

# SUSTAINABILITY POSITION PAPER

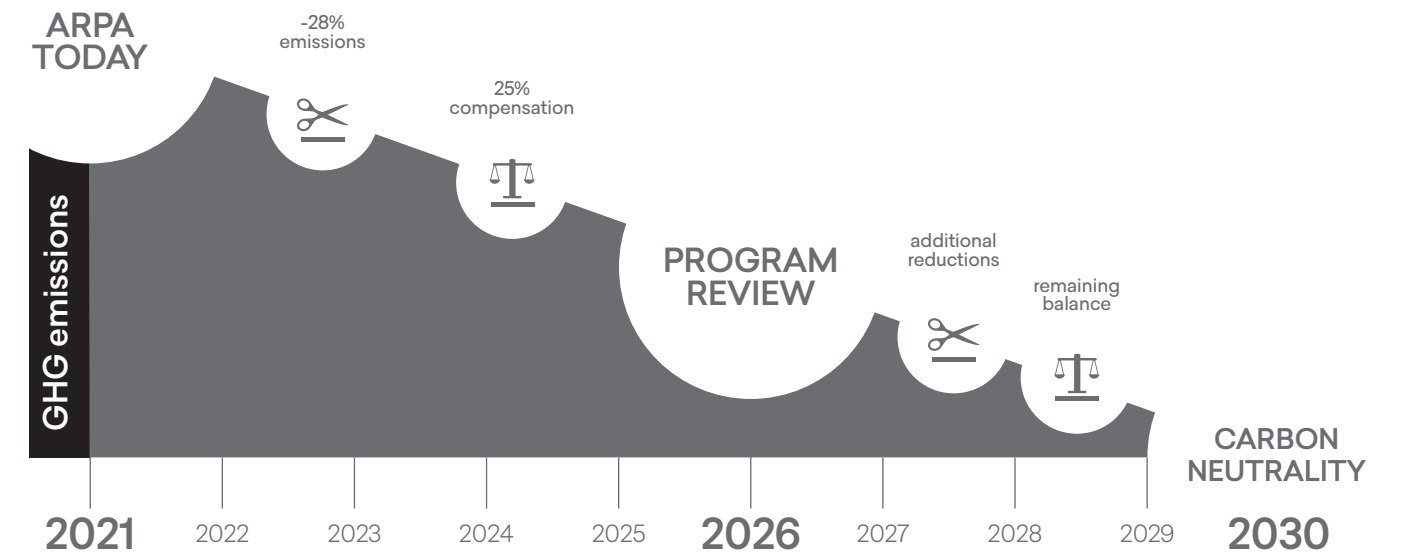
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## Arpa Industriale: The path toward carbon neutrality

At Arpa Industriale we have been working on sustainability for more than 10 years. During this period we learnt a lot about our data, our strengths and challenges from a sustainability standpoint.

In the course of these years we implemented a series of improvement activities which, in some cases, did not bring the results we hoped for in terms of decreasing our footprint.

In the last challenging months, instead of pull away from sustainability, we decided to push ourselves further and focus our efforts on one of the most pressing challenges of this day and age: CO<sub>2</sub> emissions. As we did in the past, we will publish an annual Sustainability Position Paper where, from now on, we will detail our journey to reduce emissions in our facilities. We will also develop offset projects that help capture carbon emissions in the broader environment. Our path toward carbon neutrality includes a targeted overall reduction of over 50% by 2026 (of which 28% of emissions cutting and the rest through offsets) and carbon neutrality for FENIX products already in 2021.

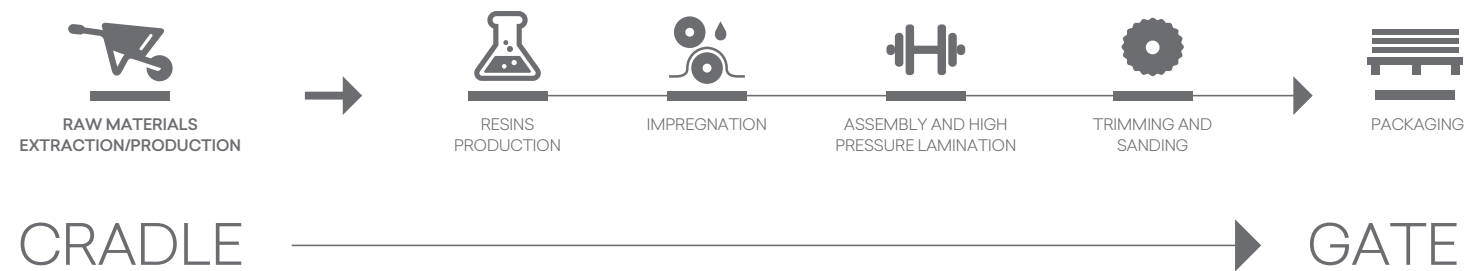


### A straightforward approach to sustainability

Reducing our carbon footprint is based on our core belief that it is the right thing to do. We are also convinced that reducing our overall environmental footprint is essential to the long-term success of our business and the environment around us. That is why sustainability is embedded in our business philosophy with the credo 'do no harm, do good, do better'.

At the core of our sustainability strategy is the principle that we should start with ourselves when we seek to improve the world: 'do no harm'. Our approach is straightforward: we measure our impact, select targets to reduce this impact and monitor and report on progress. To measure our impact, we use the Life Cycle Assessment (LCA) methodology. LCA captures the details of the entire environmental footprint of our products, from its raw material extraction up to leaving the gate of the factory.

## LAMINATES MANUFACTURING PROCESS



The second element of our strategy is to look for opportunities that support the environment beyond the direct scope of our own manufacturing footprint: 'do good'. This includes creating highly durable products that have a long lifespan that limit the need for replacement. Additionally, we also develop projects that help to absorb or reduce carbon emissions less directly linked to our factories and our product portfolio.

We believe that addressing sustainability challenges will allow our company to continue to grow and 'do better' in the future. Investing in sustainability should – in the end – ensure that these efforts continue beyond the horizon of current regulatory changes and ethical/moral considerations.

### Facts on our footprint

We believe you cannot manage what you do not measure. At Arpa we quantify our impacts through the Life Cycle Assessment methodology, the most reliable tool available to measure a product or process' footprint. The LCA results are shown below for the three key environmental factors: Global Warming, Primary Energy Demand and Water Footprint.

Impact category	Unit	2019 Impact
Global warming	ton CO <sub>2</sub>	74.436
Primary energy demand	GJ	3,66 million
Water footprint	m <sup>3</sup>	106 million

Arpa has plans to address all three environmental factors, however, the urgency of Global Warming requires that the reduction of CO<sub>2</sub> emissions be our absolute priority for the years to come. Our primary focus will be on projects to cut the 20,7 thousand tons of CO<sub>2</sub> emissions generated in the production of our products.

### A clear action plan for the coming 5 years

Arpa's goal to reduce its carbon footprint starts with its target for a 28% reduction (20,7 thousand tons) of a CO<sub>2</sub> Emissions by 2026. Key drivers of our improvement are outlined in the table below.

CO <sub>2</sub> emission reduction activity	Emission scope	CO <sub>2</sub> reduction potential
<b>Energy and Material Efficiency</b> optimize the use of thermal energy at the presses and impregnation lines; optimize material use	Scope 1,3	12 %
<b>Sourcing of Green Power</b> switching to 100% renewable electricity	Scope 2	8%
<b>Sourcing Renewable and More Sustainable Raw Materials</b> including resins from bio-sources	Scope 3	8%

**Target reduction total 28% (20700 tons)**

We will continuously explore every opportunity to increase the efficiency of our processes. In addition, we will continue to transition to more sustainable bio-based and renewable sources, which already constitute up to 70% of our product inputs. Bio-based, renewable raw materials have in fact a lower environmental impact than traditional petroleum-based inputs. Forest and crops absorb CO<sub>2</sub> from the atmosphere during their growth and continue storing it once harvested.

Beyond Carbon reduction, Arpa will also pursue a 8% reduction in Primary Energy Demand and a 5% reduction of our Water Footprint.

As stated above, we will develop projects to capture carbon outside our business; this will include buying offsets or co-investing in projects. Arpa's commitment toward carbon neutrality has started with the acquisition of 111.000 carbon offsets, including the ones required to outbalance all the carbon emissions associated with FENIX products.

# INTRODUCTION

## **We will be transparent about progress**

We will be transparent about progress

The goal of our Sustainability approach is to provide transparency to our stakeholders about our sustainability efforts and updates each year going forward so you can see progress against our commitments. Arpa will update its targets and initiatives each year as we progress through this journey.

For those interested in further details of our sustainability program, a long-form version of this paper is available with additional information and data. Our Arpa team also is more than happy to answer questions - feel free to contact your local Arpa team member for more information.

Since 1954, Arpa Industriale has been designing and producing panels with high-quality HPL technology for the most varied end uses: from architecture to interior design, from health care to naval shipbuilding, from transportation to hospitality, from retail to kitchens. In 2013 Arpa launched FENIX®, an innovative material for interiors developed by an international, multidisciplinary team thanks to proprietary technologies. Arpa's products are manufactured in the 150,000-square-metre plant in Bra, in the Piedmont area of Italy. More than 60 years of investment in research, advanced technology and personnel training have allowed the company to achieve a position of primary importance and a reputation for great reliability in international markets; an industry characterised by competent staff, varied and excellent offerings, production flexibility and fast service.

Arpa uses a strategic framework to steer its business towards durable long-term growth. This framework has four key elements: license to operate (LTO), market, cash & cost and capabilities. The thinking behind these elements is to control non-business risk, grow the business, maximize the contribution of growth and ensure that the right skills are on board for successful execution of all plans. Within these elements, the priority lies with our License To Operate, which includes topics such as:

1. Health and Safety of employees and the local community
2. Sustainability and the preservation of the Environment
3. Product compliance to meet regulatory requirements
4. Transparent (financial) reporting and appropriate behavior by employees

Sustainability became key part of Arpa's LTO strategy in 2010 and a lot of effort has been put since then to improve our environmental performance through the implementation of a number of projects and activities. A key element of our approach is being highly transparent about our current environmental footprint as well as our plans and targets for reducing our overall impact. Arpa has implemented a common sense, fact-based methodology to sustainability focused on a cradle-to-gate approach that is integrated into the way that we manage every part of our business.

# OVERALL PHILOSOPHY

Arpa's sustainability policy is built upon a basic motivation to shift from "being less bad" for the environment to being "good" and having a positive impact on the world around us.

This approach has three stages:

## **Do no harm**

Arpa will comply with safety, product and sustainability regulations and guidelines set by the countries in which it operates. Beyond that, we will seek opportunities to minimize the environmental impact in all of our operations and products.

## **Do good**

Arpa will support its suppliers and customers in realizing their sustainability challenges. We will continue to look for opportunities and initiatives to support and promote longer-term sustainability beyond the direct scope of our current operations.

## **Do better**

Arpa believes that investing in sustainability is beneficial to the overall environment and to the long-term health of our business. Many sustainability challenges constitute good business opportunities that support our customers while continuing to allow the company to thrive.

# SUSTAINABILITY APPROACH

Enhancing sustainability requires a realistic vision, specific actions and integrated approach across the entire company. Arpa's sustainability path is defined by three key principles that shape our thinking and action plans.

## **Common Sense**

Arpa takes a common sense approach to sustainability. This requires the acknowledgment that, by definition, a product requires resources and energy in its creation and as a result, some level of environmental impact will occur. That said, we have adopted the relentless pursuit of maximizing our product functionality while minimizing its environmental impact. We believe that sustainability is a balancing act between product functionality and its impact. Our goal is to reduce the impacts without losing sight of the product functionality our customers require.

## **Fact-based approach**

At Arpa, we believe you cannot manage what you do not measure. In order to address sustainability in a bigger way, we needed to quantify our current impact on the environment. To do this, we implemented the Life Cycle Assessment (LCA) methodology because it represents the most reliable and data-driven tool available to help companies, institutions and governments systematically incorporate sustainability into their decision making process. LCA is a process to evaluate the environmental burdens associated with the entire life cycle of a product, process, or activity. For our business, this assessment is done through the identification and quantification of the energy and materials used in the production of Arpa's products and the resulting wastes and emissions released into the environment.

By using a product life-cycle approach, Arpa constantly gets a clear understanding of the actual impact we have on the environment. We can then identify the drivers of sustainability and prioritize initiatives across the entire value chain – from the raw materials through the consumer's use of the product.

The environmental burden of product or an activity can be expressed through a number of impacts, such as global warming, acidification, eutrophication, ozone depletion,

primary energy demand, photochemical oxidant formation, water footprint, abiotic depletion and many others. For Arpa's LCA assessment, we show results tied to three key environmental factors: Global Warming (CO<sub>2</sub> Emissions), Primary Energy Demand and Water Footprint.

From among these three environmental impacts, global warming represents Arpa's absolute priority. This impact poses a serious threat to our planet, one that demands urgent action on a global scale. Beginning with the Rio Earth Summit, then the Kyoto Protocol and the Paris Agreement, action to tackle this global challenge is speeding up. With the Paris agreement, 191 countries (including Europe) committed to limit global warming to well below 2° Celsius compared to pre-industrial levels. This means aiming to reach global peaking of greenhouse gas emissions as soon as possible to achieve a climate neutral world by mid-century.

## **Part of how we run the business**

All sustainability initiatives are part of Arpa's rolling business planning and review cycle. Our sustainability priorities stem from the results of our LCA studies and what we believe are realistic but challenging targets for achieving meaningful progress. The review cycle comprises annual target setting in the budgeting process and a monthly management review of progress measured in key performance indicators. Each year, new sustainability targets are set and formalized in a detailed sustainability target agreement. Progress is closely monitored and discussed by the top management team of Arpa on a quarterly basis during regularly-held sustainability meetings which are our tool for tracking activities and progresses, and brainstorming on new sustainability initiatives.

Moreover, we are incorporating sustainability training into our onboarding process and updates into our employee communications.

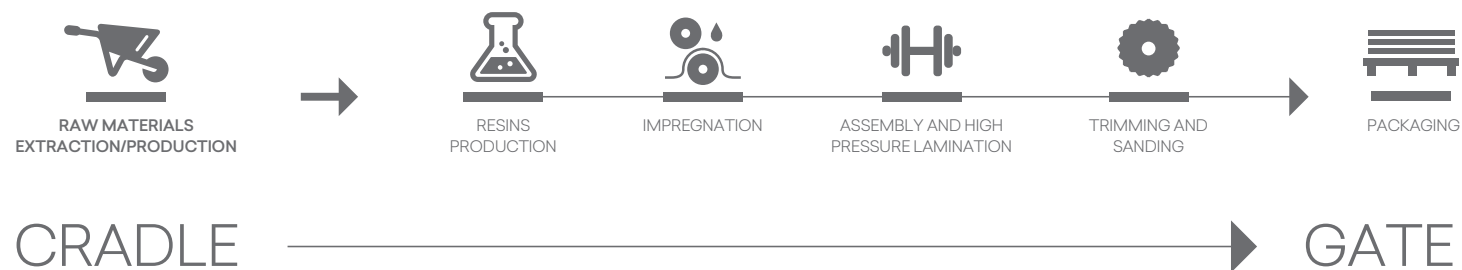
Arpa is committed to informing our entire team about our sustainability initiatives and including them in our efforts to protect the environment.

# SUSTAINABILITY STRATEGY: CRADLE-TO-GATE APPROACH

At the heart of Arpa's sustainability vision and approach is reducing the impacts generated from the cradle-to-gate portion of our materials life cycle.

Our guiding principle is two-fold: increasing efficiency or "do more with less" and replacing the most impactful energy and material inputs of our process.

## LAMINATES MANUFACTURING PROCESS



### Increasing efficiency

Efficiency upgrades represent the first lever for improving a product's environmental footprint by reducing the required energy and raw material inputs.

**Energy.** There are many opportunities to improve the energy efficiency of industrial equipment through the use of modern technology and intelligent system design. Replacing motors and pumps with new high-efficiency designs, storing and recycling heat within a closed-loop system, and optimizing the integrated manufacturing system are examples to reduce energy consumption.

**Materials.** A large share of industrial emissions is associated with the creation of materials used in our products. A key opportunity is to absolutely minimize material waste at each step in the process. We are focusing on product and process designs that optimize the use of materials so that our finished product can provide outstanding performance while requiring less material input.

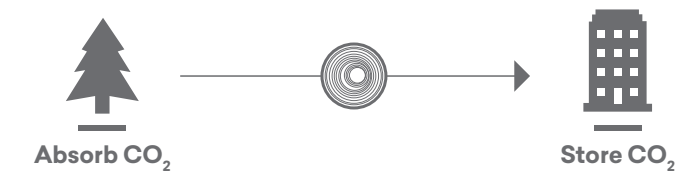
Additionally, we will work with the materials suppliers that contribute the most to our impact, to share our ambitions and goals and work with them to find mutually beneficial opportunities to improve our collective environmental footprint.

### Replace most impactful inputs

There are also opportunities to shift to lower-carbon alternatives for the energy and raw material inputs we source into our process. This approach normally translates into switching from fossil-based to bio-based and renewable options.

**Energy.** The core element of this strategy is to actively pursue opportunities to replace traditional energy sources (electricity and natural gas) with renewable options for gas (e.g. biogas), and electricity (e.g. wind, solar). This will include working with third parties but also projects implemented on our own sites.

**Materials.** Bio-based, renewable raw materials have a lower environmental impact than traditional petroleum-based inputs. They, in fact, help to save fossil resources and can contribute to reducing greenhouse gas emissions. Forest and crops absorb CO<sub>2</sub> from the atmosphere during their growth and continue storing it once harvested. To get a bit technical, trees absorb through the photosynthesis CO<sub>2</sub> and solar energy in their wood creation and release oxygen in return. The CO<sub>2</sub> absorbed is kept in the wood products for their whole life-time.



Our panels are made of a combination of bio-based, renewable materials (wood fiber) and resin, with the bio-based share exceeding the fossil-based one - up to 70% of our products are bio-based.

The rising availability of bio-based materials is making it more and more feasible to further increase the share of bio-based materials within our products. Between selecting bio-based alternatives and better-performing suppliers, sustainability will become a critical parameter when choosing our partners.

# BALANCING OUT RESIDUAL EMISSIONS

As mentioned above, Global Warming (CO<sub>2</sub> emissions) represents our absolute priority for the years to come. This means we will put extraordinary efforts to cut the CO<sub>2</sub> emissions generated by our products. We will pursue this goal by applying the strategy outlined above to improve our efficiency (of both materials and energy) and replace the most impactful inputs.

Yet, it will not be possible to eliminate all emissions from manufacturing process of our physical product. For residual CO<sub>2</sub> generation, Arpa will compensate with equivalent carbon dioxide savings elsewhere. This will be achieved either through purchase of fully-accredited carbon offsets, or, preferably, by developing our own carbon removal projects.

Carbon neutrality is defined by the state when the carbon emissions associated an activity have been compensated by funding an equivalent amount of carbon savings elsewhere in the world. By buying offsets and developing carbon sequestering projects it is possible to fully balance out residual emissions and hence obtain a carbon neutral product. Our aim is to achieve carbon neutrality for our products by 2030 and, even more ambitiously, by 2021 for FENIX panels (for which a dedicated position paper is available at fenixforinteriors.com).

# ARPA BASELINE LCA DATA: OUR LEARNINGS AND PROGRESS TO DATE

Over the past 10 years Arpa put a lot of effort in embracing a sustainable approach by measuring and improving its environmental impacts. Our journey towards sustainability started back in 2010 and since then 8 LCA studies were carried out.

2. Identify the major contributors to our impact in order to set priorities
3. Put in place a number of improvement activities to reduce the energy consumed and the waste generated on site

The undertaken LCA studies enabled us to:

1. Better understand our mass and energy flows/balances, which lead to the installation of additional measuring systems or the calibration of the existing ones

## Environmental impacts

In this section, the results of the LCA study for the assessed impact categories are specified. These values are expressed per standard unit of material and our total impact in 2019.

	Unit	2019 Impact	Impact per m <sup>2</sup>
<b>Global Impact per m<sup>2</sup></b>	kg CO <sub>2</sub> eq	<b>74436369</b>	<b>3,75</b>
Scope 1 Emissions		24880422	1,21
Scope 2 Emissions		6903751	0,29
Scope 3 Emissions		42652200	2,25
<b>Primary Energy Demand</b>	MJ	<b>3659958386</b>	<b>190,07</b>
Fossil		1732528905	67,40
Renewable		1927429481	122,67
<b>Water Footprint</b>	m <sup>3</sup>	<b>106036531</b>	<b>5,69</b>

The unit of scale or reference to which the LCA results are referred relates to the given function of the product, called a functional unit. Based on the function of our products, the functional unit of our LCA studies is 1 m<sup>2</sup> of panel. These numbers provide a baseline of the environmental impact of our products.

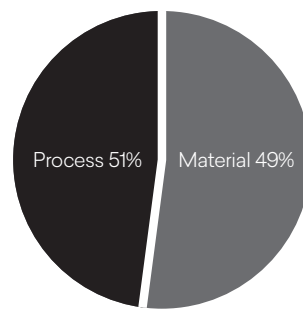


# SUSTAINABILITY ROAD MAP TO 2030

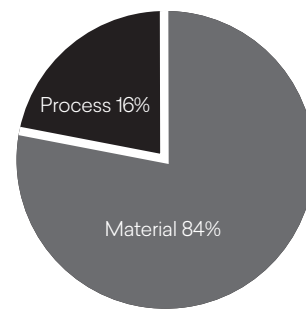
## Contribution analysis

Each of the manufacturing steps described in the cradle to gate cycle contributes to a different extent to the total environmental impact of our laminates. Such impact originates from the manufacturing process itself (the energy and water consumed, waste produced and emissions generated) and from the production of the materials from which our panels are made.

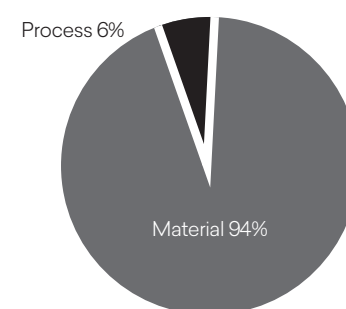
The chart below shows the contribution of the manufacturing process and raw materials for the three investigated environmental indicators: Global Warming (CO<sub>2</sub> emissions), Primary Energy Demand and Water Footprint. As it can be seen in the Figure below, a significant portion of the impact of our panels is attributable to the raw materials we buy, which guides our approach to making improvements to both our own operations and to the inputs we source.



CLIMATE CHANGE



PRIMARY ENERGY DEMAND



WATER USE

Additionally, Global Warming (CO<sub>2</sub> emissions) have been further broken-down in three categories consistently with the Greenhouse Gas Protocol (see the Figure below):

### Scope 1

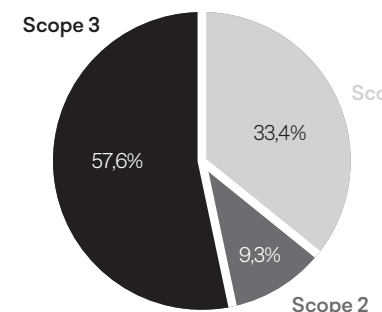
All direct emissions from the manufacturing plant, including fuel combustion, boilers and afterburners.

### Scope 2

Indirect emissions from electricity purchased and used by the plant.

### Scope 3

All other indirect emissions from external sources, namely: raw materials extraction, production and transportation; fuel extraction; waste disposal.



GLOBAL WARMING

## Cradle-to-gate impact reduction

The entire goal of Arpa's sustainability approach is to define specific targets and actions to reduce our environmental impact, while continuing to supply the same products you have come to expect. Our reduction targets for 2026 (baseline 2019) are:

- Global Warming (CO<sub>2</sub> emissions): 28% reduction
- Primary energy demand (fossil): 8% reduction
- Water footprint: 5% reduction

In order to achieve the global warming target, Arpa Industriale is undertaking a series of activities and projects detailed in the table below.

CO <sub>2</sub> emission reduction activity	Emission scope	CO <sub>2</sub> reduction potential
<b>Energy and Material Efficiency</b> optimize the use of thermal energy at the presses and impregnation lines; optimize material use	Scope 1,3	12 %
<b>Sourcing of Green Power</b> switching to 100% renewable electricity	Scope 2	8%
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**Target reduction total 28% (20700 tons)**



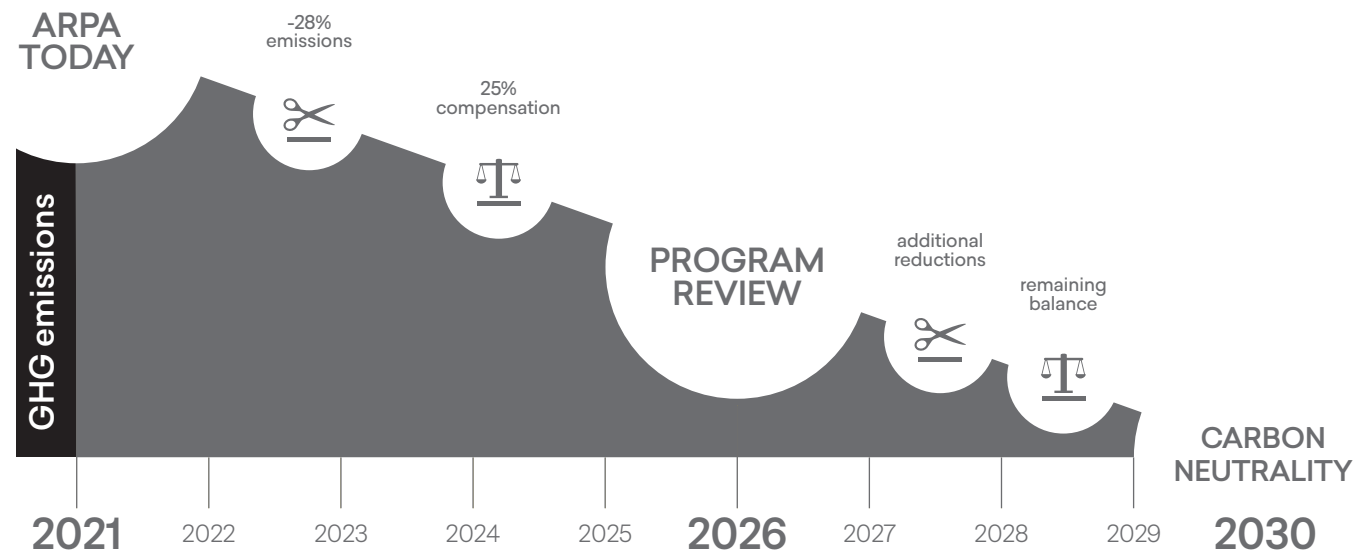
# DURABILITY, A SUSTAINABILITY BOOST

## Balancing out emissions

Arpa also has set an ambitious goal of becoming carbon neutral by 2030. Along with our internal improvement agenda outlined in the previous section, we also will start offsetting CO<sub>2</sub> emissions through the use of carbon credits. In addition to buying carbon offsets, we plan to start developing our own carbon sequestration projects. To this end, we have already initiated efforts to identify and select potential projects, discussed with the relevant stakeholders, and are building a plan for execution.

The picture below highlights our path towards carbon neutrality. It reflects the combined impact of our internal improvement measures and carbon offset compensation to help balance our emissions.

We recognize carbon neutrality is a long journey and there will be significant learnings along the way. As we progress through this process, we will leverage our experiences to update our approach, targets, and timelines. However, we believe it is vitally important to get started on this journey now, start the hard work of creating a more sustainable business, and becoming a leading steward of a better environment.



## Improving our LCA model

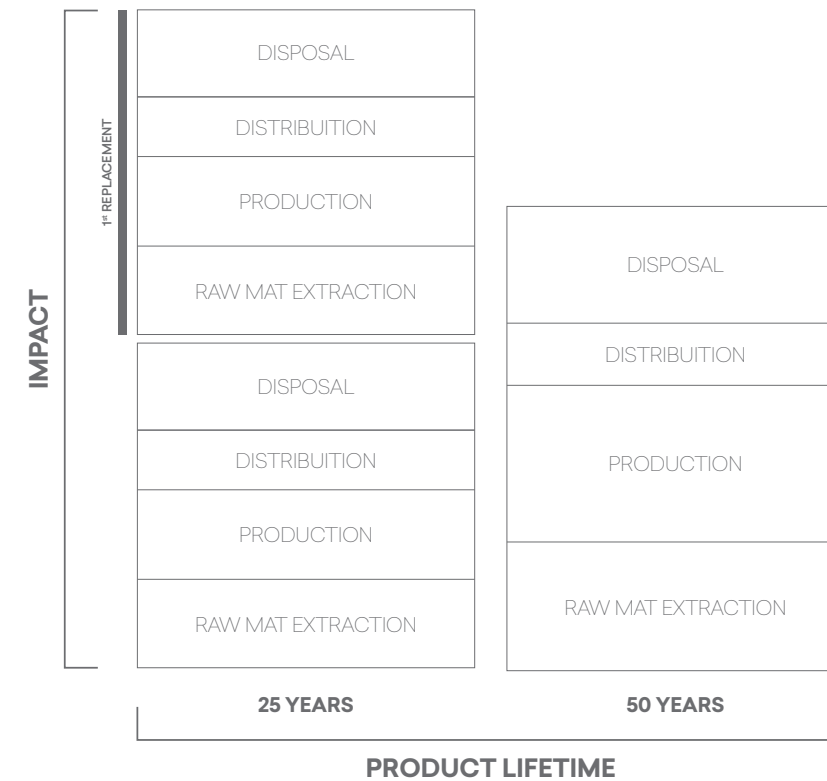
Another key component of our sustainability effort is reliable and transparent data embedded in our Life Cycle Analysis model. The accuracy of an LCA model is entirely dependent on the data available; ensuring this data quality is at the forefront of our priorities. During the next five years, we will continue to put effort toward increasing the breadth and accuracy of data collected in our plants. In LCA, there is

a clear distinction between data collected on site (primary data) and data sourced from third parties (secondary data), with the former preferred over the latter. Given the significant role that raw material play in our products' LCA, we plan to continue to refine our data and collect inputs directly from our paper and chemical suppliers to further improve the specificity and accuracy of that data. Combined, the end goal is to develop and maintain a highly accurate and actionable LCA model for our products.

The longer the product lasts, the longer the period of time to spread the environmental impact associated with the production of those raw materials and the environmental costs that incurred in the product's manufacturing, such as energy, waste, and emissions. Furthermore, by implying fewer replacements, long-lasting products entail less use of resources, lower emissions of pollutants than short life-span goods. In other words, durability represents a very effective strategy to reduce carbon emissions.

Long-lived products also imply the generation of smaller amount of waste, which is why the extension of the life time of products represents the primary strategy towards waste reduction set by the European Commission.

All of our products and their exceptional quality are a result of this vision, as they are, by definition, very durable, long lasting materials.



# WHAT DO GLOBAL WARMING, PRIMARY ENERGY DEMAND AND WATER FOOTPRINT MEAN?

## Global warming

This indicator expresses how much heat greenhouse gases trap in the atmosphere. Greenhouse gases are a group of compounds that are able to absorb the infrared radiation released by the Earth surface heated up by the sun. The more greenhouse gases in the atmosphere, the more heat stays on Earth. The main greenhouse gases are carbon dioxide (which is also the most abundant greenhouse gas), methane, nitrous oxide and fluorinate gases. The global warming indicator is calculated in terms of carbon dioxide equivalents.

## Primary energy demand

Primary energy is energy found in nature that has not been subjected to any conversion or transformation process (such as primary energy content in crude oil, natural gas, and biomass). Energy that is already converted will require primary energy to provide this “delivered energy” (e.g. steam, electricity or other thermal energy derived from any technical process). Primary energy demand indicates the amount of energy that a system under assessment has extracted from the natural environment.

## Water footprint

In this paper the water scarcity footprint has been evaluated. This indicator assesses the amount of water consumed weighted by a scarcity indicator, hence accounting for differences in potential environmental impact of water use based on given regional differences in water scarcity.

## Factories included in the analysis

As of 2021, Arpa extended its control over an HPL plant located in Valencia. This factory manufactures Formica®-branded panels.

The results and targets reported in this paper refer both to the Arpa and Formica plants.

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