



**AIM** ALFEN  
INTEGRATED  
MANAGEMENT  
SYSTEM

## Transition Plan

For Climate Change Mitigation

**AIM-QHSE-GEN-2.02-01-MP-04**

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**ALFEN**  
POWER TO ADAPT

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# 1 Introduction

In 2024, the implementation of the Corporate Sustainability Reporting Directive (CSRD) and the newly introduced ESRS E1 (Climate Change) standard as a delegated act under the CSRD, as well as the IFRS sustainability standards S1 and S2, will increase disclosure requirements on climate transition plans and the greenhouse gas emission reduction targets set by undertakings like Alfen. The adoption and subsequent national implementation of the Corporate Sustainability Due Diligence Directive (CSDDD) and its article 15 ('combating climate change') will move climate transition plans into a mandatory context.

## 1.1 Scope

This document is applicable to Alfen N.V.

## 1.2 Purpose

This document is written to provide an understanding of Alfen's past, current, and future mitigation efforts to ensure that its strategy and business model are compatible with the transition to a sustainable economy, and with limiting global warming to 1.5 °C in line with the Paris Agreement and with the objective of achieving climate neutrality by 2050. The plan is set up to meet the requirements of the CSRD and SBTi (Science Based Targets Initiative).

Section five (Progress update) will be reviewed and updated on an annual basis.

# 2 General

We at Alfen believe that sustainable development is essential because it integrates economic progress, social equity and environmental stewardship. Our strategy and business model are fully compatible with the transition to a sustainable economy. What is more, our business model supports the transition by delivering solutions to build a sustainable energy system.

While our products are already used to drive the green transition, we also need to consider the direct environmental impact of our products. We therefore look on a continuous basis for opportunities to increase our environmental sustainability, whether it is by reducing our energy consumption and our greenhouse gas emissions (GHG), or our broader negative environmental impact (e.g., through waste). This ambition can also be found in our Environmental Policy Statement.

Periodic reporting on GHG emissions and improving environmental and energy performance are part of our Plan-Do-Check-Act (PDCA) cycle. The PDCA cycle is described in the Alfen Integrated Management system (AIM).

Alfen has measured its GHG footprint in accordance with the Greenhouse Gas Protocol standard. In sum, this GHG footprint measures the total GHG emissions caused directly and indirectly by Alfen. The Greenhouse Gas Protocol categorises GHG emissions into three "scopes" and is visualised in Figure 1 below.

- Scope 1: Total direct emissions (tCO<sub>2</sub>eq) from owned/controlled operations (including warehouses, production facilities and offices); includes e.g., the direct consumption of fossil fuels, biogenic-based fuels, and refrigerants (considered as fugitive emissions)
- Scope 2: Total indirect emissions (tCO<sub>2</sub>eq) from owned/controlled operations associated with the purchase of electricity, steam, heat, or cooling. Scope 2 is reported both on the basis of location-based (using emission factors that reflect the emissions intensity of the national electricity market), and market-based (using the emissions factors of our electricity contracts)
- Scope 3: Total indirect emissions (tCO<sub>2</sub>eq) from our upstream and downstream value chain. These emissions arise as a result of Alfen’s activities but are from sources that are neither owned nor controlled by the company. Examples are emissions from manufacturers of purchased products and emissions from waste processors

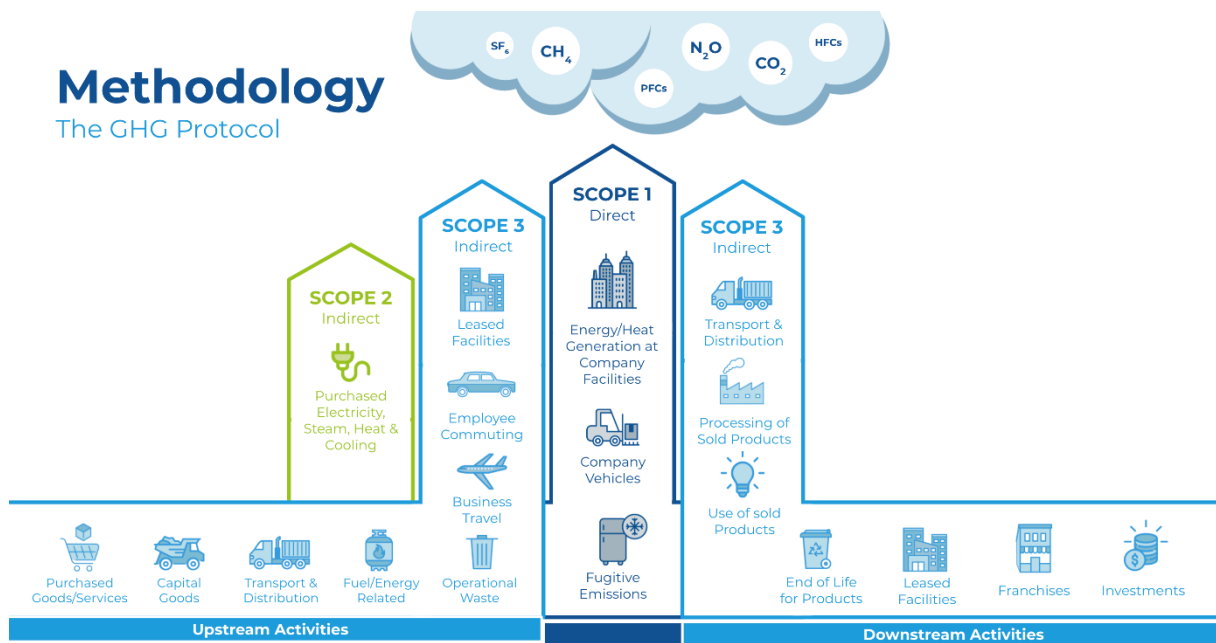


Figure 1 – GHG Protocol methodology

## 2.1 History

Prior to our 2024 annual report, we have reported our emissions according to the “CO<sub>2</sub> performance ladder”, which covered Scope 1, Scope 2, and Scope 3 category 6 (Business Travel) emissions. Since 2024, to ensure that Alfen’s strategy and business model are compatible with the transition to a sustainable economy, we have signed up the Science Based Targets initiative (SBTi), which requires reporting for all applicable Scope 3 categories. Our SBTi mid- and long-term targets have been validated to be in line with limiting global warming to 1.5 °C, which is in line with the Paris Agreement and with the objective of achieving net zero by 2050.

## 2.2 Baseline

In establishing our GHG emissions baseline, the selection of the base year is guided by the availability of historical data and the stability of activities. For Scope 1 and 2, the year 2019 was selected because this is the first year our Finnish entity Elkamo was included. Because of the impact of the COVID-19 pandemic, we have chosen to set 2021 as our Scope 3 base year. Should in future years enhancements in data quality or methodological changes lead to an emission deviation exceeding 5% compared to our current baseline emissions, we will restate our historical emissions in accordance with the Science Based

Targets initiative. We will monitor progress on emission reductions and adapt - if necessary - policies and actions accordingly.

The aforementioned targets take the following assumptions into account:

- The ongoing growth of Alfen as a company that tailors products to the ongoing energy transition
- The introduction of known but not yet implemented legislation (e.g. CRSDDD, battery directive, etc.)
- The commitment of governments to decarbonise electricity grids in countries where Alfen does business
- Removals and/or carbon credits are not under consideration

## 2.3 Our scope of control

Going forwards, a substantial portion of our climate change mitigation effort will go to reducing our Scope 3 emissions. As of 2025, over half of Alfen's scope 3 emissions arise from efficiency losses during the use of our products (part of category 11, "use of sold products"). However, most of these efficiency losses are not in our control. For example, our transformer efficiency standards are set by EU Directive Tier 2 Eco Design 2019/1783, and we already work with the global battery leader in reducing battery carbon intensity for our Energy Systems Storage business line.

## 2.4 Policies

### 2.4.1 Climate change mitigation

We adopted the ISO 14001:2015 Environmental Management standard to enable the CO<sub>2</sub> reductions needed to achieve our SBTi approved targets. The Alfen Integrated Management System that includes these ISO 14001 requirements provides a structured way of minimising and mitigating Alfen's impact on climate change and the broader the environment and is detailed further in the transition plan. We also participate with UN Global Compact to demonstrate our commitment towards a sustainable future.

### 2.4.2 Renewable energy deployment

We pride ourselves on using 100% renewable electricity contracts. In addition, initiatives are being taken at our existing locations to replace gas heating with electric heating. Our aim is to be fully self-sufficient in electricity through our own PV installation in combination with Energy Storage System(s).

## 2.5 Transition plan and strategy

The cornerstone of our strategy is our vision "to build a connected, smart and sustainable energy system for future generations." This is only possible when the solutions for this energy system delivered by Alfen are produced in a sustainable manner. In 2024, we identified key decarbonisation levers to meet our SBTi targets.

## 2.6 Approval Transition plan

This transition plan is internally approved by Alfen's Executive Committee as an acknowledgement of the company commitments.

### 3 GHG emission reduction targets

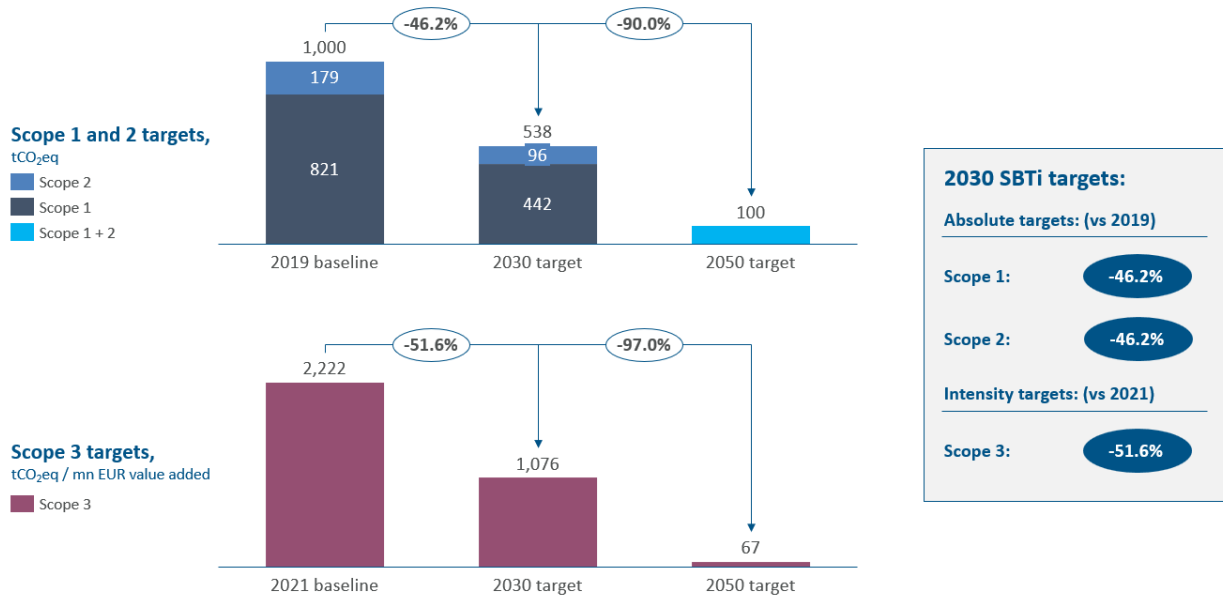
Alfen has set the following GHG emissions reduction targets to manage material climate-related impacts, risks and opportunities, which have been approved by SBTi to be in line with a 1.5°C trajectory.

Near-Term targets – by 2030 Alfen N.V. commits to:

- Reduce absolute scope 1 and 2 GHG emissions by 46.2% from a 2019 base year.
- Reduce scope 3 GHG emissions by 51.6% per EUR value added from a 2021 base year.
- Source all electricity consumption from renewables through to 2030.

Long-term targets – by 2050 Alfen N.V. commits to:

- Reduce absolute scope 1 and 2 GHG emissions by 90% from a 2019 base year.
- Reduce scope 3 GHG emissions by 97% per EUR value added from a 2021 base year.



## 4 Decarbonisation levers

We have currently identified the following (non-exhaustive) list of decarbonisation levers as potential ways to enact our transition plan. Please note that while roadmaps have already been developed for our scope 1 and scope 2 emissions, a roadmap for scope 3 must still be developed. The timing and implementation of each scope 3 lever is therefore still under consideration. Not all levers may be adopted for scope 3, and others may be adopted instead as well. The roadmap for scope 3 will be developed over the course of 2026.

Emission scope	Topic	Decarbonisation levers
Scope 1	Diesel and petrol	<ul style="list-style-type: none"> <li>• <b>Adopt use of HVO100:</b> Alfen ensures all diesel vans with suitable engines use renewable hydrotreated vegetable oil (HVO100) fuel to reduce emissions intensity in the immediate term before all leased vans can be feasibly replace with electric vans</li> <li>• <b>Electrification of leased vehicles and equipment:</b> Alfen will phase out diesel powered vans, forklifts, and remaining passenger vehicles. All combustion engine passenger vehicles will have been replaced with EVs by the end of 2029.</li> </ul>
	Natural gas	<ul style="list-style-type: none"> <li>• <b>Replace gas boilers with heat pumps:</b> Alfen has created a long term roadmap of existing gas boilers across all its locations in the Netherlands, laying out on a year by year basis through to 2030 when individual gas boilers will be replaced with heat pumps. This roadmap considered both volumes of natural gas (and therefore potential emissions reduction impact), as well as when individual boilers would reach their economic end of life</li> <li>• <b>Insulation of buildings:</b> Alfen has identified HBW28 as a building for which additional insulation of the factory hall would reduce heating consumption, which is currently still (partially) provided through natural gas use. Fully insulating the building is expected to be completed by the end of 2027.</li> </ul>
Scope 2	Electricity	<ul style="list-style-type: none"> <li>• <b>Cover off-site EV charging with GoO certificates:</b> Alfen already uses Guarantee of Origin (GoO) certificates to certify the renewable origin of its grid-fed electricity consumption, and has expanded this to also cover off-site EV charging</li> </ul>
	District heating	<ul style="list-style-type: none"> <li>• <i>Please note: As Scope 2 emissions have already declined by &gt;90% vs. our baseline, and all remaining Scope 2 emissions are related to district heating use (over whose feedstock mix we have no control), Alfen is currently not expecting more Scope 2 emission reduction initiatives.</i></li> </ul>
Scope 3	Purchased components and goods	<ul style="list-style-type: none"> <li>• <i>Please note: The feasibility and timing of the measures below are partly dependent on customer requirements, product performance specifications and regulatory constraints.</i></li> <li>• <b>Material passports and EPDs:</b> Alfen is introducing material passports for its products, which give insight into emission “hot spots” and opportunities for reduction. Alfen is also developing Environmental Product Declarations (EPDs), which are also publicly available on its website. Alfen adopted the standards ISO 14040:2006 and ISO 14044:2006 to ensure an international recognised and accepted guidance and requirements for its LCAs.</li> <li>• <b>Develop primary data collection approach with upstream suppliers:</b> start working with suppliers to move towards supplier specific emission intensity which can improve understanding of product emissions, and</li> </ul>

		<p>guide future selection between suppliers by taking emissions intensity into account (see Sustainable Procurement action)</p> <ul style="list-style-type: none"> <li>• <b>Introduce sustainable procurement:</b> Alfen is working to incorporate mandatory sustainability requirements into the system requirements of new products during the design phase. In addition it is looking to include sustainability during procurement selection process for goods and materials.</li> <li>• <b>Improve recyclability of products:</b> Alfen will pursue this objective by increasing the use of materials with higher recyclability potential, designing and assembling products in ways that facilitate disassembly and material separation, and engaging with customers and other value chain partners to support appropriate collection and recycling at end of life.</li> <li>• <b>Incorporate Ecodesign into product development:</b> Alfen is developing an eco-design process that will enhance the sustainability and future recyclability of its products by systematically addressing hazardous substances during the design stage.</li> </ul>
	Upstream and downstream transport	<ul style="list-style-type: none"> <li>• <b>Improve logistics and decarbonise transport:</b> Alfen will work with its transport partners (both on land and sea) to adopt more sustainable and lower carbon footprint transport modes. Examples include (1) lower carbon intensive transport modes (e.g., truck vs flight), (2) lower carbon fuel use (e.g., EV truck vs diesel truck), (3) improved planning and stock control to minimise urgent trips (usually by plane vs sea / road)</li> </ul>
	Packaging and waste	<ul style="list-style-type: none"> <li>• <b>Reduce packaging and waste:</b> Alfen is in ongoing conversations with its suppliers to assess where and when it can decrease packaging materials without compromising the quality of goods and components. In addition, Alfen has tightened the use of non- or difficult recyclable packaging materials as part of its environmental policy requirements.</li> </ul>
	Energy-efficiency	<ul style="list-style-type: none"> <li>• <b>Improve energy efficiency in products use phase:</b> As these emissions are primarily derived from the electricity consumption from national grids, Alfen expects this figure to decline as more renewables are added to the mix. Reducing emissions from efficiency losses further will for now prove challenging as EU regulations (through EU Directive Tier 2 Eco Design 2019/1783) set the efficiency standards of Alfen's transformers, which incur the majority of Alfen's efficiency losses. Only once EU regulators introduce a new Tier 3 (for which there is currently no timeline) does Alfen expect the efficiency of these transformers in the market to improve.</li> </ul>

## 4.1 Obtaining data

The following data (and data sources) are currently used to create product carbon footprints at Alfen. For all data sources we need data on type and quantity/value. If full data sets are not available from departments, approximations are made.

Type of information	Department source
Product composition (material and weight)	R&D
Emissions factors	Sustainability
Opex	Finance
Capex	Finance
Direct energy consumption	Sustainability
Transport weights, distances, and methods	Supply chain
Waste streams and weights	Facility services
Business travel distances and methods	Finance
Employee travel distances and methods	HR, Finance
Leased assets	Finance
Grid emissions intensity	Sustainability
Volume of shipped products	Finance
Efficiency Loss (stand-by and in-use losses)	R&D, Sales

## 5 Progress update: *March 2026*

### 5.1 Status per decarbonisation lever

Alfen’s progress so far with the transition plan is described in the table below. As no progress is expected to be made on the energy efficiency of transformers until the new Tier 3 Directive, this topic is not covered below.

Emission scope	Topic	Decarbonisation lever	Status
Scope 1	Diesel and petrol	Adopt use of HVO100	In progress; plan for all remaining diesel vehicles in place
		Electrification of leased vehicles and equipment	In progress; plan for all remaining diesel vehicles in place
	Natural gas	Replace gas boilers with heat pumps	In progress; plan in place through to 2030
		Insulation of buildings	In progress; plan in place through to 2030
Scope 2	Electricity	Cover off-site EV charging with GoO certificates	Completed
Scope 3	Purchased components and goods	Material passports and EPDs	LCAs already developed for core products in EVC; carbon footprints being developed this year for ESS and SGS
		Develop primary data collection approach with upstream suppliers	Initial outreach with key suppliers started; further progress required as material passports are developed for ESS and SGS
		Introduce sustainable procurement	Procurement initiative started to collect data, but a sustainable procurement policy and implementation thereof to select low carbon goods and materials is still required
		Improve recyclability of products	Initiative started to understand recyclability share of product, but policy and implementation thereof is still required
		Incorporate Ecodesign into product development	Initiatives are ongoing to improve the environmental design of products (e.g., for ACE IBC), but this is not yet structurally incorporated into new product development
	Upstream and downstream transport	Improve logistics and decarbonise transport	Assessment of where most of our transport emissions come from is already ongoing, but discussions with suppliers to encourage more environmentally friendly transport are still to be started
	Packaging and waste	Reduce packaging and waste	Packaging requirements are already identified per country,

			<p>while type and volume of waste streams are also already known. Beyond regulatory requirements however, no objectives or plan in place to reduce these further</p>
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## 5.2 Capital- and Operational- Expenditure

Alfen recognises that its business model to enable decarbonisation of others can still have negative impacts on the environment deriving from our own operations and/or our value chain to deliver these decarbonisation products. For instance, our global supply chain has energy-intensive extraction and manufacturing processes to deliver our required components and materials. Alfen is determined to lower those impacts and will take an active role within the value chain to ensure improvements. Alfen will roll-out its sustainability program and its initiatives over the coming years including the required CAPEX and OPEX.

In our budget for 2026, we have budgeted approximately €0.3 million of CAPEX for this transition plan. Key items are a Battery Energy Storage System for our production site and the replacement of heaters and increased insulation in one factory. We have budgeted approximately €1.5 million of OPEX (excluding labour costs), of which one set of our key expenses are our EV company cars.