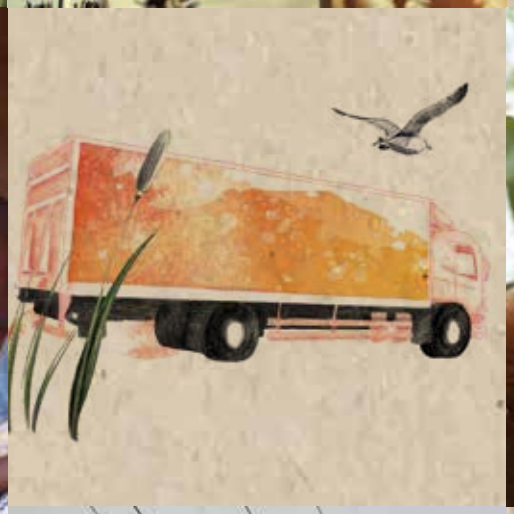
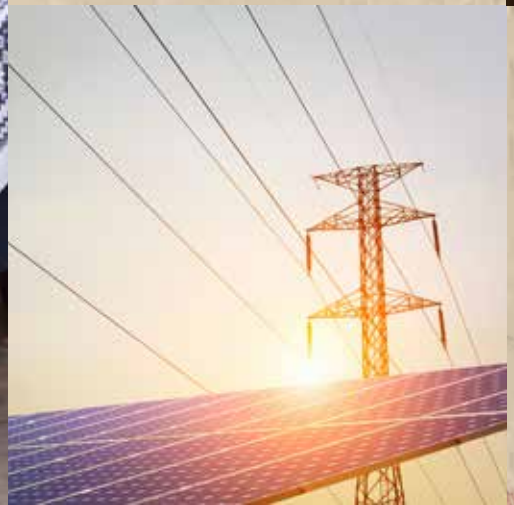
Environmental Report 2016

Carbon Neutral










ELOPAK

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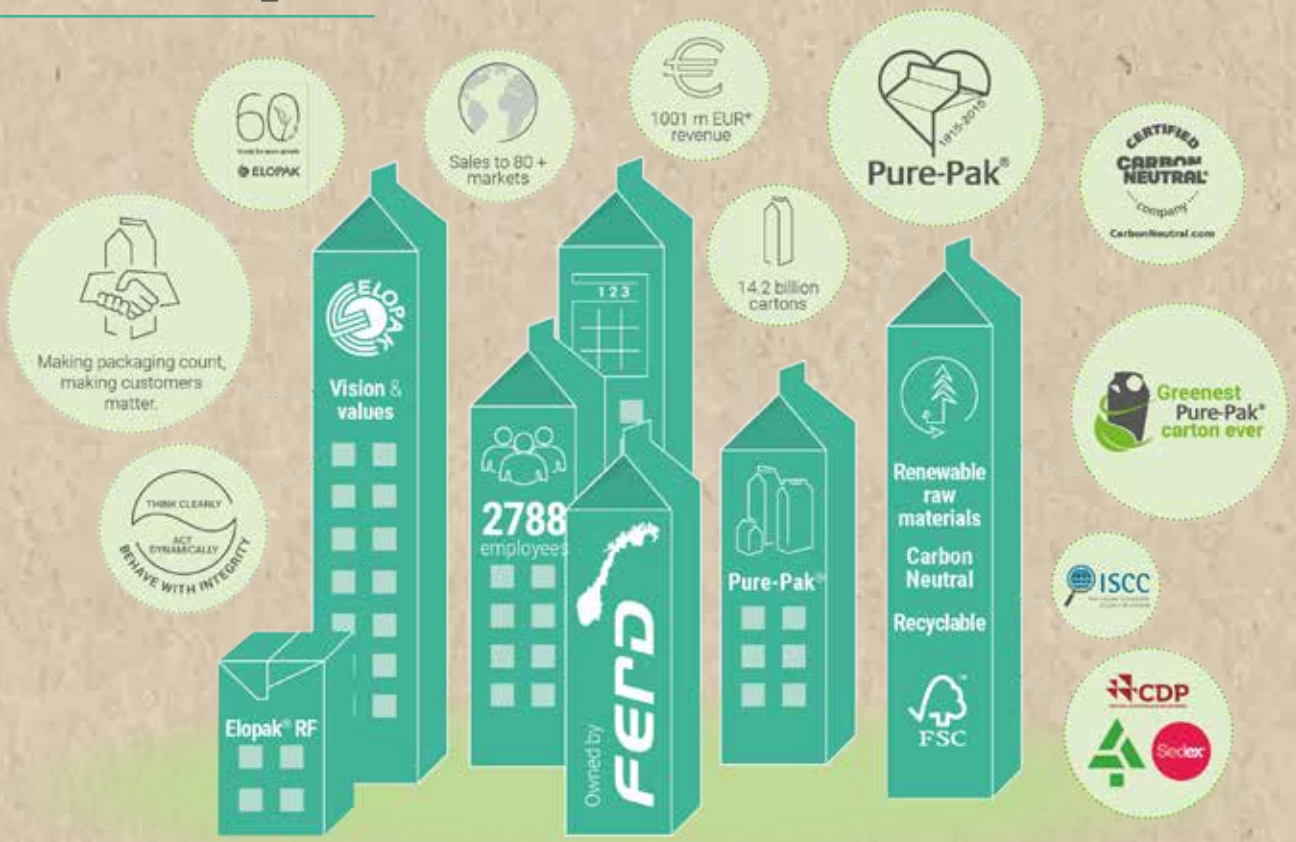
About Elopak



*Inclusive 100% of partly owned joint ventures

Elopak goes carbon neutral, and is powered by renewable electricity

Elopak's Pure-Pak® cartons are the environmentally friendly alternative for the packaging of liquid foods. They are produced primarily from paperboard sourced from responsible forestry operations. Additionally, we use a layer of polyethylene which is increasingly produced from renewable raw materials.

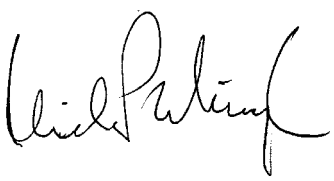
When calculating and comparing the environmental impact of our cartons with the alternative of PET bottles, we see that the carton performs significantly better on almost all environmental categories, such as greenhouse gas emissions. The only category where PET outperforms the carton is land use, since we harvest fibers from forests that occupy land. However, by sourcing 100% certified or controlled fibers, this ensures that the land use is sustainable. Not only is the carton the best alternative from an environmental perspective, but the superior barrier qualities of the carton protect the filled product, preserving both the taste and nutritional value.

Elopak recently attained two major environmental milestones. In 2016, we started to source only renewable electricity for use in all our fully owned factories and offices. Also, we achieved carbon neutrality, thereby offsetting our residual emissions. At the same time, we are offering cartons with this feature to our customers.

We achieved carbon neutrality by supporting two projects that will create jobs locally, cut local pollution, and protect the local biodiversity. These projects are in Uganda and Indonesia, and are audited on a regular basis so as to ensure lasting greenhouse gas emission reductions, and positive local health and economic effects.

This environmental report focuses on the importance of carbon neutrality, from a corporate and product perspective. We hope other companies will be inspired to follow suit.

At Elopak, we are proud of the environmental qualities of our products and the way we work. Furthermore, we will continue the hard work to ensure our position as one of the best performers on environment within liquid food packaging companies.



Niels Petter Wright, CEO Elopak

What is carbon neutrality

– and why is it important?

Each year the world emits approximately 50 GT (50 billion metric tons) of greenhouse gases, measured in carbon dioxide equivalents. Climate scientists tell us that the world needs to limit this to 22 GT by 2050, if we are to avoid an average temperature increase of more than 2 degrees centigrade, compared to pre-industrial levels. This means that we need to cut our emissions by more than half within three decades. This is a monumental task, and all sectors and all countries must contribute.

> Time is something we don't have. So in parallel to trudging through the green transitions, we must find projects worldwide that can cut emissions quickly; preferably right now.

Tackling a global problem

The nature of global warming is such that it is of less significance where in the world the emissions occur, and consequently where the emissions are to be cut. It is also a fact that some emission reductions are comparatively cheap whilst others are extremely expensive. Furthermore, some emission cuts are technically and politically complex and difficult to achieve, and will therefore take a long time to implement, whereas others are simple and fast.

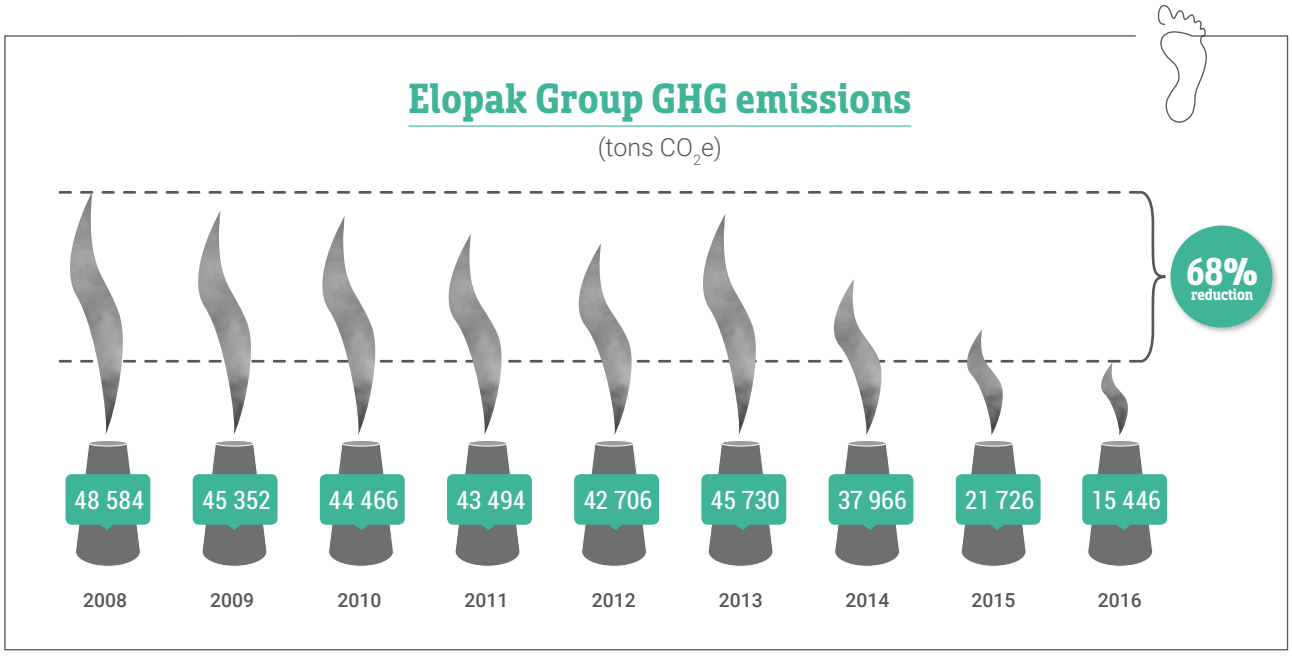
The world needs to solve some major challenges that we simply cannot ignore. For instance, we need to decarbonize the transport sector. In general this means that we need to move from fossil fuel based transport, namely conventional gasoline and diesel cars as well as trucks and planes, to electric based transport. However, it's difficult to power an airplane by electricity, and in the case of fast moving jet planes, simply impossible. In these cases fuels must be made from renewable materials.

Secondly, the electricity supply must be rebuilt to be based on renewable sources, such as hydro, wind and solar. Even though the electrification of transport as well as the renewable electricity revolution is well underway, it will take decades to make the transition. These major industrial revolutions will happen, but they will take time to implement.

Time is something we don't have. So in parallel to trudging through the green transitions, we must find projects worldwide that can cut emissions quickly; preferably right now.

Concrete measures can be taken now

There is no shortage of such projects. There is a surprising amount of unnecessary greenhouse gas emissions throughout the world. To take one example, even in a technologically advanced nation such as the USA, there are hundreds of landfills with no method for the capture of the greenhouse gas methane. Whenever organic matter such as food waste degrades, methane is produced by microorganisms. Methane is a potent greenhouse gas, and one which it is very important to prevent escaping into the atmosphere.



The technology to capture methane from landfills is mature, readily available and cost efficient. All you need is to drill holes in the landfill matter, and collect the methane into pipes. After collection, the methane is either burned off (thus converting it to the less dangerous greenhouse gas CO_2), or it is utilized for power production in a small generator.

As many countries do not have regulation or incentives to install methane capture in landfills, other mechanisms must be found to reduce emissions. One such mechanism is carbon offsetting.

In carbon offsetting, a party can finance a project elsewhere in the world such as a US methane capture project. This can be cheaply and swiftly achieved as such a project can be identified and implemented in only a few months. In order for the third party to be incentivized to do this, the emission saving credits from the project can be used to offset the emissions of the third party. Thus, everybody wins. Greenhouse gas emissions are reduced, the project will contribute to the local economic growth where the project is implemented, and the third party can find ways to offset its own emissions. These projects are audited by an independent auditor, which makes sure that the emission reductions are real, that they would not have taken place if not for the external financing, and that the projects follow the relevant international standards for such projects.

Elopak's carbon offset projects connected to the forest

This is the mechanism which Elopak has recently pursued to attain carbon neutrality, although we have chosen projects closer to our own area of business. Our projects are connected to the forests of the world.

Carbon neutrality means that you reach virtually zero net emissions, first by reducing your own emissions, and then by offsetting the remaining emissions that cannot easily be reduced directly.

Becoming carbon neutral has three steps. Firstly, you need to know your own emissions of greenhouse gases. In other words, you need to **measure** your emissions.

Secondly, you need to **reduce** your own emissions. It is important to note that you cannot skip this phase of the process. Both of the standards that Elopak follows in its carbon neutrality project; The Carbon Neutral Protocol as well as the PAS 2060, dictate that you need to cut your own emissions first.

The diagram above shows our progress in cutting our own emissions. We have attained this primarily by way of energy efficiency and sourcing renewable electricity.

Even though companies can do much to reduce their own emissions, there will always be emissions which are difficult to reduce further, such as emissions from travel and business cars. In order to achieve net zero emissions, an organization has to fund projects outside of its area of operations to offset the residual emissions.

This is the third step of the process. By supporting projects outside of our operations, we can subtract the emission savings from the projects from our own residual emissions, i.e. **offset** our residual emissions. The diagram above shows the entire process.

Elopak's program for Carbon Neutrality

1. Measure
In order for any organization to reduce its GHG emissions, it must first quantify them

2. Reduce
Identify and act on the potential for reducing Elopak's GHG emissions

3. Offset
Support projects with verifiable emission reductions outside of our operations, by purchasing carbon offsets to counter the remaining emissions

When we were searching for projects to fund, we wanted to achieve social and environmental benefits in addition to the emission reduction. We found this in both of the projects we support.

The improved cook stoves project Elopak supports in Uganda, promotes the use of efficient woodstoves to replace the currently used open fire places or simple woodstoves. There are many positive synergetic effects from this project. Firstly, the new ovens are much safer for the people who use them. Accidents involving boiling water are avoided. Secondly, the ovens significantly reduce local pollution, such as toxic gases and particles. Thirdly, the families using the ovens save around 100 USD per year through the reduced consumption of fire wood or fuel. Fourthly, the ovens are manufactured locally, and as such create local jobs and support the local economy. All of these benefits come in addition to the greenhouse gas emission reductions.

Our second project, the Rimba Raya project in Borneo, Indonesia, is a rainforest protection project. The rainforest is being cut down and burnt in many places throughout the world. This is a huge problem not only due to the massive emissions of greenhouse gases that result, but also due to the damage to biodiversity. The concentration of biodiversity (number of species) in the rainforest is higher than anywhere else in the world. Also, the rainforest houses a lot of species that are endemic, meaning that they only exist in very local geographies, such as individual valleys, or even a single rocky outcropping. If you clear, cut or burn the forest in a single valley, hundreds of species may be rendered extinct.

Thus, it's critical that we protect the world's rainforests. Even though there are growing international programs to protect various rainforests, the progress is way too slow and huge acreage of rainforests are being destroyed permanently every year. To combat this, we need additional efficient programs to protect the forests. One such program is the Rimba Raya program in Borneo, which has avoided the conversion of the rainforest to palm oil plantation. In addition to saving an area of 64 000 hectares, the project is instrumental in protecting the local population of the threatened species of the orangutan. Also, local people are given alternative employment options such as eco-tourism, guard duty, sustainable agriculture and sustainable fishery.

In this way, together with our customers, we are not only doing our part in reducing emissions of greenhouse gases, but also creating local jobs and protecting the biodiversity around the projects we support. This shows the power of the mechanism of carbon offsetting and carbon neutrality.

Carbon neutral cartons

Not only is Elopak a carbon neutral company, but we are now offering our customers carbon neutral cartons. Where the corporate carbon neutrality involves offsetting the emissions from our factories and offices, the carton carbon neutrality includes the emissions from the entire value chain of carton manufacture, including the raw material extraction and production as well as transport. On the next page, you will find an example of one of our customers employing this feature.

Elopak's carbon neutral packaging offering

In 2016, Elopak became a carbon neutral company and was also able to offer carbon neutral packaging. So what is the difference?

Carbon neutral company means that all of Elopak's emissions from offices and plants worldwide (originating from energy use and business travel) and emissions from the transportation of goods are quantified and the residual emissions are offset by verified carbon offsets. Elopak is then deemed to be a carbon neutral company.

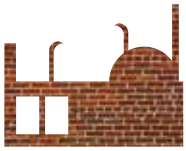
Carbon neutral packaging means that the emissions embedded in Elopak's cartons (e.g. from raw materials and transport, waste, distribution etc…) are also offset. Therefore, this also makes Elopak's key products, its *cartons*, carbon neutral. The carbon neutral packaging offering covers the emissions from the entire value chain, from raw material extraction and production, transport, coating and converting, as well as the distribution to retailer.

Right: Example of carbon neutral packaging from Italian customer, Centrale del Latte d'Italia S.p.A.

The difference between Elopak as a carbon neutral company, and carbon neutral packaging:

COMPANY:

CERTIFIED CARBON NEUTRAL company CarbonNeutral.com



- RAW MATERIAL PRODUCTION
- WASTE
- TRANSPORT
- ELOPAK'S MANUFACTURING (ENERGY CONSUMPTION)
- BUSINESS TRAVEL
- ONWARD DISTRIBUTION

PACKAGING:

CERTIFIED CARBON NEUTRAL packaging CarbonNeutral.com

- RAW MATERIAL PRODUCTION
- WASTE
- TRANSPORT
- ELOPAK'S MANUFACTURING (ENERGY CONSUMPTION)
- BUSINESS TRAVEL
- ONWARD DISTRIBUTION

Measure

Measuring our environmental impact is crucial in order for us to be able to manage and constantly improve on our environmental performance.

Environmental Highlights 2016

ELOPAK
Together we make packaging work

MEASURE

Measuring our environmental impact is crucial in order for us to be able to manage and constantly improve on our environmental performance.

Elopak Group GHG emissions **15 446** tons CO_2e

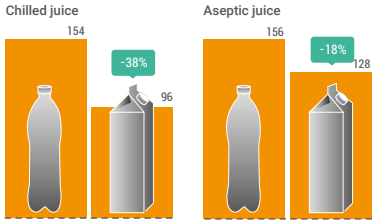
Elopak Group GHG emissions per produced carton **1,42** g CO_2e

100% of Elopak's paperboard sourced from verified legal and acceptable sources

Since the launch of cartons featuring renewable PE, Elopak has saved **2 840** tons CO_2e emissions.

Elopak's carton vs monolayer PET [1]

Elopak cartons outperform PET in most environmental categories and are the best environmental choice for liquid food packaging.



Carbon footprint of the PET bottle and carton over their full life cycle (gCO_2e per liter of juice).

Carbon Footprint of an average Elopak PE carton with closure: **27,34** g CO_2e/carton [2]

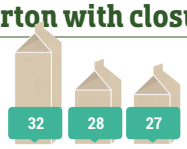
Elopak's 2016 emissions related to third party transport [3] is: **18 292 tons CO_2e**

REDUCE

Elopak is constantly working to reduce its emissions and environmental footprint.

RE 100
Elopak reaches RE100 target to source 100% renewable electricity in 2016

Average g CO_2e per carton with closure [2]



44% average beverage carton recycling rate in Europe

98% of Elopak's internal paperboard and carton waste recycled

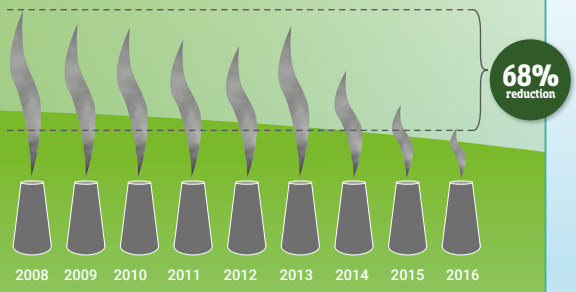
An average of **36%** of Elopak cartons sold in Europe and North America were recycled

Elopak Group global FSC™ sales [3]

(percentage of sales)

Elopak Group GHG emissions

(tons CO_2e)



OFFSET

Elopak became carbon neutral in 2016. We compensate for the remaining value chain emissions of producing packaging by supporting verified emission reduction projects.

CERTIFIED CARBON NEUTRAL® company
CarbonNeutral.com

CERTIFIED CARBON NEUTRAL® packaging
CarbonNeutral.com

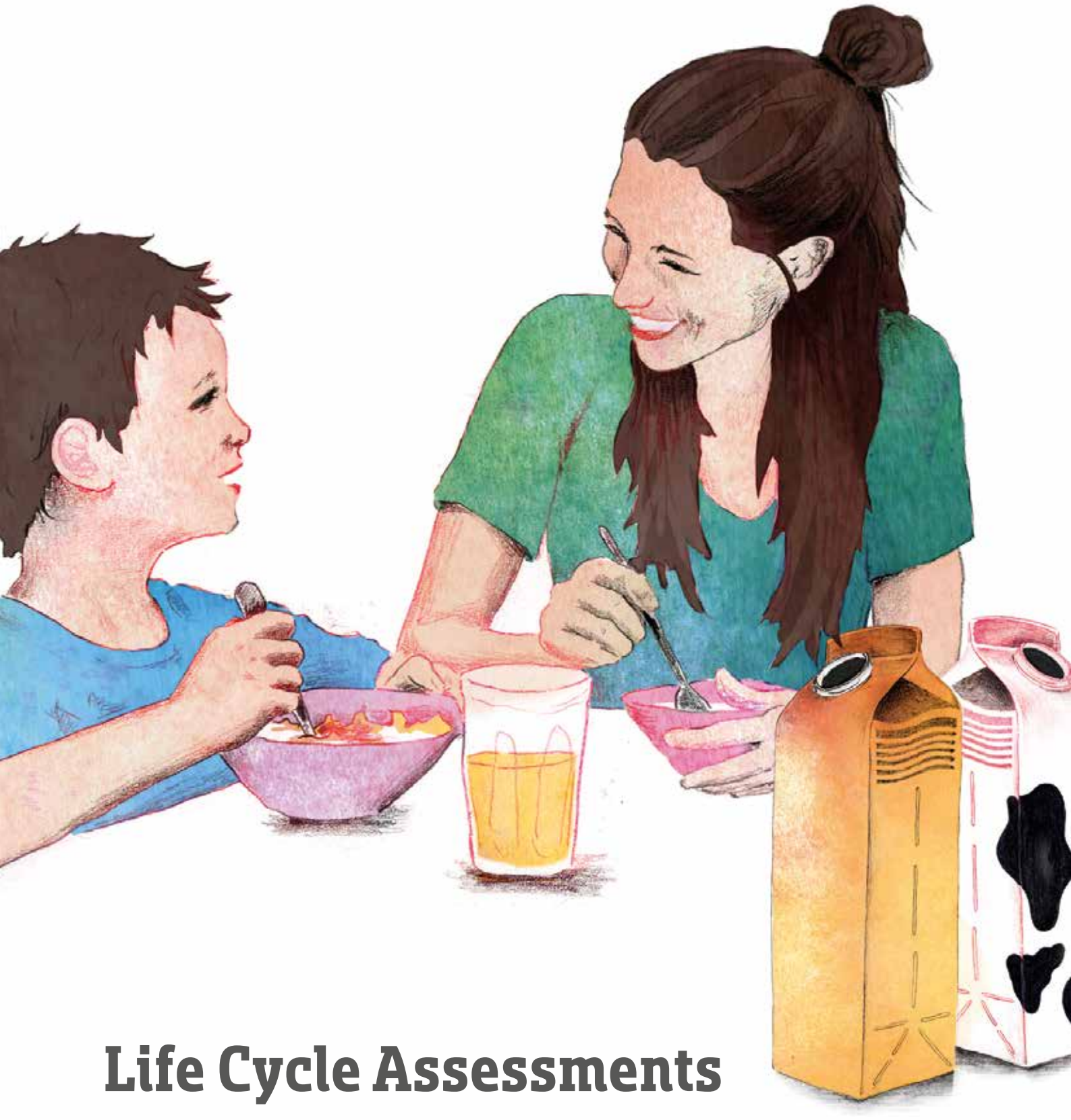
Learn more about our carbon neutral story. Check out this video:

Uganda cookstoves project: Subsidizes the manufacture and sale of fuel-efficient cookstoves across Uganda.

Rimba Raya rainforest protection project: Protects the local rainforest and the orangutan population in Borneo, Indonesia.

[1] Based on third-party verified and reviewed Life Cycle Assessments (cradle-to-grave) of cartons and PET bottles in the European market.
[2] Based on internal cradle-to-gate calculations in Elopak's DEEP tool. The numbers represent PE coated cartons with closures, for fresh dairy products.
[3] The Forest Stewardship Council™ (FSC™). FSC™ C081801. Look for FSC certified products – the mark of responsible forestry. www.fsc.org

FSC™



Life Cycle Assessments

In 2016, Life Cycle Assessments for two of Elopak's carton types were finalized. Results show significantly lower environmental impact for filled juice when using beverage cartons when compared to PET bottles.

A Life Cycle Assessment (LCA) is a tool to quantify the environmental impacts associated with a product throughout its life cycle. The methodology is defined in ISO standards (ISO 14040 and 14044).

Results

The life cycle **carbon footprint** of Elopak's chilled juice carton is **38% lower** than that of an equivalent PET bottle typically used in Europe.
The life cycle **carbon footprint** of Elopak's aseptic juice carton is **18% lower** than that of an equivalent PET bottle typically used in Europe.
In 8 out of 9 environmental categories, the carton performs better than the PET bottle.
The only category where the carton has a higher impact than the PET bottle is on agricultural land occupation. This reflects the forestry operations needed for the production of pulp fibres from wood for the carton and the cardboard box used in distribution. A high land occupation simply refers to the quantity of land being used. The impact of land occupation on ecosystems and human health depends on how the land is managed; however, this is not reflected in the study. Elopak is sourcing 100% certified or otherwise documented legal and acceptable wood-based raw materials, thus ensuring that sustainable land use practices are in place.

Scope

The basis of the comparison (the functional unit) is the filling and distribution of 1 liter of juice, in chilled or aseptic conditions, in the European market. The studies compare average 1 liter gable top cartons with barrier (aluminium or EVOH) and cap sold by Elopak, with a standard monolayer PET bottle with 11.7% recycled PET, with cap. The same PET bottle was used in both studies. This is a conservative approach, as a monolayer PET bottle will not be able to provide the same shelf life of aseptic juice as a beverage carton with aluminium barrier (1 year shelf life in ambient distribution). To obtain the same shelf life, a multilayer PET bottle is required, which would significantly increase the environmental footprint of the PET bottle.

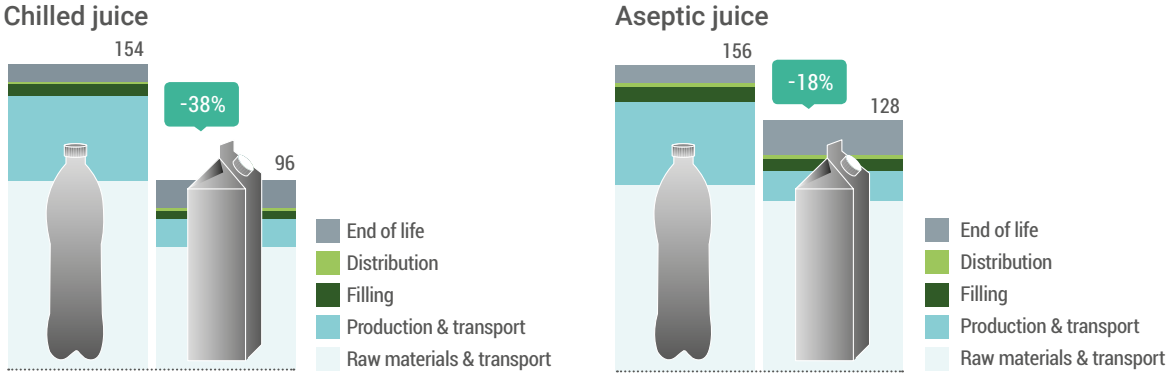
The methodology is based on a cradle-to-grave scope; from raw material extraction to disposal, including the packaging used in distribution. It excludes the juice production, retail operations, refrigeration (for chilled juice study) and consumer use.

The studies cover 9 environmental categories deemed relevant for the products and location, such as carbon footprint and fossil fuel depletion.

The geographical boundaries were set to Europe (defined as the 28 European Union states, Switzerland, Norway and Iceland). The reference time period was the calendar year 2014. The reports have been verified by a critical review panel of LCA experts from three independent organizations.

Elopak cartons outperform PET in most environmental categories and are the best environmental choice for liquid packaging

Elopak's carton vs monolayer PET



Carbon footprint of the PET bottle and carton over their full life cycle (gCO_2e per liter of juice).

Carbon footprint tool for Elopak cartons

Our Dynamic Elopak Environmental Performance (DEEP) tool helps customers to understand the carbon footprint of their specific Elopak carton. We offer a wide variety of carton types, and naturally, a 2 liter carton has a higher carbon footprint than a 500 ml carton. Elopak has developed a tool to easily generate this information.

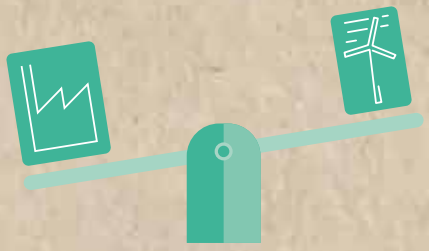
DEEP is based on detailed information from key suppliers, our production process, our cap suppliers, secondary packaging material, transport etc. Remaining data is taken from LCI databases. Based on key inputs such as carton configuration and size, cap type and production plant, a document with the CO_2 footprint is generated. DEEP can also compare the traditional carton with cartons featuring renewable PE, which are available in gable top cartons in Europe.

The tool covers all our fully owned production units and all currently available configurations for gable top and roll fed, produced in our European plants or in Canada. It is updated annually, so that we are able to constantly update carbon emission reductions and thus further reduce the carbon footprint of our cartons.

The tool has been developed in cooperation with sustainability consultants ***Anthesis***, who have confirmed that the tool provides a fair representation of Elopak's cartons in line with ISO methodology. The results can be used for advertising or labeling, as long as reference is made to the DEEP tool.

Is DEEP the same as an LCA?

DEEP provides emission information connected to the production of all raw materials, Elopak's own operations including final conversion, and all transportation up to the delivery at Elopak's customers' gate. This is called cradle-to-gate and is what is normally presented in an Environmental Product Declaration (EPD). An LCA looks at the entire life cycle including end-of-life. The methodology used in DEEP is in line with the ISO standards for Life Cycle Assessments (ISO 14040 and 14044). The Product Category Rules for beverage cartons are followed where relevant to the carbon footprint calculation methodology (PCR Beverage Cartons 2011:04 Version 1.0, developed in accordance with ISO 14025:2006)



Reduce

Elopak is constantly working to reduce its emissions and environmental footprint.

Raw materials

Beverage cartons are made of paperboard coated with various barriers, depending on the use of the carton. Fresh milk distributed in chilled conditions, requires only a liquid barrier of polyethylene on each side of the paperboard. Other products, such as juices and milk for long shelf life in ambient conditions, require an oxygen barrier such as aluminum. The paperboard, which is the main component of the carton, ensures that the product is protected from light, which could damage the nutritional value of the product.

The main driver of greenhouse gas emissions and other environmental impacts of beverage cartons come from the raw materials used. Responsible sourcing of all raw materials is of the utmost importance to Elopak, and hence the internal focus on procurement has been further increased over the past years. Both environmental impact and other social and ethical factors are important in discussions with suppliers.

There are two ways that we can reduce the environmental impact of our cartons:

1. We can reduce the amount of raw materials used per carton
2. We can reduce the environmental impact of the raw materials used

Since 2012, Elopak has reduced the average weight of closures for our cartons by 7%

Carbon Footprint of an average Elopak PE carton with closure:

27,34

g CO_2e/carton

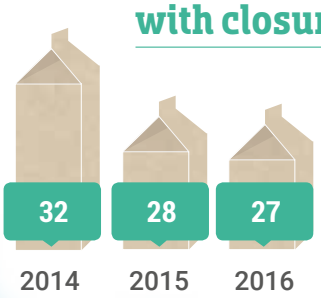
Reducing raw material use

There has been a tremendous development in raw material efficiency since the introduction of beverage cartons made from liquid paperboard. Our board suppliers have increased their productivity by increasing the yield of paper from harvested trees. This means that for every tree that is harvested, more cartons are produced. Elopak has significantly reduced the amount of raw materials used in each carton. While maintaining the quality of our cartons, the paperboard weight has been reduced by more than 20% over the last decades.

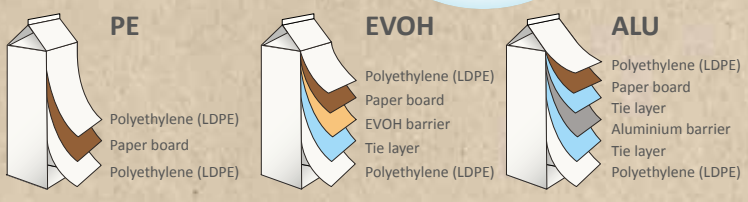
Reduction in environmental impact of beverage cartons

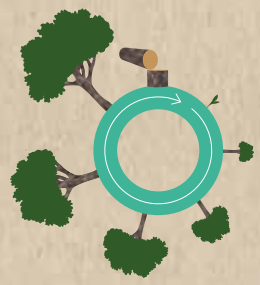
There has been a reduction in the carbon footprint of Elopak's cartons. The measuring tool DEEP was implemented in 2015; hence we can now see the development over the past three years.

Average g CO_2e per carton with closure



The figures are taken from Elopak's DEEP tool. The numbers only represent sales of PE coated cartons for fresh dairy products.





Renewability

A renewable resource is a natural resource which can replenish over the passage of time, either through biological production or other naturally recurring processes. In contrast, non-renewable resources such as petroleum and coal are limited and therefore will be depleted.

With reserves of the Earth's resources diminishing, focus on renewable alternatives is increasingly important and central to the concept of a circular economy, in which materials and resources are used efficiently and responsibly throughout their life-cycle, from sourcing to end-of-life. Society has developed in ways which rely on scarce resources that are not re-used or recycled. A change is necessary to ensure resources are available for future generations.

Paperboard and FSC certification

Paperboard, the main part of our cartons, is a naturally renewable resource made from wood. However, with the global threat of deforestation, it is crucial to ensure that forests are being managed responsibly and hence being renewed. Only responsibly managed forests are truly sustainable.

Elopak ensures that 100% of our global board purchases originate from FSC certified or other controlled sources. This ensures that all our products are made from responsibly managed forests, that biodiversity is protected and that forests are replenished sustainably.

FSC
www.fsc.org
FSC® C081801
The mark of responsible forestry

THE FOREST STEWARDSHIP COUNCIL™ (FSC™) is an independent, non-profit organization devoted to encouraging the responsible management of the world's forests. FSC sets high standards that ensure forestry is practiced in an environmentally responsible, socially beneficial, and economically viable way.

Renewable PE

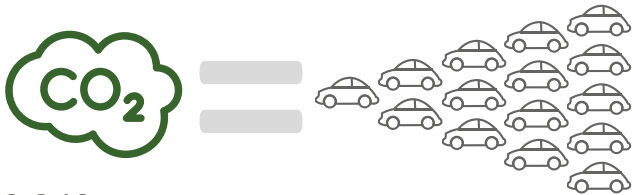
Several of our customers have chosen to purchase cartons featuring renewable polyethylene (PE), which is used both in the caps and in the coating of the board.

Polyethylene, the second largest part of the carton by weight, is available as a renewable feature for Elopak gable top cartons in Europe. For some of our fresh dairy cartons, this means 100% renewability and a significant reduction in CO_2e emissions.

Elopak offers renewable PE from second generation feedstock, used in a mass balance system throughout the supply chain. The supply is within Europe, and the raw material is second generation (waste-based) feedstock. This contributes to a circular economy, and secures a more sustainable use of the earth's resources.

CO_2e emission savings with renewable PE

Since the launch of renewable PE cartons in 2014, Elopak has saved a total of 2 840 tonnes of CO_2e from being emitted. This is equal to more than 1000 cars driven during one year.



2 840 tonnes CO_2e saved

> 1000 cars

Check out the video on our renewable PE offering!

ISCC International Sustainability & Carbon Certification

ISCC stands for "International Sustainability and Carbon Certification" and is a world-wide applicable and acknowledged certification system for any kind of bio-based feedstocks and renewables. ISCC PLUS is specific for food and feed products as well as for technical/chemical applications (e.g. bioplastics) and applications in the bioenergy sector (e.g. solid biomass).

Spotlight on Energy Efficiency

Energy efficiency case study – an interview with Laurens Weemaes, Maintenance Engineer at Elopak's converting plant in the Netherlands (Elopak b.v.).

Elopak b.v. is a neat white building, situated in a quiet industrial sector on the edge of Terneuzen, a small city on the Western Scheldt estuary. Trade has flowed through this part of the Netherlands for centuries. The river and roads provide excellent transport links. Items manufactured at Elopak b.v. can be shipped around the world. It is an efficient place to do business.

Laurens Weemaes works to make Elopak b.v. ever more energy efficient. As a Maintenance Engineer for Buildings and Utilities, it is his job to keep the site and the machines located here operating in the best possible order. These include cooling systems, compressed air, ventilation pipelines, sprinkler installation and fire detection sensors. The many complex systems that make a modern factory are all part of Laurens' and his colleagues' responsibility. He is also tasked with improving energy efficiency at Elopak b.v. It's work that crosses between all of the site's complex systems. Laurens also represents Elopak b.v. in the international network of energy efficiency experts from Elopak's various plants, coordinated by the Elopak Corporate Environment team.

The work of energy efficiency that Laurens leads all relates to Elopak b.v.'s manufacturing line. Giant rolls of coated board, up to four kilometers in length, are hoisted into place on electric forklift units. They are printed, given folding lines, and cut to make "blanks" that can be easily transported to customers. Only later will they be folded to form Elopak's world famous paper packaging and containers.

Over the years, Elopak's manufacturing operations have been made ever more efficient. The mechanical printing process once used at the plant was noisy and slow. The smell of solvents and the roar of machinery once filled the factory floor. Modern UV printers are faster, cleaner and more efficient. They can print an entire four kilometer roll of board in 15 minutes. Work at Elopak b.v. is fun, but there's no time to stand around in this modern production process. Every stage is optimized for peak efficiency, including the use of energy.

"Energy efficiency is a simple idea," Laurens talks as the production line works seamlessly in the background. The

Laurens Weemaes

young Dutchman speaks confidently about his work. “We aim to achieve the highest output, from a minimum energy input. The maximum amount of blanks with the minimum of energy used”.

Energy efficiency can sometimes be achieved through quite small changes. The modern printers at Elopak b.v. use powerful UV lights; so powerful that they dry polymer printing ink in fractions of a second. Laurens is part way into the process of having these lights dimmed after 20 minutes of inactivity. Just as a smartphone screen automatically dims to extend battery life, dimming the UV lights can bring significant energy savings to the Elopak manufacturing process. It’s a change that will be achieved in part through automatic dimming, and in part by educating machine operators.

Larger scale energy savings can be achieved through larger and more complex efficiency projects. Heat recovery is an important area of Laurens’ work. Heating a large building like Elopak b.v. depends on excellent insulation to keep the hot air in. But it must also have good ventilation to let fresh air flow. Just opening a window loses all the heat. Heat Recovery Ventilators (HRVs) use the energy from air going out to heat the air coming in, providing an elegant solution to a common problem.

Monetary savings are one important way to consider the importance of energy efficiency. The Elopak b.v. site uses large amounts of electricity, so any energy saving can be calculated as a direct financial saving against costs for electricity use. HRV technology deployed in production area 4 at Elopak b.v. produced an annual saving on energy of €40 000. Once the costs of installing HRVs are counted, this energy efficiency project paid for itself in 4 years.

Laurens’ detailed understanding of the many systems at Elopak b.v. allows him to see advanced opportunities for energy efficiency. The printing machines at Elopak b.v. require a central cooling system to maintain their efficiency. Water is used to cool the machines, and returns from the task heated to a temperature of 24 degrees Celsius. That represents a large amount of energy, which is currently wasted.

Laurens and the team at Elopak b.v. plan to change that. They are busy with the engineering phase of two air-handling units, one in each of two (out of six) production areas. These units will connect to the central cooling system and use the hot water it provides to heat incoming air. Through the long months of Holland’s winter, the Elopak b.v. site can experience temperatures of -10 degrees Celsius. This new system can keep the production spaces heated to 15 degrees. And with a little help from the site’s High Efficiency Central Boiler, a comfortable temperature of 17 degrees can be achieved throughout the working environment.

For a few days of every year the Elopak b.v. site also requires cooling. The Dutch summer may be short, but office staff

Elopak’s energy efficiency network

Laurens is one of several key members of Elopak’s energy efficiency group, coordinated by Corporate Environment. This is a network of energy efficiency experts from several of Elopak’s production facilities, where best practices and latest energy efficiency developments are shared. By capitalizing on the ingenuity and know-how of plant staff responsible for energy efficiency, Elopak can focus on energy reduction initiatives, which reduce consumption and costs.

Elopak's flagship plant in Canada awarded LEED certification

Elopak's newest plant in Montreal, Canada, received Silver LEED (Leadership in Energy & Environment Design) building certification in 2016. LEED certification provides independent, third-party verification that a building, home or community was designed and built using strategies aimed at achieving high performance in key areas of human and environmental health: sustainable site development, water savings, energy efficiency, material selection and indoor environmental quality.

should have a good work environment. For this purpose office areas are equipped with an entirely separate air conditioning system. Maintaining this system year round, for only a short period of use in summer, is clearly inefficient.

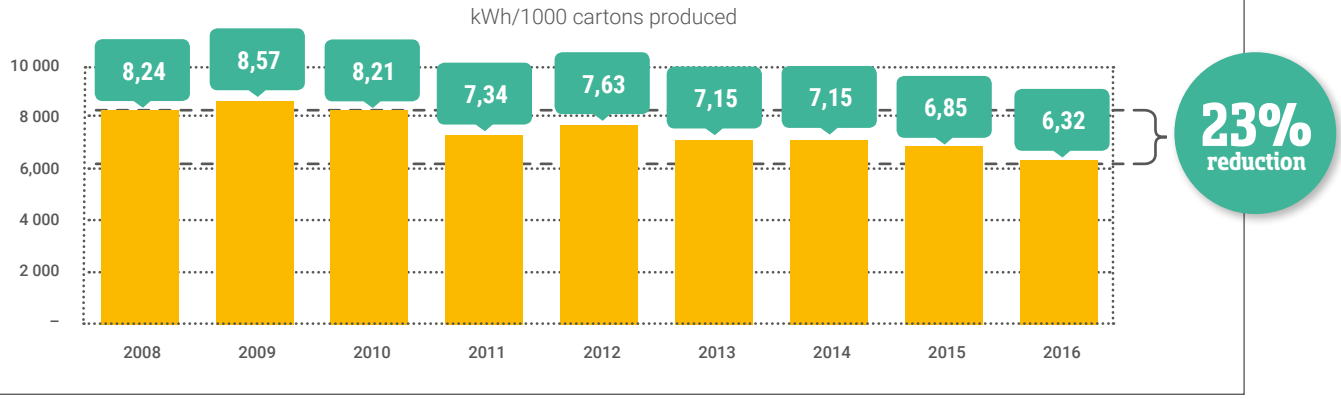
Variable Refrigerant Flow (VRF) technology will provide a more efficient solution to the summer cooling problem. This will allow the Elopak b.v. building's heating system to serve a dual purpose, both as a heating system, and as a cooling system in the summer months when that is required. Laurens plans to use VRF to create a dynamic system across the site's offices, cycling heat from the South of the building, which receives the most sunlight, to the West which needs heating. The project will entirely replace the current air conditioning system, producing another impressive saving of energy.

Laurens' progress on energy efficiency mean the Terneuzen site is close to qualifying for ISO 50001 status, the recognized standard for energy management systems. The international standards that ISO represents help to define best practice in many areas of business, including energy efficiency. Achieving ISO 50001 is more than just an abstract goal. In today's highly competitive marketplace, a company's energy efficiency is a factor that can be considered when it is bidding for new work, thus also making ISO certification a valuable marketing tool.

On the scale of decades, Laurens' work here at Terneuzen, and by other similarly dedicated professionals around the world, will have a global impact. "Ordinary people can see now that environmental changes are real. Here in the Netherlands, the cold winters are a little warmer." For those people worried about climate change, it's reassuring that private companies such as Elopak have workers like Laurens bringing such focus and expertise to energy efficiency.

The green fields and calm waterways of Terneuzen will continue to attract global trade for centuries to come. The world that Elopak works in is ever more interconnected, with customers coming from every corner of the globe. Energy efficiency forms an important part of Elopak's relationship and responsibility to its customers, and to the billions of consumers who benefit from its packaging products every day.

Energy intensity of Elopak's converting plant in the Netherlands



2016: Reaching 100% renewable electricity target

In 2015, Elopak was the very first packaging company to commit to source 100% renewable electricity for all fully-owned production plants and offices worldwide, as part of the RE100 campaign. And that is exactly what we have done. 2016 is the year to celebrate this achievement.

How the switch to renewable electricity began

Elopak began partially phasing in renewable electricity back in 2014, and slowly increased the share of renewable electricity each year, culminating in sourcing 100% renewable electricity for 2016, and onwards. This applies to all of Elopak's plants and offices worldwide, excluding joint ventures. This required firm commitment from top management and a coordinated/dedicated sourcing strategy.
It makes sense that cartons made predominantly from renewable materials are produced with 100% renewable electricity, thus positioning Elopak cartons as the renewable choice for liquid packaging.

The bright future ahead

Although the renewable electricity target has been reached for 2016, it doesn't stop there. Elopak wants to maintain this commitment moving forward, sourcing renewable electricity with each passing year.
Phasing in renewable electricity worldwide is a great start, but Elopak must also shine a spotlight on its other energy sources to see how these too can become renewable in the future. That is the next step.

Read more about Elopak's RE100 commitment at: http://there100.org/elopak

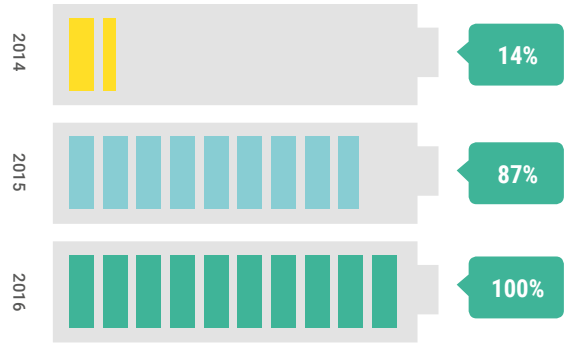
About RE100

The world's most influential companies, committed to 100% renewable power. RE100 is a collaborative initiative of influential businesses committed to 100% renewable electricity, working to massively increase corporate demand for renewable energy. This will accelerate the transformation of the global energy market and aid the transition towards a low carbon economy. RE100 is led by the Climate Group in partnership with CDP, as part of the We Mean Business coalition.

What kind of renewable electricity is it?

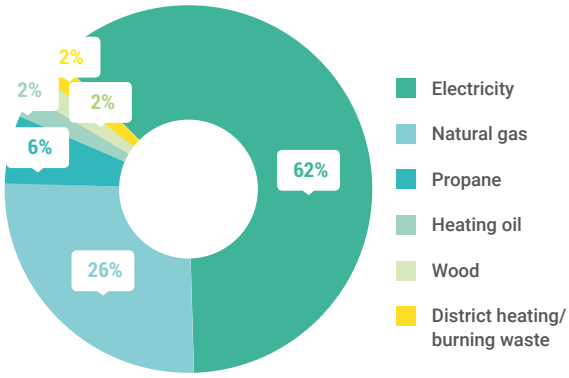
Elopak is sourcing both hydropower and wind energy as part of its electricity procurement.

Elopak's journey towards 100% renewable electricity



Elopak energy sources

(percentage of total)



BEGINNING

~~End~~ of life for cartons

Beverage cartons protect the liquid product inside, but they don't just stop being useful at the 'end' of their life. They can gain a new lease of life when collected and recycled into new products. Elopak strongly promotes beverage carton recycling, which turns valuable resources into useful secondary materials, ensuring a resource efficient and more circular economy.

44%
average beverage carton recycling rate in Europe

In the U.S.,
57%
of households have access to carton recycling.

An average of
36%
of Elopak cartons sold in Europe and North America were recycled.

‘Waste Not Want Not’

One of the key elements of circular economy thinking is ‘designing-out waste’ right at the beginning of the product inception phase. That’s what the Pure-Pak Sense® carton is all about. By having ‘easy-to-fold’ lines which make it easier to squeeze out more of the product remnants, consumers can reduce food waste. In addition, the waste volume is reduced when folded.

Recycling progress

The beverage carton industry continues to support recycling through promoting innovation in recycling solutions, stakeholder engagement and collaboration. In some European countries, we are also active in the national recycling organizations. Elopak endeavors to increase beverage carton collection and recycling rates in the markets in which we operate.

The beverage carton recycling rate in Europe has been steadily increasing over the past 20 years. In 2015, the recycling rate in Europe rose to 44%, which amounts to 400 000 tons of recycled cartons. The total recovery rate (recycling and energy recovery) in 2015 reached 74%.

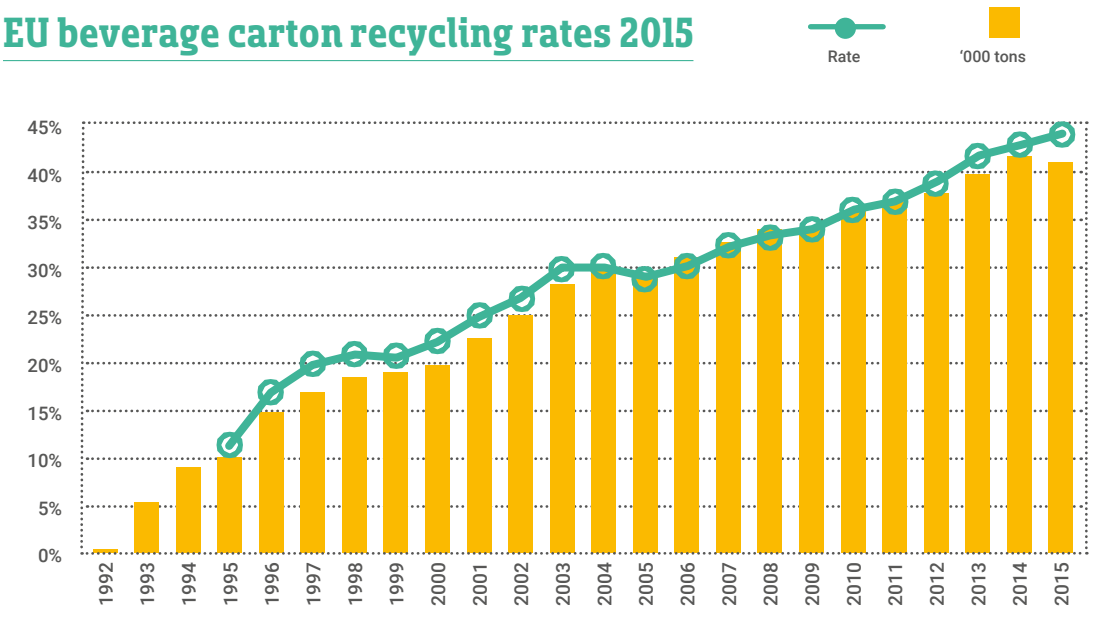
How are beverage cartons recycled?

Elopak’s packaging is made from low carbon renewable resources, which are recyclable. There are many environmental benefits to recycling beverage cartons. These include the ability to produce new products from recycled cartons, thus enabling the efficient use of raw materials by extending their life. Furthermore, recycling reduces CO_2 emissions and diverts valuable materials from landfill. All the materials which make up beverage cartons are fully recyclable once collected. First, there is a water-based, closed-loop process called re-pulping, which allows the paperboard to be separated from the non-fiber layers. The virgin fibers in the paperboard provide the stiffness and lightness of the cartons, and are high quality fibers which can be recycled up to 7 times. These recycled fibers are used to make packaging such as cardboard boxes, packaging for consumer goods and paper cores.

The recycling and recovery process of the non-fiber components can vary depending on process infrastructure and country. Some recyclers use the polymers to power the recycling plants themselves, replacing the need for fossil fuels.

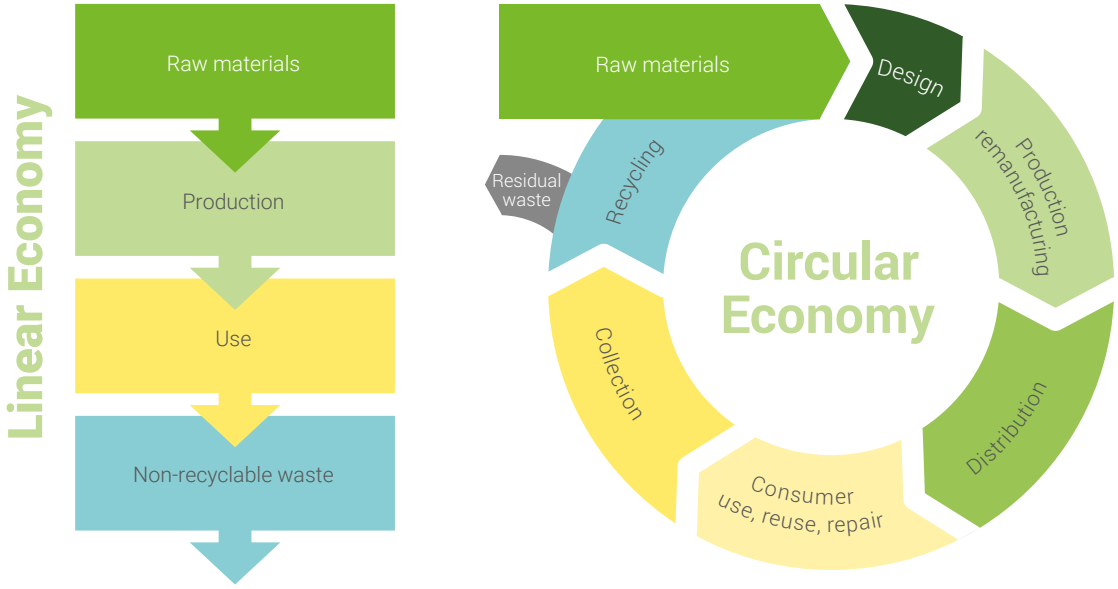
The polyaluminum mix (called PolyAl) can also be used on its own as a new, innovative material with unique properties. The mix can also be separated, and the polymers can be used for new plastic products such as garden furniture. The aluminum can then be sold as secondary material and used in a number of industrial applications, replacing virgin aluminum and thereby contributing to resource efficiency.

EU beverage carton recycling rates 2015



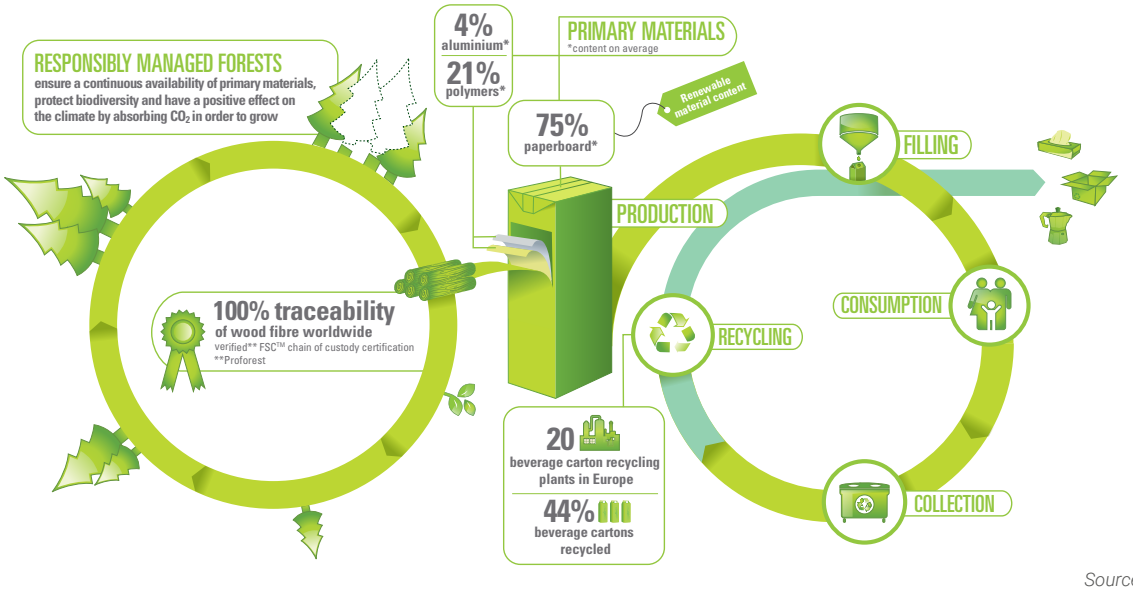
Source: ACE

What is a Circular Economy?



Beverage cartons contribute to a Circular Economy

- responsible sourcing
- renewable materials
- supporting recycling



Source: ACE

Industry cooperation to promote beverage carton

Cartons are the renewable, low-carbon and recyclable packaging solution. Beverage carton manufacturers and board suppliers work together to demonstrate that beverage carton packaging is the smart green choice today and for the future. Some examples of industry cooperation of which Elopak is an active member in North America and Europe include:

THE ALLIANCE FOR BEVERAGE CARTONS AND THE ENVIRONMENT

Carton Council

RECYCLING CASE STUDY:

Recycling Plant for Beverage Cartons opened in the Netherlands

In 2016, the Netherlands opened its very first beverage carton recycling plant at Van Houtum in Swalmen (Roermond). Van Houtum is the first Dutch paper manufacturer which, in co-operation with SUEZ and beverage carton association HEDRA, uses beverage cartons as feedstock for the production of paper towels and toilet paper.

Cooperation is the key to success for this innovation

Beverage carton recycling is on an upward trend in the Netherlands, with 87% of the municipalities now collecting beverage cartons together with plastic packaging. This fraction is then sorted in the SUEZ sorting plant in Rotterdam and they are then recycled at the Van Houtum paper mill in Swalmen. At the recycling plant, the cartons are processed into paper towels and toilet paper. The Van Houtum paper mill was able to invest €3 million in the development of an omnipulper with a capacity of 24 000 tons, through the co-operation with sorting plant SUEZ and HEDRA. HEDRA is the trade association that represents the environmental interests of the producers of beverage cartons, of which Elopak is a member. HEDRA advocates for the recycling of cartons and encourages municipalities and consumers to collect cartons separately.

Beverage carton recycling contributes to a more circular economy

"We at Van Houtum developed this technical innovation, but the circular economy can only be achieved when partners in the value chain work together." Sorting plant SUEZ is delighted with this cooperation that ultimately led to this innovation. "We are taking the next step by using cartons as raw materials for new products," says Herman Snellink, COO Material Resource Management of SUEZ. Inge Eggermont, Director of HEDRA agrees. "From 2015, municipalities get a collection fee for beverage cartons and at this moment 87% of the municipalities are collecting cartons. That exceeds our expectations. The Dutch population is in favor of waste separation and the amount of collected beverage cartons is increasing. Therefore, it is great that the valuable raw materials from beverage cartons from now on can be processed into new products in the Netherlands, thereby making the circular economy visible."

Member of Parliament Mr. Remco Dijkstra and Managing Director of the Van Houtum paper mill, Mr. Bas Gehlen, start the production of the omnipulper with a push of the button.

Offset

Elopak became carbon neutral in 2016. We compensate for the remaining value chain emissions of producing packaging by supporting verified emission reduction projects.

Uganda Improved Cookstoves Project

More than 95% of Ugandans rely on solid fuels for cooking, typically charcoal or wood for urban dwellers, and wood in rural households. When these fuels are burned, household members are exposed to high levels of carbon monoxide and black carbon particulates, which contribute to respiratory illnesses and even premature death.

The Uganda Improved Cookstoves project is establishing markets for selling efficient biomass and charcoal cookstoves across Uganda in order to improve cooking conditions and reduce indoor air pollution. The project subsidises the sale of efficient cookstoves, and offers microcredit to help rural and peri-urban households and institutions such as schools, which are unable to afford the upfront cost.

Sarah's story

With simple design enhancements, improved cookstoves make it possible to save up to 50% of fuel costs, helping families save for other important expenses such as health and education. Sarah is a mother of two and purchased an improved cookstove three years ago after her oldest child was burned by a ceramic stove. Sarah has a dream of starting her own business, keeping her daily fuel savings in a tightly sealed wooden box. "This is for my future," she said, pointing to the box.

Delivering multiple sustainable development benefits

Energy access
Greater fuel efficiency reduces charcoal use by up to 50% per household, per year, and leads to a reduction in cooking time.

Financial security
By reducing fuel use compared to traditional cooking methods, improved cookstoves can save families more than US $100 per year.

Health and well-being
Distributing improved cookstoves reduces the level of indoor air pollution and subsequent respiratory illness levels, particularly in women and children who are often most exposed.

Empowering women
With less time spent cooking, women can participate in other activities and spend more time with the family.

Job creation
The project employs 51 staff members in operational, management and administration roles, and more than 230 local artisans in manufacturing.

Biodiversity protection
Across Uganda, 92% of all biomass used for cooking and heating is non-renewable, leading to the loss of 80 000 hectares of forest every year. By reducing fuel requirements, the project is helping to reduce the pressure on forests for fuel.

Improved cookstoves ready for distribution

Letter from the field

Progress and success in 2016

In 2016, through our partners we continued to develop a more robust distribution network of retailers, including new partnerships in Northern and Eastern Uganda. These partnerships are central to expanding the reach of the project by raising awareness on the importance of improved cooking and providing households access to purchase the improved cookstoves.

At the end of 2016, the project had sold more than 493 000 cookstoves, benefiting roughly 2.4 million people (based on the average household size of five). These stoves have saved households over USD $146 million, giving the chance for many to pay school fees, start a business, pay health-related costs, or simply to save for the future. Improved fuel-efficiency has avoided the consumption of 562 thousand tonnes of charcoal, and delivered emission reductions of over three million tonnes of carbon dioxide equivalent, contributing to global efforts to mitigate climate change.

In 2017, we will continue our focus on increasing the demand for cookstoves through new radio and TV campaigns as well as helping our manufacturing partners with their business development strategies and manufacturing support.

Thank you for your continued support of the project.

Best wishes from Uganda,

Mark C. Turgesen, Country Director

Rimba Raya Biodiversity Reserve Project

Based on the island of Borneo in Indonesia, this REDD+ project preserves carbon-dense tropical peat swamp by helping to halt the deforestation of roughly 47 000 hectares of forest which were originally slated for conversion to palm oil plantations.
The project focuses on both community development - encompassing 2 000 households living within the project area - and biodiversity conservation, particularly the protection of the endangered Borneo orangutan. Carbon finance plays an important role in supporting the project fund its conservation and community based activities.

Lasrniun's Story (Ulak Batu Village)

"Previously we managed fires in a conventional way; it was really exhausting. With the fire equipment provided by the Rimba Raya project, and the fire training we have received, we have developed the correct skills so that we can control fires faster and more effectively. We hope we can limit and better control the fires which may occur in the future."

Delivering multiple sustainable development benefits

Biodiversity protection
Situated adjacent to Tanjung Puting National Park, which is home to approximately 10% of the global orangutan population, the project plays a key role in providing a protection buffer to the park and continuous habitat for other species. The project is also rehabilitating degraded areas by working with communities to plant seedlings of native tree species.

Education and skills
Community enterprises provide access to training and capacity-building opportunities, and the project has established a scholarship fund that will be used to enhance educational access.

Financial security
The growth of cash crops such as fruit and rubber trees through the community-based agroforestry programme offers the communities an alternative source of income.

Food security
Chicken and fish farms and community vegetable gardens offer households a sustainable food source following the depletion of natural fish stocks.

Health and well-being
Water filters have been distributed to every household and a floating clinic is under construction to improve access to community health care.

Climate adaptation
Climate change is likely to impact food security, income, health and biodiversity in the area. However, many of the project's activities are helping to address these threats and build community resilience.

Letter from the field

Progress and success in 2016

Zu-Per Shrimp Paste continues to be a successful business for the women of Sugain Perlu village. Fewer than 15% of these villagers have had any formal education beyond elementary level, so this initiative gives these women a life skill they would not otherwise have learned. The project will continue to provide assistance in certification, labelling and packaging to make these products more marketable. Another all-women's COOP in the village of Baung started a chicken egg farm last year with funding from InfiniteEARTH. The COOP will soon have 200 hens producing organic eggs that will be sold to neighbouring villages.

Our reforestation activities resulted in the planting of another 35 000 trees last year, with 35 000 more due to be planted in early 2017, and more than 300 000 have been planted to date. We purchase tree saplings from local villages, offering a cash injection and employment opportunity for households who join the planting teams. Additionally, in collaboration with the Environmental Agency, 7 500 mangrove trees were planted as part of our mangrove restoration project on the coast.

Since October 2014, the recycle bank initiative in Telaga Pulang has reduced waste pollution by recycling over 18 tonnes of rubbish. Waste has become a commodity in the area, providing materials for handicrafts fashioned by the village women's COOP.

In Ulak Batu village, we helped villagers to plant 7 000 pineapple plants in March 2016, which are now ready for their first harvest. Orangutans living within the project area consume massive amounts of fruits, so they will be our most loyal customers!

There are 36 schools with 6 238 students in the project area. In August 2016, all students received school supplies in the form of books and stationary, while students showing high performance, dedication and commitment to furthering their studies received backpacks and cash grants. An old school room and an abandoned building have been given new life with the construction of two libraries in the Ulak Batu and Muara Dua villages.

We have also just completed a new orangutan release station in Rimba Raya. Complete with over 1km of boardwalk spanning the peat swamp forest and supplemental feeding platforms, this release site represents freedom for the dozens of orangutans that will be released back into the wild from the care centre of Orangutan Foundation International. Already half a dozen wild born, previously captive orangutans have been released. We're looking forward to monitoring their successful reintroduction.

In 2017, our floating medical clinic will be complete, so we eagerly await its opening and the much needed health care it will provide to local communities. We will continue to focus on expanding and strengthening our community based activities and enterprises this year, and our work with local schools to restore degraded areas through tree planting.

Best wishes from Kalimantan,

Todd Lemons, Founder Infinite EARTH & Rimba Raya project

Methodology

The following pages contain Elopak's key environmental data series from 2008-2016.

Materiality and what we measure

Our baseline year is 2008, and for transparency and comparability, we publish all our key environmental data since our environmental reporting began (2008). The data originates from Elopak's internal reporting system, collated from our production, administration and sales units worldwide. Our environmental data shows the development of Elopak's environmental impact each year, as prescribed in the Greenhouse Gas (GHG) Protocol, including the updated revisions of the GHG Protocol Scope 2 Guidance (2015).

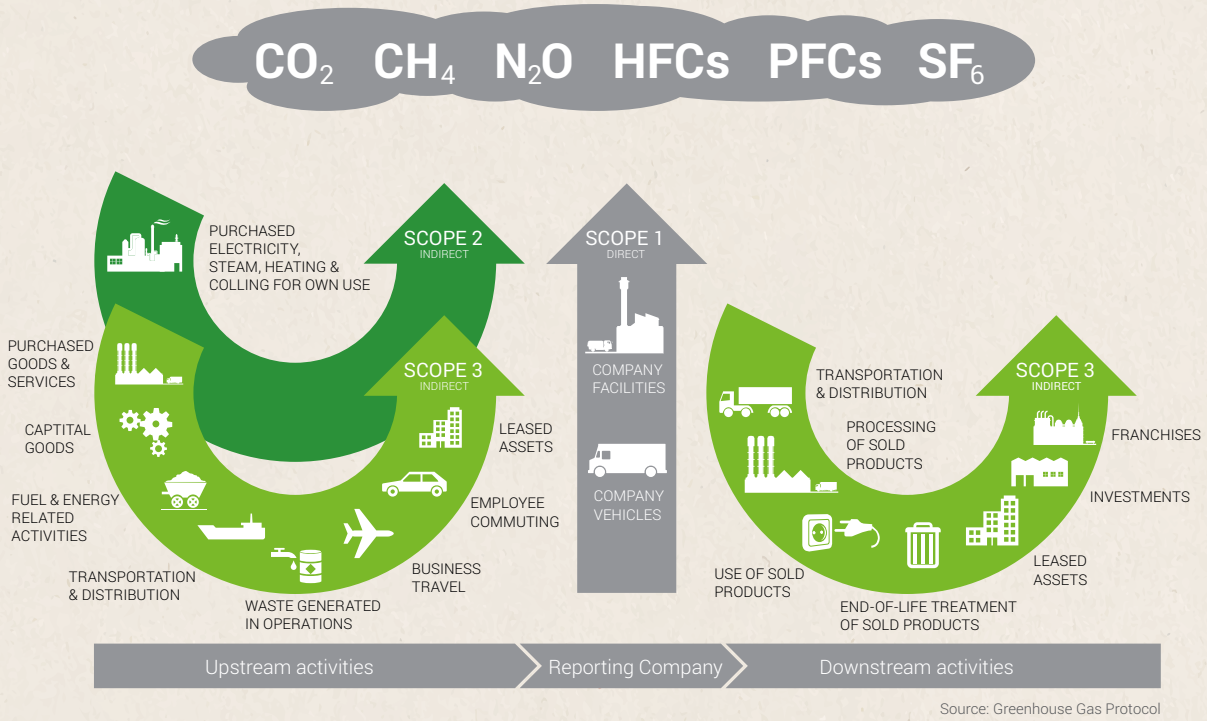
Our data has been verified and audited by SGS in 2017. For our reporting, we abide by the Greenhouse Gas Protocol, a widely used standard for corporate environmental reporting. Elopak reports according to the 'operational control' consolidation approach, which covers all of Elopak's market units; and converting, roll fed, coating and filling machine plants worldwide. Joint ventures are excluded. According to the GHG Protocol, a company shall divide its emissions into the following three scopes:

We define our global key performance indicators (KPIs) as:

- Core GHG emissions from energy consumption and business travel (excluding third party transport)
- Core Elopak Group Carbon Emission Intensity – CEI (g CO_2e per carton produced, excluding third party transport)
- Energy intensity from production facilities (kWh consumed per 1000 cartons produced and per m^2 cartons produced)

Renewable electricity

Elopak utilizes the market-based allocation method for its Scope 2 accounting. In 2016, Elopak utilized Guarantees of Origin (GOs) to cover our electricity consumption for our production and administrative facilities in Europe. For North America (Canada and USA), Elopak utilized a similar system, Renewable Energy Certificates (RECs), originating from North American-based wind farms. GOs and RECs are systems to trace the source of electricity



Source: Greenhouse Gas Protocol

Elopak's GHG emissions scope split is:

- Scope 1: Consumption of natural gas, propane, heating oil, waste incineration, wood
- Scope 2: Electricity, district heating
- Scope 3: Business travel (air and leased cars) and third party transport

produced. The purchase is based on actual electricity consumption of various Elopak units within Europe and North America in 2016. The emission factor used for European GOs is 0,0027 (kg CO_2e) and the RECs have an emission factor of zero.

Emission factor updates

For 2016 reporting, all electricity emission factors were updated according to the latest 2016 International Energy Agency's (IEA) database known as CO_2 Emissions from Fuel Combustion. All Scope 1 site fuels, district heating (Scope 2), business travel and transportation (Scope 3) emission factors were also updated according to the latest 2016 DEFRA (UK Department for Environment, Food & Rural Affairs) emission factors. By updating all emission factors, we are more in line with market realities and emission factor developments which have occurred since we first began reporting in 2008.

Transport

In order to have consistency and comparability between years, our total emissions and carbon emission intensity (CEI) are calculated excluding transport data. The numbers reported cover third party transport (Scope 3 in the GHG Protocol) as Elopak does not run transport operations by itself. It includes transportation services purchased by Elopak, covering transport of goods from supplier's gate to customer's gate.

In addition, Elopak has attained an estimate on all transport including what is purchased and handled by suppliers and customers. This is only for internal evaluation purposes. Transport is split into inbound, internal and outbound transport. Inbound and internal transport includes transport of raw materials and semi-finished products. Outbound transport includes transport of manufactured and sold products .

In estimating transport emissions we have used the tonne-km approach as it is a rather simple and consistent method of measuring transport emissions. Furthermore, the input required for this approach is more easily available than the input required for the vehicle-km approach. With the tonne-km approach we also do not need to have full control over loading of goods. The chosen approach will most likely give us an overestimate of transport emissions; and hence it is a valid conservative approach.

Greenhouse Gas Verification Statement Number CCP235797/1/2016/03/2017

The inventory of Greenhouse Gas emissions in the period January 1st 2016 to December 31st 2016 for

Elopak AS

P.O.Box 418
Skøyen,
N-0213 Oslo,
Norway

has been verified in accordance with ISO 14064-3:2006 as meeting the requirements of:

The Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard

To represent a total amount of:

15,446 tCO_2e

For the following activities
Packaging materials manufacture and supply, office facilities, business travel (air and leased cars)..

Lead Assessor: Paul Parker
Technical Reviewer: Paulomi Raythatha

Authorised by:

Jonathan Hall
Business Manager
SGS United Kingdom Ltd
Verification Statement Date 22nd March 2017

This Statement is not valid without the full verification scope, objectives, criteria and conclusion available on pages 2 to 4 of this Statement.

Elopak Group 100% owned subsidiaries (production, sales & administration units)

KPIs

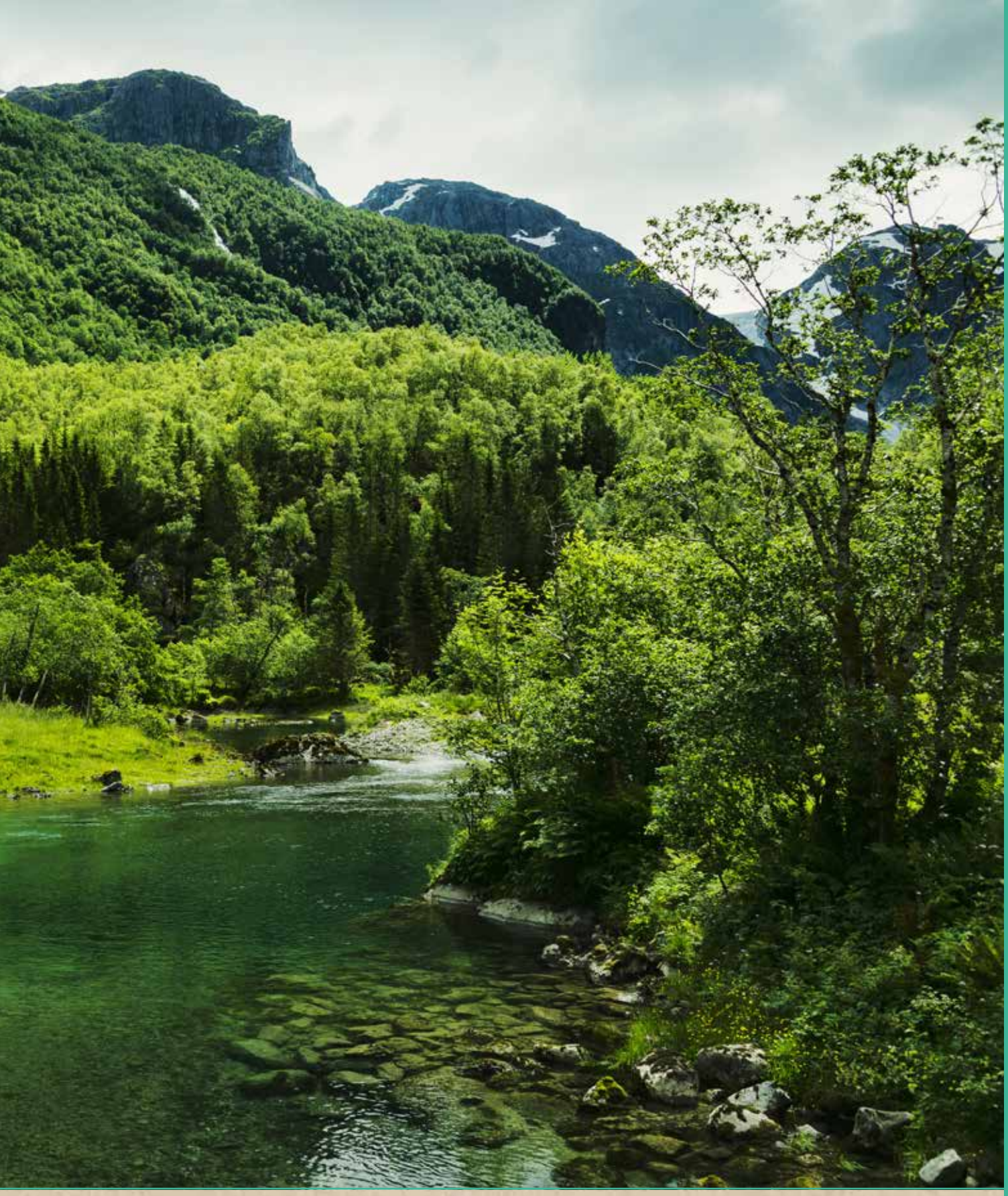
			Total Year							
			2008	2009	2010	2011	2012	2013	2014	2015
	Total CO_2e emissions (market-based approach)	tons	48 584	45 352	44 466	43 494	42 706	45 730	37 966	21 726
	Produced cartons	mill cartons	8 046	8 735	8 942	8 813	8 386	8 410	9 293	10 188
	Carbon emissions per produced carton	g/CO_2e per carton	6,04	5,19	4,97	4,94	5,09	5,44	4,09	2,13
	Energy intensity per produced carton	kWh/per 1000 cartons	13,6	12,9	12,9	12,4	13,0	13,4	12,9	13,1
		kWh/per 1000 m^2								158
	Scope 1	tons CO_2e	10 927	9 747	11 350	9 770	9 198	9 008	9 405	10 555
	Scope 2 (market-based approach)	tons CO_2e	33 452	31 463	28 606	29 715	29 534	32 014	22 981	5 459
	Scope 2 (location-based approach)	tons CO_2e	33 452	31 463	28 606	29 715	29 534	32 014	30 282	31 436
	Scope 3 (excluding third party transport)	tons CO_2e	4 204	4 141	4 511	4 008	3 974	4 708	5 581	5 712
SCOPE 1	Natural gas	tons CO_2e	8 586	8 802	9 055	7 896	7 155	6 671	6 401	7 216
SCOPE 1	Propane	tons CO_2e	607	520	661	689	708	1 133	1 817	2 062
SCOPE 1	Heating oil	tons CO_2e	882	425	773	604	607	494	532	726
SCOPE 1	Waste incineration	tons CO_2e	841	-	861	581	728	710	654	537
SCOPE 1	Other energy	tons CO_2e	11	-	-	-	-	-	-	15
SCOPE 2	Electricity (market-based approach)	tons CO_2e	32 172	31 292	28 437	29 543	29 337	31 778	22 902	5 431
SCOPE 2	District heating	tons CO_2e	1 280	171	169	172	197	237	79	28
SCOPE 2	Total energy emissions (Scope 1+2 market-based approach)	tons CO_2e	44 379	41 210	39 956	39 485	38 732	41 023	32 385	16 015
SCOPE 3	Travel air	tons CO_2e	3 491	3 217	3 443	2 830	2 757	3 607	4 362	4 099
SCOPE 3	Travel car	tons CO_2e	713	924	1 067	1 178	1 216	1 101	1 219	1 612
SCOPE 3	Total travel	tons CO_2e	4 204	4 141	4 511	4 008	3 974	4 708	5 581	5 712
SCOPE 3	Third party transport*	tons CO_2e								17 805
	Total emissions (excl. third party transport*)	tons CO_2e	48 584	45 352	44 466	43 494	42 706	45 730	37 966	21 726
	Total emissions (incl. third party transport*)	tons CO_2e	48 584	45 352	44 466	43 494	42 706	45 730	37 966	39 531
	Out of scope emissions (biomass)	tons CO_2e	-	-	-	-	-	-	-	396
KEY RESOURCE AND WASTE DATA	Water consumption	m^3	41 554	38 745	33 825	36 850	42 200	43 724	49 831	45 209
KEY RESOURCE AND WASTE DATA	Recycling of paper and board waste	tons	25 532	28 611	31 853	31 402	28 246	29 015	37 626	49 438
KEY RESOURCE AND WASTE DATA	Incineration of paper and board waste	tons	1 180	1 471	1 222	1 164	1 156	2	408	1 090
KEY RESOURCE AND WASTE DATA	Landfill of paper and board waste	tons	66	86	-	-	-	-	1	6
KEY RESOURCE AND WASTE DATA	Total paper and board waste	tons	26 777	30 168	33 075	32 566	29 402	29 017	38 035	50 534
KEY RESOURCE AND WASTE DATA	Solvents / inks	kg	181	134	140	94	77	44	31	51
KEY RESOURCE AND WASTE DATA	Photochemicals	kg	12	10	6	6	6	6	58	66
KEY RESOURCE AND WASTE DATA	Cleaning towels	kg	38	33	22	34	26	28	14	9
KEY RESOURCE AND WASTE DATA	Waste oil	kg	3	5	4	3	3	2	9	6
KEY RESOURCE AND WASTE DATA	Other hazardous waste	kg	43	25	38	23	40	36	119	57
KEY RESOURCE AND WASTE DATA	Total hazardous waste	kg	278	207	209	159	151	117	232	189
KEY RESOURCE AND WASTE DATA	Energy consumption converted to MWh									
KEY RESOURCE AND WASTE DATA	Electricity	MWh	74 789	77 646	71 939	71 411	74 276	77 854	83 054	89 904
KEY RESOURCE AND WASTE DATA	District heating	MWh	4 587	612	605	615	705	849	283	102
KEY RESOURCE AND WASTE DATA	Waste incineration	MWh	3 014	-	3 086	2 083	2 611	2 545	2 344	1 925
KEY RESOURCE AND WASTE DATA	Natural gas	MWh	42 507	43 573	44 827	39 089	35 420	33 027	31 689	35 722
KEY RESOURCE AND WASTE DATA	Propane	MWh	2 604	2 233	2 835	2 959	3 040	4 862	7 799	8 849
KEY RESOURCE AND WASTE DATA	Heating oil	MWh	3 230	1 558	2 832	2 211	2 223	1 808	1 949	2 658
KEY RESOURCE AND WASTE DATA	Other energy	MWh	11	-	-	-	-	-	-	1 188
KEY RESOURCE AND WASTE DATA	Total energy consumption	MWh	130 742	125 621	126 124	118 367	118 275	120 945	127 119	140 347
KEY RESOURCE AND WASTE DATA	Air travel short haul	#	2 053	4 018	3 996	3 539	3 792	2 991	4 663	6 000
KEY RESOURCE AND WASTE DATA	Air travel medium haul	#	3 618	3 428	4 289	3 796	3 620	5 084	5 458	4 559
KEY RESOURCE AND WASTE DATA	Air travel long haul	#	868	531	374	180	166	307	509	509
KEY RESOURCE AND WASTE DATA	Air travel total	#	6 539	7 977	8 659	7 515	7 579	8 382	10 630	11 068

*Third party transport: Scope 3 emissions in GHG Protocol covering transportation services purchased by Elopak

2016	2016 vs. 2008
15 446	-68 %
10 870	35 %
1,42	-76 %
13,0	-4 %
156	
9 942	-9 %
359	-99 %
33 726	1 %
5 145	22 %
6 531	-24 %
1 782	194 %
1 067	21 %
521	-38 %
40	257 %
219	-99 %
128	-90 %
347	-99 %
3 551	2 %
1 565	119 %
5 145	22 %
18 292	
15 446	-68 %
33 738	-31 %
1077	
45 797	10 %
55 952	119 %
897	-24 %
32	-52 %
56 881	112 %
45	-75 %
84	600 %
25	-34 %
14	367 %
58	35 %
225	-19 %
91 536	22 %
626	-86 %
1 867	-38 %
37 502	-12 %
8 289	218 %
3 597	11 %
3 227	29236 %
146 644	12 %
6 694	226 %
4 729	31 %
549	-37 %
11 972	83 %

Elopak Group (inclusive 100% of partly owned joint ventures)

	Total Year									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2016 vs. 2008
tons CO_2e	63 576	62 784	60 584	58 745	57 987	60 134	54 559	38 045	30 357	-52 %
mill cartons	11 538	12 464	12 637	12 381	12 226	11 875	13 105	13 710	14 216	23 %
g/CO_2e per carton	5,51	5,04	4,79	4,74	4,74	5,06	4,16	2,77	2,14	-61 %
kWh/per 1000 cartons	11,9	11,9	11,8	11,4	11,5	12,0	11,4	11,8	11,8	-1 %
kWh/per 1000 m^2								157	156	
tons CO_2e	13 348	12 073	13 887	11 948	11 330	11 314	11 365	12 234	11 316	-15 %
tons CO_2e	45 834	46 434	42 111	42 718	42 614	44 051	37 536	20 016	13 770	-70 %
tons CO_2e	45 834	46 434	42 111	42 718	42 614	44 051	44 837	45 993	47 137	3 %
tons CO_2e	4 394	4 278	4 587	4 079	4 043	4 770	5 657	5 794	5 271	20 %



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