

TOM-FERR Zrt's renewable energy utilisation plan



1. Introduction

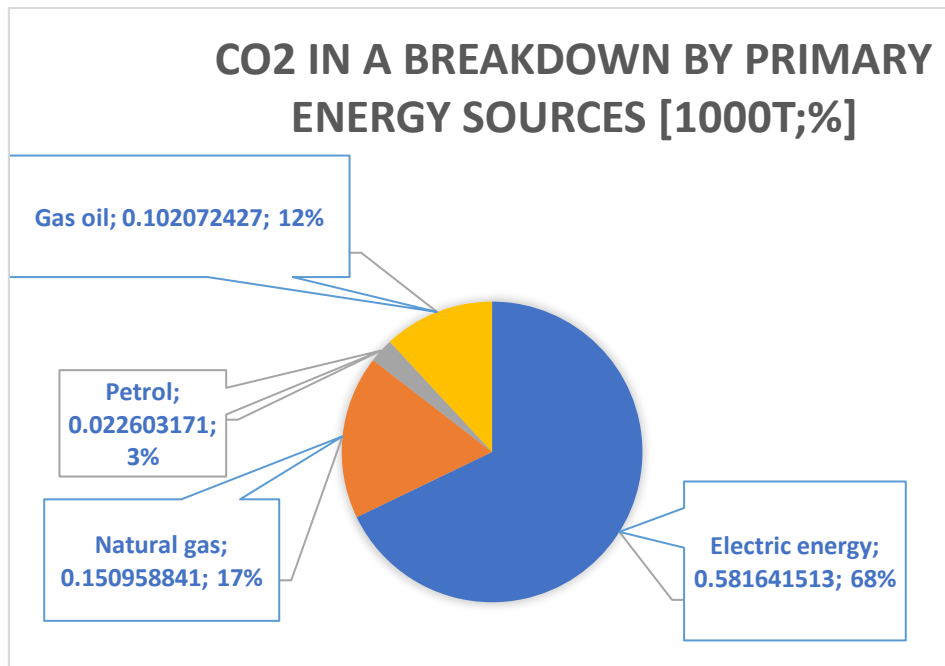
Established more than 27 years ago, TOM-FERR Zrt., has been and is trading in steel pipes, manufacturing pipes and automotive parts and metal machining for manufacturers of passenger cars and commercial vehicles. Trading in steel pipes and manufacturing pipes as well as automotive parts are the three main divisions of the Company.

Its key products include seat frames, seat components, headrest pipes, dashboard bracing components, door anti-intrusion bars and shock absorber components supplied to multinational TIER-1 assembler supplier integrators abroad and in Hungary. In 2022 the Company employs nearly 250 people, and its annual sales revenue is in the region of 30 million euros.

One of its most important goals is to keep strengthening its supplier quality in international value chains and increasing its value added and its overall performance alike. To this end, it continuously reviews its operation, improving and modernising its manufacturing technologies with a particular focus on the use of renewable energy sources to replace fossil fuels.

The Company's quality-oriented policy was declared by its introduction in 1997 of the ISO 9002-1994 quality assurance system and confirmed by obtaining the ISO 9001-2008 certificate for its overall operation. Its activities as an automotive parts supplier necessitated the introduction in 2012 of the strictest quality assurance system – ISO 16949 – followed by the IATF 16949 in 2017 and in June 2019 by an environmental management system meeting the requirements laid down in the standard MSZ EN ISO 14001:2015. ISO 14001 is one of a set of standards for environmental management systems (EMS) developed with the aim of minimising the negative impacts of companies' operations and processes, bringing them in line with the applicable laws and rules as well as other environmental regulations and ensuring continuous improvement in this field.

At present the Company's CO₂ emissions are illustrated by the following figure in a breakdown by primary energy sources:



TOM-FERR Zrt. started utilising green energy in the following 4 different fields:

- Installation of a solar panel system on its 2 units in the town of Tata
- Operation of heat pumps at its central place of business in Csepel and at the 2 Tata units
- Replacement of the entire lighting system at all of the company's facilities
- Purchasing electric cars to replace the existing diesel car fleet

2. Solar system installation

The existing manufacturing units in the town of Tata consume considerable energy in both business divisions; their systems are connected to the grid and use no renewable energy sources. The buildings are up-to-date and their roofs are suitable for the installation of solar panels. The planned tilt angle of the modules is 7°, the gable roofs are covered with trapezoid plates.

The pipe factory has its own transformer station, but a separate transformer station had to be put in place for the solar panel system of the car component factory.

Using renewable energy sources and enhancing the power network required for infrastructure development is indispensable for meeting the ever-stricter emission and other environmental standards along with the high quality and financial requirements as well as the international standards applying to our products.

In parallel with continuously increasing our manufacturing capacity we also need to reduce and optimise our operating costs in order to remain competitive, therefore we are planning to install a solar panel system on the roofs of the pipe factory and the automotive parts factory, together with a transformer facility for the solar panel system of the latter. The factory units are found next to one another in two different buildings and a separate solar panel system has been installed on the roof structure of each, in connection with the respective buildings.

The Company expects the project to result in an increase in its sales revenue, improvement in its operating/business profitability and a decrease in its operating costs, along with a significant reduction in its environmental impact.

Batteries are planned to be installed from 2024, which is expected to result in additional energy savings, since the Company can utilise the power output of the solar panel system significantly more efficiently with batteries than without them.

The reason for this is that a solar panel system usually generates more energy during the day than the amount of electricity needed. Without batteries the Company cannot utilise the extra power generated by its own system during the night hours. Batteries attached to the solar system can, however, store the energy generated during daytime hours and supply it for use any time of day, even at night. Another advantage lying in the system is that the solar batteries can supply the entire company with power for a certain period of time even during a power failure.

This technology is also highly advantageous from an environmental perspective because it replaces fossil energy by enhancing the efficiency of solar power.

The following two drawings show the solar panels to be installed on top of the two manufacturing halls:

View of the automotive parts factory with the installed solar panels, from above:



The planned view of the pipe factory from above:



Green energy is expected to be generated as a result of the solar panel system installation schedule, as detailed below:

SOLAR POWER PLANT			
	Share of green energy		
SOLAR POWER OUTPUT IN COMPARISON WITH CONSUMPTION	2023 (%)	2024 (%)	2027 (%)
	40%	51%	65%

3. The operation of heat pumps at the central place of business in Csepel

By the end of November, 2022 the Company will be heat and supply both its manufacturing halls and offices as well as its staff facilities at its central place of business in Csepel using heat pumps.

The modernisation project served two objectives. To cut energy costs and to replace the fuels used for heating and domestic hot water production with environmentally friendly renewable sources.

Beforehand, TOM-FERR Zrt's heating and hot water production depended on natural gas fuelled installations (boilers). This solution resulted in the emission of large quantities of greenhouse gases and was also too costly. The essence of the new concept is that the energy required for heating and the production of domestic hot water is generated without using natural gas as a fuel at all.

The enclosed pictures present the technical parameters of the system in place and the system itself.



4. Modernisation of the lighting system

The Company's goal is sustainable development as regards lighting as well. Not only because this is a trendy endeavour or for the actual energy saving but also because sustainable development has become an essential global priority. Therefore, the Company has been and will continue laying emphasis on the modernisation of its lighting systems as part of its efforts to optimise its power consumption. The pipe manufacturing unit at the Tata site was already constructed with LED lighting in the manufacturing hall, the offices and the staff facilities in 2019. The lighting system had been modernised even earlier in the manufacturing hall and the staff facilities of the automotive division, while in the offices the lighting system will be replaced with an LED system by end-2023.

Industrial LED systems have particularly long service lives, up as long as fifty times the useful lives of conventional light bulbs. The modernisation of the lighting system at the central place of business in Csepel will be completed by the second half of 2024.

5. Purchase of electric cars

One of the most important factors regarding electric cars is the power required for charging them. Electric cars do not emit carbon dioxide. The Company has a fleet of 17 cars at present, each with a conventional internal combustion engine. TOM-FERR Zrt. started replacing its cars in 2022 under the following schedule:

Date of replacement	Number of cars to be replaced
September 2023	3
September 2024	3
September 2025	3
September 2026	4
September 2027	4

In parallel with the replacements 2 charging stations will be installed at the Tata site and 1 at the company's central place of business in Csepel.

