



SPENO INTERNATIONAL SA

CO₂-Reduction plan SPENO International S.A.



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CO2 REDUCTION PLAN

SPENO INTERNATIONAL SA

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1 | Introduction

This document presents scope 1 and 2 of the CO₂-reduction measures of SPENO International S.A., alongside this, the progress of the CO₂-reduction is being looked at. Preceding this is the CO₂-footprint for scope 1 and 2 in line with the ISO-14064-1 norms and the GHG-protocol.

To determine the CO₂-reducing measures that can be implemented for SPENO International S.A., an assessment is made of possible measures. This assessment is included as a separate tab in the Excel document 'CO₂-reduction measures and measures calculation'. Based on the measures that are relevant for SPENO International S.A., the CO₂-reduction plan is being drawn up. This document describes the reduction goals and the corresponding measures.

Chapter 2 of this document describes the energy assessment for which an analysis is made about the progress of the CO₂-reduction and possible improvement points. Chapter 3 then describes the goals. The specific plan of action and the current state of the measures is depicted in chapter 4.

This reduction plan is being drawn up in accordance with and under approval of the management. The progress in (sub)goals and measures is being assessed half-yearly.

1.1 Reading guide

This document serves as foundation of the requirements for the CO₂-performance ladder. Every chapter deals with a specific requirement which is outlined below.

Chapter in this document	Requirement in the CO ₂ -Performance Ladder
Chapter 2: Energy assessment	2.A.3
Chapter 3: Strategic plan scope 3	5.B.1
Chapter 4: Goals	3.B.1
Chapter 5: Measures reduction plan	3.B.1
Chapter 6: Progress CO ₂ -reduction	3.B.1
Chapter 7: Participation in sector- and branch initiatives	3.D.1 en 3.D.2
Appendix A	1.D.1



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2 | Energy assessment

The aim of this energy assessment is to provide an overview of historic and current energy use of SPENO International S.A.. This assessment shows at least 80% of the energy flows. Thereby, this document identifies the largest sources of consumption, which can then be targeted individually. This is done so that the processes that contribute to the CO₂-emissions most can be targeted effectively. The underlying data can be found in an Excel document named 'CO₂-Footprint 2018'.

2.1 Control on inventory of emissions

An independent check of the emission-inventory is being conducted simultaneously with the internal audit and is included in the internal audit report.

2.2 Identify the largest consumption sources

The 80% largest emission sources of SPENO International S.A. in 2018 :

- ✓ Fuel: 90% of total emissions

2.3 Trends in energy use and progress in CO₂-reduction

In the footprint of 2018 it becomes clear that a small reduction took place in comparison to the base year 2012. When the total emissions are linked to the total ground kilometres, there is a decrease of 17%.

2.4 Previous energy assessment

The previous years it became clear that the fuel usage is the largest emission source of SPENO International S.A.. This can easily be explained by the large consumption of the trains working for SPENO International S.A. on a daily basis. A better insight into the ground kilometres completed could provide a possible answer to more reduction.

2017

The conclusion of 2017 was that the reduction in CO₂- emissions and fuel usages per ground meter has been reduced significantly. This is due to a continued improvement of the methods used by grounding the tracks.

The trains that used the most fuel were:

- RR 16 MS-2
- RR 16 MS-6
- RR 24 M-14
- RR 24 MC-6
- RR 48 M-7

This is very logical. All these trains are usually used to grind Switches. The method of grinding switches need several passes to be effective and safe. Therefore, these trains have a higher amount of fuel consumption per finished ground meter.



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2015 & 2016

The findings from 2015 and 2016 are similar to the findings from 2017, namely that the trains which were least efficient are the ones that grind switches. Apart from this conclusion there was one other conclusion which is still valid, that the bigger trains have higher efficiency. As these trains grind the rails in one passing, they can progress quicker and thus save fuel in the process.

2.5 Potential improvements

One of the measures which has proven to be very effective in reducing fuel consumption is reducing the number of passes for the trains. The number of passes has a direct correlation on the fuel consumption of the trains and the energy efficiency. In the Netherlands, the strategy applied to have fewer train passes with a result that the track is 95% ground. This is acceptable for all parties, because the next year that the grind-train passes the track will be ground 100%. This enables fuel efficiency and good results of work. As this process is not the standard procedure, the applicability has to be discussed with all parties involved.

Another factor which highly increases the fuel consumption and is therefore being mitigated, is the use of trains on locations far from their parked location. An example is The Netherlands where several trains of SPENO International S.A. are located across the country. Depending on the type of job and urgency of the matter, sometimes, trains which are located on one side of the country have to be moved to the other side of the country for a project. This relocation is not efficient because other trains might be located closer but are occupied in other projects. Through careful planning and discussions with the project owner, the relocation of the trains is minimized, however, in urgent cases there is no possibility to use other trains from SPENO International S.A.



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3 | Measures

Based on the previous checks it is being assessed whether the measures are still timely, or that they should be adapted. The following paragraphs will also deal with the requirement of the measures to be ambitious and feasible. When measures need to be adapted it will be discussed in the management review.

3.1 Comparison to the rest of the industry

A requirement of the CO₂-Performance Ladder is to set goals that are ambitious and feasible. Therefore, in order to set the right goals, research is being conducted in the industry to check the ambitions of peers. In the field of CO₂-reduction, SPENO International S.A. sees itself as average compared to peers. This is based on the active reduction of CO₂ in the daily operations, yet with the knowledge that more innovative technologies could be implemented once they become economically viable. On the basis of how much energy is being saved already, the measures should be equal to those of peers. Based on the list measures provided by SKAO, SPENO International S.A. scores an overall score of B.

Some of the peers in the sector with a CO₂ certificate are stated below:

- Voestalpine Railpro | objective 27% op scope 1 en 2
- Rail Partner Holland B.V. | objective 5% op scope 1 en 2

3.2 Main goals

SPENO International S.A. has set out to reach the following goal in the coming three years, measured from the reference year until the next audit:

Scope 1 and 2 goals SPENO International S.A.

SPENO International S.A. wants to reduce their CO₂-emissions by 22,5% in 2021 compared to 2012

The goal stated above will be linked to the ground kilometres to monitor the progress in CO₂-reduction.

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

- Scope 1: 20% reduction in 2021 compared to 2012
- Scope 2: 2.5% reduction in 2021 compared to 2012



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Next to the evaluation of the progress in scope 1 and 2, the main goals is also split up per emission stream in order to formulate goals that are more detailed and easier to measure. Every six months, during the evaluation of the reduction plan, the sub-goals below will be used to describe the progress in CO₂-reduction. This progress is being backed by three mission data for scope 1 and 2.

3.2.1 Sub-objective offices

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

Measures

- *The new offices have a heat pump installed. This will reduce CO₂ emission of gas and fuel consumption of the offices;*
- *Inform employees about economic behavior 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 produces by local produces. This causes the offices to have no CO₂-reduction.*

On 18th of July 2016 the offices moved to the new building on Rout du Nant d'Avril 94. These new offices have the certificate of high-energy efficiency. For climate control a heat-pump has been installed, this will eliminate the use of Gas or Fuel to heat 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 an impact on the CO₂-emissions of the offices. The greatest advantage will still be obtained through the reduction of fuel consumption by trains.

3.2.2 Sub-objective Air travel

SPENO International S.A. will reduce Air travel by 0%

Measures

- *Installation of new video conferencing system*
- *Increase the use of this system, so travel abroad when necessary*

In the new offices in Geneva a new video conferencing system has been introduced. This system will be used and travel to abroad companies will only be done when necessary.



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3.2.3 Sub-objective lease cars

SPENO International S.A. will reduce the fuel consumption of lease cars by 0%.

Measures

- *All cars have been replaced by BlueMotion cars, which are more fuel efficient;*
- *Send a newsletter to the field personnel about economic drive behavior.*

Electric cars have been considered, yet because of the long distances that have to be travelled and the location where cars are used, it is not feasible.

3.2.4 Sub-objective fuel consumption trains

SPENO International S.A. will reduce the fuel consumption of the machines by 22%

Measures

- *Limit maximum use of the engine (reissue the instruction);*
- *In case of changing the engine choose for an engine with the latest technology concerning energy usage;*
- *Yearly decision to use green energy for the office in Geneva*



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4 | Progress CO₂-reduction

The table below shows the progress in CO₂-emission reduction in scope 1 and 2 for SPENO International S.A. a more detailed table can be found in the excel document 'CO₂-Footprint'.

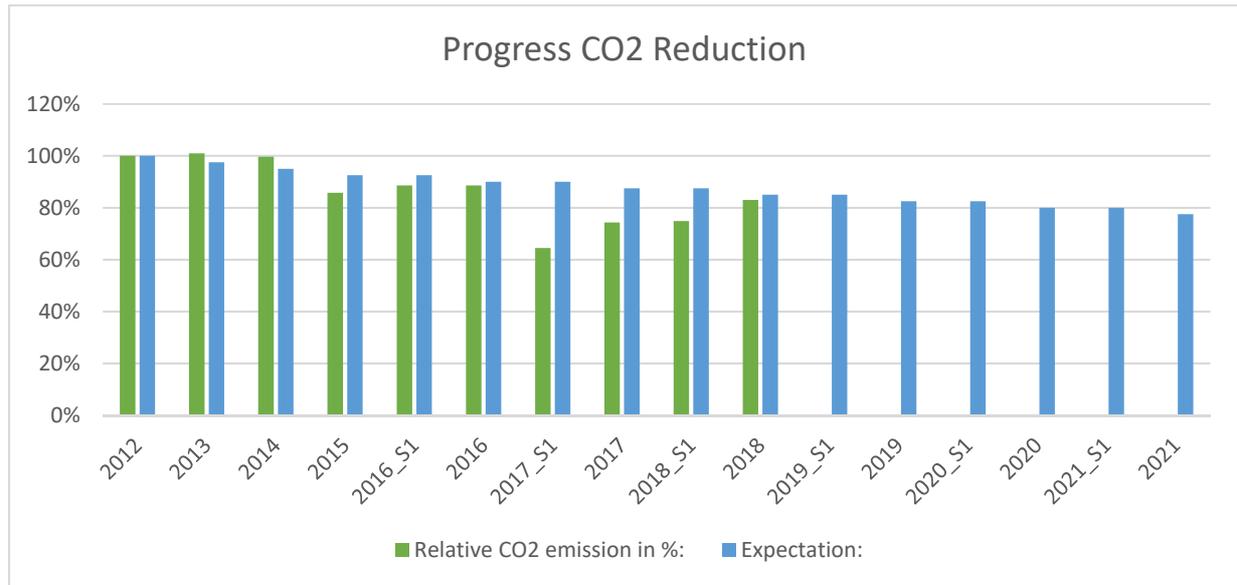


Figure 1 | Progress in CO₂-reduction.

5 | 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.

5.1 Active participation

The idea behind participation in an initiative is that through interaction with other companies, information can be shared and through collaboration new ideas can be developed in the field of CO₂-reduction. Therefore, the requirement is that companies should actively participate through, for example, discussion groups. Minutes or recordings of the meeting can serve as proof for the auditor that the company was actively participating.

When a certain initiative becomes irrelevant for the company at some point (when for the period of 6 months no active participation can be shown or no progress has been made) the participation should be terminated. The inventory of initiatives can then serve as a source of inspiration to choose a new initiative.

5.2 Ongoing initiatives

Swisstainability Forum

SPENO International S.A. takes part in the Swisstainability forum on a regular basis. This forum focusses on inspiring and connecting companies in their future approach with a focus on sustainability. They do so by inviting internationally renowned speakers and bringing together companies from all around Switzerland. In the previous edition SPENO took part in discussion C4 which dealt with renewable energy (green energy and biofuels).

<http://www.g-21.ch/>



swisstainability forum

Description		Budget
Yamine Guettari and Chantal Sacchi	As many hours as necessary	CHF
Budget made available		CHF 3.500,-
Annual Contribution		CHF 1.500,-
Total made available		CHF 5.000,-



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Appendix A | Inventory of sector and chain initiatives

Sector- en keteninitiatieven omtrent CO ₂ -reductie	
<p>G21 Swisstainability Forum the economy & sustainability date in Switzerland This annual event is meant to be the platform for the economic transition in Switzerland. Its aim is to encourage meetings and collaboration between scientific, economic, and political actors and NGOs, to support the companies in their innovating and sustainable projects, and to showcase the best initiatives and innovations which will be the leading projects of tomorrow, always in a forward-looking spirit.</p>	<p>Speno attends this event every year for as long as the subjects are relevant to their business.</p>
<p>Government The government of Switzerland (and a lot of other countries in Europe) is committed to the Kyoto initiative. That means 20% CO₂ reduction in 2020.</p>	<p>The Swiss Government approved the report «CO₂ and company's leading» By this, the government wants to encourage the social responsibility of the Swiss companies. Social responsibility of the companies also includes the publication of information on CO₂ emissions, measures, risks related to climate change and strategies to control them. As a Swiss company, SPENO is encouraged to follow the initiative. With the certificate on the CO₂-Performanceladder SPENO has taken steps in this initiative.</p>
<p>Rail Cargo Information A foundation in which 60 companies of the (Dutch) rail sector participate. Goal of the foundation is to stimulate the use of rail for transportation of goods.</p>	<p>A real interested initiative as we know that using rail for good transportation is one of the solutions expressed to reduce the energy consumption.</p>
<p>Railforum Kenniskring Duurzaamheid (Railforum Knowledge Network Sustainability) A project with the objective to calculate the CO₂ footprint of the entire rail transportation in Holland. Including: production, construction, use, maintenance and waste.</p>	<p>It could be interested for SPENO to follow the progress of this initiative.</p>
<p>Öbu www.oebu.ch Uraniastrasse 20 – 8001 ZÜRICH- Switzerland Works for sustainability in Switzerland. This platform develop several initiatives to encourage the swiss companies to implement a sustainable development program.</p>	<p>Öbu has decided to stop this initiative. SPENO has been part of this initiative since 2013.</p>



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<p>Ecoparc www.ecoparc.ch Association Ecoparc Faubourg du Lac 3 2001 NEUCHÂTEL – Switzerland Ecoparc association provides companies with information, tips and tools that enable them to assess, improve and enhance the actions they undertake in the field of sustainable development.</p>	<p>It's interesting for SPENO to follow this type of initiative to discover all other different programs elaborated to guide other companies in different field in Switzerland.</p>
<p>Equiterre Rue des Asters 22 1202 GENEVE - Switzerland www.equiterre.ch Created 40 years ago, the association advises and assists local communities and companies on the path of sustainable development.</p>	<p>Interested for SPENO to follow the progress of this initiative.</p>
<p>Le Baromètre Romand 2010 du Développement Durable www.swisstainability.org Study on the behavior of Swiss view on sustainable development.</p>	<p>It's interesting for SPENO to know the behavior of the people´s view on energy consumption.</p>
<p>Energie-Environnement.ch www.energi-environnement.ch More than 500 practical tips to save energy and preserve the environment</p>	<p>A very interesting source of information for SPENO to disseminate messages to its employees.</p>



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Colophon

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