



About

Arcoprofil and its values

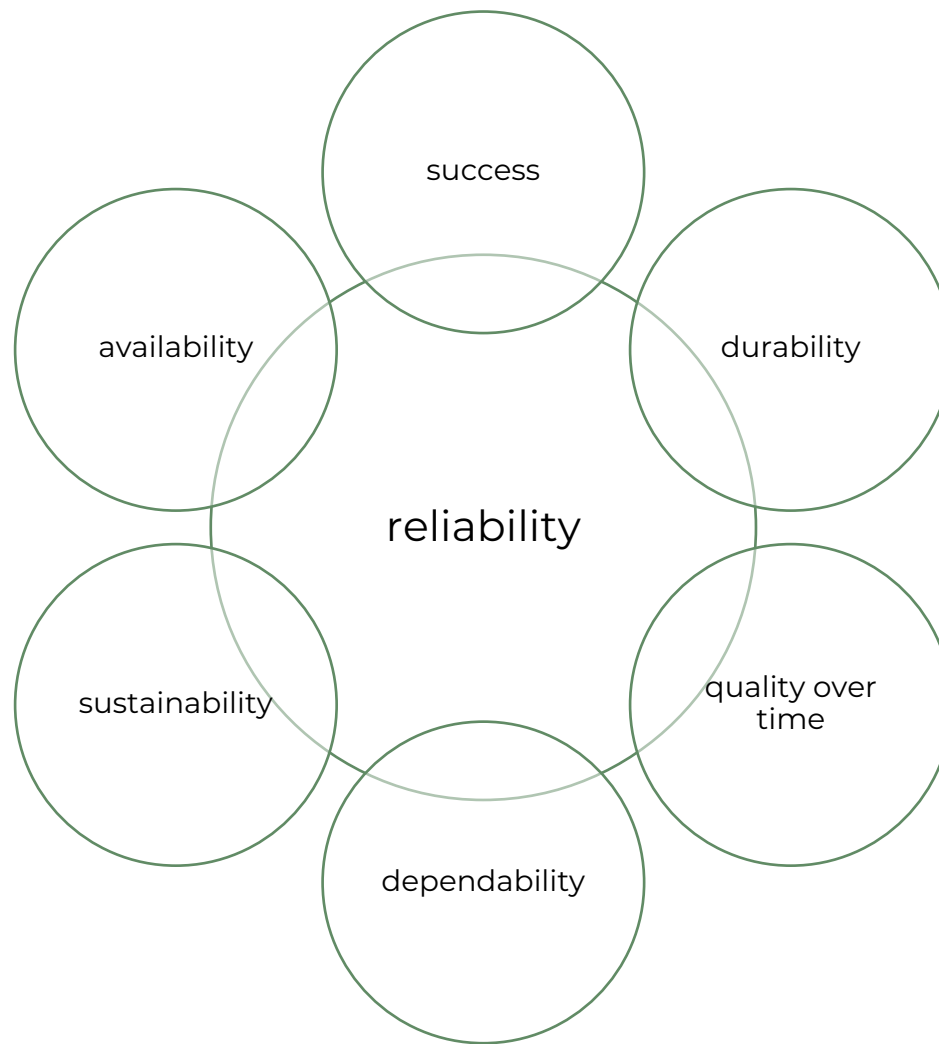
Arcoprofil, our history

Arcoprofil was born in the mid '70s as a company specialized in cold forming splined shafts using the GROB system, a technology almost unknown in Italy at that time. Arcoprofil combined the know-how of the technicians and the founder with the most advanced technologies to bring innovation in the whole supply chain. Today, the company can manage internally every step of the production process, including those concerning induction hardening and carburizing, from the cutting of raw material to the end product.

Over the years, Arcoprofil has grown together with the global market and today exports over 99% of its production all over the world, mainly in Germany, Sweden, Brazil and USA.

The company, with its team of 150 specialized employees, supplies the most important manufacturers of heavy vehicles and tractors, leading companies in the automotive, construction, logistics and agriculture sector which deal with the manufacturing of mechanical components, axles and shafts.

Vision: reliability in motion



Our values

innovation

We believe that technology brings benefits to our workplace. Every year we invest in new machinery and process mechanization to ensure high performance and more efficiency.

safety

Our employees are our most valuable asset. We care about them and we are focusing in their well-being though offering a healthy, clean and less dangerous environment.

excellence

“Hard work pays off”, Every project deserves all our attentions and efforts.

Passion and commitment are important components to achieve our goals.

sustainability

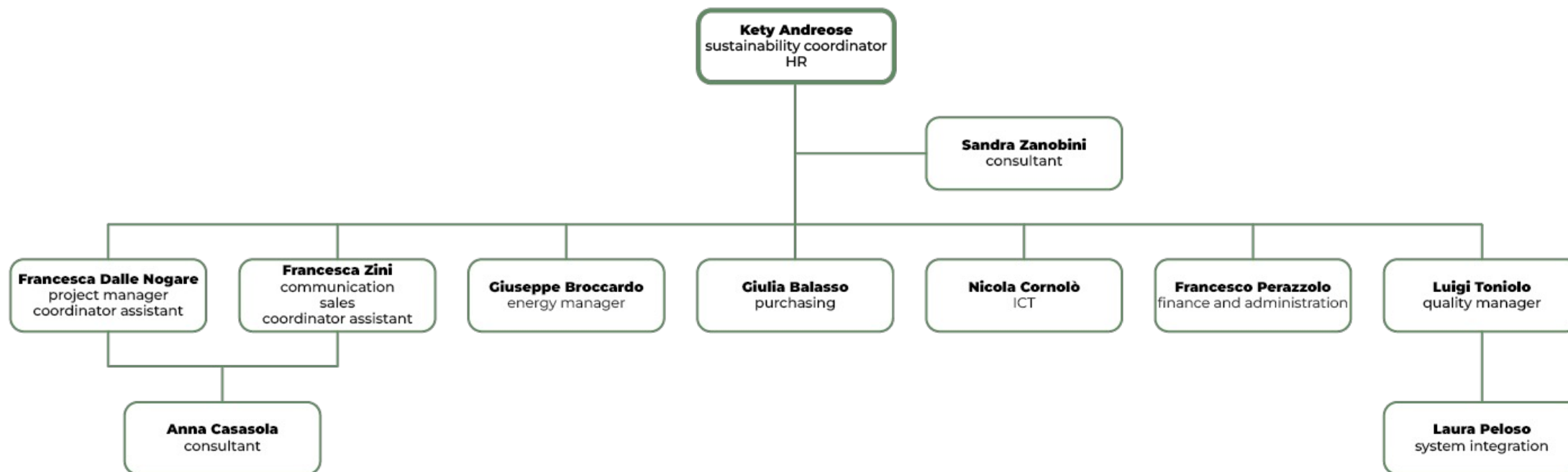
Reducing the impact of our daily operations is one of our main targets. We dedicate all our efforts to build a sustainable business model and to integrate the sustainability into our strategy.

The title "Sustainability plan method" is centered on the page in a bold, black, sans-serif font. Below the text is a horizontal line that spans the width of the text. The background of the slide features a light green silhouette of a landscape with rolling hills, trees, wind turbines, and buildings. In the top left corner, there is a small icon of a cloud with raindrops.

Rating and certification standards

Paragraph	standard		Note
	NQC SAQ4.0	ECOVADIS	
Organisation and general data	Par.A, Par.B	GEN300, GEN5004, GEN600, GEN4001	
Human Rights and Labour Practices	Par.C	LAB100, LAB1003, LAB3201, LAB329, LAB340, LAB3501, LAB330, LAB3601, LAB351, LAB352, LAB601, LAB620, LAB561, LAB800	KPI: LAB601, LAB620, LAB561
Health and Safety at Work	Par.D	LAB100, LAB310, LAB710, LAB720, LAB601, LAB610	KPI: LAB601, LAB610
Environment and Energy Containment	Par.F	ENV200, ENV310, ENV3229, ENV3525, ENV3549, ENV6313, ENV4121, ENV7101, ENV720, ENV610, ENV6331, ENV6332, ENV6001, ENV800, CAR100, CAR104, CAR105, CAR107, CAR108	KPI: ENV610, ENV6331, ENV6332, CAR105
Ethics in Business	Par.E	FB100, FB3102, FB3301, FB450, FBP600, FBP800	KPI: FBP600
Sustainable procurement	Par.G	SUP100, SUP300, SUP320, SUP450, SUP710, SUP600, SUP800	KPI: SUP600

Sustainability team



A light green background illustration depicting a sustainable landscape. It includes silhouettes of wind turbines, trees, and buildings. In the top left corner, there is a small icon of a cloud with three raindrops falling from it.

Human rights and labour practices

Human rights and labour practices

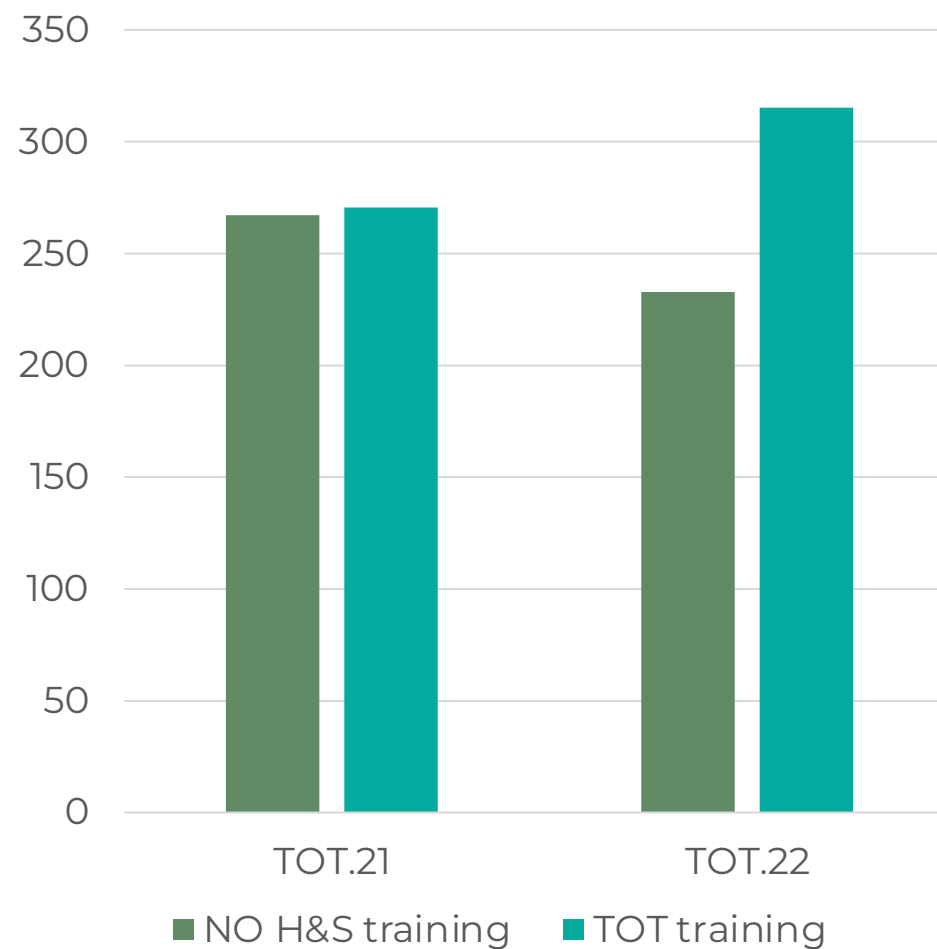
Arcoprofil has developed a Sustainability Policy (POL_01) that specifically includes a section on these issues, in accordance with the requirements of the Ecovadis and NQC SAQ 5.0 certifications in this regard.

Arcoprofil punctually complies with current laws on union representation as well as personnel management, starting from paying contributions and taxes due on recruitment, to the prohibition of exploiting child labour (below the legal age limits allowed) and slavery. These concepts are so obvious and taken for granted for Arcoprofil, that the correct and required way of working, to be respected, has never been formalized in specific procedures. Moreover, due to the dimension of the company, the ownership is supervising personally operational activities. However, the possibility of implementing specific company procedures on the subject should be considered, perhaps as a second step.

Training

Training hours

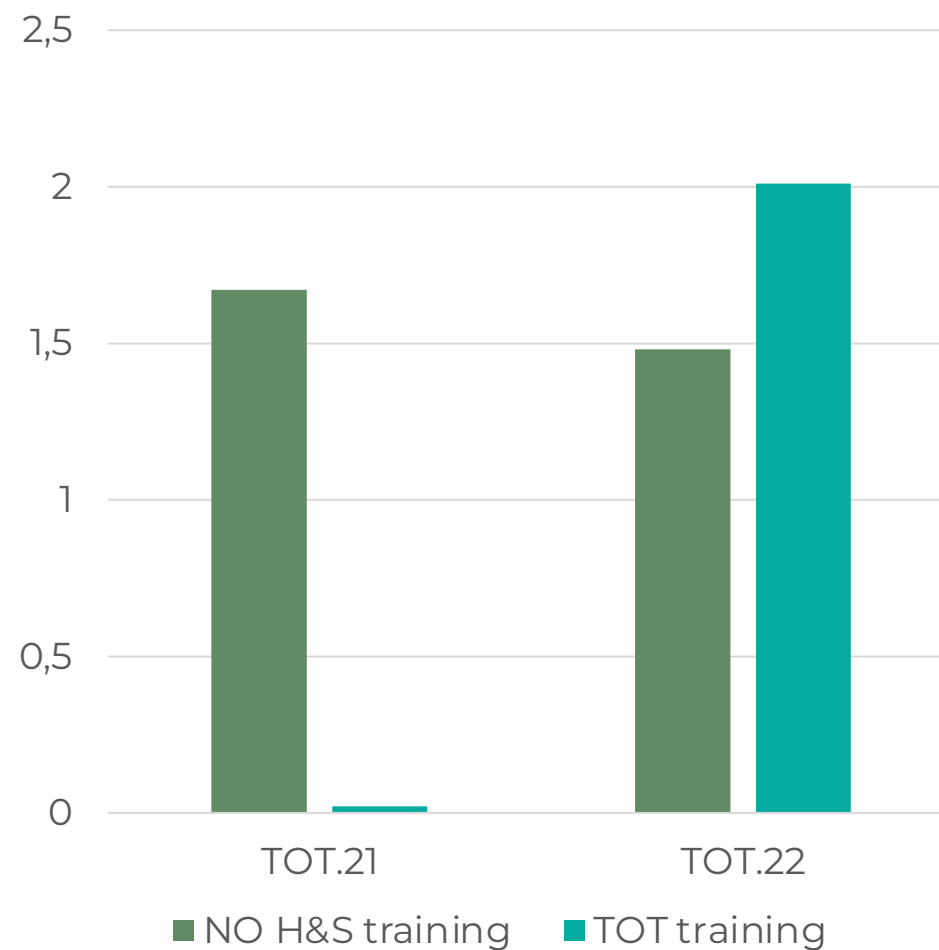
Ore formazione	TOT.21	TOT.22
formazione non H&S	267,2	232,7
totale ore formazione	270,6	315,3



Training

Training hours/employee

Hours/employee	TOT.21	TOT.22
NO H&S training	1,67	1,48
TOT training	0,02	2,01



Training

Comment on the KPIs above:

In 2022 60 new hired employees increased the number of training hours.

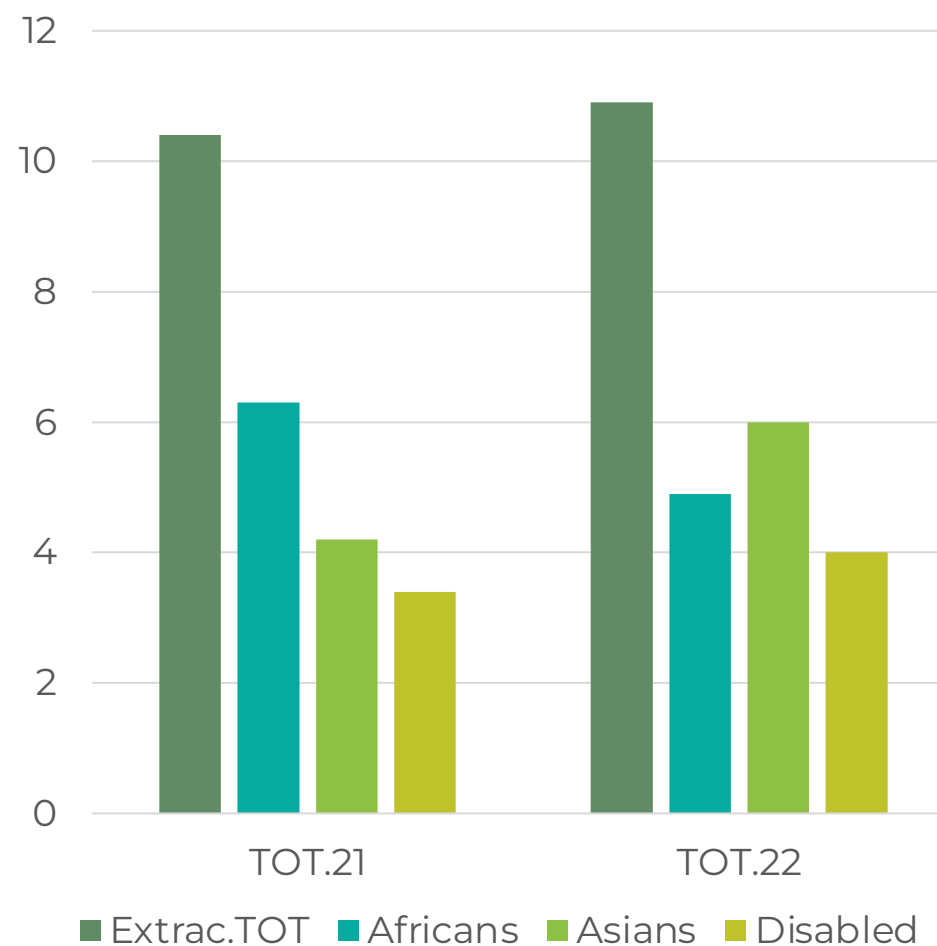
The years before 2023 were simply accounted for and monitored in order to gather data and understanding.

In 2023, a training target has been set against the results of previous years and identified training needs. Thus, it will be possible to monitor the progress of training.

Diversity management

Non EU workers and disabled workers

%	TOT.21	TOT.22
Extrac.TOT	10,4	10,9
Africans	6,3	4,9
Asians	4,2	6,0
Disabled	3,4	4,0



Diversity management

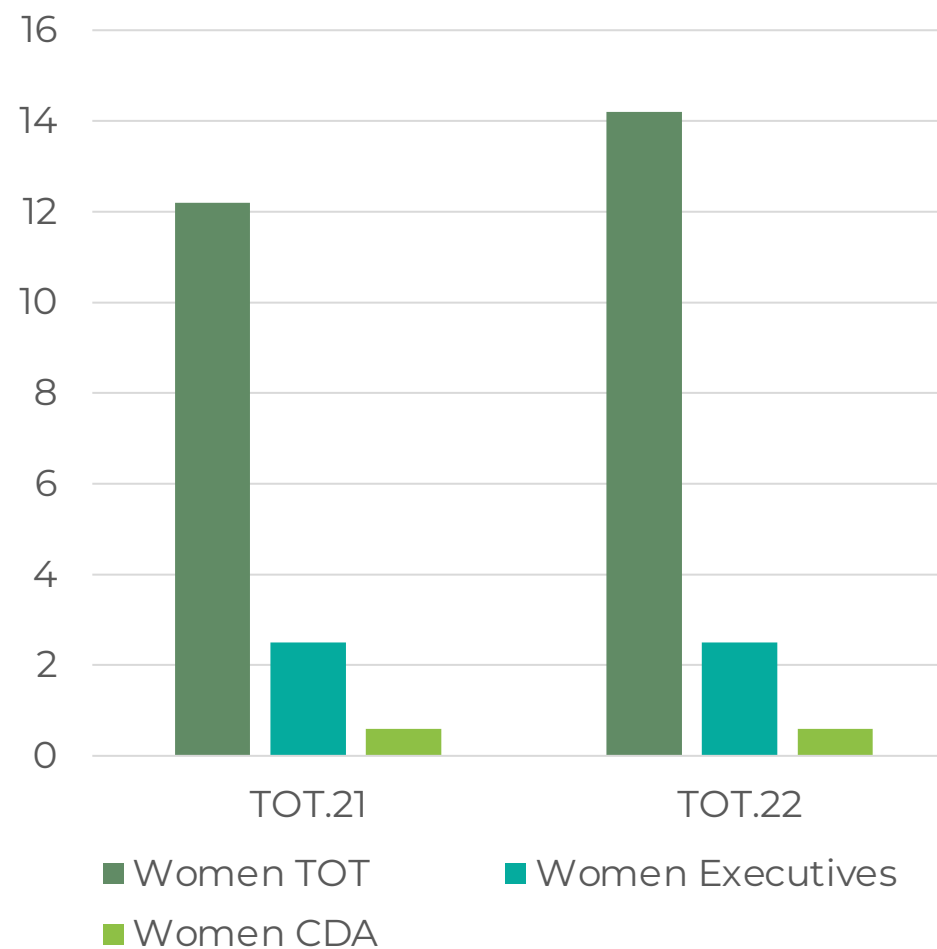
Arcoprofil for women

- training for women:
 - academy in mechanics for female: 120 hours of technical training for 10 candidates, 6 of them hired in 2022
 - 'Renato Casolin scholarship' to promote the female graduates enrolling at the ITS mechatronics institute: Arcoprofil pay the school taxes for two years.
- recruitment of female workers in production: 12 women hired in 2022 out of 66 new hires.

Diversity management

Female presence

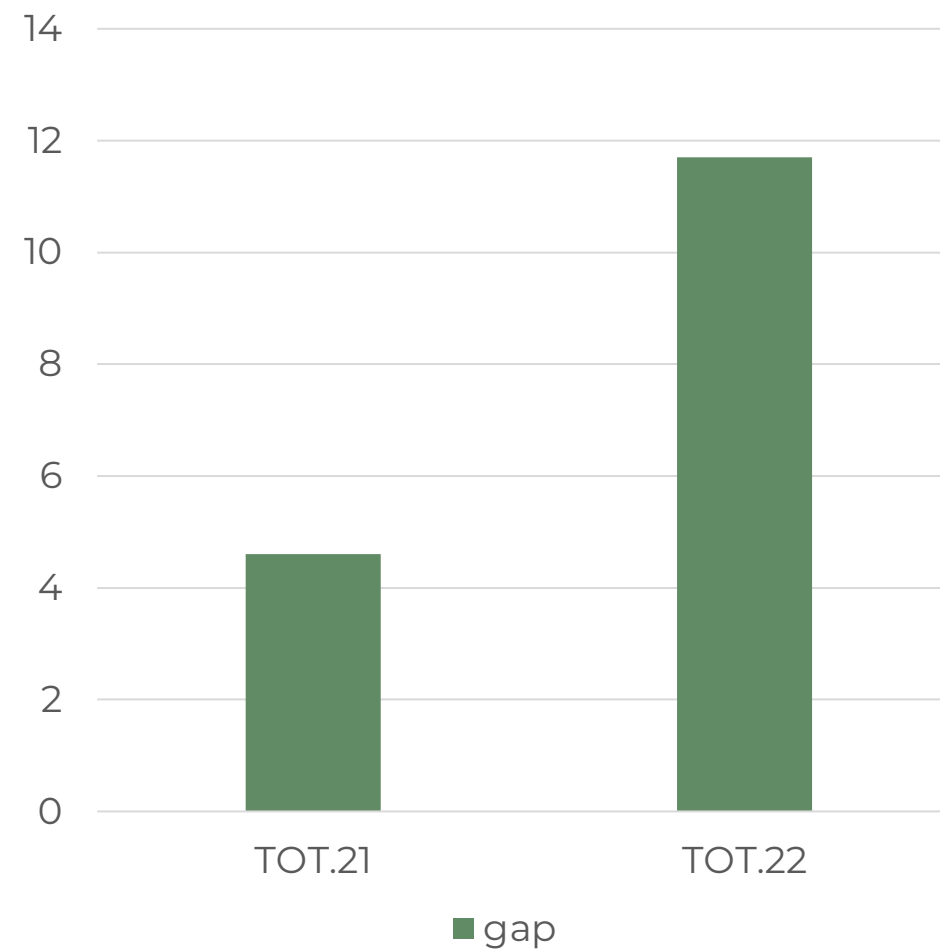
%	TOT.21	TOT.22
Women TOT	12,2	14,2
Women Executives	2,5	2,5
Women CDA	0,6	0,6



Diversity management

Gender wage gap

%	TOT.21	TOT.22
Gap	4,6	11,7



Diversity management

Comment on the KPIs above:

In the past years, before 2023, Arcoprofil was simply collecting and monitoring data and understandings.

In 2023, after checking the results of previous years and the inclusion plans adopted, a target has been set for the presence of women and the gender wage gap. This will allow Arcoprofil to monitor the trend of female presence and the gender wage gap in the company.

Health cover

Arcoprofil (in compliance with the relevant Collective Bargaining Agreement, the legal regulations in force in Italy and the above-mentioned policy) monitors the health coverage offered to its workers

According to this, the following KPIs have been developed and monitored:

	TOT.21	TOT.22
% employees covered by health insurance (Metasalute)	100,0	85,2
% employees registered on the National Social Security Institute (INPS)	76,9	93,8
Number of employees covered by health insurance (Metasalute)	160	147
Number of employees registered on the National Social Security Institute (INPS)	123	134

Health cover

Comment on the KPIs above:

The calculation includes temporary workers who are covered directly by the temporary employment agency.

In the past years, before 2023, Arcoprofil was simply collecting and monitoring data and understandings.

In 2023, Arcoprofil has set a target both for CCNL coverage (it is a legal requirement for employees, and must be 100%), and for Metasalute coverage (in %), and will compare it with previous years and existing plans. This will allow Arcoprofil to monitor the progress of Metasalute and CCNL covering in the company.

Health and safety at work

Health and safety at work

Arcoprofil s.r.l is certified in the field of Occupational Health and Safety since 2017 (OHSAS 18001 standard), and it has been ISO 45001 certified since 2020. It has also included a specific section on this subject in the sustainability policy.

According to the law, Arcoprofil has prepared its own DVR (Occupational Health and Safety Risk Assessment Document), where all risks are identified and analyzed, including the relevant countermeasures where applicable; in particular, the DVR includes the assessment of noise risk, physical risk and chemical risk.

Every year, the HSE Manager organizes a meeting (according to the Italian Law) to share with the employer the health and safety situation in the company, together with the HSE Manager and the occupational doctor. The report includes the aspects of DVR assessment, accident trends, use of PPE and staff training, as well as all the significant information on any events that occurred during the year. Moreover, every year, a specific Management Review on Occupational Health and Safety is prepared and discussed, as required by ISO 45001.

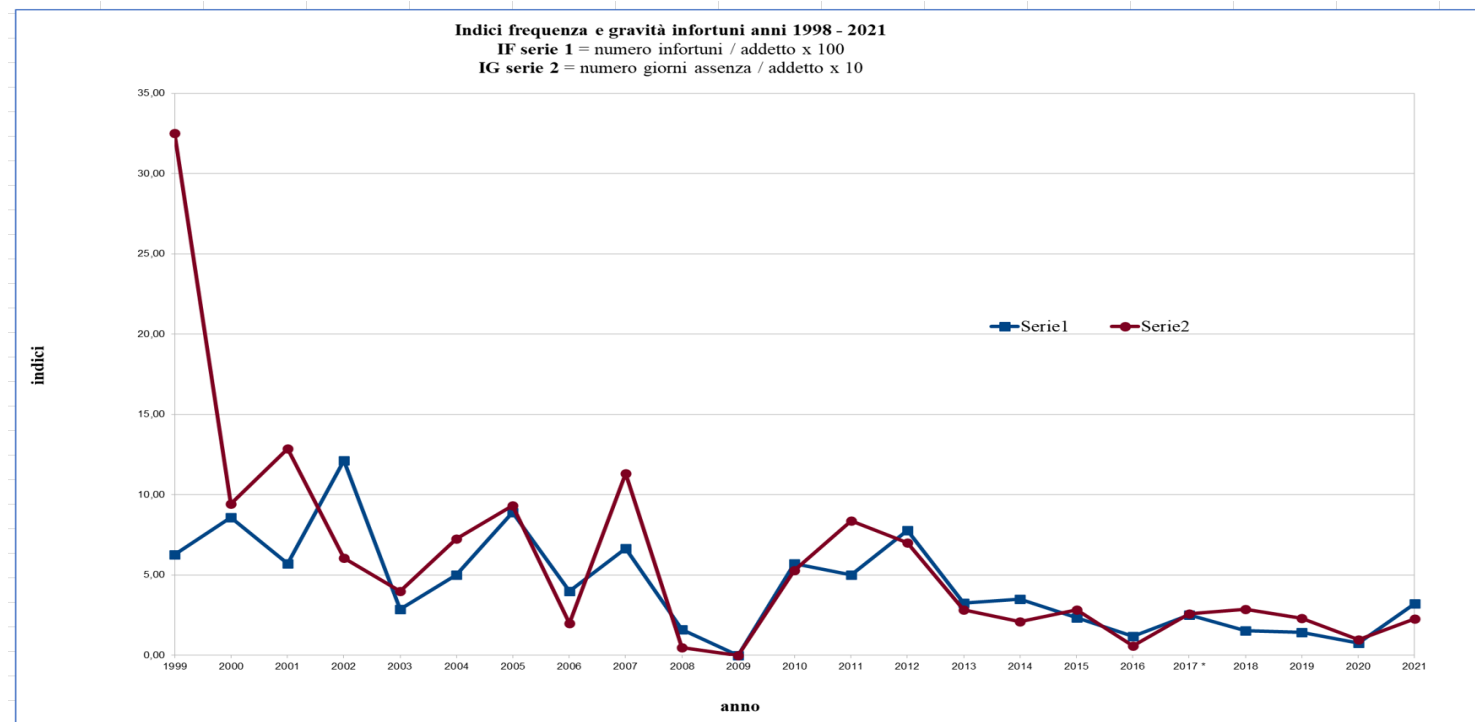
Health and safety at work

According to the ISO 45001 certification and in order to make the safety instructions clear for all, Arcoprofil implemented specific procedures for using the PPE (Personal Protective Equipment) or regarding other key topics such as the management of chemicals.

In addition, the operations for safe machinery and risk awareness of the employees are ensured through appropriate training.

Injuries

This first graph represents Arcoprofil's 'history' for accidents and documents the drastic decrease of such events and continuous improvement made over time, since 1999. The KPIs shown below refer to more recent periods.



Injuries

Frequency and severity of injuries

	TOT.21	TOT.22
No.injuries	5	0
FI	0,03	0,0
SI	1,8	0,0

FI = Frequency Index (no. of injuries on no. of employees)
 SI= Severity Index (lost working hours on no. of employees)

	TOT.21	TOT.22
Frequency	0,19	0,0
Severity	0,06	0,00

Frequency= no. of injuries on total working hours
 Severity= lost working hours on total working hours

Injuries

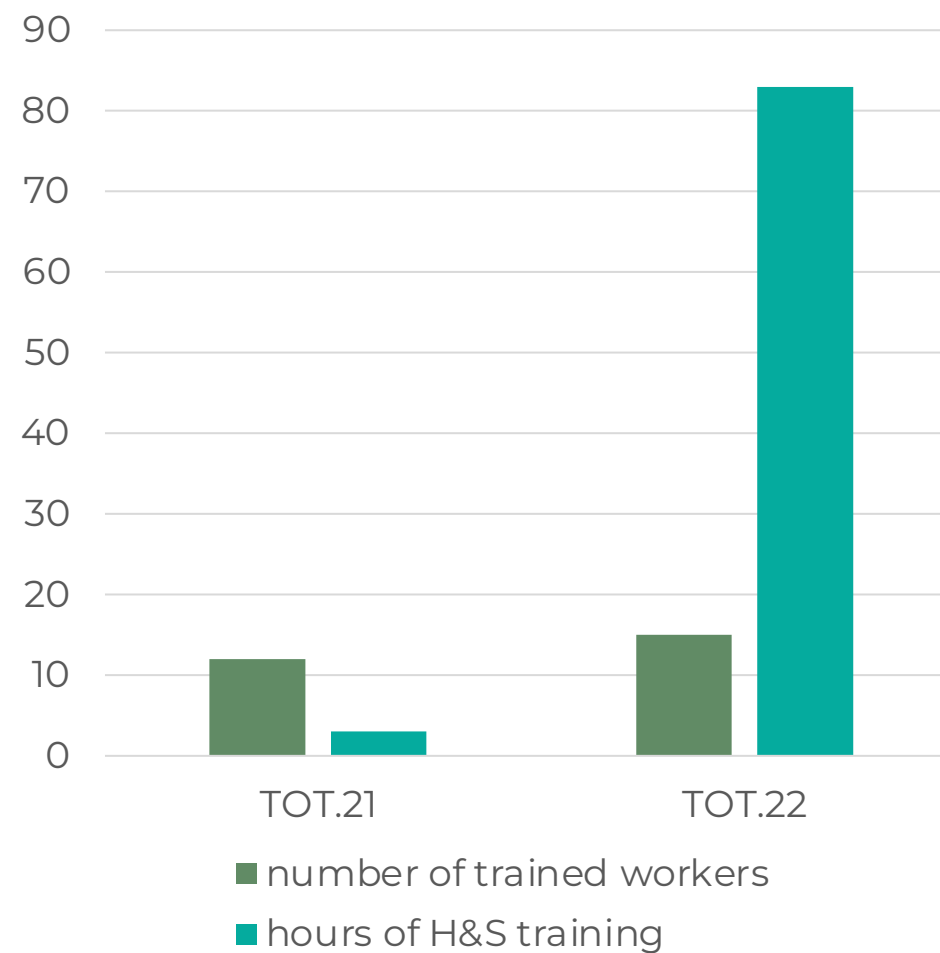
Comment on the KPIs above:

The result in 2022 was very good and in line with the targets (which can only be ZERO: higher numbers are not acceptable at the level Arcoprofil has reached).

The methodology for calculating the KPI FI (frequency index) and SI (severity index) was taken from the website of National Institute for insurance against accidents at work (INAIL).

H&S Training

	TOT.21	TOT.22
no. of trained employees	12	15
n.hours training	3	83



H&S Training

Comment on the KPIs above:

Arcoprofil has always carried out Health and Safety training in line with legal requirements (see mandatory training) as well as all necessary, additional training to ensure absolutely safe operations. However, for specific training, targets have never been defined. With the occasion of sustainability, a target was defined based on previous years' data and needs, shared and approved; in this way, we can monitor the training carried out against a target.

Regarding the above on Occupational Health and Safety, Arcoprofil will consider increasing the KPIs currently adopted, maybe as a second step.

The background of the slide features a light green, stylized illustration of a sustainable landscape. It includes rolling hills, various types of trees, wind turbines, and a city skyline on the left. A small cloud with raindrops is in the top left corner. The title text is centered over this background.

Environment and energy containment

Environment and energy containment

Arcoprofil is certified ISO 14001 standard since 2002. A specific section on this subject has been also included: Sustainability Policy POL_01, in addition to what is already included in the 'certification' Policy POL_02, aimed at satisfying ISO 14001 requirements.

Arcoprofil is also going to reach the Energy certification (ISO 50001) by 2024; an internal manager for this activity has already been identified.

In order to reduce its energy consumption, Arcoprofil is installing the following plants:

- A district heating, to be completed by september 2024, with the benefit of saving approximately 150 Tons/year CO2
- A 467 KWp photovoltaic plant with a CO2 reduction of about 100 Tons/year

Arcoprofil prepared its own DVA (Environmental Risk Assessment Document), where all risks are identified and analysed, including countermeasures where applicable. Annually, a specific Environmental Management Review is prepared and discussed, as required by ISO 14001.

Environment and energy containment

In particular, an Environmental Plan is followed and monitored in accordance with this standard.

Arcoprofil also does not use 'restricted' substances as defined by the EU ROHS regulation.

Arcoprofil is committed in reducing its emissions (monitored throughout Carbon Footprint calculation), its water consumption and its impact on biodiversity.

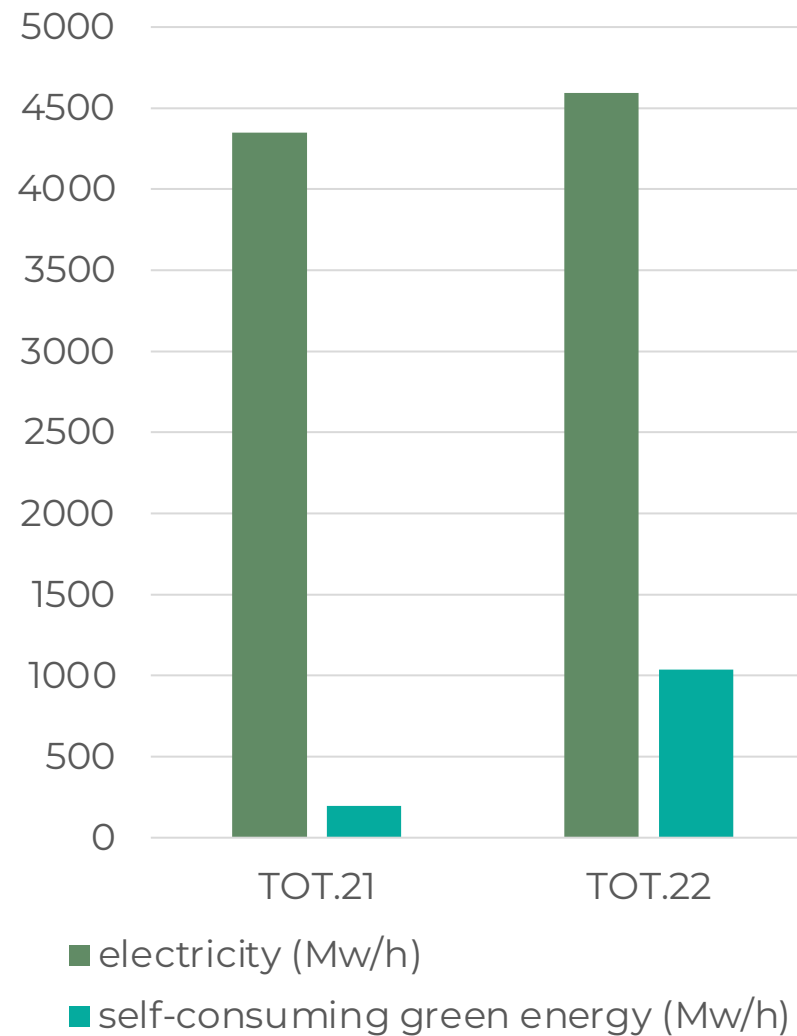
Moreover, regarding ISO 14001 certification and in order to make the safety information clear, specific Environmental procedures are available, in particular for waste management or for other key topics.

At the moment, a specific environmental emergency plan is not available yet.

Energy consumption

	TOT.21	TOT.22
Total energy	4.350	4.593
Self-consuming green energy from PV	196	1.037

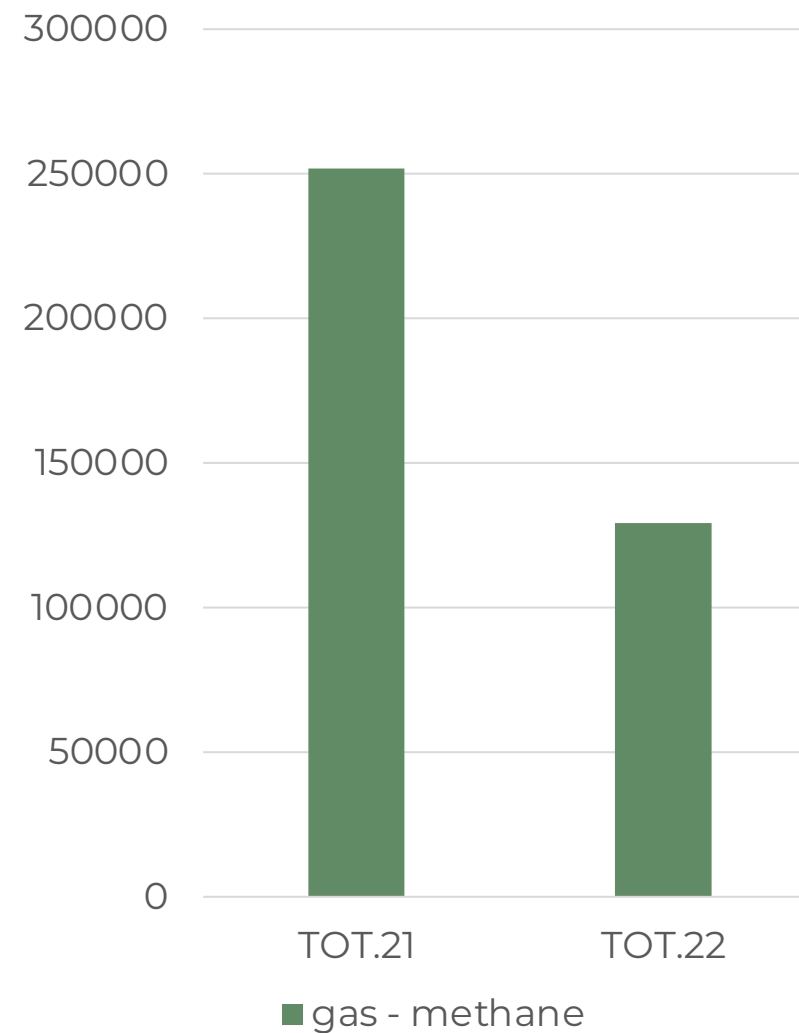
(values expressed in MWh)



Energy consumption

	TOT.21	TOT.22
gas - methane	251.720	129.257

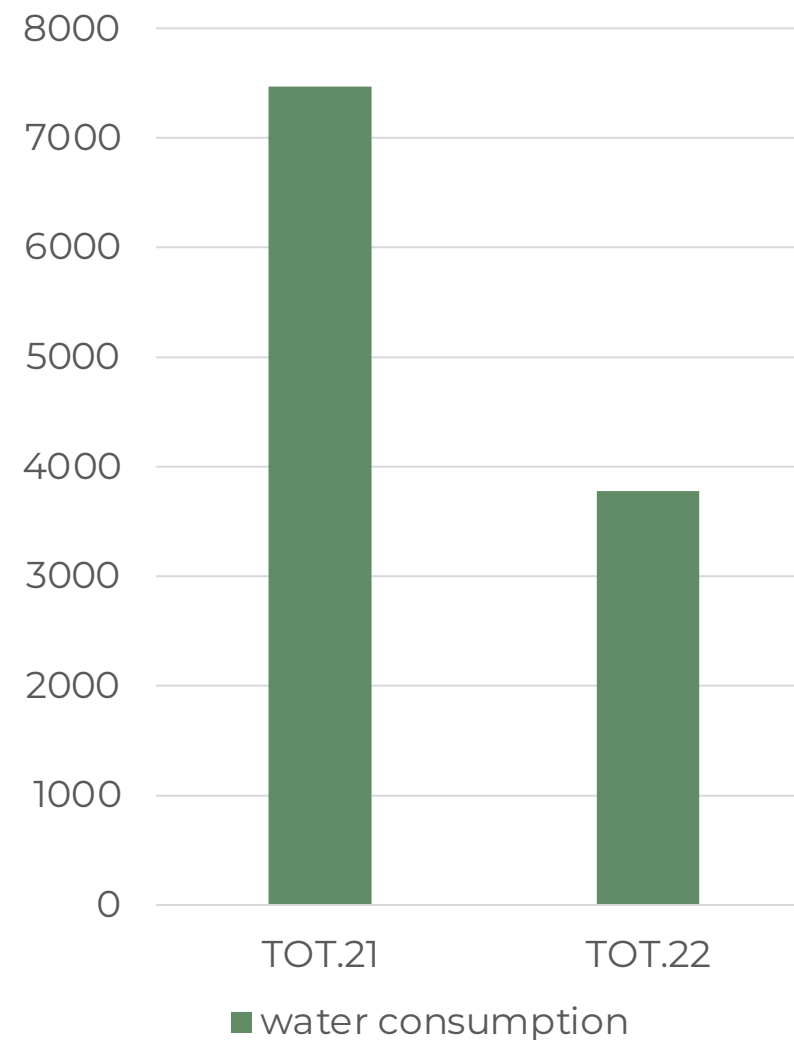
(values expressed in M³)



Water consumption

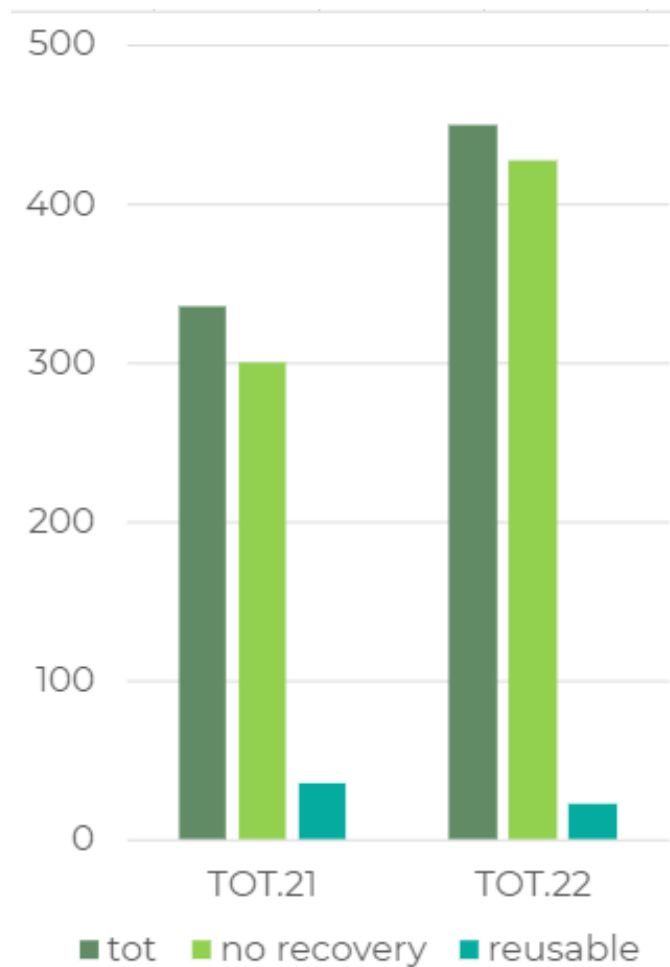
	TOT.21	TOT.22
Consumption	7.468	5.995

(values expressed in M³)



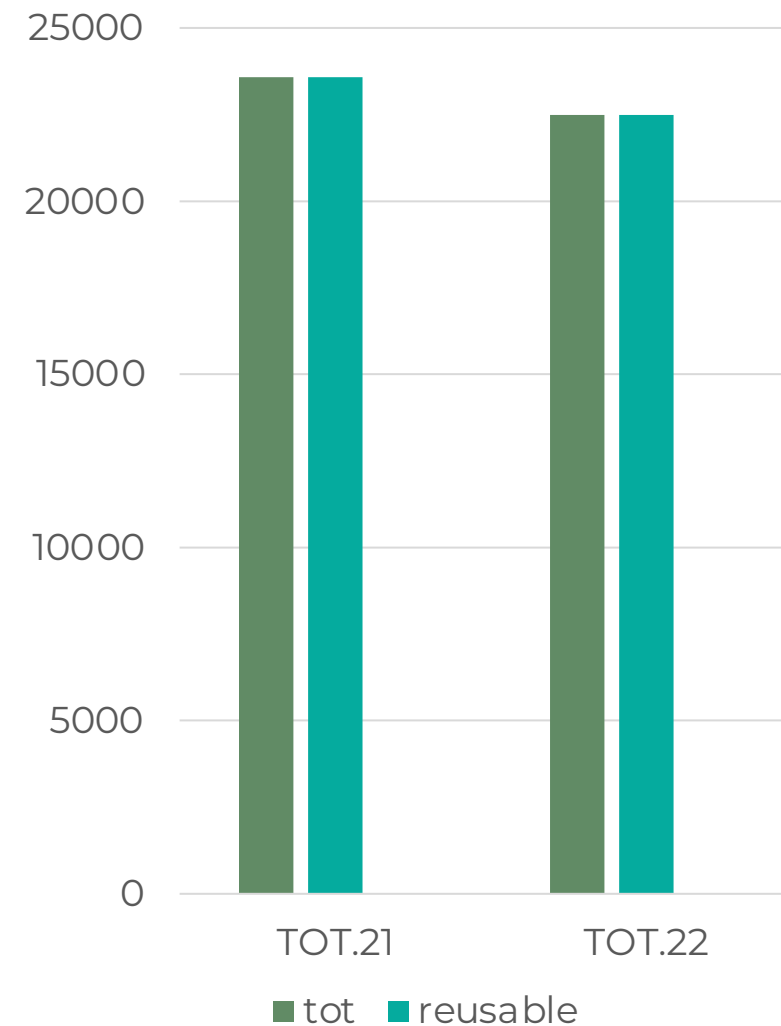
Hazardous waste

	TOT.21	TOT.22
Tot (in tons)	335	449
no recovery	300	427
reusable	35	22



Non-hazardous waste

	TOT.21	TOT.22
Tot (in tons)	3.049	2.753
reusable	3.046	2.753
no recovery	3	0



Environment and energy containment

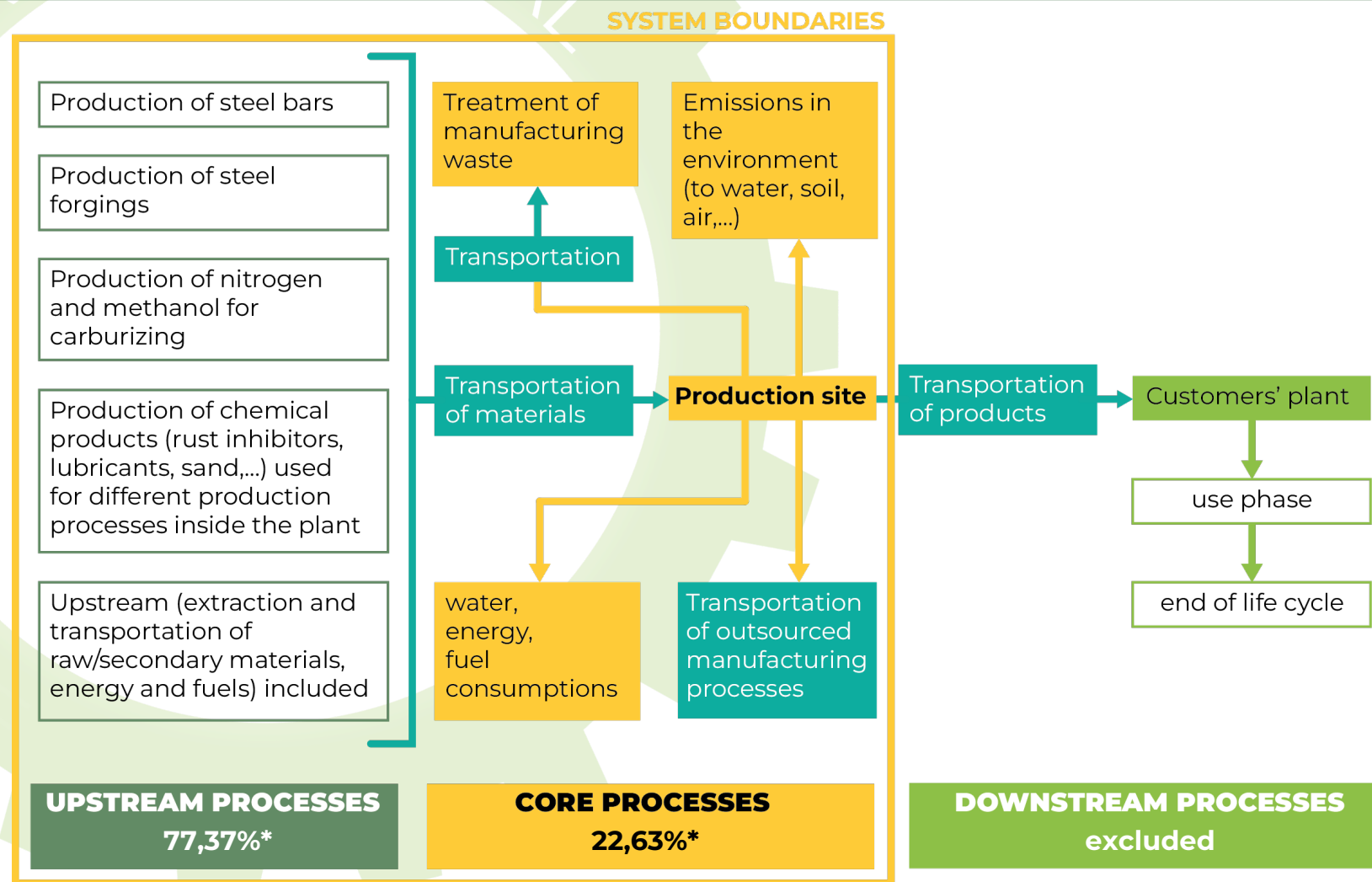
Comment on the KPIs above:

In the past years, before 2023, Arcoprofil was simply accounting and monitoring data in order to gather info and understandings. In 2023, a target for water consumption and waste has been set. This will allow the company to monitor the trend of water consumption and waste production against concrete targets. By 2024, Arcoprofil aims to implement the disposal waste control which consists on weekly monitoring the type of waste and weighing, as required by the law. The long/medium-term goal is to implement separate collection for all activities reducing mixed waste.

With regard to the above-mentioned Environment and Energy Management, Arcoprofil will evaluate in a second step, the opportunity of increasing the KPIs currently adopted.

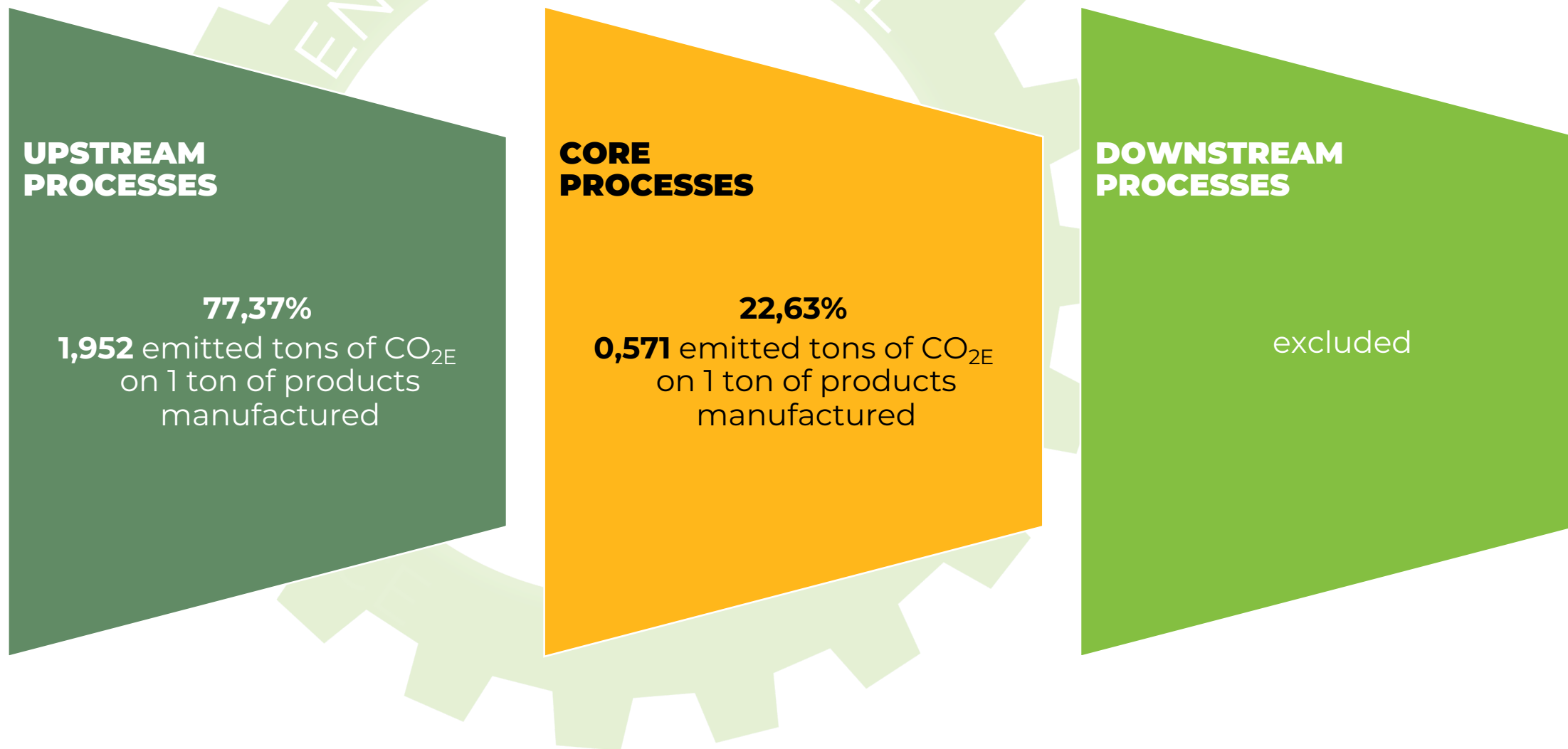
Focusing on our carbon footprint...

Where do our emissions come from?



*% on total emitted tons of CO₂

Carbon footprint analysis results



Our plan to reduce our carbon footprint

2022

- 490 tons
on CO₂ emissions*

* due to 10 months of
operation of the
photovoltaic plant

2023

- 80 tons
(total: -570 tons)
on CO₂ emissions*

* based on
+20% green energy
produced by our
photovoltaic plant

2024

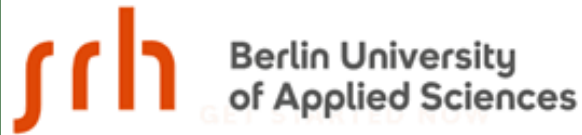
- 250 tons
(total: -820 tons)
on CO₂ emissions*

* based on the activation of
district heating plant

2035

carbon neutral

Our plan to reduce our carbon footprint – step 2 (mid-term)



Last April we started a collaboration with SRH Hochschulen Berlin to study and develop a strategy to reduce our emissions



Our carbon footprint has been analyzed by Beleafing, an external professional company specialized in this field. After the first process stage (data analysis), we're now working on finding new measures to reduce our emissions

**within 2035:
carbon neutral**

Hydrogen for Electricity Storage

General considerations on system efficiency

Given the energy conversion steps, providing 100 kWh to an electrolyser for hydrogen production (80% max efficiency, ~62.5% for AEM electrolyser) and then converting it back to electricity (approximately 60% efficiency) yields less than 50 kWh.

Considering potential added energy needs, the overall system **efficiency is estimated at 30-40%, or less.**

16.09.2023

The following document is a short overview of some important aspects of the efficiency of hydrogen as electricity storage.

Glossary:

Electrolyser - which use electricity to split water into hydrogen and oxygen (International E Nm3 - Normal cubic meter; A Nm3 (Normal Cubic Meter) is a standard unit for measuring atmosphere of pressure, making it a consistent reference point for gas quantity.

Hydrogen lower heating value (LHV) - amount of energy released when 1 kilogram of hydrogen is combusted in an idealized process where the water vapor in the combustion products is condensed.

AEM Electrolyser - Anion exchange membrane Electrolyzer (International Energy Agency, 2023).

Hydrogen for Electricity Storage: General considerations on system efficiency

The following text with blue color was taken directly from the supplier's website at [Source: https://www.enapter.com/facts](https://www.enapter.com/facts)

"What is the overall efficiency of Enapter's electrolyser?"

With the AEM electrolyser we need 4.8 kWh to produce 1 Nm³ of hydrogen. That to produce 1kg of hydrogen (compressed at 35 barg and with a purity of ~99.9%).

Calculation for energy needed to generate 1kg of hydrogen, stated for the AEM electrolyser:

$$\frac{4.8 \text{ kWh}}{1 \text{ Nm}^3} \cdot \frac{11.126 \text{ Nm}^3}{1 \text{ kg}} = 53.4 \frac{\text{kWh}}{\text{kg}}$$

"1 kg of hydrogen contains 33.33 kWh/kg (lower heating value), i.e. our electrolyser has an efficiency of 62.5%."

$$33.33 \frac{\text{kWh}}{\text{kg}} \div 53.4 \frac{\text{kWh}}{\text{kg}} = 62.5\%$$

But this is not the overall system efficiency. The 33.33 $\frac{\text{kWh}}{\text{kg}}$ is the lower heating value, the amount of energy released when 1 kilogram of hydrogen is completely combusted in a process where the water vapor in the combustion products is condensed.

"It is important to compare apples with apples: power input, hydrogen product quantity, and system efficiency. These are very different for different manufacturers. System efficiencies (not standard) are compared."

Every energy conversion there are energy losses.

1st Step: from electricity to hydrogen

Recently, new electrolyser designs have reported efficiencies of 80% (International Energy Agency, 2023).

2nd Step: from hydrogen to electricity

Fuel cells are capable of exceeding 60% efficiency when converting chemical energy from a fuel to electrical energy. (Office of Energy Efficiency & Renewable Energy, s.f.).

Given the energy conversion steps, providing 100 kWh to an electrolyser for hydrogen production (80% max efficiency, ~62.5% for AEM electrolyser) and then converting it back to electricity (approximately 60% efficiency) yields less than 50 kWh. Considering potential added energy needs, the overall system efficiency is estimated at 30-40%, or less.

Ing. Carlos Pérez Bracamontes

References

International Energy Agency. (2023, July 10). *Electrolysers*. Retrieved from International Energy Agency: <https://www.iea.org/energy-system/low-emission-fuels/electrolysers>

Office of Energy Efficiency & Renewable Energy. (n.d.). *Hydrogen and Fuel Cell Technologies Office, Fuel Cells*. Retrieved from Office of Energy Efficiency & Renewable Energy: <https://www.energy.gov/eere/fuelcells/fuel-cells>

Ethics in business activities

Ethics in business activities

Arcoprofil's Sustainability Policy POL_01 includes a specific section regarding those issues, in accordance with the requirements of the Ecovadis and NQC SAQ 5.0 certifications.

In particular, Arcoprofil has developed its own Anti-corruption Brochure, to define guidelines to prevent corruption and any inappropriate conduct concerning gifts and gratuities.

In addition, Arcoprofil has its own Information Security Management Concept and is going to reach the certification of the Information System according to the Automotive standard 'TISAX - Trusted Information Security Assessment Exchange' by 2024.

The background of the slide features a light green silhouette illustration of a landscape. It includes a city skyline on the left, several wind turbines in the center, and various trees on the right. A small cloud with raindrops is in the top left corner. The title "Sustainable procurement" is centered in a bold, black, sans-serif font, with a thin horizontal line extending from the left edge of the text across the slide.

Sustainable procurement

Sustainable procurement

The Sustainability Policy POL_01 of Arcoprofil includes a specific section on these issues, in accordance with the requirements of the Ecovadis and NQC SAQ 5.0 certifications.

In particular, Arcoprofil asks to its suppliers to start the path towards sustainability throughout a periodic Sustainability Self-Assessment based on of the NQC SAQ 5.0 standard.

Each supplier must comply with the Arcoprofil Code of Ethics, with the rules to prevent corruption and any inappropriate conduct about gifts and gratuities, and with the rules of the Grievance Mechanism.

Conclusion

Conclusions

About sustainability a lot has been done but more is yet to come.

It is necessary to spread the knowledge within the whole company, to monitor and increase the investments already started, to maintain the certifications and to follow further improvements required by the customers and by the EU and Italian law.

The sustainability strategy has become part of Arcoprofil business model and will be integrated in all the company activities and goals.



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