Further, highlighted environmental objectives: increasing the share of sustainable services and products; keeping our customers informed; increasing social and environmental R+D; and development of controlled and sustainable supply chain management. (Results in these areas are included in the relevant chapters of this report.)

Based on the Business Continuity Management System (BCM) that was launched in 2013, we identified the critical climate risks (floods, heatwaves) and made plans for them. The yearly measure of the climate damage in the networks did not reach the level for taking action (monthly 50 million HUF).

The environmental and operational efficiency targets in our strategy:

- Energy consumption: saving energy (reduce consumption), increasing energy efficiency levels, using green energy.
- Resource management (in terms of company and customers): reduction of paper consumption (e-billing), increased use of recycled paper, popularization of solutions to replace travel, and dematerialization (mobile wallet, cloud VPN).
- Waste management: reduction of waste (increased recycling-rate).



In connection with the above-mentioned objectives and environmental (positive/negative) impacts related to Magyar Telekom Plc., we would like to highlight the introduction of two dematerialization solutions (the m-wallet and the hello holnap! mobile app) as well as our winning of the Cycle Friendly Employer Award.



In 2014 the central theme of our sustainability initiatives was energy use.

- During the 7th Sustainability Day event the environment section discussion was about energy dependence.
- Magyar Telekom organized the Sustainability Roundtable Discussion for the 15th time, the objective of which is to have an open dialogue with our stakeholders. We presented the DELFIN (the word for dolphin in Hungarian) Award to, among others, organizations and businesses promoting energy-efficient heating systems with less environmental impact and environment-friendly transportation (TeleBike program).
- In March 2014 Magyar Telekom and Crnogorski Telekom, as in previous years, participated in the Earth Hour and Earth Day global campaigns. The company invited customers to support the campaign and raise awareness of the importance of environmental protection.



T-Systems Hungary started the 'Green blog' in late March, which aims to personalize topics about the environment and sustainable development in order to show us what we can do individually to protect our environment (e.g. in the field of energy consumption).



We launched the hello holnap! mobile app on 27 September 2014, by which we draw attention to Magyar Telekom's sustainability efforts in particular and sustainable lifestyles in general. By using the app, users can collect hello holnap! points and donate them, converted into real money by Magyar Telekom, to non-governmental organizations of their choice. In the area of environmental protection, users can earn points by activities such as handing in used electronic equipment, shopping without bags or by using hello holnap! equipment, e-billing and carpooling, among others. The main results in numbers: 4000 users, 6000 collected points, 6 supported partners.



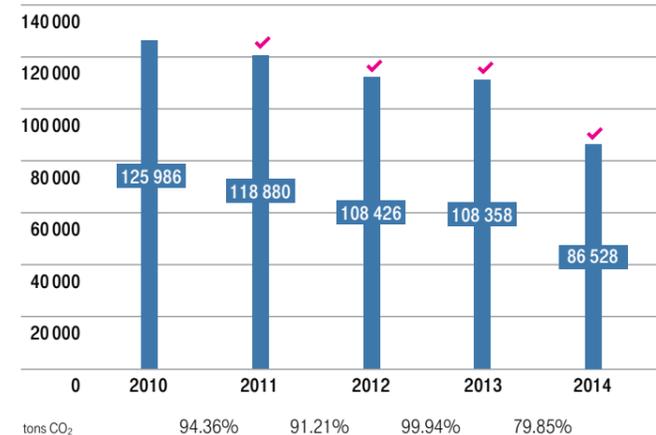
hello holnap! mobile application

## 7.1. CLIMATE PROTECTION AND ENERGY EFFICIENCY

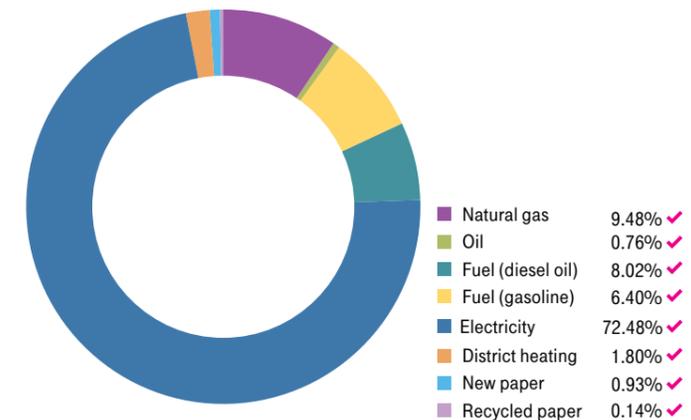
To present the quantitative greenhouse gas emissions of Magyar Telekom Group's activities we use a carbon dioxide index. (We do not measure greenhouse gases separately; we do not have biogenic CO<sub>2</sub>-emissions.)

The details of Magyar Telekom Group's CO<sub>2</sub>-emissions are given in the following table. The CO<sub>2</sub>-conversion factors were determined on the basis of the 2007 recommendations of the International Energy Agency Data Services (electricity), the UNEP guidelines (heating oil, fuel oil, natural gas) and by the data provided by a prominent Hungarian paper factory.

### AGGREGATED CO<sub>2</sub>-IMPACT MAGYAR TELEKOM GROUP



### SHARE OF CO<sub>2</sub>-IMPACT, 2014



Magyar Telekom's installed equipment already does not contain SF6 and NF3 gas. More than 1600 cooling systems of telecommunications equipment have fluorine gas, with an average CO<sub>2</sub>-equivalent of 1.94 tons. (Filling the air conditioners: R407C, R22, R410A, R437a, R417A; R22 substitution is pending.) A leakage of 1% would cause a leak of 300 tonnes of CO<sub>2</sub>, which would be 0.3% of the total CO<sub>2</sub>-emissions. Because of Inspections carried out in accordance with the regulations there was no leakage in 2014.

#### 7.1.1. Climate protection results

Taking the purchase of green energy and carbon offset into account, Magyar Telekom Group's total CO<sub>2</sub>-emissions decreased significantly, by 20.15% compared to the previous year.

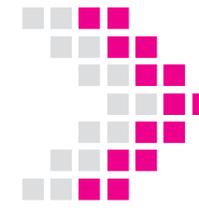
The result was achieved in large part due to the reduction of energy consumption, which makes up more than 75% of the total emissions. The CO<sub>2</sub>-emissions from direct and indirect energy consumption decreased by 7.32% from paper consumption by nearly 10%.

Crnogorski Telekom was very effective in fighting climate change by, among other things, reducing carbon-dioxide-emissions in the operational area by saving 807.77 MWh of energy.

**MAGYAR TELEKOM GROUP'S TOTAL CO<sub>2</sub>-EMISSIONS**

| CO <sub>2</sub> -IMPACT (tCO <sub>2</sub> )  | 2010           | 2011             | 2012             | 2013             | 2014             |
|--|----------------|------------------|------------------|------------------|------------------|
| <b>Direct energy consumption</b>   |                |                  |                  |                  |                  |
| Natural gas  | 15 372         | 16 051 ✓         | 10 922 ✓         | 11 400 ✓         | 9 824 ✓          |
| Oil  | 2 702          | 2 604 ✓          | 3 001 ✓          | 2 600 ✓          | 783 ✓            |
| Fuel (diesel oil)  | 8 777          | 8 853 ✓          | 8 315 ✓          | 8 217 ✓          | 8 317 ✓          |
| Fuel (petrol)  | 6 745          | 6 669 ✓          | 6 359 ✓          | 6 436 ✓          | 6 631 ✓          |
| Fuel (total)   | 15 521         | 15 522 ✓         | 14 673 ✓         | 14 653 ✓         | 14 949 ✓         |
| <b>CO<sub>2</sub>-emissions from direct energy consumption</b>   | <b>33 596</b>  | <b>34 177 ✓</b>  | <b>28 596 ✓</b>  | <b>28 653 ✓</b>  | <b>25 556 ✓</b>  |
| <b>Indirect energy consumption</b>   |                |                  |                  |                  |                  |
| Electricity  | 99 849         | 98 517 ✓         | 94 483 ✓         | 91 361 ✓         | 86 655 ✓         |
| Electricity (adjusted for renewable energy consumption)  | 87 995         | 81 136 ✓         | 76 255 ✓         | 79 845 ✓         | 75 139 ✓         |
| District heating   | 2 475          | 2 367 ✓          | 1 957 ✓          | 2 156 ✓          | 1 863 ✓          |
| <b>CO<sub>2</sub>-emissions from indirect energy consumption (adjusted for renewable energy consumption)</b> | <b>90 469</b>  | <b>83 503 ✓</b>  | <b>78 212 ✓</b>  | <b>82 001 ✓</b>  | <b>77 001 ✓</b>  |
| <b>Total energy consumption</b>  |                |                  |                  |                  |                  |
| <b>CO<sub>2</sub>-emissions from total energy consumption (adjusted for renewable energy consumption)</b>    | <b>124 065</b> | <b>117 680 ✓</b> | <b>106 808 ✓</b> | <b>110 654 ✓</b> | <b>102 557 ✓</b> |
| <b>CO<sub>2</sub>-emissions from paper consumption</b>   |                |                  |                  |                  |                  |
| New paper  | 1 815          | 1 038 ✓          | 1 455 ✓          | 1 078 ✓          | 961 ✓            |
| Recycled paper   | 106            | 162 ✓            | 162 ✓            | 146 ✓            | 144 ✓            |
| <b>CO<sub>2</sub>-emissions from total paper consumption</b>   | <b>1 920</b>   | <b>1 200 ✓</b>   | <b>1 618 ✓</b>   | <b>1 223 ✓</b>   | <b>1 106 ✓</b>   |
| <b>Cumulative CO<sub>2</sub>-emissions</b>   |                |                  |                  |                  |                  |
| CO <sub>2</sub> -emissions from total energy consumption (adjusted for renewable energy consumption)         | 124 065        | 117 680 ✓        | 106 808 ✓        | 110 654 ✓        | 102 557 ✓        |
| CO <sub>2</sub> -emissions from total paper consumption  | 1 920          | 1 200 ✓          | 1 618 ✓          | 1 223 ✓          | 1 106 ✓          |
| <b>CO<sub>2</sub>-emissions eliminated by Carbon offset project</b>  |                |                  |                  | <b>-3 520 ✓</b>  | <b>-17 135 ✓</b> |
| <b>Cumulative CO<sub>2</sub>-emissions (adjusted for renewable energy consumption and carbon offset)</b>     | <b>125 986</b> | <b>118 880 ✓</b> | <b>108 426 ✓</b> | <b>108 358 ✓</b> | <b>86 528 ✓</b>  |

**7.1.2. Energy efficiency**



In 2014 Magyar Telekom Plc.'s energy efficiency indicator was 35.76 Gbit/kWh ✓, which means that the transfer of data and information was 20% ✓ more efficient than in the preceding year. Considering the results, the company's top management decided on a more ambitious objective: 48 Gbit/kWh for 2015

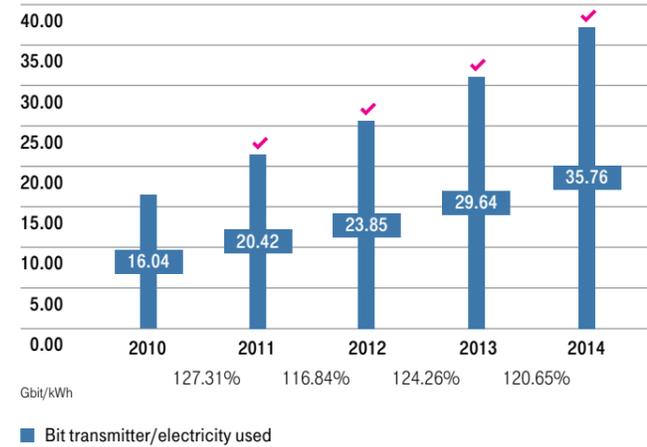
We apply energy intensity indicators to show the change in two factors that amount to the largest proportion of our CO<sub>2</sub>-emissions: the network of electricity use and fuel consumption of motor vehicles. The effectiveness of the energy consumption of Magyar Telekom Plc.'s operation is characterized by the Gbit/kWh (forwarded bits/electricity consumption) energy

efficiency indicator. The indicator shows that as the quantity of forwarded information grows the energy consumption proportionally reduces (i.e. we transfer more information with less energy). The fuel consumption efficiency is characterized by car pool average CO<sub>2</sub>-emissions in g/km. We would like to increase the first and reduce the second indicators.

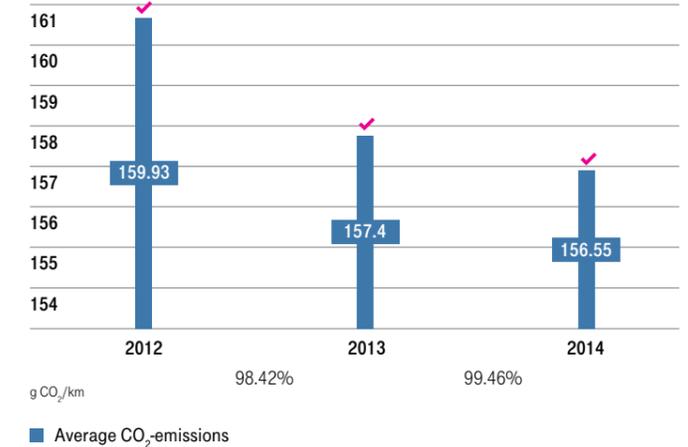


The average CO<sub>2</sub>-emissions of Magyar Telekom's car pool decreased from 157.4 to 156.55 g CO<sub>2</sub>/km ✓.

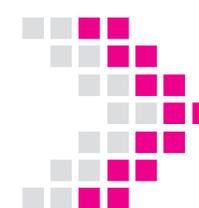
**BIT TRANSMITTED /ELECTRICITY USED MAGYAR TELEKOM PLC.**



**THE AVERAGE CO<sub>2</sub>-EMISSIONS OF CAR POOL MAGYAR TELEKOM PLC.**



**7.1.3. Use of renewable energy**



In 2013 Magyar Telekom bought 34 GWh ✓ of electrical power generated by renewable energy sources, which is 16% ✓ of the company's total electricity consumption. The 5-year strategy sets forth the objective of sustaining a green energy consumption level of at least 46 GWh per year.

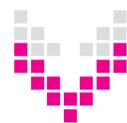
### 7.1.4. Carbon offset

We spent 50% of the amount collected as malus payment (20 479 470 HUF in 2014) by users of personal use cars with emissions above the reference values on decreasing our CO<sub>2</sub> footprint: in 2014 we offset 2850 tonnes of carbon-dioxide and planted nearly 100 trees

at 3 sites in Budapest with the help of Fókert. In 2014 T-Systems Hungary compensated for the total CO<sub>2</sub>-emissions generated by the energy consumption of itself and its data park by purchasing Kyoto units, thus relieving the environment of 14 285 tons of CO<sub>2</sub>.



Trees being planted at Szent Gellért rakpart



**Carbon-neutral T-Systems Hungary**  
The annual CO<sub>2</sub>-emissions, based on internationally accepted methodology, was neutralized by purchasing Kyoto units—announced T-Systems Hungary at Symposium. T-Systems Hungary has a total annual output of 14 285 tons of carbon-dioxide, including emissions from the company's total energy consumption

in data centres as well. This amount corresponds to nearly seven thousand cars, or the annual emissions of 1000 households. With the purchase of Kyoto units (CERs) the company has sponsored a climate protection project that actively contributes to the achievement of the overall objective of providing a greener and more sustainable future for us all.

### 7.1.5. Equipment in customers' premises

Our customers generate significant energy consumption by operating our CPEs, but they are essential for using our services. We identified three major areas where the energy consumption is significant: the use of mobile phones, TV services, internet services. Because we have no information about what kind of mobile phones they are using, we made our calculation based on an average smartphone's energy consumption (1 kWh/year); for TV services we used an average

TV modem (87 kWh/year); and we took an average router (58.2 kWh/year) for internet services. For the calculation we used the number of subscriptions, thus the CPEs' energy consumption worked out as 140.3 GWh, which is equivalent to 47 507 tons of CO<sub>2</sub>.

Magyar Telekom-related emissions by suppliers have not been monitored. The monitoring of our suppliers' Magyar Telekom-related emissions will be included in the sustainable supply chain management process within their sustainability evaluation on energy use and emissions.

|                                  | number of customers | consumption/year (kWh) | total consumption/year (kWh) | CO <sub>2</sub> -emissions (tons) |
|----------------------------------|---------------------|------------------------|------------------------------|-----------------------------------|
| <b>Magyar Telekom Plc.</b>       |                     |                        |                              |                                   |
| Mobile subscriptions             | 4 964 255           | 1                      | 4 964 255                    | 1 681                             |
| Broadband subscriptions          | 921 809             | 58,2                   | 53 649 284                   | 18 171                            |
| TV subscriptions                 | 924 628             | 87                     | 80 442 636                   | 27 246                            |
| <b>T-Systems Hungary</b>         |                     |                        |                              |                                   |
| Mobile subscriptions             | 514 085             | 1                      | 514 085                      | 174                               |
| Broadband subscriptions          | 11 887              | 58,2                   | 691 823                      | 234                               |
| <b>Hungarian services total:</b> |                     |                        | <b>140 262 083</b>           | <b>47 507</b>                     |

## 7.2. RESOURCES MANAGEMENT

### 7.2.1. Electricity consumption

Magyar Telekom continued its energy savings initiatives in 2014 too, including a cross-ventilation method used for cooling large technological rooms and remote facilities. This resulted in a decrease in the use of air-conditioning equipment and electricity consumption, leading to a massive saving (1 336 400 EUR). This cross-ventilation method was also implemented in the PSTN (public switched telephone network) replacement project, which started on 15 April 2014 with a 3-year time frame. In harmony with Magyar Telekom strategy, more than 1 million

customers with PSTN/ISDN will be switched onto the IP-based network. The use of modern, low-consumption devices will result in energy savings of 300 000 000 kWh in 10 years – this volume corresponds to the yearly energy consumption of 100 000 households – and through this we can achieve 100 000 tons less CO<sub>2</sub>-emissions. In 2014 we switched off 14 exchanges.

Our strategic program aimed at the consolidation of IT equipment rooms has come to a conclusion: the IT equipment portfolio operating at 7 Budapest locations was consolidated to 3 sites. This means a significant cost reduction, while the machines have been transferred to a higher quality and more reliable environment.

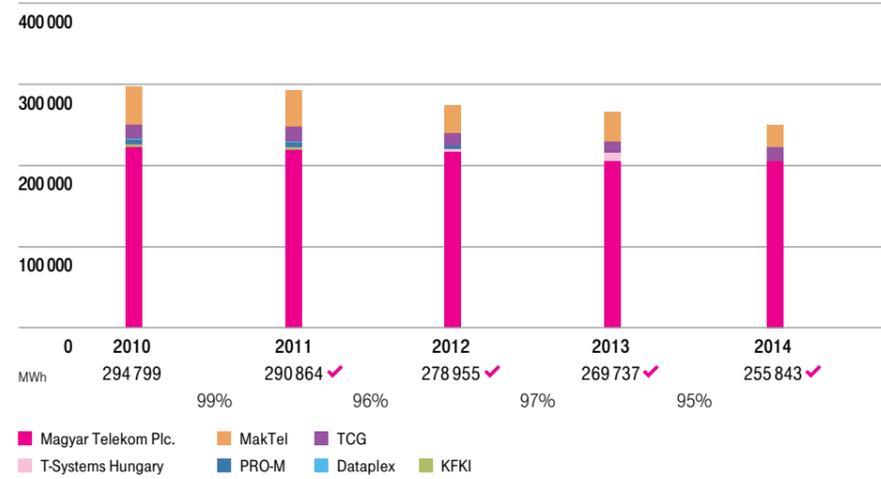


Within the framework of the network modernisation project the entire 2G and 3G radio network will be exchanged in 2015 too. The deployment of the new devices will result in a more environmentally-conscious use of energy, since with the use of these devices the consumption of our network is reduced to nearly half of the consumption in the previous period.

Crnogorski Telekom's energy efficiency improvement in 2014: optimisation of PSU rectifiers and technology spaces, modernisation of air conditioners, reduction of heaters in heating system, increasing the operating temperature in Data Center by 10C.

Magyar Telekom Plc. sells electricity produced by gas engines at its Krisztina krt site to the ELMŰ electricity network (the amount is approximately 40-50 thousand kWh per month). It annually produces about 600 MWh, which is 0.28% of the total energy consumption.

### ELECTRICITY CONSUMPTION MAGYAR TELEKOM GROUP



### Energy-use reduction and dematerialization solutions

By offering cloud services to customers the use of local resources has been reduced, which means we have achieved energy and equipment savings. Magyar Telekom's server virtualization caused hardware liquidation. The IT virtual desktop environment that was introduced in the call center has made the use of high-value computers unnecessary, thus saving energy.



In 2014 the Data Centre finished its investment cycle of 3 years, where in the final year the water cooler system was replaced. As a result of these development steps, the Data Centre was able to save 5.074 million kWh in 2014, which is approximately the consumption of 2400 households. Based on the operational efficiency of the Data Center, T-Systems

Hungary LLC continually received the prize of Energy Efficient Company in the Virtual Power Station Program in 2015.

<http://www.t-systems.hu/megoldasok/infrastruktura/adatkozpont-budapest/energiatudatos-vallalat>



Nissan Leaf at the Sustainability Day

### 7.2.2. Fleet management, fuel consumption

On a group level the number of vehicles in the fleet was reduced by 3.28% ✓, with the balance of vehicles shifting further towards service vehicles. The fleet's combination did not change significantly regarding fuel type; the number of hybrid cars increased, the number of electric cars (3) did not change.

### NUMBER OF VEHICLES BY FUEL AND USAGE TYPE AT MAGYAR TELEKOM GROUP

|                          | 2013           | 2014           | change         |
|--------------------------|----------------|----------------|----------------|
| <b>Total</b>             | <b>4 061 ✓</b> | <b>3 928 ✓</b> | <b>-3.28%</b>  |
| Diesel                   | 2 369 ✓        | 2 261 ✓        | -4.56%         |
| Petrol                   | 1 600 ✓        | 1 572 ✓        | -1.75%         |
| Hybrid                   | 89 ✓           | 92 ✓           | +3.37%         |
| Electric                 | 3 ✓            | 3 ✓            | 0.00%          |
| <b>Personal use</b>      | <b>1 636 ✓</b> | <b>1 428 ✓</b> | <b>-12.71%</b> |
|                          | 40.29%         | 36.35%         | -9.76%         |
| <b>Service operation</b> | <b>2 425 ✓</b> | <b>2 500 ✓</b> | <b>+3.09%</b>  |
|                          | 59.71%         | 63.65%         | +6.58%         |



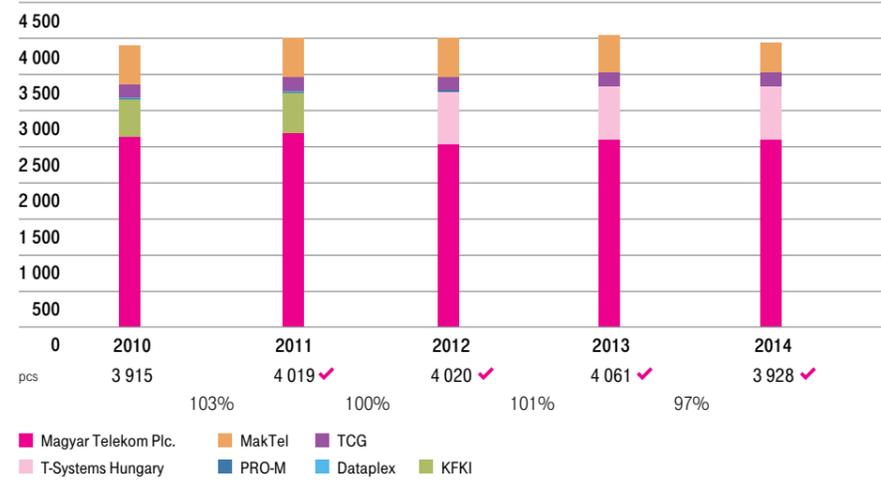
We are working on the implementation of a quality monitoring system, PPM (Proactive Performance Management) at Magyar Telekom Plc. This will allow us to reduce the number of on-site repair works with more targeted and centralized fault localization, thus reducing vehicle usage.

Fuel consumption increased by 2% ✓, but the average fuel consumption of vehicles decreased ✓ and returned to the 2011 level. The increased fuel consumption was caused by an increase in the mileage of the vehicles, including an increase of 6% for service operation vehicles (which are highly dependent on projects and services). Therefore, it is important

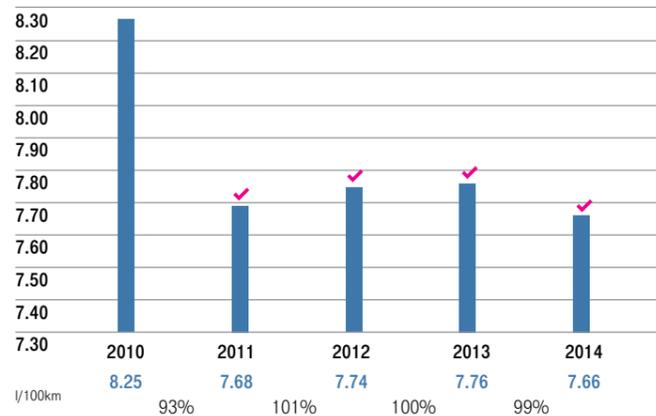
to develop all travel replacement solutions.

Electric car consumption increased from 1.19 MWh to 2.63 MWh was caused by an increase in the mileage of the vehicles from 8859 km to 15 459 km. (Personal use is more significant due to the fact that the nationwide refill station network is still incomplete.)

### TOTAL NUMBER OF VEHICLES MAGYAR TELEKOM GROUP

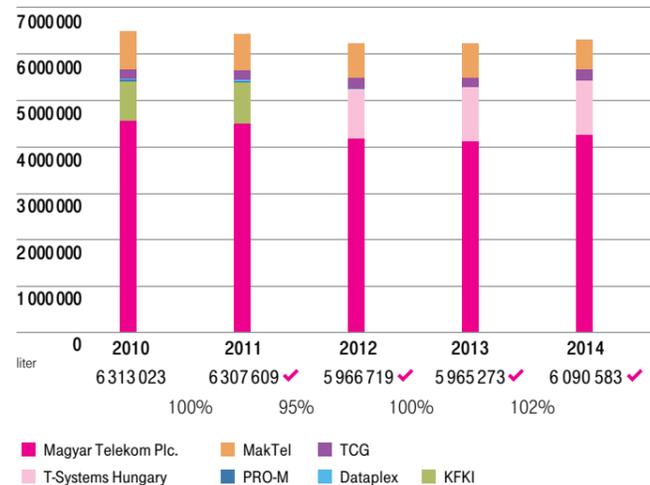


### OVERALL AVERAGE FUEL CONSUMPTION MAGYAR TELEKOM GROUP

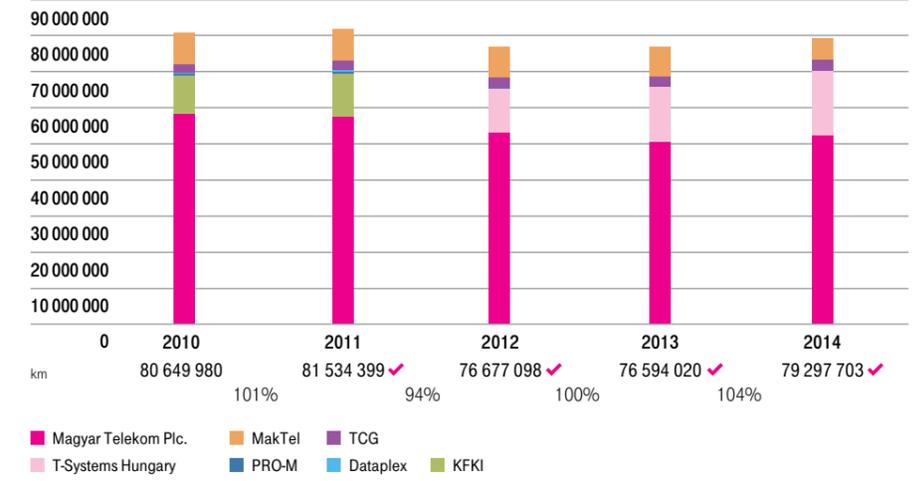


■ overall average fuel consumption of vehicles

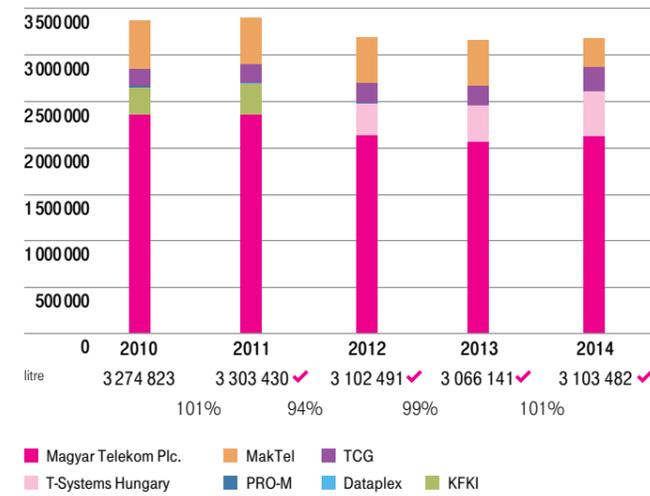
### TOTAL FUEL CONSUMPTION OF VEHICLES MAGYAR TELEKOM GROUP



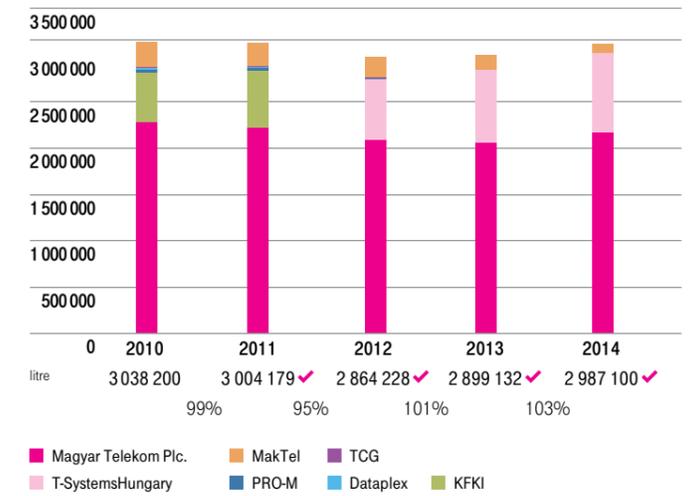
### MILEAGE OF VEHICLES MAGYAR TELEKOM GROUP



### FUEL CONSUMPTION OF VEHICLES (DIESEL) MAGYAR TELEKOM GROUP



### FUEL CONSUMPTION OF VEHICLES (PETROL) MAGYAR TELEKOM GROUP



**Solutions to replace travel**

Regarding business trips, mileage decreased by 3% from 6 169 593 km to 5 982 689 km. The most significant change was with regard to flights.

**TelePresence video conferences**

Utilization in 2014 was at the same level as 2012, but it was still 60% higher than that in the base year (2010). Overall, a decrease was observed

compared to 2013: the number of video conferences decreased from 2560 ✓ to 1744 ✓. However, the saving of car road kilometres increased because more local travel was replaced by video conferences due to organizational changes.

Savings on fuel by replacement of car transport: diesel fuel: 45 995 ✓ liters, petrol: 36 302 ✓ liters.

In 2014 TeleBike offered 53 bikes, and 6 new electric bikes were also added to the fleet. Employees could commute between the offices of the company located within the Budapest city limits and the six T-Systems Hungary sites. Some figures for 2014: 1633 registered users; 17 333 rentals (daily average more than 100); 27 000 km; 5000 kg of CO<sub>2</sub>-emissions prevented.

**Teleworking**

Magyar Telekom has supported teleworking for years as it is beneficial for both employee and employer. We started surveying our employees' commuting habits (based on a small sample, but for a large office building in a good location in terms of public transport): approximately 31% choose to come to work by car, with 84 kilometres the daily average. Considering this result, teleworking has a significant role to play in replacing travel.

which has been further extended compared to 2013. Magyar Telekom developed the concept, operated the registration system and developed the safety solution for the bikes, while also paying attention to the innovative, environmentally friendly nature of the installation: for example, the terminals used for rental are operated with solar cells.

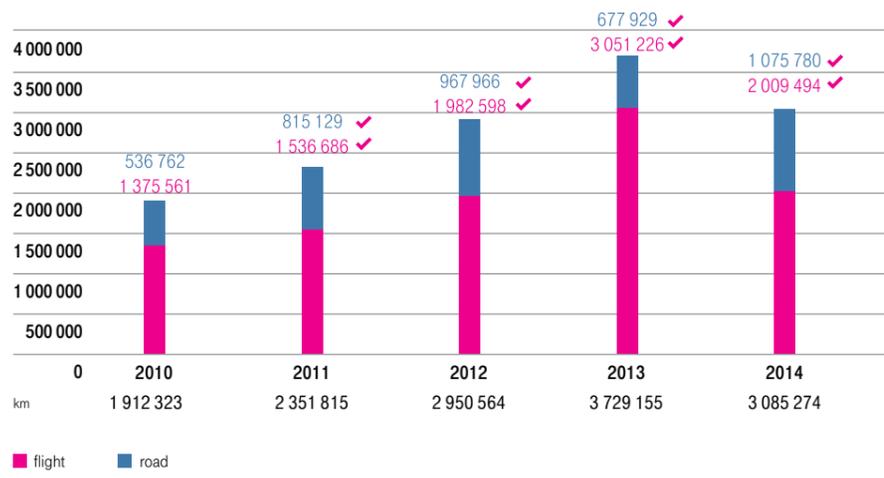
**Bicycle courier service**

Since 2012 Magyar Telekom has been sending some of its consignments by bicycle courier service. Use has increased year on year and is now triple the 2012 level, with more than 3600 km of car transport replaced and 0.62 tons of CO<sub>2</sub>-emissions prevented.

**TeleBike**

In the spring of 2014 we relaunched TeleBike, Magyar Telekom's employee bike-rental system,

**TRAVEL REPLACED BY VIDEO CONFERENCES  
MAGYAR TELEKOM GROUP**



Magyar Telekom Group emphasises the popularization of greener or replaced travel solutions, for both employees and customers.

T-Systems Hungary encourages commuting to work by bicycle and provides bicycle storage in a guarded car park.

Thanks to a donation from Crnogorski Telekom, 18 bike racks have been installed in Podgorica and a mass cycling event was organized to promote cycling.

**7.2.3. Fossil fuel consumption**

At Magyar Telekom initiatives aimed at replacing furnaces and modernizing heating systems, as well as using the residual heat generated in machine rooms for heating, also continued.

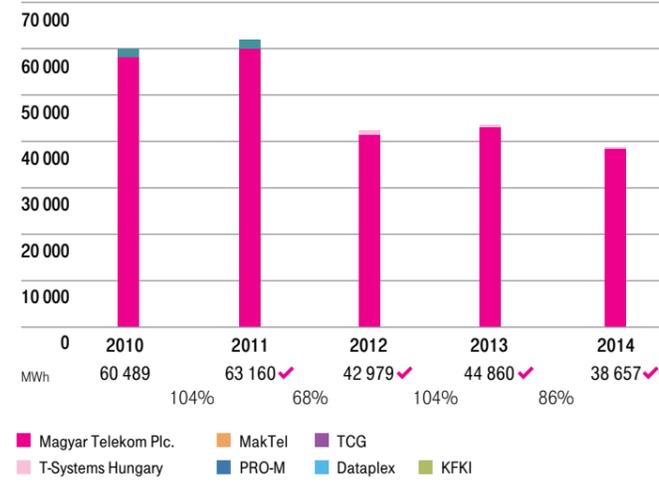
Diesel fuel consumption decreased due to the more stable electricity supply in 2014.

MakTel completely eliminated ✓ the use of fuel oil.

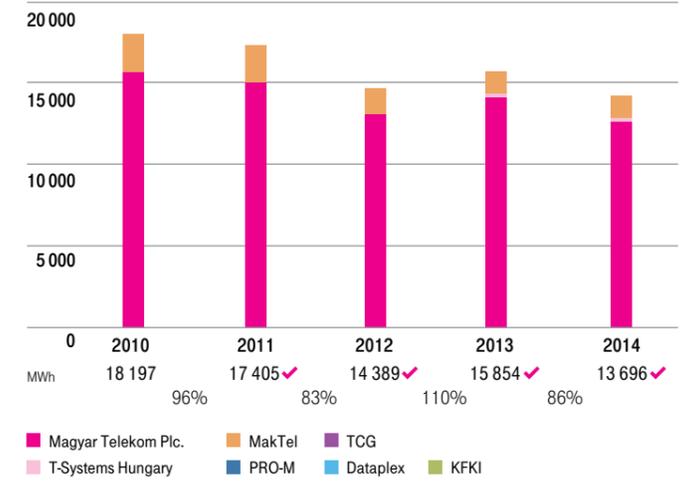
**7.2.4. District heating**

The consumption of MakTel decreased by 29% ✓ due to space optimisation and heating supply optimisation by the heating supplier, while at Magyar Telekom Plc. district heating decreased by 11.3% ✓ thanks to the reconstruction of the heating systems.

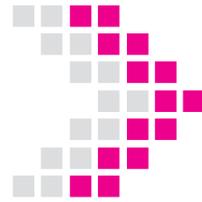
**GAS CONSUMPTION  
MAGYAR TELEKOM GROUP**



**DISTRICT HEATING CONSUMPTION  
MAGYAR TELEKOM GROUP**



### 7.2.5. Paper consumption

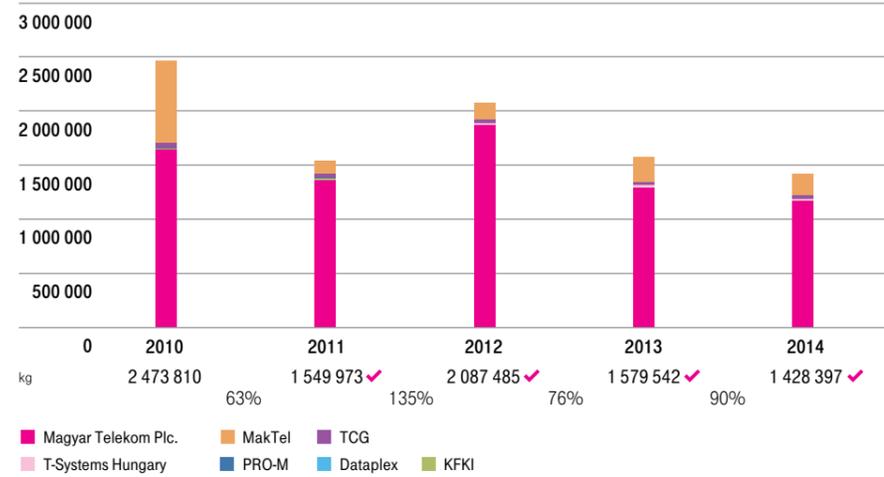


Magyar Telekom Group reduced paper consumption further by nearly 10% ✓, continuing the trend that has been observed for many years. The proportion of recycled paper increased by 1% ✓.

Due to improvements in the reduction of paper consumption, the proportion of PR and marketing material by weight ratio significantly decreased. The paper used for printing bills has the highest proportion and this slightly increased, but the e-billing ratio also increased (relative to the total number of invoices issued) from 11% to 16%.

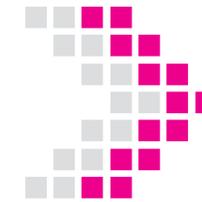
We report on paper usage not to reflect on its use, but rather to complete the determination of CO<sub>2</sub>-emissions. We make an effort in accordance with DT expectations to more accurately calculate the carbon dioxide emissions resulting from the use of our products and services.

#### TOTAL PAPER CONSUMPTION MAGYAR TELEKOM GROUP



#### PAPER CONSUMPTION OF MAGYAR TELEKOM GROUP [KG]

|  | 2013        | 2014        | change  |
|--|-------------|-------------|---------|
| <b>Total paper consumption</b>         | 1 579 542 ✓ | 1 428 397 ✓ | 9.57%   |
| Packaging paper                        | 128 114 ✓   | 175 479 ✓   | 36.97%  |
| Office paper                           | 544 134 ✓   | 481 009 ✓   | -11.60% |
| Paper used for bills                   | 653 966 ✓   | 662 409 ✓   | 1.29%   |
| PR and marketing material              | 253 328 ✓   | 109 500 ✓   | -56.78% |
| <b>Recycled paper within the total</b> | 194 056 ✓   | 192 456 ✓   | -0.82%  |



The Group issued 27% ✓ more e-bills to its customers in 2014 than in 2013.

#### E-billing

At Crnogorski Telekom, at the end of 2014 total e-bill penetration (residential and business) was 34.5%, compared to 26.5% in 2013. In Q3 of 2014 a newly-created e-business unit (commercial division-consumer segment) took over the e-billing initiative. They continued with the previous actions for acquiring new e-bill customers (phonecalls, broadcasts), but also focused more on target groups and advertising.

At the end of 2014 the number of electronic bills issued for Makedonski Telekom was 17 089 e-bills (8.65 % of all the bills issued), and for T-Mobile Macedonia it was 38 103 e-bills (18.08% of all the bills issued). During 2014 Makedonski Telekom and T-Mobile Macedonia launched a new product from the mobile wallet service portfolio.

Thanks to various campaigns Hungarian companies also achieved outstanding growth.

#### Office paper consumption

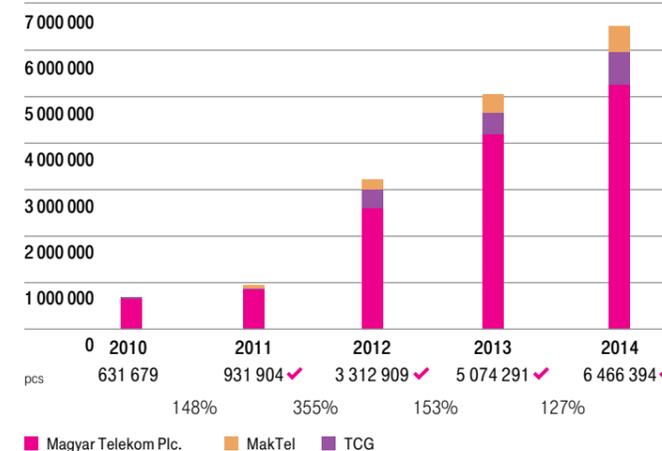
Group-wide use of office paper decreased by 12% because of automation, the expansion of the 'paperless' office and the printer consolidation process.

In 2014 MakTel automated 6 processes, while the refreshed trainee program of Magyar Telekom became completely paperless (electronic).

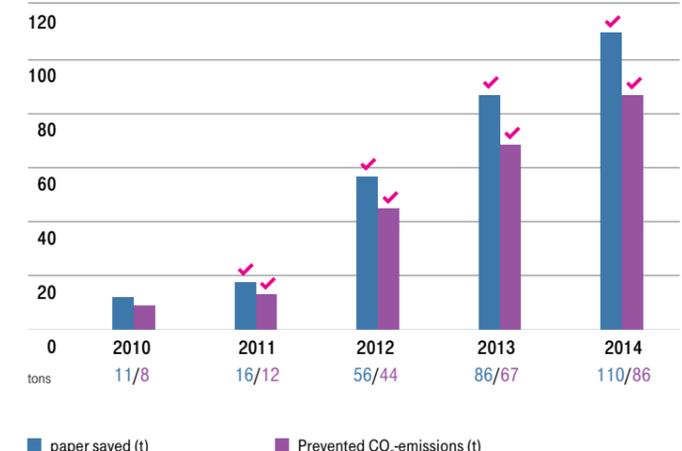
T-Systems Hungary sent invitations to events via e-mail instead of paper. During the events we minimized the amount of paper brochures and leaflets by using digital displays to show the expertise of our company, and we encouraged the participants to visit our webpage. E-reception was in place for the whole year in 2014, giving these figures:

- 9 685 online registered visitors – approximately 323 sheets of paper saved
- 10 179 online internal post records (logins) – approximately 340 sheets of paper saved

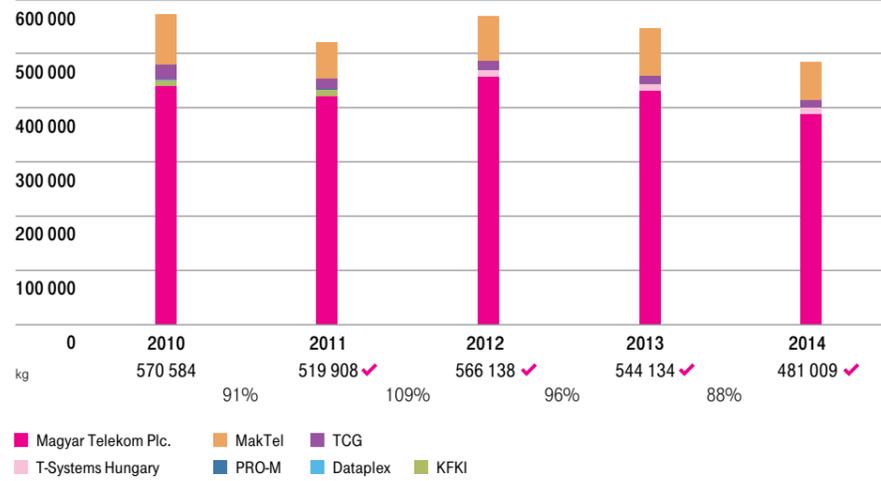
#### ELECTRONIC BILLS (PIECES) MAGYAR TELEKOM GROUP



#### PAPER SAVED AND CO<sub>2</sub>-EMISSIONS PREVENTED BY ELECTRONIC BILLS MAGYAR TELEKOM GROUP



### OFFICE PAPER USED BY EMPLOYEES MAGYAR TELEKOM GROUP



The paper used in offices has the EU Ecolabel, with PEFC and green range certification.

The amount of **paper used for packaging** continued to grow, but this is the area we can influence the least because it greatly depends on the projects and the sales portfolio.

#### 7.2.6. Biodiversity

Magyar Telekom Plc.'s developments do not require such impact studies (EIA). Magyar Telekom strives to avoid development in nature reserves or Nature 2000 territories, as they make projects significantly lengthier (time of authorization procedure) and more costly. As the minimum requirement, the environmental authority's approval is needed to develop a network in a protected or Nature 2000 area or its surroundings.

In 2014 the company was not obliged to make environmental impact studies for its developments; in only four cases, mostly related to the development of the optical network, was there the need to ask for environmental approval.

#### Land use, visual impact

For the Group it is important that its projects are only undertaken on the land necessary for them, preserving the original biodiversity and making the buildings fit into the environment better.

The composition of the mobile network represents a slight change at group level: the number of base stations grew by 6% (2013: 5173; 2014: 5462). Towers shared with other operators decreased by 4% (2014: 1591). The number of sites in Hungary decreased by more than half in the course of a network modernisation project.

#### Noise and vibration protection

At Magyar Telekom Group sites we have to pay attention to two potential noise sources which may disturb the quality of life of people living nearby: the outdoor air-conditioning equipment and diesel generators used in emergencies. Last year Magyar Telekom received only one noise complaint, the resolution of which is currently in progress.

#### Water consumption

The water consumption at Magyar Telekom Group is exclusively for social purposes. Group-level water consumption increased by 10%✓, despite the fact that 24 Magyar Telekom sites have been installed with water-saving taps as part of a project which began in 2012.

Magyar Telekom Plc. has 2 drilled wells, from which 13 745 cubic metres of water was taken. This is 6.51% of total drinking water consumption.

### WATER CONSUMPTION MAGYAR TELEKOM GROUP



We help local communities by creating community gardens and using uncultivated land, thereby increasing the diversity of the area: in 2014 Magyar Telekom Plc. began development of three community gardens, of which the first was opened near the company's site on Csárda street, where the local gardeners started their work on 28 plots. In 2014 we launched a tree-planting project in collaboration with Főkert, under which nearly 100 trees were planted around Budapest (Gellért-rakpart, Fogarasi út, Erzsébet királyné útja).



Community gardeners in the Csárdás garden



In 2014 T-Systems Hungary got together with a number of partners that fit Magyar Telekom Group's sustainability strategy; among other projects, they developed an

app to help bird ringing with the Foundation of the Hungarian Ornithological and Nature Conservation Society, and helped the adoption program of the Budapest Zoo

and Botanical Garden. The zoo donation will help to improve conditions for the animals.

### 7.3. EMISSIONS

#### 7.3.1. Waste

In harmony with waste management principles (EU strategy, DT requirements, MT's sustainability strategy, suitability for re-use), Magyar Telekom follows the following rules for its used equipment:

- first try to re-use within the company, sell to employees or external partners, rent or lease or transfer without compensation (donation);
- as a final solution, handle as waste (to be disposed of through appropriately licensed contractors).

Within Magyar Telekom Group the largest proportion of generated waste (close to 70%) – despite the development of recycling – is still the municipal waste. Second by volume is technological waste (e-waste), with a 16% share. In 2014 only 2.65% of waste was considered hazardous.

Compared to 2013 total waste dropped by 10% ✓, but the compositional ratio shifted in 2014 to less recyclable waste, so the recycling rate has continued to decrease.

To reduce the environmental impact of waste, more and more of our sites provide the opportunity for selective waste collection and we want to improve efficiency by reviewing the handling of contracts and collection points, inspections and communication.

In September 2013 Crnogorski Telekom implemented the selective collection of waste. From the date of implementation (until the end of March) more than 83% of employees had the opportunity to collect waste selectively.

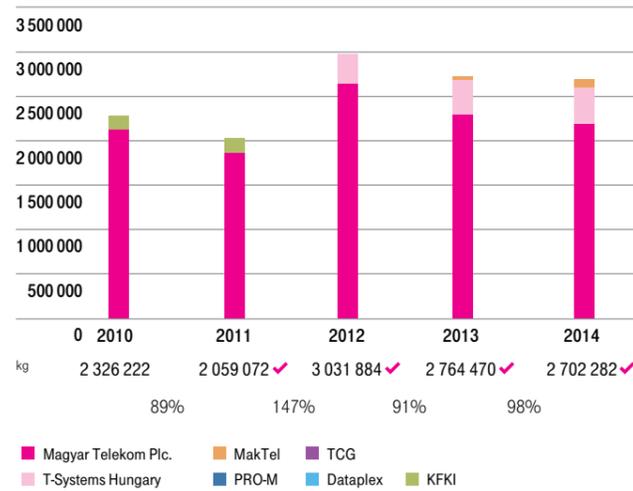
#### Hazardous waste

The quantity of hazardous waste decreased significantly, by 30% ✓: in the network fewer battery exchanges took place, meaning less waste was produced. (Due to this, however, the recycling rate decreased.)

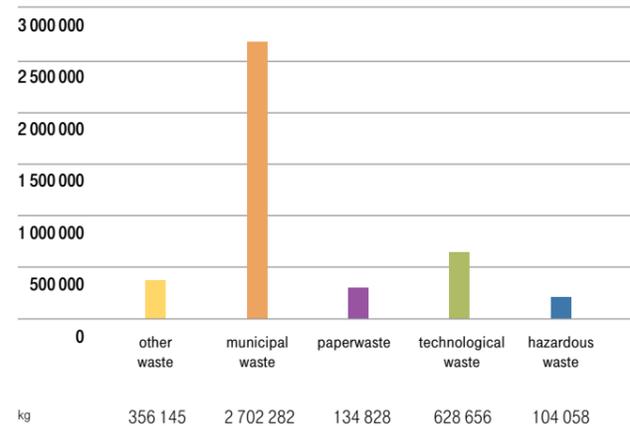
QUANTITY OF WASTE BY TYPE AND RECYCLING RATE AT MAGYAR TELEKOM GROUP, 2010–2014

|                                   | 2010             | 2011             | 2012             | 2013             | 2014               |
|-----------------------------------|------------------|------------------|------------------|------------------|--------------------|
| <b>Hazardous waste total [kg]</b> | 238 910          | 149 852          | 290 929          | 148 923          | 104 058 ✓          |
| recycled hazardous waste (kg)     | 175 745          | 99 264           | 135 088          | 95 794           | 56 303 ✓           |
| <b>Technological waste (kg)</b>   | 548 570          | 1 206 442        | 1 233 708        | 1 079 417        | 628 656 ✓          |
| recycled technological waste (kg) | 547 570          | 1 207 442        | 1 040 810        | 811 211          | 399 285 ✓          |
| <b>Paper waste total (kg)</b>     | 263 860          | 251 780          | 292 832          | 149 894          | 134 828 ✓          |
| recycled paper waste(kg)          | 257 480          | 251 780          | 269 443          | 143 874          | 125 248 ✓          |
| <b>Municipal waste (kg)</b>       | 2 326 222        | 2 059 072        | 3 031 884        | 2 764 470        | 2 702 282 ✓        |
| recycled municipal waste (kg)     | -                | -                | 7 000            | 2 916            | 1 140 ✓            |
| <b>Other waste (kg)</b>           | 134 848          | 149 960          | 343 274          | 241 550          | 356 145 ✓          |
| recycled other waste (kg)         | 65 231           | 23 000           | 35 000           | 24 768           | 28 394 ✓           |
| <b>Total waste (kg)</b>           | <b>3 512 410</b> | <b>3 817 106</b> | <b>5 192 627</b> | <b>4 384 254</b> | <b>3 925 969 ✓</b> |
| <b>recycled waste total (kg)</b>  | <b>1 046 026</b> | <b>1 581 486</b> | <b>1 487 341</b> | <b>1 078 563</b> | <b>610 370 ✓</b>   |
| <b>recycling rate (%)</b>         | <b>30%</b>       | <b>41%</b>       | <b>29%</b>       | <b>25%</b>       | <b>16% ✓</b>       |

MUNICIPAL WASTE MAGYAR TELEKOM GROUP



QUANTITY OF WASTE BY TYPE, 2014 MAGYAR TELEKOM GROUP

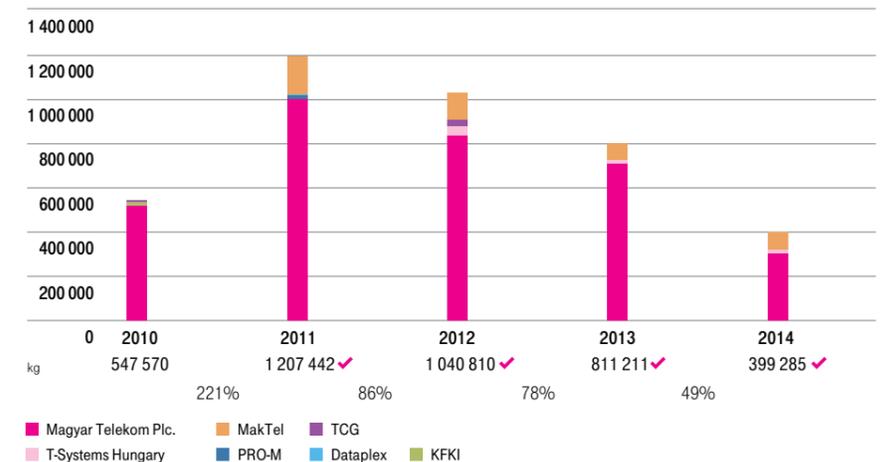


#### Technological waste

The quantity and quality of technological waste greatly depends on the telecommunication projects and developments currently being carried out, so from one year to the other large quantitative and qualitative changes may appear.

Last year's report described a copper mine project in Hungary ([http://www.telekom.hu/static/sw/download/Sustainability\\_Report\\_2013.pdf](http://www.telekom.hu/static/sw/download/Sustainability_Report_2013.pdf), page 90). After the end of this project in 2013 the amount of waste cable decreased significantly; simultaneously, the recycling rate did too. The introduction of a group-wide procedure based on DT regulations for the management of cable waste is expected by the end of 2015.

RECYCLED TECHNOLOGICAL WASTE MAGYAR TELEKOM GROUP



**Paper waste**

Despite the quantity of paper waste increasing at some individual subsidiary companies (partly as a result of document sorting), the total quantity of paper waste decreased group-wide, due to the 'paper use minimisation projects' detailed in the climate protection chapter.

**Other waste**

The quantitative increase of other waste at Magyar Telekom Plc. can be traced back, in part, to building renovations.

At Magyar Telekom Plc. the recycling rate is nearly 16% ✓. In the case of municipal waste, local public services must be used, so only estimated data is available; the waste is placed in licensed landfill sites. The company does not give its waste to be incinerated or composted. 14% of waste fits into other treatment categories; in these cases, the handling company carries out pre-treatment, selects the recyclable parts, and prepares the waste for its final recovery or disposal.



The company thinks it important to affect our environment only as necessary and with the least impact; we pay special attention to the reviewing, repair and re-use of the equipment in our network. The re-use rate of CPE devices increased from 66% to 71% over the last period.

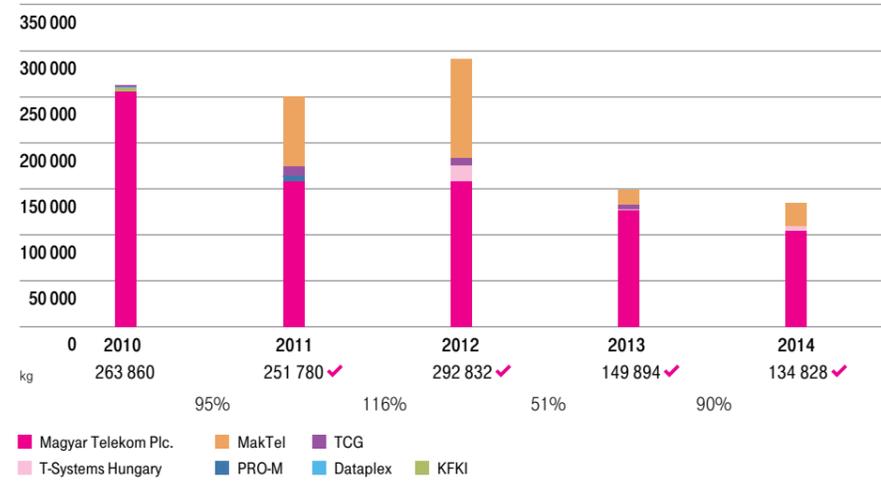
Hungarian companies comply with producer's responsibilities as follows:

- In the case of electronic equipment which falls under product fee regulations, companies choose the product fee payment and the national collection system. Magyar Telekom Plc. paid more than 59 million HUF in product fees for mobile phones in 2014. The national collection rate requirement was 45% in the IT sector; about 7 million kilograms of IT waste were collected in Hungary as reported by the National Collection and Treatment Plan; the national objective was achieved. (The national system does not report company-level data.)
- In the case of batteries, under the conditions provided by law, Magyar Telekom Plc. partly transferred the obligation to a special compliance scheme. The compliance scheme reached a collection rate of above 35%, with 1301kg of waste being collected and treated, with a 61.55% recycling rate.

We inform our clients on our websites about the handling possibilities for used equipment and batteries, and we ensure the receipt and disposal of them through appropriately licensed contractors. Last year, without running any specific campaigns, we collected 145 kg of used mobile phones. This volume is decreasing continuously, which is why we are bringing attention to take-back through initiatives such as the release of our hello holnap! mobile app.

In the chapter 'Products and services' we report in more detail about sustainable products and the mitigating properties (to reduce climate change) of our services. The impact of TelePresence is described separately.

**PAPER WASTE  
MAGYAR TELEKOM GROUP**



**7.3.2. Producer's responsibility**

In cooperation with equipment manufacturers, Magyar Telekom is committed to environmentally-friendly equipment manufacturing and

recycling processes. (For more details about the procurement requirements see the chapter 'Suppliers'.)



To offer more transparent information about environmentally-friendly equipment we label them in our catalogues, making it easier for customers to make a conscious choice when purchasing. Currently, 33% of our devices have sustainability features.



**LÁSZLÓ MARUZS**  
after-sales colleague

The company has been pursuing asset recycling activities in various forms, including the repair and renewal of network equipment.

The reuse of these assets saved certain costs but the real breakthrough in cost-reduction was the CPE recycling process that resulted in significant CAPEX cost-reductions that are visible in the financial results as we managed to reduce our demand for new assets and give priority to used equipment.

Besides using high-value equipment multiple times at our customers, we also reduce the quantity of electronic waste thereby protect our environment.

It is really good to know that our activities are not only beneficial from a professional point of view but also from a sustainability perspective.

With this Telekom acts as an environment conscious company and proves that its sustainability efforts are real and not just words on paper.



### 7.3.3. Effects of transport and logistics

Currently the company keeps records of only the internal transport emissions (KPI: mileage, fuel consumption of vehicles). Magyar Telekom Plc.'s logistics partner, which supplies our sites, partner outlets and sales channels, travelled some 3 million kilometres for the fulfilment of this service in 2014. This represents less than 6% of the total mileage of vehicles.

To reduce the environmental impact of transport in Hungary:

- Procurement from local suppliers (if possible);
- Use of bicycle courier services for delivery of consignments;
- Collection of on-site generated materials using circular trips;
- We are working on the implementation of a quality monitoring system (Proactive Performance Management).

### 7.3.4. Emissions into the air

Magyar Telekom pays an air pollution fee in accordance with national legislation based on the pollutants coming from boilers, chimneys, diesel generators etc. The amount of pollutants emitted from Magyar Telekom Plc. sources and the fee paid: 951 269 HUF (NOx : 7927 kg, SOx: 3 kg)

### 7.4. ENVIRONMENTAL OBJECTIVES, COSTS AND COMPLIANCE

**Electricity consumption** showed a significant reduction of 13% Group-wide, which exceeded the 2015 target values. This was due to the implementation of energy-reduction solutions. We achieved a 36% reduction in **natural gas consumption** thanks to boiler modernisation and renewal. **Heating and diesel oil consumption** showed a decrease of approximately 89% compared to the base year. With the reduction of **district heating consumption** by 25%, we over-achieved the five-year strategic objective. The significant decrease is the result of optimisation and reconstruction.

**Fuel consumption:** In **diesel consumption** a slight increase was experienced, but we were able to reach the 5% reduction level. **Petrol consumption** also increased, but when evaluated pro rata the target was achieved (2% decrease compared to the base year.) **Total fuel consumption** decreased 3.5% compared to the base year. **The energy efficiency indicator** reached 35.76 Gbit/KWh, by which the pro-rata target value was achieved. **Paper consumption** was reduced by 42%, which represents the pro-rata achievement of the second-year objective of the strategy. This reduction is due to the automatisation of processes, the 'paperless office' and the printer consolidation project. **Proportion of office paper/recycled paper consumption: due to lower paper consumption** – and as a consequence the lower use of recycled paper – this objective was not fulfilled; the proportion increased, but only by 4.87 %.

The Group's environmental manager's responsibility is the coordination and control of complaints related to the environment. For any request regarding the environment (external and internal) the Group's environmental manager should be consulted. Members of the public can send messages to: [sustainability@telekom.hu](mailto:sustainability@telekom.hu). We strive to answer received proposals, complaints and enquiries as quickly as possible.

In 2014 Magyar Telekom Plc. received four enquiries regarding the environment and demanding action: 2 regarding electromagnetic radiation, 1 about noise and 1 about ragweed. The complaints did not lead to any findings of guilt as the emission levels were under the limits. The noise complaint is still in progress. (The complaint was not sent to our email addresses directly.)

It can be seen that, in general, the sensitivity of the population has strengthened in regards to electromagnetic radiation and noise issues. We aim to keep all interested parties satisfied with the solutions we offer.

| Target area                          | Group-wide target 2011–2015 | Pro-rata achievement in 2014 (base year: 2010) |
|--------------------------------------|-----------------------------|--|
| Electricity consumption              | -5%                         | achieved                                       |
| Natural gas consumption              | -5%                         | achieved                                       |
| Heating energy consumption           | -5%                         | achieved                                       |
| Fuel consumption of vehicles         |                             |  |
| diesel                               | -5%                         | achieved                                       |
| petrol                               | -5%                         | achieved                                       |
| Energy efficiency indicator          | 48 Gbit/kWh                 | achieved                                       |
| Paper consumption                    | -30%                        | achieved                                       |
| Ratio of office paper/recycled paper | 25%                         | not achieved                                   |

### ENVIRONMENTAL PROTECTION COSTS IN 2014 MAGYAR TELEKOM GROUP

