



SPENO INTERNATIONAL SA

CO₂ Policy 2023 SPENO International S.A.



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**the sustainability
consultants**



Introduction and policy

SPENO International S.A. provides products and services (directly or indirectly) to commissioning parties who occasionally use award advantage in their tenders, based on the principles of the CO₂ Performance Ladder. For SPENO International these clients are predominantly private railway parties and semi-governmental organizations. The CO₂ Performance Ladder challenges companies to reduce their own CO₂ emissions.

The CO₂ Performance Ladder is based on four pillars: insights (the footprint), CO₂ reduction (goals and actions), communication and participation. Every pillar of the CO₂ Performance Ladder has five levels, ascending from 1 to 5. A higher level on the ladder will provide a higher award advantage in tenders. The activities are being assessed by an authorised certifying organization to determine the level on the CO₂ Performance Ladder. To achieve a certain level, actions have to be taken on every pillar of the ladder. In order to do so, steps have to be made on every pillar of the ladder.

The importance of sustainability is a given in present times. To deliberately deal with sustainability in our daily activities, we aim to do business in CO₂ conscious manner. We strive for continuous improvement of the emission reduction policy and to create a growing 'green consciousness' under employees. Our energy policy is focussed on optimally using our machinery and other assets (such as buildings). This to minimize CO₂ emissions. The positive effect of a lower energy consumption is twofold: a lower consumption is positive for the environment because of lower CO₂ emissions. At the same time a more effective use of machinery and assets leads to lower operational costs. Alongside this energy policy we aim to lower the energy consumption in core business processes and activities by taking CO₂ reduction measures. The general purpose of the energy management system is to continuously improve the energy-efficiency and reduce the CO₂ emissions of SPENO.

The total CO₂ emissions of SPENO International amount to 17.448 tons CO₂ in the reference year 2019. Of these emissions, 16.132 ton originates from scope 1. SPENO International thereby classifies as a big company in terms of CO₂ emissions.

Size	Services	Projects
Small company	Total CO ₂ emissions amount to a maximum of (≤) 500 ton per year.	Total CO ₂ emissions of the offices and other business facilities amount to a maximum of (≤) 500 ton per year, and the total CO ₂ emissions of all construction and production facilities amount to a total of (≤) 2.000 ton per year.
Medium-sized company	Total CO ₂ emissions amount to a maximum of (≤) 2.500 ton per year.	Total CO ₂ emissions of the offices and other business facilities amount to a maximum of (≤) 2.500 ton per year, and the total CO ₂ emissions of all construction and production facilities amount to a total of (≤) 10.000 ton per year.
Big company	Total CO ₂ emissions amount to more than (>) 2.500 ton per year.	Total CO ₂ emissions of the offices and other business facilities amount to a maximum of (>) 2.500 ton per year, and the total CO ₂ emissions of all construction and production facilities amount to a total of (>) 10.000 ton per year.

Tenders with award advantage

A tender with award advantage is a tender in which the CO₂-Performance Ladder certificate has played a role in the tender notice. It is not relevant whether the advantage has been decisive in being awarded the procurement, or in which way the CO₂-Performance Ladder was requested in the tender notice. With this definition in mind, SPENO International did not obtain any projects with award advantage in 2022 through the CO₂ Performance Ladder.



Organizational boundary

There have been no changes in organizational boundary.

SPENO International S.A.

Excluding

- Mecnafer
- ASI
- NSKK
- SRMA

Emission inventory report

This report deals with the fiscal year of 2022. The year 2019 serves the purpose of reference for the CO₂ reduction measures. The direct and indirect GHG-emissions of SPENO International amounted to 19.759 tonnes of CO₂ in 2022. Of this amount, 18.977 tonnes were caused by direct GHG-emissions (scope 1) and 782 tonnes by business travel. There were no indirect GHG-emissions (scope 2). SPENO uses green electricity and the offices do not use any gas. The organizations head office in Geneva is one of the most sustainable buildings in the city!

CO ₂ -EMISSIONS			2022 Whole year		
SCOPE 1	AMOUNT	UNIT	CONVERSIONFACTOR (g CO ₂ per unit)	TON CO ₂	
Fuel consumption - lease cars		105.846 liter	3.262	345,3	2%
Fuel consumption - trains		5.711.822 liter	3.262	18.632,0	94%
Total scope 1				18.977,2	
SCOPE 2	AMOUNT	UNIT	CONVERSIONFACTOR (g CO ₂ per unit)	TON CO ₂	
Electricity - grey		0 kWh	523	-	0%
Electricity - green		220.736 kWh	0	-	0%
Total scope 2				-	
BUSINESS TRAVEL	AMOUNT	UNIT	CONVERSIONFACTOR (g CO ₂ per unit)	TON CO ₂	
Air travel <700 km		447.416 km	234	104,7	1%
Air travel 700-2500 km		3.469.513 km	172	596,8	3%
Air travel >2500 km		511.428 km	157	80,3	0%
Total business travel				782	
TOTAL EMISSIONS SCOPE 1, 2 AND BUSINESS TRAVEL				19.759	



Energy management action plan

	Frequency	Administration department Manager	CEO	QSE Manager	Communication	QSE Employees	Webmaster	Interns
Insight								
Collect data on emission inventory	Half-yearly	A		R				
Colleague tests on emission inventory	Half-yearly			A				
Approve emission inventory	Yearly		A	R				
Draw up emission inventory report	Yearly					A		
Evaluate: energy-assessment	Yearly			A				
Reduction								
Conduct research on energy reduction	Half-yearly			A		R		
Determine CO ₂ -reduction measures	Half-yearly			A				
Determine CO ₂ -reduction goals	Yearly			A		R		
Approve CO ₂ -reduction goals	Yearly		A					
Realise CO ₂ -reduction goals	Continuous			A		R		
Monitor & evaluate progress CO ₂ -reduction	Half-yearly			A				
Communication								
Provide information for news messages	Half-yearly				A			R
Update website	Half-yearly					R	A	
Update page SKAO-website	Yearly			A				
Maintain internal communication	Half-yearly			A		R		
Approve internal communication	Half-yearly			A				
Approve external communication	Half-yearly		A					
Participation								
List interesting initiatives	Half-yearly			A				
Choose the fitting initiatives	Yearly			A				
Participate in the initiatives	Continuous			A		R		
Miscellaneous								
Final check CO ₂ -report	Continuous			A				
Check all CO ₂ Performance Ladder requirements	continuous			A				
Conduct Internal Audit	Yearly							
Report to the management	Half-yearly			RA				
Decision-making on CO ₂ -reduction policy	Half-yearly		A	R				
Management review	Yearly		A	R				



Objectives

SPENO International wants to continue reducing 2.5% CO₂ emissions per year. SPENO thinks it's feasible with the current measurement list. The year 2019 was chosen as a new base year, since this year best represents the current practises of the organisation. SPENO International has set out to reach the following objective in the coming years:

Scope 1, 2 and business travel goals SPENO International

SPENO International wants to reduce their CO₂ emissions by 15% in 2025 compared to 2019*

*The goal stated above is linked to total meters grinded.

The further specified goals for scope 1, 2 and business travel are formulated as follows:

Scope 1: 14% reduction in 2025 compared to 2019

Scope 2: 0% reduction in 2025 compared to 2019

Business Travel: 1% reduction in 2025 compared to 2019

A 0% reduction in scope 2 is due to the fact that there is no emission in this scope. The electricity is 100% green. Next to the evaluation of the progress in scope 1 and 2, the main objective is also split up per emission stream in order to formulate objectives that are more detailed and easier to measure. During the evaluation of the reduction plan, these sub-objectives below will be used to describe the progress in CO₂ reduction. This progress is being backed by the mission data for scope 1 and 2 and business travel.

Sub-objective offices

SPENO International will reduce the energy consumption of offices by 0.5%.

Measures

- *Heat pump installed.*
- *Inform employees about economic behaviour at the office;*
- *Paste posters at the printers. Inform people about two-sided printing/black-white printing/etc.*
- *Stimulate the use of public transport for commuter travel;*
- *There has been a switch to 100% hydraulic electricity produced by local producers.*
- *Yearly decision to use green energy for the office in Geneva.*

These goals are for 2025 compared to 2019. In 2016 the offices moved to the new building. These new offices have the certificate of high-energy efficiency. For climate control a heat-pump has been installed, which has eliminated the use of gas and fuel for heating the offices. The new office is situated near public transportation and employees are encouraged to take the train to work. The step has been made to have SIG blue electricity. This is 100% Hydraulic electricity produced by local producers. The heating of the offices is also electric. There is no usage of fossil fuels to power the offices of SPENO. This has had a drastic impact on the CO₂ emissions of the offices. The greatest advantage will still be obtained through the reduction of fuel consumption by trains.



Sub-objective air travel

SPENO International will reduce air travel by 1%

Measures	<ul style="list-style-type: none">- <i>Installation of new video conferencing system</i>- <i>Increase the use of this system, so travel abroad when necessary</i>
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In the new offices in Geneva a new video conferencing system has been introduced. This system has already reduced air travel to abroad companies. Now trips will only be done when necessary and subjected to authorisation from the CEO.

Sub-objective lease cars

SPENO International will reduce the fuel consumption of lease cars by 0,5%.

Measures	<ul style="list-style-type: none">- <i>All cars have been replaced by BlueMotion cars, which are more fuel efficient.</i>- <i>Send a newsletter to the field personnel about economic drive behaviour.</i>- <i>Get first electric cars</i>
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SPENO needs vans able to cover long distances (> 500 kms). Our car supplier (VW) will have its first electric models of vans for professionals in 2023. The company will then examine their performance to verify they match our needs and might buy some.

Sub-objective fuel consumption trains

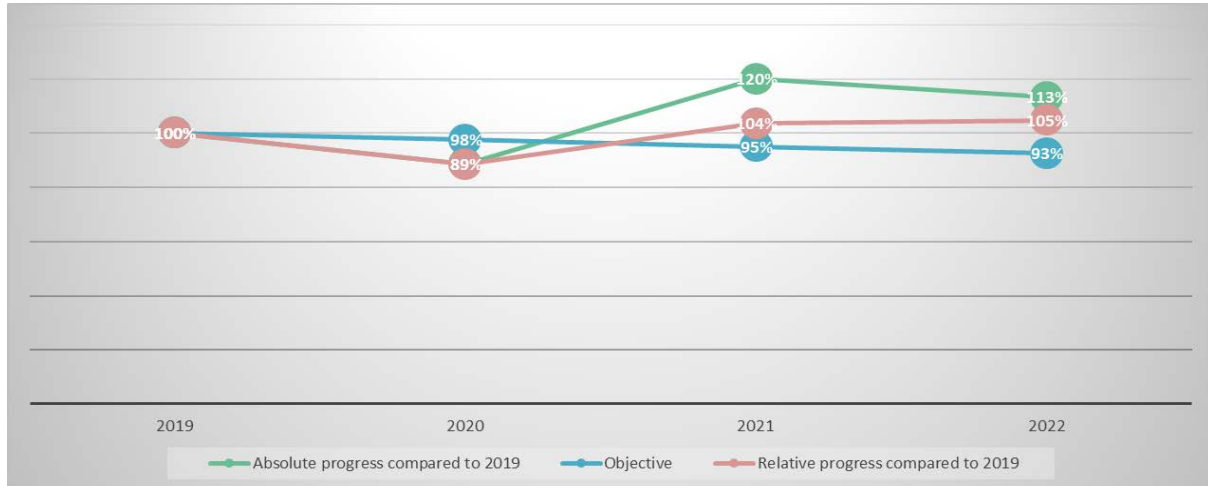
SPENO International will reduce the fuel consumption of the machines by 14%

Measures	<ul style="list-style-type: none">- <i>Limit maximum use of the engine (reissue the instruction);</i>- <i>In case of changing the engine choose for an engine with the latest technology concerning energy usage.</i>- <i>Development and research of an electric grinding train.</i>
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Progress CO₂ reduction

The table below shows the progress in CO₂ emission reduction in scope 1, and 2 and business travel for SPENO International.



PROGRESS CO ₂ EMISSIONS					
	2012	2019	2020	2021	2022
SCOPE 1	Whole year	Whole year	Whole year	Whole year	Whole year
Gas consumption - office	13,1	-	-	-	-
Fuel consumption - office	8,6	-	-	-	-
Fuel consumption - lease cars	132	327	263	356	345
Fuel consumption - trains	17.682	15.805	14.562	19.791	18.632
TOTAL SCOPE 1	17.836	16.132	14.825	20.147	18.977
SCOPE 2					
Electricity - grey	60,0	-	-	-	-
Electricity - green		-	-	-	-
TOTAL SCOPE 2	60	-	-	-	-
BUSINESS TRAVEL					
Air travel < 700 km	214	231	80	72	105
Air travel 700-2500 km	698	727	512	667	597
Air travel > 2500 km	374	358	60	54	80
TOTAL BUSINESS TRAVEL	1.286	1.316	652	793	782
TOTAL EMISSIONS	19.183	17.448	15.477	20.940	19.759

There has been a relative increase in emissions in 2022, compared to 2019 of 5%.

Sub-objective offices

The sub-objective for offices is to reduce the energy consumption by 0,5%. There is no gas consumption since 2016. Since 2017, SPENO does not have emission for electricity anymore, since they are using green electricity. Electricity consumption has increased with 4% in 2022 compared to 2019.

kWh	2019	2020	2021	2022
Green electricity	211.912	188.048	186.792	220.736

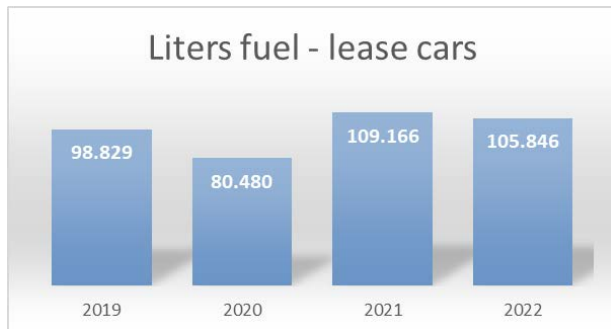


Sub-objective air travel

The sub-objective was to reduce air travel by 1%. Due to covid, there were very few flights in 2020. Compared to 2019, air travel has been reduced by 35% in 2022. The biggest reduction took place in long distance flights. The goal is therefore reached.

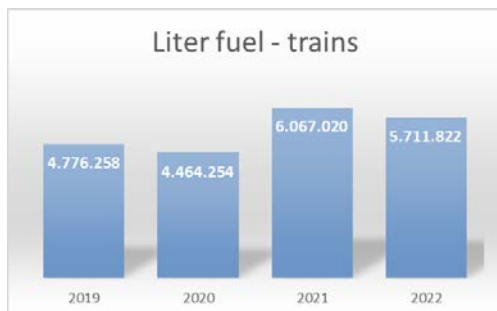
Sub-objective lease cars

The sub-objective for the emissions from lease cars was to remain on the same level. Compared to 2019 there was a 7,1% increase in 2022.



Sub-objective fuel consumption trains

SPENO International wants to reduce the fuel consumption of the machines by 14% in 2025 compared to 2019. As stated, this goal is not yet reached. The fuel consumption of trains increased with 19% in 2022 compared to 2019. There does seem to be a reduction trend since 2021. The increase in 2021 (and 2022) compared to 2020, is due to the change from a preventive to a corrective grinding strategy, reducing the number of finished meters and increasing the fuel consumption. This was based on customer demand.



Conclusions

In sum, SPENO did reach its sub-goal for air travel. SPENO did not yet reach its goals for offices, fuel consumptions trains and lease cars. Therefore it also did not reach its scope 1 goal yet (14% reduction in 2025 compared to 2019). There has been an increase in scope 1 of 18%, mainly due to the increased fuel consumption of trains, compared to 2019. SPENO still expects to reach its goal by 2025. First of all, there is a reduction trend compared to 2021. Furthermore, trains have been put out of order in 2022 and 2023, therefore it is expected that the fuel emissions will go down in the next year. The increase in emissions has mainly been by the fuel consumption increase of trains, because more work has been done.



We explain this increase also due to the adjustment of our customers' grinding strategies, meaning:

- Most grinding trains (RR 16 types) and small line grinding trains (RR 24 types) have changed from a preventive to a corrective grinding strategy.
- This new corrective grinding strategy improves the quality of the rails and is demanded by costumers.
- The new corrective grinding strategy, however, requires SPENO to make more km's. Before SPENO rode down ones on a rail for grinding maintenance. They now have to ride 3 times to improve the quality to the costumers satisfaction. This means that SPENO has to make more kilometres to maintain 1 piece of rail.
- However, the quality of the rails becomes so much better through this new corrective grinding technique that in the long term, grinding takes place less often.

Furthermore, the energy audit showed that the MRR 600 train uses the most fuel per km (and is therefore polluting). This train is used for middling instead of grinding, a service that SPENO provides that causes a lot of emissions, but is necessary for the service delivery. However, the MRR 600 train is not used that often and has not been used in 2022. There is little customer demand for the specific services of this train. It is estimated that this train will go out of service in about 2 to 3 years. This will reduce SPENO's emissions.

Furthermore, when electric cars will be researched- and maybe purchased in 2023, big steps can be made in the emissions of lease cars. For scope 2, there is the goal of 0% reduction in 2025 compared to 2019 / Business Travel: 1% reduction in 2025 compared to 2019. This goal has been reached, SPENO will continue with its measures to further reduce emissions here. There has been a reduction of 41% in business travel in 2022 compared to 2019.



CO₂ reduction measures and plan of action

SCOPE 1

Measures gas consumption	Reduction on flow	Reduction total	Reduction in tonnes
Gasless office	0%	0%	-
Total on gas consumption	0%	0%	-

Measures fuel consumption	Reduction on flow	Reduction total	Reduction in tonnes
In case of replacing cars, select a car that is economic on fuel (Bluemotion) or electric	2%	0%	6,54
Send a newsletter to the field personnel with cars about economic drive behaviour	1%	0%	3,27
Limit maximum use of the engine - minimize time to warm up motor	7%	6%	1.106,32
Discuss reducing travel distance with client (RouteLint)	1%	1%	158,05
Investigate the possibility to use electric trains (elocs) more regularly - to be towed for transit /	4%	4%	632,19
In case of changing the engine, choose an engine with the latest technology concerning energy usage	2%	2%	316,09
When available - purchase electrical hand tools	0%	0%	-
Maintain 75% of equipment according maintenance guide	0%	0%	-
Optimize planning of train relocation, to reduce train passes and putting old trains out of order	1%	1%	126,44
Electrification of our 5 depots in the Netherlands to avoid start of main engine to perform daily	2%	1%	237,07
In case of changing the engine choose for an engine with the latest technology concerning energy	0%	0%	0,82
Organizational measures	0%	0%	0,82
Total on fuel consumption	20%	15%	2.585,97

SCOPE 2

Measures electricity consumption	Reduction on flow	Reduction total	Reduction in tonnes
Optimization air conditioning systems	3%	0%	-
Only purchase energy efficient hardware - Energy star label	3%	0%	-
Purchase green electricity	100%	100%	-
Total on electricity consumption	105%	100%	-

BUSINESS TRAVEL

Measures business travel	Reduction on flow	Reduction total	Reduction in tonnes
Reducing flights	1%	0,08%	13,16
Promotion to use trains instead of flying	3%	0,19%	32,90
New employees receive 500 Francks free public transport in Geneva	2%	0,15%	26,32
New video conferencing system	2%	0,15%	26,32
Total on business travel	8%	0,57%	98,70



CO₂ POLICY

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CO ₂ reduction measures	Frequency
SCOPE 1 - Fuel consumption	
In case of replacing cars, select a car that is economic on fuel (Bluemotion) or electric	Continuously
Send a newsletter to the field personnel with cars about economic drive behaviour	Biannually
Limit maximum use of the engine - minimize time to warm up motor	Annually
Discuss reducing travel distance with client (RouteLint)	Continuously
Investigate the possibility to use electric trains (elocs) more regularly - to be towed for transit / Investigate availability hybrid or electric powered trains	Annually
In case of changing the engine, choose an engine with the latest technology concerning energy usage and lower emissions	Continuously
Maintain equipment according to maintenance guide	Continuously
Optimize planning of train relocation, to reduce train passes and putting old trains out of order	Continuously
Electrification of our 5 depots in the Netherlands to avoid start of main engine to perform daily maintenance	One time
In case of changing the engine choose for an engine with the latest technology concerning energy usage.	Continuously
SCOPE 2 - Electricity consumption	
Optimization of use of air conditioning systems	Annually
Only purchase energy efficient hardware - Energy star label	Continuously
SCOPE 3 - Business travel	
Reducing travels for HQ staff	Continuously
Promotion to use trains instead of flying	Continuously
Each employee receives 600 Swiss Francs for mobility and promotion of public transport	Continuously
Promote use of video conferencing system	One time
ORGANISATIONAL MEASURES	
Inform employees about economic behaviour at the office	Quarterly
Instruct employees to limit use of air-conditioning by reducing the difference with the outside temperature (this will reduce illness as well)	Dynamic
New employees are made aware of all certificates, including CO ₂	Dynamic
When choosing suppliers having a CO ₂ certificate or a ISO 14001 certification weighs into the selection	Continuously
Company parking policy encourages carsharing	Continuously
Printers settings are by default black/white and recto/verso	Continuously
Stimulate the use of public transport for commuter travel	Continuously
Stimulate the use of the video conferencing system	Continuously
Send a newsletter to the field personnel about economic drive behaviour	Continuously



Participation sector and branch initiatives

The CO₂ Performance Ladder requires companies to participate in sector- or branch initiatives. The company should thus be aware of the initiatives within the industry.

Ongoing initiatives

Railforum

Railforum is an independent knowledge network that consists of 200 companies and organisations that are active in the rail sector. The aim of Railforum is to exchange knowledge and experiences in order to increase the social and economic efficiency of rail transport. The main focus is accelerating innovations. Railforum offers its services and ensures alignment with other sectors, politics and science.

The members look at Railforum as 'a safe haven' where one can share knowledge with each other openly. The association organizes regular meetings where important players from the rail sector meet, discuss and preferably show initiative and actions. By bringing parties together, Railforum stimulates cooperation within the rail sector.

With a membership of Railforum, SPENO International will have access to a network of more than 3000 professionals employed by all major players in the sector. SPENO can participate in knowledge circles about interesting topics, share knowledge and bring the sector a step further.



Nederland CO₂ Neutraal

Nederland CO₂ Neutraal is a Dutch initiative aimed at inspiring participants, increasing the knowledge on CO₂ reduction measures and amplifying a sustainable network. These goals are met through four events organized every year and the facilitation of different workshops. Cost that need to be made for the CO₂ performance ladder are accepted by the management.





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