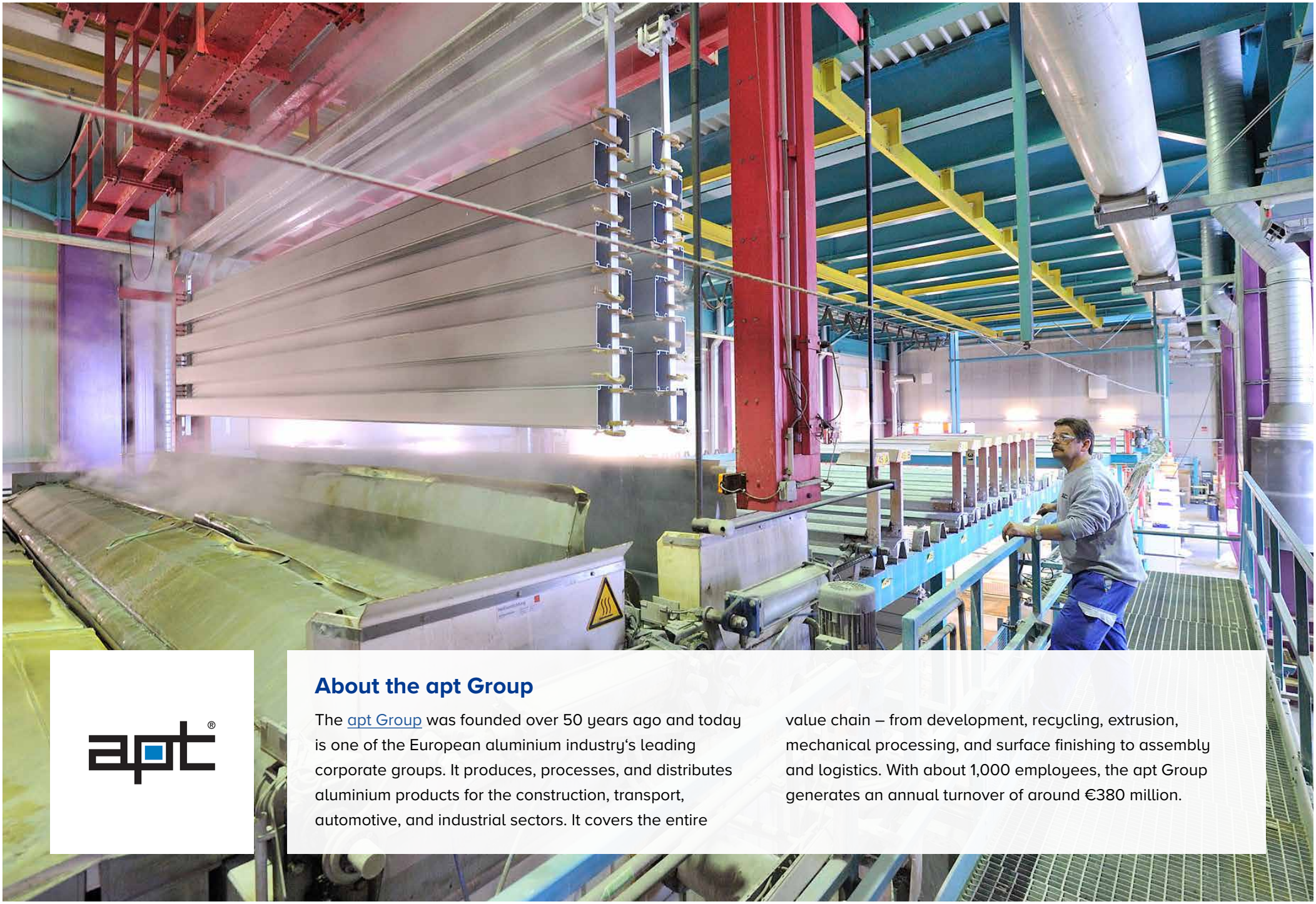
SUCCESS STORY

ClimatePartner

Carbon reduction in the aluminium sector: The apt Group

Industry: Industrial goods



About the apt Group

The apt Group was founded over 50 years ago and today is one of the European aluminium industry's leading corporate groups. It produces, processes, and distributes aluminium products for the construction, transport, automotive, and industrial sectors. It covers the entire value chain – from development, recycling, extrusion, mechanical processing, and surface finishing to assembly and logistics. With about 1,000 employees, the apt Group generates an annual turnover of around €380 million.

The challenge
Sustainability in the aluminium industry

From façade construction to technical equipment and packaging: aluminium is a component of many products – with increasing demand. However, the production of aluminium is very energy intensive and contributes significantly to climate change, making up 3% of direct carbon emissions globally.

On the other hand, aluminium has properties that make it a suitable resource for sustainable business. Due to its low density, aluminium is ideal for lightweight construction solutions that lead to energy savings due to the lower weight, for example in the mobility industry. In addition, aluminium is durable and has excellent recyclability. It can be recycled repeatedly without compromising quality – using only about 5% of the energy needed to produce primary aluminium.

The starting point
First step in climate action

As early as the 1980s, the apt Group began to address environmental issues. During this time, the company installed its own remelting facility to recycle aluminium process scrap internally and reduce the use of primary aluminium. 2021 was the first year for which the apt Group measured its corporate carbon footprint. Although the calculated emissions were already well below the industry average, apt had even more ambitious climate action goals.

At the end of 2021, the apt Group joined the Aluminium Stewardship Initiative (ASI) to formalise its commitment to climate action within the framework of ASI certification. ASI certification requires three key elements in the area of carbon reduction:

- an operational, company-wide emissions reduction plan
- emissions reduction pathways with the ambition of meeting the 1.5 °C target
- continuous tracking and annual accountability of progress towards its targets.

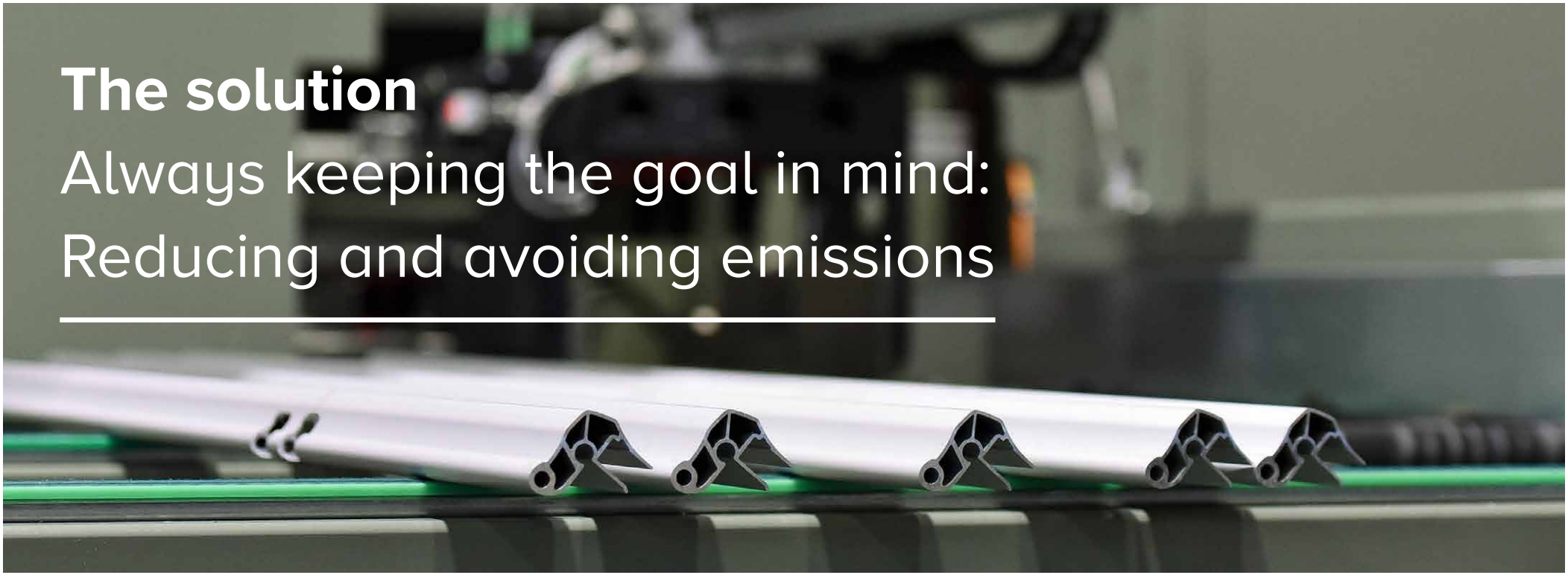
At individual sites and in various departments, the apt Group had already introduced measures to reduce carbon emissions. For example, “energy teams” were appointed and given the task of identifying potential savings and implementing corresponding measures. What was missing, however, was a comprehensive carbon reduction roadmap at the company level in line with ASI Standards.

ASI certification

The Aluminium Stewardship Initiative (ASI) is a non-profit standardisation and certification organisation that promotes greater sustainability and transparency in the aluminium industry. Through the ASI certification process, manufacturers and refineries can prove that they comply with the highest environmental, social, and ethical standards. The standards apply to the entire aluminium value chain: from bauxite mining through smelting and refining to further processing. The ASI Standards take into account greenhouse gas emissions, waste management, material stewardship, biodiversity, and human rights, among other aspects.

“As an aluminium processing group in Europe, we have a special responsibility to make our contribution to the European Green Deal.”

Michael Zint, CEO, apt Group



The solution

Always keeping the goal in mind: Reducing and avoiding emissions

Participants from across the company were involved in creating the climate action strategy. First, ClimatePartner's experts conducted interviews at the operational level to take stock of the reduction measures already in place. apt management also answered questions about the company's growth forecast.

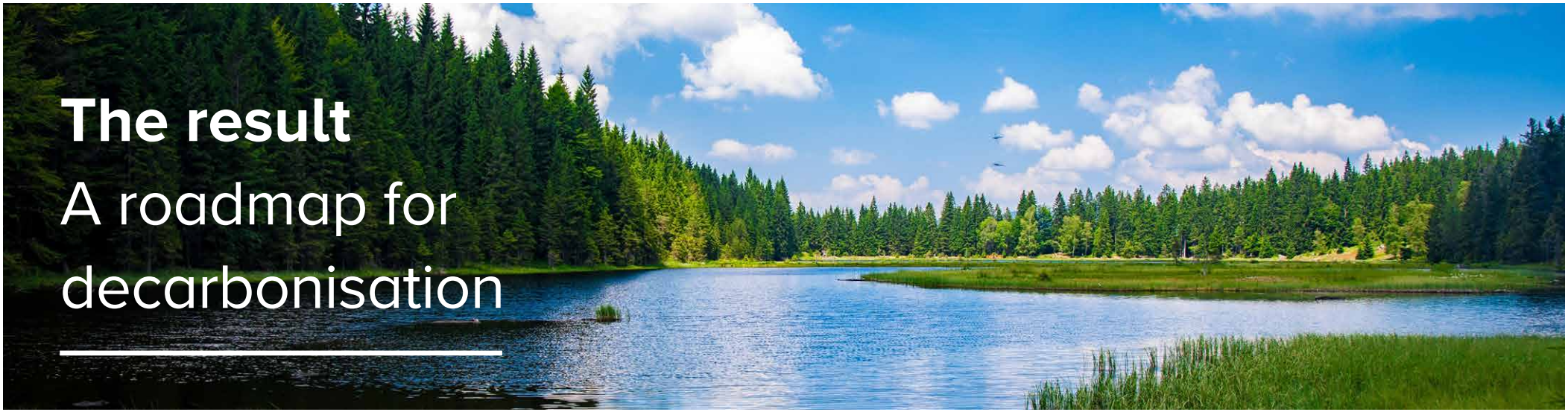
After this inventory, ClimatePartner evaluated the measures in area-specific workshops. The focus was on carbon hotspots and evaluating measures in terms of feasibility and cost. The workshops were followed by quantifying the carbon savings potential of the measures. Together with apt, ClimatePartner mapped various scenarios to make the predictions more robust. The premise was to develop the reduction roadmap to achieve maximum impact as quickly as possible with limited resources.

The net zero target and the corresponding emission forecasts up to 2050 were integrated, taking into account medium- and long-term industry trends.

The goal in four steps

- Understand the status quo and existing reduction measures
- Identify additional measures
- Quantify reduction measures
- Derive a reduction plan in line with ASI Standards

> Each of our projects is checked for sustainability and approved if the targets are met. In the entire area of sustainability, apt strives for industry leadership. We are guided by the requirements of the United Nations' 2030 Agenda and the European Green Deal.
> For more transparency, we have also had the carbon footprint (scopes 1, 2, and 3) of our extrusion sites certified. The industry-wide comparison showed that we are well below the current industry average. With the support of ClimatePartner, we have set up a roadmap to further reduce our emissions to meet the 1.5 °C ambition level. The first projects are already underway.
>
> **Hubertus Schomacher, Quality and ASI Manager, apt Extrusions GmbH & Co. KG**



The result
A roadmap for decarbonisation

ClimatePartner has divided the reduction roadmap for the apt Group into two interdependent elements: an emissions reduction plan and scenario-based emissions reduction pathways.

The emissions reduction plan shows in as much detail as possible how much carbon can be saved with which measures and at what cost. ClimatePartner's experts then assigned the measures to different scenarios:

- **Worst**
- **Normal**
- **Best case**

Based on these bundles of measures, they created emissions reduction pathways for each scenario, which visualise the overall impact of all measures.

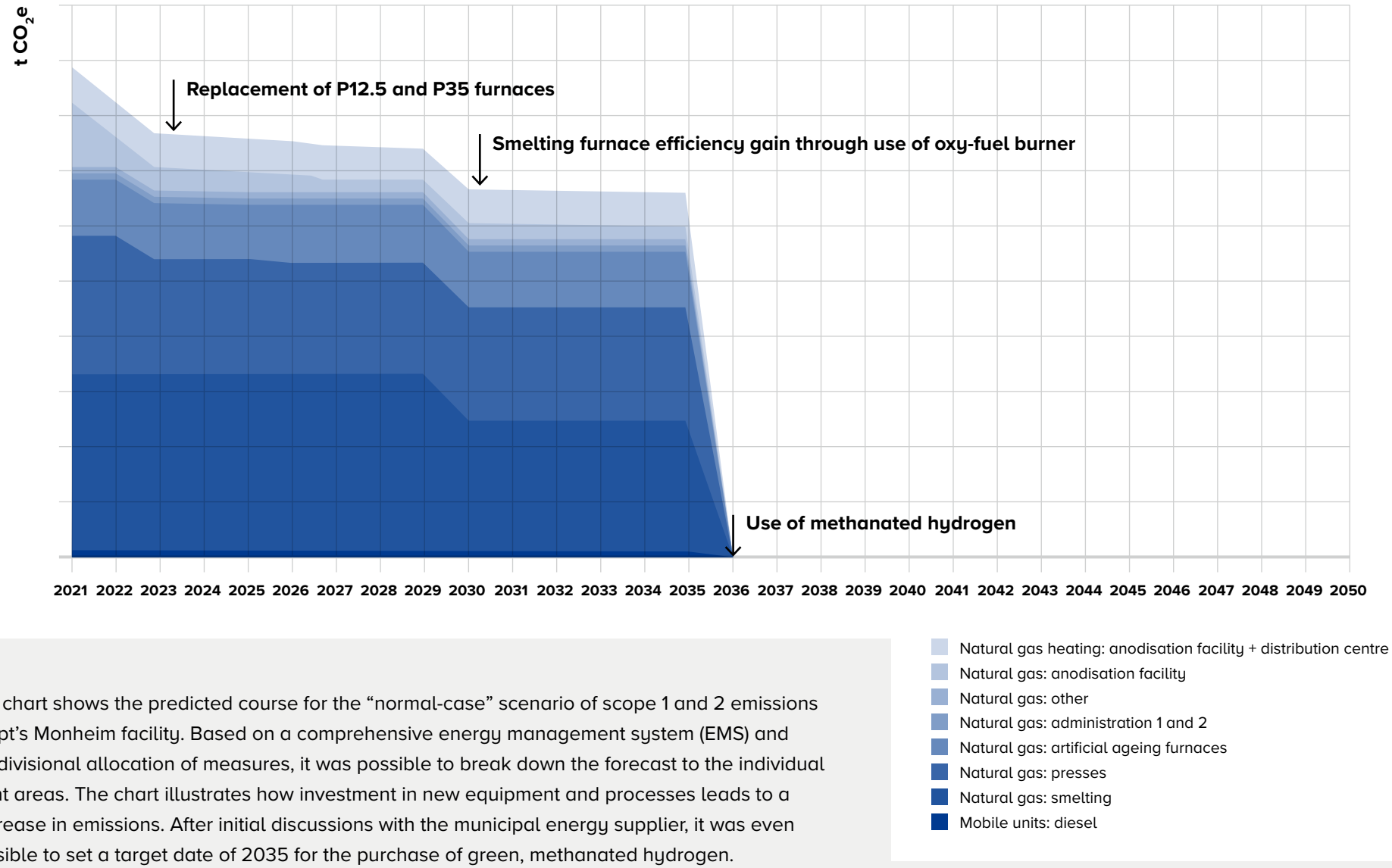
Emissions reduction plan

- More than 80 reduction measures collected for different areas, including:
  - Energy efficiency measures
  - Investments in fixed assets such as upgrading furnaces
  - Electrification of logistics
- Responsibilities and next steps clearly assigned
- Carbon savings potential identified
- Clear action plan established at operational level
- Implementation progress of individual measures tracked

Emissions reduction pathways

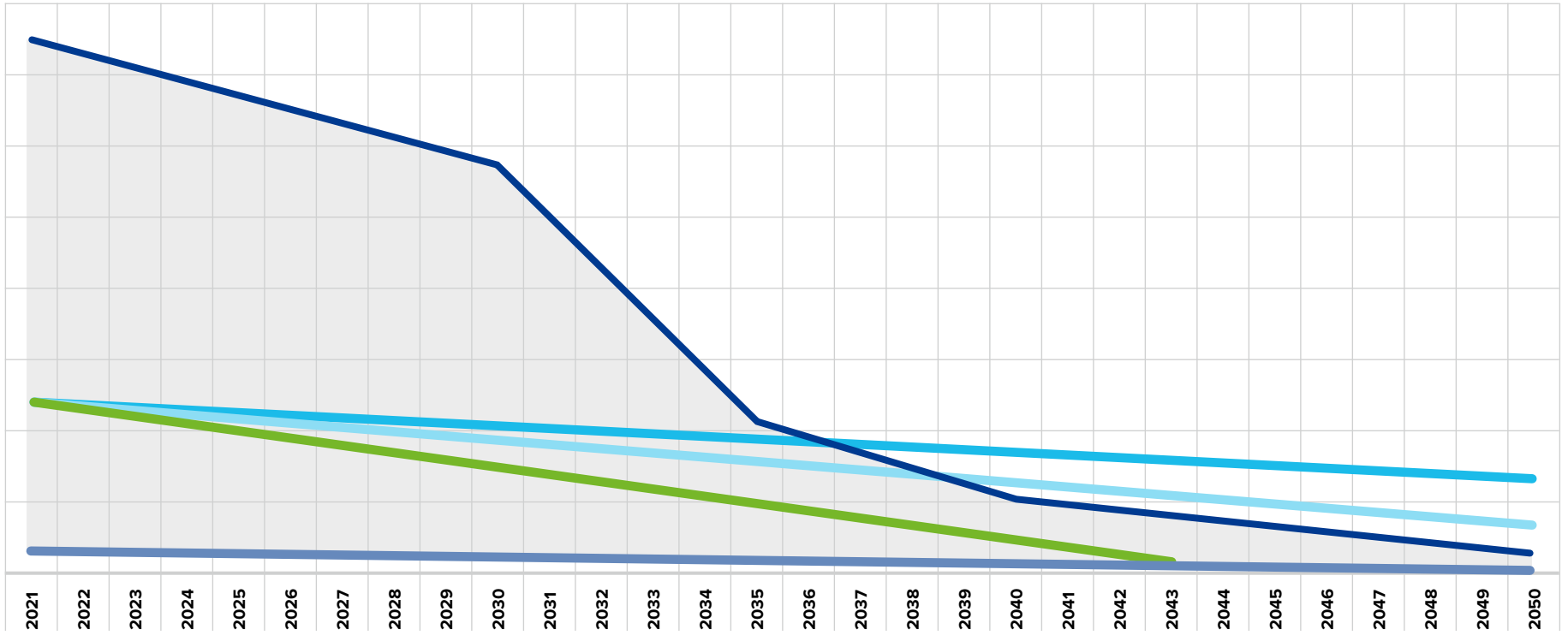
- Depict different scenarios
- Allow climate action targets to be derived
- Make ambition gaps visible
- Can be used as a tracking tool:
  - Corporate carbon footprint (CCF) updated annually
  - Visualisations show whether the company is on the right track

Example visualisation of projected emissions at the departmental level



The chart shows the predicted course for the “normal-case” scenario of scope 1 and 2 emissions at apt’s Monheim facility. Based on a comprehensive energy management system (EMS) and the divisional allocation of measures, it was possible to break down the forecast to the individual plant areas. The chart illustrates how investment in new equipment and processes leads to a decrease in emissions. After initial discussions with the municipal energy supplier, it was even possible to set a target date of 2035 for the purchase of green, methanated hydrogen.

Visualisation of the different scenarios in relation to the convergence path



The ASI requirements include a convergence path for primary and secondary aluminium that is aligned with the 1.5 °C target of the Paris Agreement. While the short-term reductions are under apt's control, the long-term reductions – as in most industries – are highly dependent on technological and market developments. At present, the emissions intensity of apt's existing product portfolio is already well below the market average, and the group aims to maintain this industry-leading position.

Tags: Industrial Goods

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