

# Combating Climate Change and Our Energy Management

GRI 103-1, 103-2, 103-3, 305, 305-1, 305-2, 305-3, 305-4, 305-5

## We rank among the Turkish Climate Leaders with Score of A in CDP Climate Change Program.

We undertake and maintain our practices and targets with respect to combating climate change, transition to a low carbon economy and sustainability, which are included in our Migros Better Future Plan, in accordance with international norms, national statutory requirements, Sustainable Development Goals and the principles of Consumer Goods Forum. For such purpose, we determine our environmental targets for reduction of our carbon emission as per Paris Agreement, global initiatives and national targets, and manage our operations in this context in long term. We review our targets every year by our principle of highest level of development. For combating climate

change, we adopt challenging goals, which we can update in line with the science-based methodology in the long term. We report **our annual performance and our plan for combating climate change in line with these targets in Carbon Disclosure Project (CDP) every year.** We rank among the Turkish Climate Leaders with Score of A in CDP Climate Change Program.



### Performance by Target

	KPI	TARGET YEAR	COMMITMENT	PERFORMANCE OF 2019	PERFORMANCE BY TARGET	BASE YEAR
<b>Electricity consumption</b>	kWh/m <sup>2</sup> .day	2024	18.5% ↓	16.3% ↓	In progress	2013
<b>Greenhouse gas emissions</b>	MtCO <sub>2</sub> e/m <sup>2</sup> .day	2023	25% ↓	26.6% ↓	Completed	2015

## RISKS AND OPPORTUNITIES

A team, which we formed from our departments under our Sustainability Committee, conducts an annual assessment in order to identify the risks and opportunities associated with climate change. The risks arising from the changes in legislation and physical climate parameters, and the risks arising from other climate-related changes (change in consumer behaviors and company image) are identified in annual evaluations. These risks coincide with the topics addressed by global initiatives such as **Task Force on Climate-related Financial Disclosures (TCFD)** and are reported to our Senior

Management to develop solutions by monitoring possible and current financial results. In addition, the targets of our **Chief Construction Officer and Group Manager of Repair and Energy Management**, for reduction of energy consumption and gas leakage, which have the greatest impact on combating climate change, have a significance of 10-20 percent among all targets, and have direct impact on annual performance premiums.

The impacts of retail operations on climate change are primarily due to electricity and refrigerant gas usage. The lighting, air-conditioning and refrigeration activities of our stores and distribution

centers result in greenhouse gas emission. The greatest source of indirect impacts is the logistics of the products.

Changes in precipitation are the main risks to our company arising from the climate change. In addition, as of this year, we have included the storm in our risk assessment for the following 5 years, since it caused a considerable loss in 2019. In this context, we expect that the impacts of snow, storm and flood will increase and thus, a loss of approximately TRY 1.4 million may be experienced for the next 5 years. As a precaution against abovementioned, we have our stores insured against possible floods and other natural disasters that may occur.

As part of environmental management and combating climate change, we made an investment of TRY 10.87 million in 2019 within the scope of development of our refrigeration system with natural cooling, energy efficiency and system improvement activities, carbon neutralization activities, waste management, sustainability consultancy, certification under ISO 14001 Environmental Management System and verification of our annual carbon emission.



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## OUR CARBON FOOTPRINT

We are aware of the fact that effective carbon footprint management is one of the most important conditions for us to maintain our value chain in a responsible and respectful way to humanity and nature. **As part of our Migros Better Future Plan, our efforts to combat climate change and carbon management activities** are the primary sustainability topics addressed at the top management level. In this context, we determine our short, mid- and long-term actions, and implement them in accordance with our strategy.

None of our production facilities cause air pollutants such as dust, heavy metals, combustion gas, volatile organic compounds, fluorine and chlorine.

We identify the factors causing greenhouse gas for all of our stores, distribution centers, regional directorates, regional fruit and vegetable warehouses, MĪGET meat processing plant and breeding farm, which started operation in 2018. 50 percent of our carbon emission is due to electricity, and 49 percent is due to refrigeration. We monitor, calculate and report our performance in this regard in **“daily carbon emission per sales area**



## We reduced our daily carbon emission by 26.6% in 4 years then achieved the target of 2023 in advance.

**square meter (kgCO<sub>2</sub>e) equivalent”**. Our efforts to reduce our carbon footprint continue in our offices as part of the Green Office Program. We aim to raise awareness of our office employees about energy savings, carbon emissions, renewable resources, conscious use of natural resources and changing lifestyle.

### Our Performance and Targets

Accordingly, we aimed to reduce our daily “Scope 1 and Scope 2” carbon dioxide emission rate per store sales area square meter by 1.5 percent in 2019 as compared

to 2018. In addition to the eco-friendly projects we conducted in 2019, we achieved a 9 percent reduction by going far beyond this target through the impact of our effort to neutralize carbon. In addition, we increased our target for reduction of our daily carbon emission per square meter of our sales area by 2023 as compared to 2015, which is the base year for our mid/long term target, to 25 percent; however, **we exceeded our target 4 years ago by achieving a total of 26.6 percent CO<sub>2</sub> in 2019.**

We set our new mid/long term target so as to reduce our daily “Scope 1 and Scope 2” CO<sub>2</sub> emission rate per square meter of store sales area by 7 percent until 2024 as compared to 2019 base year.

Accordingly, we aim for a reduction of 1 percent in 2020.

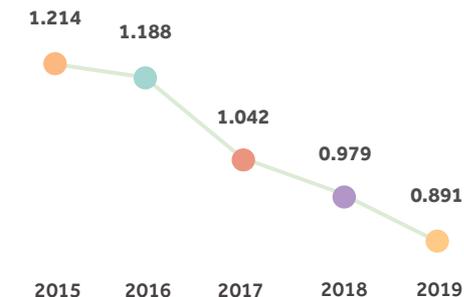
Our 2019 Scope 1, Scope 2 and Scope 3 emission values, which consist of our direct emission sources, have been verified and certified by BSI (British Standards Institution) based on ISO 14064-3 standard and GHG protocol.

[You can review the details of the verification statement in the Annexes.](#)

### Corporate Greenhouse Gas Emissions of Turkey Operations by Year \*

SOURCE	2017	2018	2019
Scope 1	223,339	225,129	265,117
Scope 2	195,841	228,067	243,558
Scope 3**	76,814	84,984	103,923
<b>Total</b>	<b>495,994</b>	<b>538,180</b>	<b>612,597</b>

### Daily Carbon Emission Per Sales Area Square Meter (kgCO<sub>2</sub>e)



\* Emissions from past years has been recalculated based on the current Turkey emission factor.

\*\* Scope 3 emissions include emissions from Flights, Wastes, Transport, Sanal Market Operations, Personnel Services, Customer Service and energy consumption out of scope.

## OUR ECO-FRIENDLY COOLING SYSTEMS

We focus on making use of natural coolants and more efficient and new-generation systems for refrigeration systems, which are among the most important elements causing greenhouse gas emission in our retailing operations. We put in place our innovative practices for making use of natural coolants or eco-friendly systems, which can function in harmony with the climate of our country, for the refrigeration systems of our distribution centers and stores, instead of hydrofluorocarbon (HFC).

Accordingly:

- We use **ammonia as a natural refrigerant instead of HFC** in the refrigeration systems in our MIGET meat processing plant.
- In 2015, we started to work on making use of natural refrigerant system in **our Tasdelen Migros M store** and made the efforts to cool by **glycol instead of HFC-R404a gas**.
- In 2016, we worked on **cooling the refrigeration cabinets by circulation of cold water** in our Cekmekoy Koru store, and made use of glycol-propane, a natural refrigerant, to cool the water.



We have patented the system, which is certified with the Utility Model Certificate.

- **In our Sile Dogancili store**, we realized water-cycle system transformation by reducing the amount of gas we used by 60 percent through retrofit implementation in the conventional refrigeration system.
- In 2018, we reached an acceptable level in electricity consumption. We installed a liquid cooling system in **our Izmir Narlıdere 2. Inonu store and Ankara Gölbaşı Distribution Center**. Thus, the number of our stores and distribution centers, where we use liquid cooling systems, increased to 4 and 2, respectively.
- We started employing the liquid cooling system in our Urla MM Migros and Alemdag M Migros stores in 2019. The number of our stores with glycol cooling system increased to 6 upon installations thereof. Upon these two installations that we realized in 2019, only 15 kg HFC gas was used instead of 125 kg to cool the water circulating in the store, and almost 90 percent of gas was saved. **In 2020, we are planning to increase the number of our stores operating by this system to 20.**

In addition, we prevented possible gas leaks by replacing the cabinets and groups in our 17 stores with risk of gas leakage in 2019.

During the transformation of 33 Kipa stores that joined us, we terminated the frozen product center systems, which were inefficient and too large for the requirement, and started to make use of plug-in cabinets. In this way, 1,667,000 kWh energy was saved, and 7.844 tCO<sub>2</sub>e emission was prevented on a yearly basis. We aim to realize frozen cabinet transformation in 55 of our stores in 2020.

**We will expand Migros patented natural refrigerated cooling system to 20 stores in 2020.**



## OUR SUSTAINABLE DISTRIBUTION SYSTEMS

We carry out efficiency activities in order to save our energy consumption arising from distribution and logistics, and to reduce our greenhouse gas emissions arising from logistics. Every year, we measure the route covered between our distribution centers and stores, perform route optimizations and open our new distribution centers according to the results of these analyzes. Within the scope of our central distribution strategy, **we transport 80 percent of our products to the stores by fully loaded trucks. We reduce truck traffic by up to 30 times** by directing the products to be sold in our stores to the related distribution centers.

Opening of hub distribution centers of Ortakent, Ardiç and Güre in 2019 allowed us to distribute bulk groups such as non-alcoholic beverages, water, to the stores from a closer distance. In addition, we also performed route optimization in 2019 as performed periodically every year. Opened for the shipment of red meat products to the region, Erzurum Meat Distribution Center allowed us to distribute related groups in the region from a closer distance. In 2019, the ratio of transportation costs to sales was more

favorable as compared to 2018. Similarly, fuel consumption, corresponding to a sale of TRY 1, decreased dramatically in 2019 as compared to 2018.

## In 2019, we reduced our CO<sub>2</sub> emissions per unit transported by 6%.

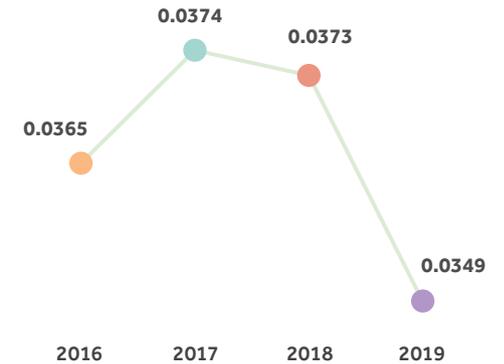
We have the **“target to reduce CO<sub>2</sub> emissions per unit transported”** in order to reduce our impact on environment due to our distribution center shipments. In 2019, we accomplished much more reductions than we aimed. Accordingly, there was **a decrease of 6 percent in CO<sub>2</sub> emission per unit transported in 2019 as compared to 2018**. In the meantime, the hub warehouses opened in 2019 ensured a great saving on transportation.

We aim to achieve an improvement of 0.3 percent in 2020 as compared to the results for 2019, and **to reduce CO<sub>2</sub> emission per unit transported by 7 percent in 2024 as compared to 2018**. The reduction in our operations will support the reduction in our total greenhouse gas emission.

We use foldable crates that are suitable for multi-use for the shipment of fruit, vegetable and red meat in our distribution centers and during logistics processes. Accordingly, Palex, one of our business partners, saved 3,374 tons of CO<sub>2</sub> emission by the pallets collected from our distribution centers in 2019. Similarly, the company Chep also saved 926 tons of CO<sub>2</sub> emission in connection with Migros, and the company IFCO saved 7,503 tons of CO<sub>2</sub> emission.

Our distribution system also consists of shipments of Migros Sanal Market, beside the shipments of our distribution centers. We have 14 electric vehicles available within the Sanal Market (Our E-Commerce Channel) vehicle fleet in order to reduce our impact on the environment. In addition, we increased the number of electric bicycles, which was 23 in 2017, to 38 in 2019.

## CO<sub>2</sub> emissions per transported unit from Distribution Center shipments\* (kgCO<sub>2</sub>e)



\* Emission values of previous years were recalculated based on the current emission factor.



GRI 302-1, 302-4

## OUR ENERGY MANAGEMENT

Our total energy consumption was 598,018 MWh in 2019, and 96 percent of this was due to use of electricity.

### Our Performance and Targets

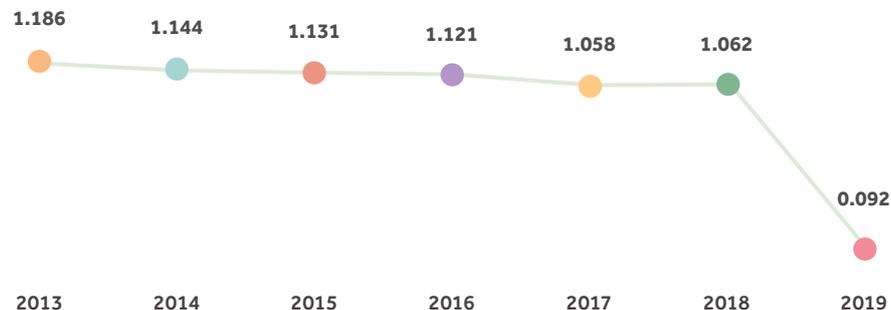
The total electricity consumption of our Company was 565,249 MWh in 2019. In 2019, we aimed to reduce our electricity consumption by 1.5 percent as compared to that of the previous year. We exceeded our target by ensuring a higher reduction of 6.6 percent. In 2020, we are aiming to reduce our electricity consumption per square meter by 1.5 percent as compared to 2019..

In mid/long term, we are targeting to **reduce our daily energy consumption per our sales square meter by 18.8 percent until 2024** as compared to 2013. For such purpose, we reduced our electricity consumption by 16.3 percent in 2019 as compared to that in 2013.

In 2019, we had no renewable energy production nor consumption, and no heating, cooling and steam consumption nor sales as a secondary energy source.

**We reduced our electricity consumption by 16.3%.**

### Daily Electricity Consumption per Sales Area m<sup>2</sup> (kWh)



### Our Energy Consumption by Source (MWh)

SOURCE	2016	2017	2018	2019
Electricity	417,362	421,617	490,994	565,249
Natural Gas	8,159	6,104	7,182	7,956
Diesel	13,999	14,629	15,459	15,025
Gasoline	21	55	43,6	788
Total	439,541	442,405	513,679	589,018



GRI 302-1, 302-4

## OUR ENERGY SAVING PRACTICES

We provide operational efficiency and combat climate change through our efforts to save energy. We prefer systems with varied current control and high automation efficiency for air conditioning and industrial cooling systems in all our newly opened and renovated stores in order to reduce our energy consumption and the emission caused thereby.

Our energy monitoring system allows us to **measure our energy consumption on a daily, weekly and monthly basis**, and take measures to reduce our energy consumption and thus, our greenhouse gas emissions. In addition, we installed an automated system that centrally controls our refrigeration, air-conditioning and lighting systems for the purpose of controlling our energy consumption. We generalize our system as the number of our stores increases. Our cooling, air conditioning and lighting processes have become more traceable and remotely controllable over the years.

Where applicable, we get maximum benefit from sunlight by making use of daylight lighting systems in our convenient stores. We prevent formation of heat islands by preferring paints enabling heat

insulation and reflecting the sun rays on the roofs of our stores. We employ lighting units with motion sensors in our warehouses. The automatic shutdown of the lighting systems on the floors at lunch break started to function more efficiently in 2019 following the renovation activities we carried out at our Head Office building. 30,420 kWh of electricity was saved in this regard. This saving enables 1 bulb to run continuously for 1.5 million hours.

We installed 2 new-generation lighting systems in our Tekirdağ YSK Center and Kayseri Mustafa Şimşek stores and saved 35,556 kWh of electricity annually.

We saved 26,460 kWh of energy annually through the installation of lids to refrigeration cabinets in our Nisantasi City's and GOP Macrocenter stores, which we launched in October.

*[You can find the number of stores with automation system installed in the Annexes.](#)*

## OUR GREEN IT PRACTICES

As part of our Green IT approach, we also purchased **250 thin clients** for our new stores opened in 2019. **This ensures an energy saving of 80 percent on average annually. We recycled 47 tons of out-of-use electronic equipment.**

We achieved 80 percent energy savings by replacing 80 percent of our conventional server infrastructure with new-generation hyper-integrated servers, making it virtual and transferring to cloud systems.

We closed our backup data center and moved our data to our new Disaster Data Center (Felaket Veri Merkezi), which we designed in accordance with our Green

IT strategy. In this way, we achieved an annual energy saving of over 500 MW.

We make use of video conference for the business interviews being held as part of our operations across Turkey. This allows us to reduce our Scope 3 carbon emission by eliminating the need of our Human Resources employees to use vehicles for transportation. The interviews we had through video conference method was over 14,000 (almost 18,000 hours) in 2018. Similarly, **we held more than 50 percent of intercity meetings through video conference** and enabled our employees to make less business travels.

