Energy Management Operative Plan

CO_2 Performance Ladder Certification

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Glossary

This chapter functions as an aid for reading this document by providing an overview of reference documents, abbreviations and definitions.

Reference documents

This document is referring to the following VeenIX A9 BAHO documents:

Name document	Document Number
CO_2 Management Plan	A9BH-PW-0000-PC-SU-PLN CO_2 Management Plan v2
Scope 3 Dominance analysis	A9BH-PW-0000-PC-SU-RP Scope 3 Dominance Analysis Report & Operative Plan
Sustainability Communication Plan	A9BH-PW-0000-PC-SU-PLN Sustainability Communication Report & Operative Plan
CO_2 and Energy Report	A9BH-PW-0000-PC-SU-RP CO_2 and Energy Report

Table: VeenIX A9 BAHO reference documents

This document also refers to the following external documents:

Name document	Weblink
Greenhouse Gas Protocol Revised Edition	https://ghgprotocol.org/corporate-standard
Corporate Value Chain (Scope 3) Accounting and Reporting Standard	https://ghgprotocol.org/standards/scope-3-standard
Handbook CO_2 Performance Ladder 3.1	https://www.co2-prestatieladder.nl/nl/handboek
ISO14064-1 standard	-

Table: External reference documents

Abbreviations and definitions

In this document the following abbrevations and definitions are maintained:

Abbrevation	Full Description
CO_2PL	CO_2 Performance Ladder
GHG	Greenhouse Gas

Table: Abbrevations

Definition	Full Description
Ladder assessment	The ladder assessment is the audit (conformity assessing activity) of a Ladder CI on the basis of the standard CO_2 Performance Ladder. The CO_2 Performance Ladder distinguishes an initial, annual and reassessment.
Ladder CI	A Ladder Certifying Organisation (Ladder CI) is a conformity assessing institute that has authorisation from the Foundation for Climate Friendly Procurement and Business to perform a certification or audit (also known as ladder assessment) if this ladder CI has been accredited by the Dutch Accreditation Council or equivalent by a different accreditation organisation with which the Accreditation Council has entered into a Multi-Lateral Agreement MLA (EA/IAF) for the activity "management system certification of the CO_2 awareness system according to the CO_2 Performance Ladder".
Scope 1 emissions	Scope 1 emissions, or direct emissions, are emissions emitted by installations owned or controlled by the organisation, such as emissions from its own gas use (e.g. gas boilers, heating systems and ovens) and emissions from the organisation's own vehicle fleet.
Scope 2 emissions	Scope 2 or indirect emissions, are emissions caused by generating electricity, heat and ventilation and steam in installations that do not belong to the own company, but are used by the organisation, such as emissions released when generating electricity in power stations.
Scope 3 emissions	Scope 3 emissions or other indirect emissions are emissions that are a result of the activities of the organisation, but arise from sources that are neither owned nor controlled by the organisation. Examples are emissions due to the production of purchased materials (upstream) and fulfilment of the work, project, service or delivery supplied or sold by the organisation (downstream). Although 'business travel' conforms with the GHG protocol scope 3 emission category, such emissions must be included in the emission inventory for 3.A.1. for the CO_2 Performance Ladder.
Supplier	A supplier is an organisation that offers work, services and/or deliveries. The organisation pays for (obtains) work, services and/or deliveries from suppliers. The purchase turnover of the organisation is the amount (invoice value) of all purchases exclusive of VAT. Purchases in the area of financial and legal services are excluded. A supplier, by definition, is not within the organisational boundary of the organisation.

Table: Definitions

1 Introduction

1.1 CO_2 Performance Ladder

For the certification of FCC Construcción S.A. (NL) on the CO_2 performance ladder, an Energy Management Plan was drawn up. The CO_2 and Energy Report is an inventory of all energy flows and the possibilities to reduce them. The Energy Plan was drawn up in accordance with the guidelines in ISO 50001.

1.2 Energy Plan

An Energy Management Plan will help to improve energy efficiency. Ultimately, energy demand will be reduced through energy-reducing measures in the coming years. This plan is based on the CO_2 and Energy Report (see A9BH-PW-0000-PC-SU-RP CO_2 and Energy Report).

This report is drawn up in accordance with ISO 5001. This standard describes guidelines for drawing up an energy management programme. The aim of this standard is to provide organisations with a supporting document for setting up systems and processes to achieve energy reduction.

1.3 Requirements from CO_2PL

The following is expected from the CO_2 performance ladder with regard to CO_2 reduction (perspective B Reduction):

Write an energy reduction plan in which:

- The reduction objectives are expressed in percentages or absolute numbers in relation to the base year 2020.
- It is described that FCC Construcción S.A. (NL) has the objective to use green energy or alternative fuel.
- The energy and reduction objectives are documented, implemented and communicated to the employees.

Write an energy reduction management plan:

- in accordance with guidelines from ISO 5001.
- That is communicated internally and externally using both the company and SKAO website
- And an up-to-date energy audit of the company.
- Where the reduction objectives are discussed and endorsed in the management meetings.
- Where the Energy Plan is discussed and endorsed in the management meetings.

The following are the CO_2 Performance Ladder requirements from the manual:

- 3.B: The organisation has quantitative CO_2 reduction objectives for its own organisation.
    - 3.B.1. The organisation has determined there, quantitative reduction objective for scope 1 & 2 emissions and business travel for the organisation and its projects, expressed in absolute values or percentages in relation to a reference year and within a fixed period of time, and has drawn up an accompanying action plan, including the measures to be taken on the projects.
    - 3.B.2. The organisation has written an **energy management action plan** (in accordance with ISO 50001 or equivalent), which has been endorsed by higher-tier management, communicated (internally and externally), and implemented within the organisation and on the projects for which a CO_2-related award advantage has been obtained.

2 Plan

The first step towards using energy efficiently is the Plan phase. In this phase, the energy consumption is analysed. An analysis of reduction opportunities is conducted from these data, after which the reduction targets are determined for the coming period.

Objective scope 1 & 2: Due to the nature of project (construction), the majority of CO_2 emissions are scope 3. By expert judgment our ambitious objectives for Scope 1 and 2 emissions are set at 1% of the total scope 3 emissions as calculated in the Scope 3 Dominance Analysis. The combined objective of scope 1, 2 and 3 reduction is 30.000 tons. Therefore, the objectives for scope 1 and 2 emissions are both set to 300 tons of CO_2 throughout the construction phase of the project.

To reach these objective all options are considerable. Since the project is beginning to scale up its execution activities our reduction measures are primarily focused on the procurement and execution of materials and fuels. Our fuel objective is not specifically quantified yet, but it is forecasted to play a dominant role in our reduction efforts.

2.1 Analysis of energy consumption

FCC Construcción S.A. (NL) consumes energy at various offices and projects throughout the country:

- At the offices, energy is consumed by the use of electricity and natural gas for heating of the premises.
- On the projects, energy is consumed by the use of electricity, cooling and by the use of fuel. The use of energy by subcontractors and suppliers is included in scope 3.
- At the transport means energy is consumed by the use of fuel. FCC Construcción S.A. (NL) has its own fleet of vehicles and also uses private cars for business travel. FCC Construcción S.A. (NL) uses business flights to and from Madrid as well.

As a result, the energy consumers are divided into 3 types of scope:

- Scope 1: Consumption of fuels in business operations;
- Scope 2: Indirect greenhouse gas emissions by using energy generated elsewhere with fossil fuels;
- Scope 3: Indirect greenhouse gas emissions due to CO_2 emitting activities elsewhere.

The reporting of energy consumption is done in accordance with ISO 14064-1 and the GHG protocol. All scope 1, 2 and 3 energy and emissions data is collected twice per year in preparation of the CO_2 Management Board meeting. (See SMP CO2 Management)

2.2 Analysis reduction opportunities

Each energy reduction opportunity can contribute to reducing the energy consumption of FCC Construcción S.A. (NL). Not every opportunity will actually be implemented, but each opportunity will be analysed for cost, benefit and feasibility. For each energy reduction opportunity, the minimum expected reduction over a certain time frame is estimated.

The reduction opportunities will lead to a number of reduction targets. For each opportunity, the expected reduction is indicated. By analysing all these reduction opportunities, a clear picture is formed of the possible total reduction. In the periodic management meetings, the reduction targets will be looked at from a

business-economic point of view. In this way, FCC Construcción S.A. (NL) determines which targets are set.

Management will review its energy management programme annually to ensure it is still relevant, up to date and effective. Revising the energy management programme is an annually recurring process. This energy management program is part of the portfolio to be set up annually 2023 - 2028.

2.3 Selection process reduction measures (exemplary)

The following measures are set up for the upcoming year 2023. The measures are partly related to the realization of qualitative (reduction) objectives and partly to the realization of actual CO_2 reduction. The qualitative objectives have been drawn up to make a positive contribution to the awareness process and CO_2 reduction in general.

The selection process prioritizes the highest potential to reduce the CO_2 emissions related to the reduction measures that we still are able to make in this stage of the project. The following Figure related the potential reduction potential to three stages of the project. If we were to consider the Figure below related to the transport of soil the following measures have a decreasing impact on reduction related to the design, procurement and execution phase.

- Use less material in you design, less transport
- Buy the required material from a source close by, to reduce the transport distance
- Use and alternative source of fuel, to reduce the amount of emissions per kilometer travelled

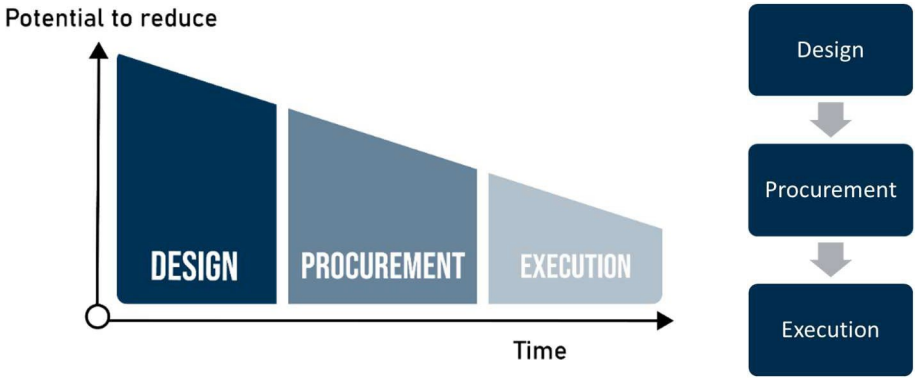

Figure: Prioritizing approach related to potential emission reduction

2.3.1 Scope 1: Gas consumption

The Scope 1 reduction measures (in research and analysis phase) will be:

- Reducing gas consumption at the offices
  - Lower the heating temperature.
    - Shut down heating systems 1-hour earlier.

- Eliminating gas as source
  - Switching to electric heaters for heating.

To reach the formulated reduction target, a list of measures is set up that we expect will be most effec- tive (as stated in the table below). The scope 1 measures are focused on tackling gas consumption.
Measure 2 till 4 can also be used to tackle consumption of energy sources in general (both

gas and elec- tricity).

Measure	Description	Expected reduction impact [tCO_2-eq]
1.	Buy electric heaters and stop using gas for heating	+- 300
2.	Insulating measures to reduce gas consumption (and scope 2: electricity consumption)	+- 50
3.	Shut down heating systems 1-hour earlier	+- 10
4.	Lower heating temperature	+- 10
Total		300

Table: Scope 1 measures with expected reduction impact.

2.3.2 Scope 2: Electricity consumption & Business travel

The Scope 2 reduction measures (in research and analysis phase) will be:

- Reducing electricity consumption
  - Lower the heating temperature or turn up the cold temperature.
  - Shut down heating systems 1-hour earlier.

- Changing electricity source
  - Buying renewable electricity from supplier through a PPA (Power Purchase Agreement) contract.
  - Generating own renewable electricity by solar panels, wind turbines.

- Reduce business travel emissions
  - 25% travelling by train or 25% less flights.
  - All new employee cars are electric or bio-fuel driven.
  - Employees are asked to switch cars.
  - VeenIX A9 BAHO will provide budget to stimulate public transport (with this budget, em- ployees can decide for themselves).
  - VeenIX A9 BAHO gives employees the option to lease electric bicycles.

To reach the formulated reduction target, a list of measures is set up that we expect will be most effective (see table below). Scope 2 emissions are related to electricity consumption and business travel.

Measure	Description	Expected reduction impact [tCO_2-eq]
1.	Bought from supplier: Renewable electricity to cover 100% electricity consumption through a PPA contract.	Additional research required
2.	**OR:** Generation of own renewable electricity for at least 90% of the electricity consumption of all company buildings and on sites (e.g. install solar panels, wind tur- bines).	Additional research required
3	25% travelling by train instead of plane or fly 25% less.	Additional research required
4.	All new employee cars need to be electric or bio-fuel & employees are asked to switch cars.	Additional research required

5.	VeenIX A9 BAHO will provide budget to stimulate public transport (employees can decide for themselves).	Additional research required
6.	VeenIX A9 BAHO gives employees the option to lease electric bicycles.	Additional research required
Total		

Table: Scope 2 measures with expected reduction impact.

3 Do

The second step towards using energy efficiently is the Do phase. In this phase, the plans are implemented. Based on the previously determined goals, measures are taken to achieve reductions. These measures are communicated and implemented within the organisation.

3.1 Determining reduction measures

In order to achieve the given reduction targets, measures will have to be taken within FCC Construcción S.A. (NL). Depending on the target, appropriate measures will be taken to achieve it. The necessary research and selection of the reduction measures is the responsibility of the CO_2 board. (See SMP CO_2)

3.2 Implementation of the reduction measures

The decision to implement the reduction measures is taken by the CO2 Management Board. For the implementation of each measure, the CO2 Management Board appoint a responsible person. This person supervises the implementation and ensures the active involvement of the employees within FCC Construcción S.A. (NL). The contribution of the employees will determine to what extent a measure achieves its goal.

3.3 Leading document

There are four main documents that discuss targets or measures:

1. CO_2 Management Operative Plan
2. Energy Management Operative Plan
3. CO_2 and Energy Report

When deviations occurs in between these three documents, related to such a targets or measure, the deviation procedure will be initiated by the CO2 Management Board (See CO_2 Management Operative Plan).

3.4 ISO 50001 guidelines

The energy data will be verified on an annual basis by an external party according to the ISO 50001 guidelines.

3.5 Implementation process

Each energy reduction measure will be followed in the implementation process. A file will be kept for each measure containing the following aspects:

- Start date implementation
- Expected end date
- Persons involved
- Approach
- Activities
- Scheduling
- Resources
- Cost of the project

When deviations occurs in between these three documents, related to such a targets or measure, the deviation procedure will be initiated by the CO2 Management Board (See CO_2 Management Operatie Plan).

4 Check

The third step towards using energy efficiently is the Check phase. In this phase, we check whether the expected goal has been achieved. Why there are deviations in the expected result, and whether other measures are necessary to achieve the desired result.

4.1 Determine current energy consumption

FCC Construcción S.A. (NL) will measure and report its energy consumption and related CO_2 emissions every six months. The analysis of the consumption will take place in the first and third quarter of each year over the previous six months. FCC Construcción S.A. (NL) will determine the consumption in four areas:

The energy consumption will be determined according to the data provided by the energy supplier (such as invoices and annual statements). With this data, FCC Construcción S.A. (NL) can measure the energy consumption with a certain degree of accuracy.

4.2 Feedback of expected reduction to current consumption

By comparing the measured consumption with the expected consumption, FCC Construcción S.A. (NL) can see whether the measures are having the desired effect. Unforeseen deviations come into the picture. If the measured reduction deviates in a negative sense from the previously expected reduction, we will examine how this happened. Insight into consumption and the preparation of half-yearly reports will help FCC Construcción S.A. (NL) to achieve its reduction targets.

4.3 Evaluation of the energy management

The energy management programme will be evaluated twice per year. This evaluation is conducted in preparation of the CO_2 board meetings. The following points are addressed as a mandatory evaluation structure of the energy management.

- Is the reduction target for this year achieved?
- Is the reduction target for this period achieved?
- How is the implementation of the measures going?
- Are there new energy reduction opportunities?
- Is the energy management programme still up to date?
- How is the involvement of the employees?
- How does the communication work?
- Where do errors occur?

If this consultation shows that the energy management programme must be adjusted, a new version will be drawn up. An important part of this process is the feedback to the FCC Construcción S.A. (NL) employees involved. This feedback will contribute to a better personal contribution of the employees so that the goal of a reduction measure will be achieved in the future. The preventive and corrective measures are also discussed in the Sustainability team, the quarterly MT reports.

4.4 Monitoring, measurement and deviations

From the bi-annual CO2 Management Board meeting, where the points mentioned in the previous two paragraphs are discussed, a Factsheet is written with the information discussed. This document states what measures have been taken and what results have been achieved. For additional information please consult the SMP CO2 Management.

Deviations from the expected targets are communicated and evaluated with the people concerned. In 2023, we will look back at the year 2020. And we will look ahead to the year 2028.

5 Act

The fourth step towards using energy efficiently is the Act phase. In this phase, we look back at the results achieved. Mistakes are signaled and reported back to the people involved. At the time of writing, the Act-phase has not yet taken place.

5.1 Evaluation of the reduction measures

All progress is discussed during the CO2 Management Board meetings. How measures are evaluated and managed is described in the SMP CO2 Management.

6 Documentation and document management

Documents for sustainability and energy management are digitally stored in the document register. The progress on measures will be kept in a file.

In this way, actions can be retrieved at a later date and the possibility remains to follow the status and past of the opportunity/measure. The person responsible for a measure is responsible for updating this file during the implementation and for keeping track of all actions carried out.