Callens Group

Where does the paper industry source its energy from?

A practical guide to decarbonizing your production process.

POWER° IN EVERY DEGREE

Our mission for companies that produce paper and cardboard is simple: to deliver reliable and cost-effective energy. Accurate down to the degree. We design, build, and service technologically advanced systems to help you achieve your decarbonization goals.

Stability. Efficiency. And adaptability to changing needs.
These principles keep your production process running at peak performance. They are built into every heating and ventilation system we design for the industry. With Callens, you won't find off the shelf solutions, but tailor made systems developed by engineers who take a holistic view of your site. The result? Complete peace of mind: solid planning, tight project management, and fast, reliable service.

> *Don't see production energy as a necessary cost. See it as a powerful opportunity to reduce your carbon footprint. Don't let that opportunity go to waste.*
>
> Kris Stappers *CSO, Callens Group*

Process energy for the paper industry

Sustainable and feasible

There is reason for optimism. Although increasingly stringent European targets are a source of tension in the industry, we are gradually achieving a healthy level of decarbonization. This transition will not happen overnight, but after years of intensive pioneering, we are beginning to see which investments truly deliver stability. This is certainly the case in the paper industry.

The first phase of the energy transition was intense and fast moving. There was a strong push toward alternative fuels, such as hydrogen, to reduce CO_2 emissions and limit exposure to high fuel prices.

Technological developments at the Callens Group gained momentum as well. In 2021, we launched the first hydrogen powered steam plant. What was innovative at the time has since become a tangible success story: 7,000 tons of CO_2 are saved annually, and the by product hydrogen is put to good use.

A growing range, with customization becoming essential

The paper industry is inherently energy intensive. Supplying large quantities of heat remains essential, but we are fundamentally rethinking how this is done. The impact of this shift is significant.

This creates both opportunity and complexity. We are seeing an unprecedented range of available solutions. While that is clearly positive, many companies find it increasingly difficult to navigate the growing mix of technologies and regulations. And that is understandable. Standard solutions are no longer sufficient; customization has become essential across all sectors.

Every technological breakthrough sets something in motion. While innovation once almost automatically required heavy investments, today we see technologies that are mature, scalable, and economically viable. This allows us to make a difference at every level of the heating and air process.

Kris Stappers — CSO, Callens Group

A boost for ambitions

All too often, companies fall into one of two extremes. Either they set ambitious sustainability goals without giving enough consideration to technical or economic feasibility. Or they hold on to existing processes out of concern for risks, investments, or operational disruptions. In both cases, valuable opportunities are missed.

At Callens, we take a different approach: sustainability goes hand in hand with economic feasibility. Our technical expertise allows us to make that balance work in practice.

Every solution we propose must prove its value in three key areas

01 It delivers a measurable reduction in energy consumption and emissions.

02 It can be integrated without compromising process reliability.

03 It supports long term competitiveness.

The challenges facing the paper industry today are significant, but they are far from insurmountable. With innovation and targeted investments, these challenges can be turned into real opportunities.

Sustainability in the paper and cardboard industry can only be achieved through feasible investments that deliver quick results while remaining valuable in the long term.

The Callens Group is a proud member of FEFCO Corrugated Packaging

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Sustainability with a clear path forward.

How European policy is reshaping the paper industry

Making the paper and pulp industry more sustainable is not just about technology or energy efficiency. Equally important is the speed at which the regulatory framework is changing. European regulations are increasingly steering the industry toward lower emissions, greater transparency, and stricter controls on raw materials, energy use, and sustainability claims.

Fit for 55 increases the pressure to decarbonize

With the European climate package Fit for 55, Europe aims to reduce emissions by at least 55% by 2030 compared to 1990 levels. For the paper industry, one of the most energy-intensive sectors, the Fit for 55 package brings significant changes, particularly on three fronts:

- The sector falls under the **European Emissions Trading System (ETS)**, under which companies must surrender emission allowances for their CO_2 emissions. The number of free allowances is being gradually phased out, while the cost of CO_2 continues to rise. At the same time, paper is not currently covered by the Carbon Border Adjustment Mechanism (CBAM). This creates significant competitive pressure against producers outside Europe who do not bear comparable CO_2 costs.

- The **Energy Efficiency Directive (EED)** requires companies to structurally reduce their energy consumption. Large companies must structurally monitor their energy consumption through certified energy management systems or periodic energy audits.

- Through the revised **Renewable Energy Directive (RED III)**, Europe aims to increase the share of renewable energy. For the paper industry, the stricter regulations regarding biomass are particularly relevant. Paper companies may continue to use biomass, but must demonstrate where it comes from, how sustainably it was produced, and that there is no conflict with material applications. In this regard, Europe explicitly emphasizes the cascade principle: wood for value-added products takes precedence over combustion.

Sustainability must be demonstrable

In addition to energy and climate legislation, pressure is also growing regarding sustainability communication and reporting.

- The new **EmpCo (Empowering Consumers) Directive** requires paper and packaging manufacturers to substantiate claims regarding recyclability, recycled content, or climate impact with data, certificates, or life-cycle analyses.

- **The Packaging & Packaging Waste Regulation (PPWR)** imposes new requirements regarding recyclability, packaging prevention, labeling, and reuse. These will have a direct impact on product design and material choices.

Transparency and traceability are becoming crucial

Finally, paper companies must also build in the necessary transparency and traceability:

- With the introduction of the **EU Deforestation Regulation (EUDR)**, paper companies must demonstrate the origin of their wood fibers and prove that there is no link to deforestation or forest degradation. Existing certifications such as FSC or PEFC remain important, but are no longer sufficient on their own.

- The Corporate **Sustainability Reporting Directive (CSRD)** requires large companies to report on their impacts, risks, and climate strategies. At the same time, SMEs are facing pressure from customers, banks, and international value chains to make similar sustainability information available, often through the voluntary VSME standard.

The common thread running through all these developments is clear: sustainability is becoming increasingly measurable, verifiable, and strategic. For paper companies, the ability to manage energy, raw materials, and emissions intelligently will help determine how competitive and future-proof their production environment remains in the coming years.

CHECKLIST

Is your paper mill ready for 2030?

By 2030, manufacturing companies across Europe will be operating under a completely new industrial framework. This includes rising CO_2 costs under the EU ETS, binding energy efficiency requirements, and an increasing share of renewable energy in overall energy consumption. In addition, new regulations on raw materials, packaging, and reporting will come into force.

→ **Are you ready?**

This checklist helps you quickly assess where you stand today and where opportunities or risks still remain. The more boxes you can tick, the stronger your position will be as you move toward 2030.

CHECKLIST

Technical and economic performance of the facilities

- ☐ Outdated facilities have been assessed against projected 2030 cost levels
- ☐ Quick wins within the current production process have been identified
- ☐ Retrofit projects have been explored as an alternative to full replacement
- ☐ Electrification of energy consumers has been assessed from a technical and economic perspective
- ☐ Alternatives to conventional fuels (e.g., biomass) have been tested and/or validated
- ☐ Predictive maintenance has been integrated into daily operations

Energy efficiency

- ☐ Energy consumption is continuously monitored and actively managed
- ☐ Residual heat is recovered to the maximum extent possible
- ☐ Steam and heat losses have been systematically identified and reduced
- ☐ Energy efficiency is embedded in operational KPIs
- ☐ Internal residual streams (sludge, residues, reject streams) are used to their full potential as internal energy sources

CO_2 costs

- ☐ The impact of rising CO_2 costs has been factored into projections through 2030
- ☐ The phase-out of free emission allowances has been incorporated into the planning
- ☐ Energy-intensive facilities have been assessed for future profitability
- ☐ CO_2 reduction is linked to specific investment decisions
- ☐ A clear plan is in place to phase out fossil fuels

Investments & subsidies

- ☐ CAPEX projects focused on energy efficiency and CO_2 reduction have been prepared
- ☐ Available subsidies and financing options have been identified
- ☐ ROI calculations account for future energy price scenarios
- ☐ Investments prioritize flexibility and scalability
- ☐ Projects can be implemented without prolonged production shutdowns

Result:

0–7 checks → High urgency
8–14 checks → Optimization in progress
15+ checks → You're well prepared for 2030

3 KEY PILLARS FOR DRASTICALLY REDUCING CO_2 EMISSIONS

How the paper industry can meet Europe's CO_2 targets.

The paper and pulp industry has already made significant progress in reducing CO_2 emissions over the past decades. According to the European Commission's Joint Research Centre (JRC), direct emissions from the European sector have fallen by 40% since 1990. However, the pace must accelerate significantly as we move toward 2030 and 2050.

At the same time, paper companies need to maintain reliable production, keep energy costs under control, and continue investing in competitiveness. So which measures actually deliver results?

European studies point to three decisive levers: energy efficiency, electrification, and fuel switching. These are proven, effective approaches, and the Callens Group is helping the industry move forward with them.

1 Energy efficiency: the fastest gains are often found in existing processes

According to the JRC, energy efficiency alone can deliver CO_2 reductions of up to 32%. Many of these measures are also economically attractive, with short or even immediate payback periods. Examples include heat recovery, high performance burners, smart process control, energy storage, and technologies such as Mechanical Vapor Recompression (MVR). Thermocompressors and thermal buffering also play an important role.

At the Callens Group, we don't look at individual installations in isolation. Instead, we assess the complete energy picture of your site. In practice, the biggest gains often come from combining multiple systems.

2 Electrification: up to 60% decarbonization potential

Electrification is rapidly gaining traction in the paper industry. E boilers, industrial heat pumps, and hybrid systems make it possible to partially or fully replace fossil fuels.

The potential impact is substantial. European studies show that electrification can deliver emission reductions of up to nearly 60%. In addition, it gives companies greater flexibility to respond to fluctuating energy prices.

Successful electrification requires a tailored approach. That's why the Callens Group always starts from operational reality, carefully aligning electrical power, steam demand, grid capacity, and process continuity.

3 Fuel switching: moving away from fossil fuels

Fuel switching remains one of the most powerful levers for decarbonization. It involves replacing traditional fossil fuels with alternatives such as biogas, biomethane, or other renewable energy sources.

European estimates indicate that fuel switching accounts for more than one third of the total CO_2-reduction potential in the sector. Hybrid systems, CHP plants, and burners adapted to alternative fuels increase flexibility while lowering emissions.

Other technologies also contribute to decarbonization

Beyond energy efficiency, electrification, and fuel switching, other technologies are evolving rapidly. These include flexible energy management, innovative drying techniques, waste gas boilers, and flue gas cleaning systems such as (S)APCS.

While technological progress over the past decade has been unprecedented, development continues. The Callens Group's Department of Technology closely monitors these innovations, ensuring that new solutions are introduced as soon as they prove their value and become economically viable.

The transition continues, driven by smart choices

The European paper industry has already demonstrated that decarbonization is achievable. The next phase will focus mainly on investing in technologies that combine sustainability with operational reliability and efficiency.

That is exactly where the Callens Group comes in: delivering reliable, efficient, and future ready energy solutions.

Discover our case
on the next pages. →

Two high-pressure steam boilers designed for multi-fuel operation

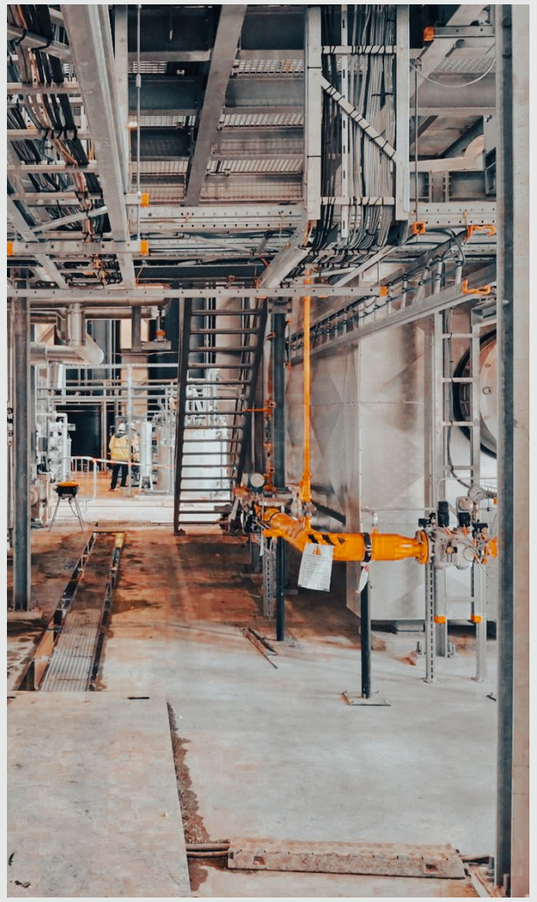
Case

2 x 10 T/h – 2 x 80 barg

Advanced emission reduction technology (SCR with ammonia)

Multi-fuel: mixed fatty acids + gas (backup) + hydrogen-compatible

Long-term objective: electrification of heat production, provided the grid is sufficiently robust



Electrification is emerging as the leading pathway to decarbonization

PROVEN TECHNOLOGIES FOR GENERATING STABLE, LOW-CARBON ENERGY

The European paper industry has already made significant progress in reducing CO_2 emissions over the past decades. Since 1990, the sector's direct emissions have fallen by approximately 40%. To meet Europe's climate targets by 2050, however, the industry will need to take further action. Electrification remains one of the most important steps in this transition.

The most difficult phase is yet to come

A study by the European Joint Research Centre (JRC) shows that heat intensive processes, in particular, are still heavily dependent on fossil fuels. Drying processes, steam production, and other thermal applications account for most of today's remaining CO_2 emissions.

Start by reducing your total heat demand. By managing residual heat, condensates, and steam flows more intelligently, you create room for more efficient electrification. This also strengthens the business case for new technologies.

Electrification requires renewed momentum

More and more companies are investing in electrification. At the same time, this trend needs to be put into perspective: many companies are still at the very beginning of their journey. The initial phase requires upfront investment, while energy markets remain uncertain and grid capacity is often limited.

Nevertheless, electrification offers clear advantages:

- Reduced dependence on fossil fuels and exposure to geopolitical price fluctuations
- Lower CO_2 related costs
- Greater flexibility to respond to day ahead prices and imbalance markets, resulting in more favorable electricity prices

Opt for a phased approach

Electrification does not necessarily require drastic changes from day one. A phased approach can also be effective, allowing existing installations to be optimized step by step and made ready for further electrification.

Have you considered a hybrid system?

In this setup, an electric system operates alongside a gas fired boiler, a combined heat and power (CHP) unit, or another heat source.

Electrification has a structural impact on CO_2 emissions, whether deployed flexibly or not. As a result, it remains a widely adopted strategy for decarbonization.

Kris Stappers – CSO, Callens Group

Hybrid systems are particularly well suited to paper and cardboard producers. Many sites generate part of their own electricity through CHP units, solar panels, or wind energy.

An integrated approach

Electrification affects entire heating and energy systems—from steam production and ventilation to grid capacity, process control, and energy management.

That is why the Callens Group supports companies with an integrated approach. With more than twenty years of experience in CHP installations, high voltage systems, and industrial heating solutions, we combine multiple technologies into a single, high performance system.

In this way, we help paper companies take realistic steps toward further decarbonization, tailored to their production processes, energy needs, and investment timelines.

The e-boiler as the first logical step.

For many companies, electric boilers represent an accessible first step toward electrification. This mature technology involves limited operational risk, relatively low CAPEX, and attractive payback periods. In addition, various subsidies support different electrification pathways.

As a result, electric boilers are rapidly gaining traction. Electric steam boilers allow steam to be produced quickly and flexibly, based on electricity availability. Thanks to their fast controllability, they can respond dynamically to fluctuating energy prices and grid load.

Depending on the application, companies can choose between low voltage and high voltage boilers. High voltage electrode boilers, in particular, offer compelling advantages for the paper industry.

Rental boilers keep your production running during renovations.

RENTAL BOILERS

Electrification or modernization of a facility usually requires changes to the existing infrastructure. But a paper mill can't afford a production shutdown during such work. Rental boilers ensure that production continues seamlessly.

Temporary support during construction or maintenance

The Callens Group has an extensive rental fleet of steam boilers, thermal oil boilers, and central heating boilers, which can be connected to your site within 24 hours. This ensures that renovation projects or major maintenance work do not disrupt your operations.

Rental boiler as a test setup

Is switching to electricity right away too big a step? In that case, you can temporarily rent an electric boiler as a test setup. This allows you to experience firsthand how electric steam production performs in your production environment, the impact on energy consumption, and how you can respond flexibly to energy prices and grid load.

Want to learn more about rental boilers? Discover all the technical details on our website.

10 High-Impact Investments

Practical solutions for today's energy and sustainability challenges.

New European regulations are raising the bar for paper and packaging manufacturers. Lower CO_2 emissions, more efficient energy use, greater transparency, and reduced reliance on fossil fuels are increasingly becoming basic requirements to stay competitive.

The good news? Many companies can already take meaningful steps today without overhauling their entire production process. In many cases, the biggest gains come from targeted investments that reduce energy costs, ease ETS pressure, and prepare companies for future regulations.

1. HEAT RECOVERY

In paper production, a significant amount of residual heat is still lost through flue gases, drying processes, or compressed air systems. By reusing that heat, overall energy consumption decreases immediately.

2. ELECTRIC STEAM GENERATION

Electric steam boilers, such as low-voltage resistance boilers and high-voltage electrode boilers, help companies to replace fossil-fuel-generated steam with a greener alternative. Depending on electricity availability and pricing, electric boilers can operate independently or be supported by a gas fired backup system.

3. INDUSTRIAL HEAT PUMPS

Industrial heat pumps recover waste heat and upgrade it to usable process temperatures with high efficiency. This significantly reduces the demand for natural gas and other fossil fuels.

4. SMARTER BURNER SYSTEMS

New burner systems improve the efficiency of existing installations while simultaneously reducing emissions and fuel consumption. In addition, the range of available burner technologies continues to expand. Together with our suppliers, we are developing new concepts to process waste streams via burners, which can significantly simplify overall system design.

5. HYBRID ENERGY SYSTEMS

The future does not rely on a single energy source. Smart combinations of gas, electricity, heat pumps, and energy storage provide greater flexibility and operational reliability. Companies that adopt a hybrid approach become less dependent on volatile energy prices.

6. MECHANICAL VAPOR RECOMPRESSION (MVR)

MVR technology recovers vapors from the process and turns them into usable energy. This delivers substantial efficiency gains, especially in heat intensive processes. MVR systems can quickly achieve a coefficient of performance (COP) of 3 or higher.

7. REAL-TIME ENERGY MONITORING

Detailed energy monitoring enables companies to identify losses and anomalies much faster. This is not only economically important, but also increasingly relevant for energy audits and regulatory reporting. Analyses and adjustments can be performed remotely, or by specially trained technicians on site when needed.

8. ALTERNATIVE FUELS

Biogas, syngas, biomethane, and other biofuels remain important alternatives to fossil fuels. However, under the new RED III regulations, traceability and certification are becoming increasingly important.

9. ENERGY STORAGE

Thermal and electrical storage help smooth peak consumption and allow energy to be used more intelligently at times when it is most available or cost-effective.

10. SERVICE AND MAINTENANCE

High performance installations only remain high performing with proper follow up. That is why service and maintenance are essential parts of a sustainable energy strategy. Regular maintenance and rapid interventions prevent inefficiencies and unnecessary costs from creeping into the production process.

Investments in electrification, heat recovery, and alternative fuels are often already economically viable on their own. For companies looking to accelerate even further, a wide range of regional, national, and European subsidies and financial incentives is available.

Europe - Investments in electrification, heat recovery, and alternative fuels are often already economically viable on their own. For companies looking to accelerate even further, a wide range of regional, national, and European subsidies and financial incentives is available.

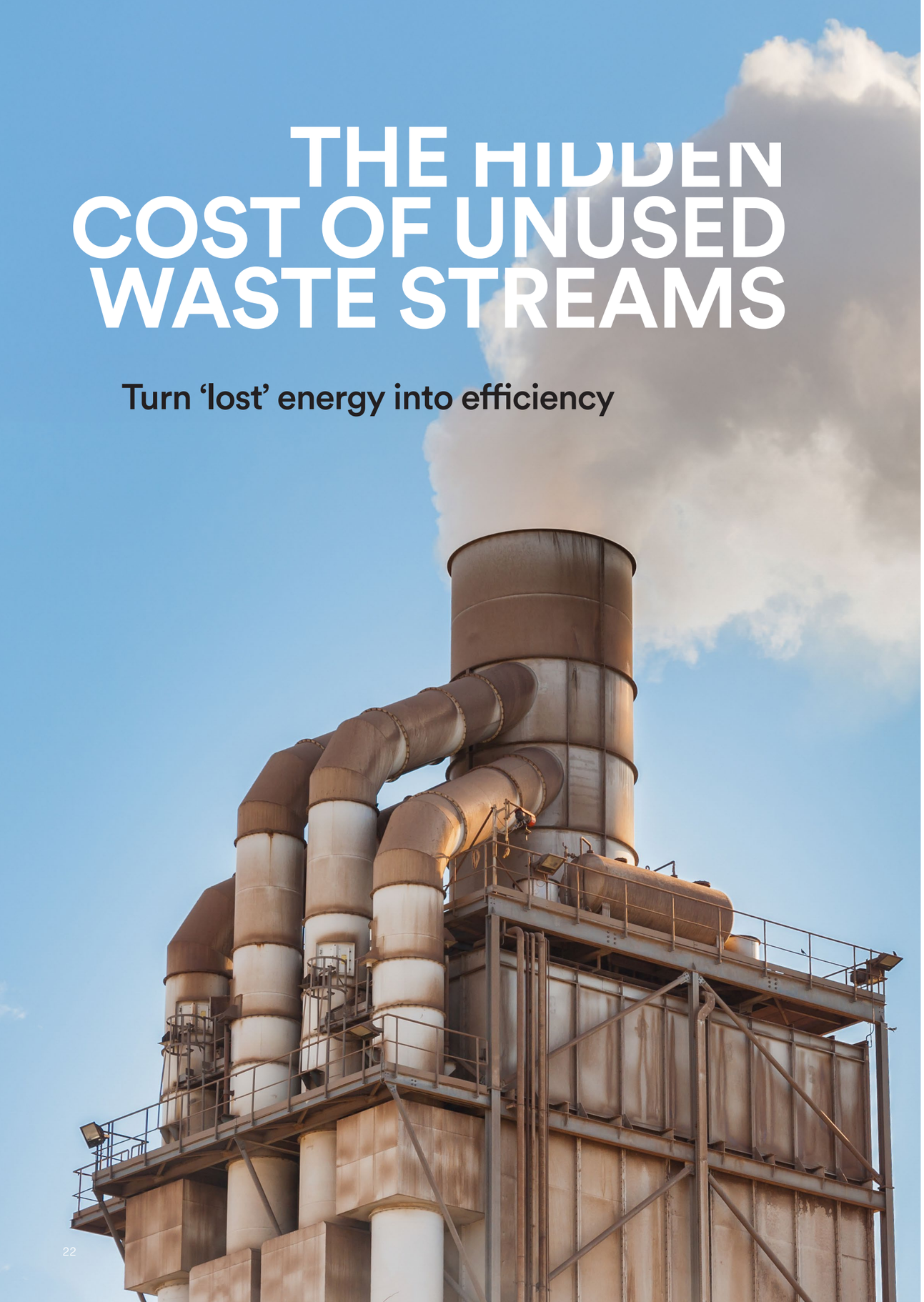
Netherlands - Through schemes like SDE++ and the Energy Investment Allowance (EIA), the Netherlands supports investments in heat pumps, CHP systems, electrification, and waste heat utilization.

France - Support programs such as Fonds Chaleur, CEE, and France 2030 promote industrial decarbonization through biomass, electrification, and energy efficiency.

Belgium - Flanders, Wallonia, and Brussels support e boilers, heat pumps, biomass installations, energy storage, and heat recovery through programs such as Ecologiepremie+, GREEN, STRES, and Klimaatsprong.

THE HIDDEN COST OF UNUSED WASTE STREAMS

Turn ‘lost’ energy into efficiency



The production of paper and cardboard requires and generates large amounts of energy. Yet significant volumes of waste streams, such as hot vapors, are still too often wasted. These streams are an ideal source of recoverable energy. By integrating recovery systems, you can reduce energy costs while also avoiding disposal costs.

Restwarmte uit dampen recupereren
Recovering residual heat from vapors

Hot vapors are a typical example of lost energy in paper and cardboard production. They are released during the drying process but often escape unused through exhaust systems or chimneys.

Using technologies such as heat exchangers and condensers, the Callens Group recovers heat from these vapors. This recovered heat can then be used in various ways, such as preheating water or maintaining the temperature of heating systems.

In addition to reducing energy consumption, this helps ensure a stable energy supply.

From waste streams to biogas as an alternative fuel

Biogas as an alternative fuel has been gaining ground for some time. Once an underappreciated waste stream, it is now being put to effective use thanks to advances in technology.

Process water often contains energetically valuable materials, such as sludge and other organic waste streams. Through anaerobic digestion, these materials are converted into biogas with a high energy content, typically up to around 75% of conventional natural gas.

Biogas traditionally appealed mainly to large players with extensive steam plants, largely because of its low and variable calorific value. That required more expensive burners or complex control systems. Thanks to optimized control technologies, we’re making biogas more widely applicable as a fuel.

Kris Stappers – CSO, Callens Group

The Callens Group can perfectly utilize biogas as an alternative fuel for the production of heat and steam.

Sharing residual heat via heat networks

Paper mills often produce more heat than they can continuously use themselves. Especially during peak production, a lot of usable energy is still lost.

This is where heat networks come into play. Through a local heat network, excess heat is shared with neighboring businesses, public buildings, or residential areas. In this way, energy that would otherwise be lost is put to sustainable use.

Don’t let energy go to waste

Energy is lost in every production process. Given wide range ofavailable technologies, this increasingly leads to missed opportunities. Start valorizing your waste streams now and hidden costs into energy-efficiency gains.

Case
Heat network in Ostend

In Ostend, residual heat from waste incineration is recovered and connected to a heat network via:

- Thermal oil circuits
- Heat exchangers
- Flue gas recovery

Result?
Homes, schools, and hospitals now have access to a stable and sustainable heat supply.

AIR QUALITY IN DRYING PROCESSES

How humidity, heat, and air balance interact in the production environment.

Paper and cardboard production is essentially a drying process. What starts as a wet pulp stream gradually becomes a dry, strong end product. This process involves large amounts of humidity, heat, and air movement, all of which must be carefully balanced using air technology techniques.

Controlling humidity before it causes problems

During drying, large volumes of humid air are released. If this air is not removed properly or circulates incorrectly, moisture can settle on machines, walls, and ceilings. This may lead to condensation, corrosion, contamination, and comfort issues on the production floor. Fortunately, these problems are preventable.

The key is controlled airflow. By guiding airflows deliberately through the production area and ensuring sufficient air movement, the space remains in balance, without moisture building up in dead zones.

Recovering heat from exhaust air

Air technology also offers opportunities for energy savings. By recovering as much heat as possible from moist exhaust air, energy consumption for heating and conditioning the hall can be significantly reduced.

Using air-to-air or air-to-water heat exchangers, usable residual heat is captured and used to preheat cold outdoor air before it enters the production hall. This way, moisture control and energy efficiency go hand in hand.

Maintaining air balance in the building

Any system that extracts large volumes of air must also supply air. Without proper compensation, negative pressure can develop in the building, causing unwanted airflows, drafts, and disruptions to the production process.

Depending on the process and the building layout, balanced ventilation, slight overpressure, or localized negative pressure can be the right solution.

When is overpressure or underpressure desirable?

- Overpressure prevents uncontrolled air from entering through gates, doors, cracks, or openings.
- Slight underpressure does the opposite: it keeps airflows contained within specific zones, which is crucial when hazardous substances, odors, or emissions are involved.

A well-designed air management strategy with properly matched supply and exhaust keeps these complex situations under control.

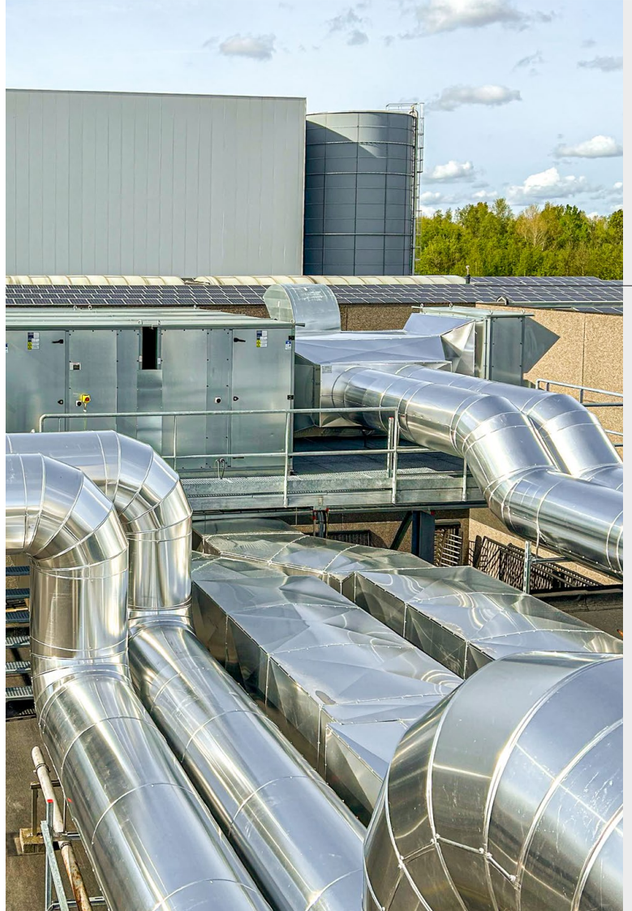
The real challenge lies in controlled air compensation. Not just blowing in air, but supplying it purposefully, with attention to air distribution, employee comfort, and moisture control. The result is a stable indoor climate, free of drafts and without areas where moisture can accumulate.

Chemical emissions require additional protection

In paper and cardboard production facilities using recycled paper, an additional challenge may arise. During the deinking process, chemical emissions can be released that corrode copper components in electrical installations. In some environments, copper corrosion can occur in a relatively short time, increasing the risk of malfunctions or short circuits.

For this reason, substations and electrical control rooms are best protected by filtered supply air and a slight overpressure. Activated carbon filters can remove chemical components from the incoming air, provided they are correctly sized and allow sufficient contact time.

Material selection also plays an important role. Galvanized steel is often suitable for air supply systems, while stainless steel is recommended for extracting hot, humid, or chemically contaminated air.



Case

Heat recovery with an air to air heat exchanger

A Belgian cardboard manufacturer was struggling with condensation and moisture issues, leading to mold growth and slippery floors.

The solution? A ventilation system with an air-to-air heat exchanger to condition the supply air, combined with targeted air distribution. The problems disappeared and at the same time, heat that would otherwise have been lost is now continuously recovered.

Curious about what advanced air technology can do?

Discover our projects

The *assurance* of uninterrupted service.

24/7 SERVICE KEEPS THE PAPER INDUSTRY MOVING

24/7/365

The reliability and performance of any system depend on the maintenance and service behind it. With the right people stepping in at the right time, you can prevent unexpected breakdowns that bring production to a halt or cause energy consumption to rise unnoticed.

Maintenance prevents more than it repairs

A strong service organization working behind the scenes keeps your systems performing at their best. Regular maintenance helps prevent efficiency losses, extends system lifespans, and significantly reduces the risk of unplanned downtime.

No component should be overlooked during maintenance, especially those that are often neglected, such as steam traps. Poorly functioning or defective components can quietly drive up your energy bill. With targeted steam trap inspections, for example, we quickly identify steam leaks and heat losses to limit their impact.

Need help coordinating maintenance and service?

Our team of specialists take care of everything.

- Scheduling mandatory inspections and preparing your system accordingly
- Carrying out timely, periodic inspections
- Performing technical repairs and certified welding work

Service tailored to your production needs

Every production environment comes with its own demands. That's why the Callens Group offers four service contracts:

- **Bonus** provides 24/7 phone support and on-site service within 24 hours
- **Melior** shortens response time to a maximum of 8 hours
- **Optimus** guarantees on-site service within 2 hours, plus travel time
- **Unicus** goes even further with proactive follow-up, direct notifications, and online monitoring

From telephone support to on-site intervention

Every minute counts when an issue arises. Our goal is zero—or at least minimal—downtime. That's why the Callens Group's service department works with a clear escalation model. We start by diagnosing the issue over the phone and resolving it remotely whenever possible.

If a data connection is available, we can use PLC connectivity to identify where adjustments are needed. If on-site intervention is necessary, one of our 35 certified technicians is dispatched without delay. This approach allows us to resolve many issues quickly and avoid unnecessary production losses.

Monitoring prevents unexpected downtime

In addition to reactive support, proactive monitoring plays a crucial role in ensuring operational stability. Heroïx, developed by the Callens Group, is the ideal solution. The platform tracks more than a hundred parameters, including water quality and energy consumption, all closely monitored by a remote monitoring specialist.

This enables us to intervene before problems escalate, or to send technicians on-site with a clear, targeted assignment.

In 90% of service calls, our technicians can provide the right solution immediately thanks to their expertise and our wide range of available parts.

Richard Zappeij — Service Manager at the Callens Group

Reliability is a long-term commitment

In short, Reliability and energy efficiency are not determined by technology alone. Proper maintenance, fast response times, and remote monitoring are just as essential in maximizing long-term return on investment.

With in-house technicians, 24/7 support, and customized service contracts, the Callens Group helps customers keep their production running reliably and energy-efficiently.

←

Request our service brochure for more information.

DEPARTMENT OF TECHNOLOGY

RESEARCH AND DEVELOPMENT AT THE CALLENS GROUP.

↑

Technological progress over the past few years has been remarkable. No team is better positioned than the Department of Technology to closely track innovation and turn new developments into practical, integrated solutions.

Making complex technologies scalable

The days of traditional, gas fired steam boilers are long gone. Today, the market offers dozens of alternatives, from hybrid and electric boilers to systems equipped with burners that process complex waste streams.

Bringing simplicity to a landscape full of possibilities requires deep expertise and, above all, focus. That is why the Callens Group established the Department of Technology years ago. Here, knowledge is consolidated at group level and then shared with the various operational teams.

So what do the Technology Engineers at the Department of Technology do? First, they listen to the challenges faced by industry. They then connect those challenges with the right technologies, always taking a solution oriented approach. When they see clear potential to scale up a technology, they roll it out more broadly while keeping the specific needs of each company firmly in mind.

After years of technological pioneering, the results are already tangible. E boilers and biogas fired boilers are rapidly gaining traction in industry, delivering significant CO_2 reductions and lower energy costs. The same momentum is now building around MVR heat pumps.

Getting creative within the boundaries of legislation

The Department of Technology keeps a close eye on current and future legislation. These regulations are binding, that much is certain. Still, there is room to approach them creatively during the project design phase. Legislation on NOx emissions is a good example. Requirements differ from country to country, which allows us to propose tailored solutions for each market.

The real playing field, however, is technology itself. When it comes to NOx reduction, we can rely on low NOx burners, flue gas recirculation, and selective catalytic aftertreatment. Cleaner fuels also play an important role in reducing NOx levels. Determining the right combination is the task of our technology and concept engineers.

We want to bring back simplicity—for the customer, at least. We study the technologies and their added value, and then take the complexity off our customers' hands with a customized solution.

Bert De Gryse – Department of Technology Director

Looking for advice on how to reduce your emissions with the right technology?

Read more at www.callens.eu and get in touch.

The European focus on emissions carries significant weight. ***Refining our technology*** is the only way to achieve targeted results without constantly having to redesign entire systems.

Bert De Gryse – Department of Technology Director

Dedication from start to finish.

As an EPCS contractor, the Callens Group takes care of your project from A to Z.

Engineering

Design driven by vision

Every design starts with a clear vision: choosing the right technology is the missing link between sustainability and performance. Our systems are engineered to work seamlessly with your business operations, using targeted solutions to maximize energy efficiency. By combining in-depth technical expertise with hands-on experience, we ensure that every design can be executed flawlessly in practice.

Procurement

Robust materials

Thanks to a strong network of trusted suppliers and a sharp focus on quality and cost efficiency, we ensure a smooth procurement process without compromises. This keeps your project on track and within budget.

Construction

Well-coordinated from site preparation to handover

Our experienced teams deliver smooth execution with close attention to safety, quality, and detail. The Callens Group coordinates all involved parties and closely monitors progress, ensuring your installation is built as planned and properly commissioned. We also provide hands-on support throughout the commissioning phase.

Service

Maintenance and service by certified professionals

Our commitment doesn’t end at delivery. We provide 24/7 support, continuously monitor system performance, carry out periodic maintenance, and respond quickly to any issues that could impact operational continuity.

60 YEARS OF CRAFTSMANSHIP

Sixty years ago, an unquenchable fire was sparked by Willy Callens. He founded Callens in the modest West Flemish village of Hulste. Idealistic and a true perfectionist, he earned the trust of his customers and steadily grew his one-man business with a loyal team of specialists.

His technical ingenuity and deep commitment to customer service still define Callens today. They are the solid foundations on which we continue to build.

Today, the second generation leads the family business. Daughter Annick Callens and co-CEO Windy Moerman have taken the company to new heights. Callens grew into a market leader and expanded beyond national borders. The Callens Group now comprises four companies, with a total of 13 locations across Belgium, the Netherlands, and France.

This growth also strengthened collaboration between professionals. What started with just a handful of employees has grown into a team of more than 400 talented people.

- Concept engineers who design systems.
- E&I engineers who develop control systems for the most complex installations.
- Project engineers who oversee implementation.
- Welders and fitters who handle assembly with the same precision Willy Callens was known for.
- And dedicated local service and maintenance teams who keep installations running day and night.

After 60 years, our pride has only grown, as has our admiration for the work we are privileged to do: bringing the beating heart of industrial manufacturing to life through true craftsmanship. We think. We act.

Our strength lies in the combination of experience and ambition. Of craftsmanship and vision. Of people who their trade and are always looking for ways to do it even better. That is how we turn a vision for the future into industrial reality and help drive an unstoppable sustainability movement.

CEO's Windy Moerman | Annick Callens

Where others see challenges and obstacles, we see opportunities to exceed expectations.

Annick Callens and Windy Moerman
CEO's, Callens Group

Family of fire

Our family of fire – a close-knit, highly committed team of engineers, planners, project managers, technicians, and support professionals – works together to deliver smart, innovative projects.

With a team of 430 specialists operating from Belgium, the Netherlands, and France, it's their craftsmanship and dedication that truly make the difference.

Count on expertise

Surround yourself with experts who provide clear, practical advice and manage innovation projects down to the smallest detail. That's what you can rely on the Callens Group for.

Contact us: **info@callens.eu**

Windy Moerman
CEO Callens Group

Annick Callens
CEO Callens Group

Kris Stappers
Chief Sales Officer

Peter Vanrobaeys
Technical Sales Manager
Heat Technology

Pieter Kindt
Technical Sales Manager
Air Technology

Stefan Vercauteren
Business Development Manager

Bert De Gryse
Department of Technology Director

Vincent Weyne
Business Development Director France

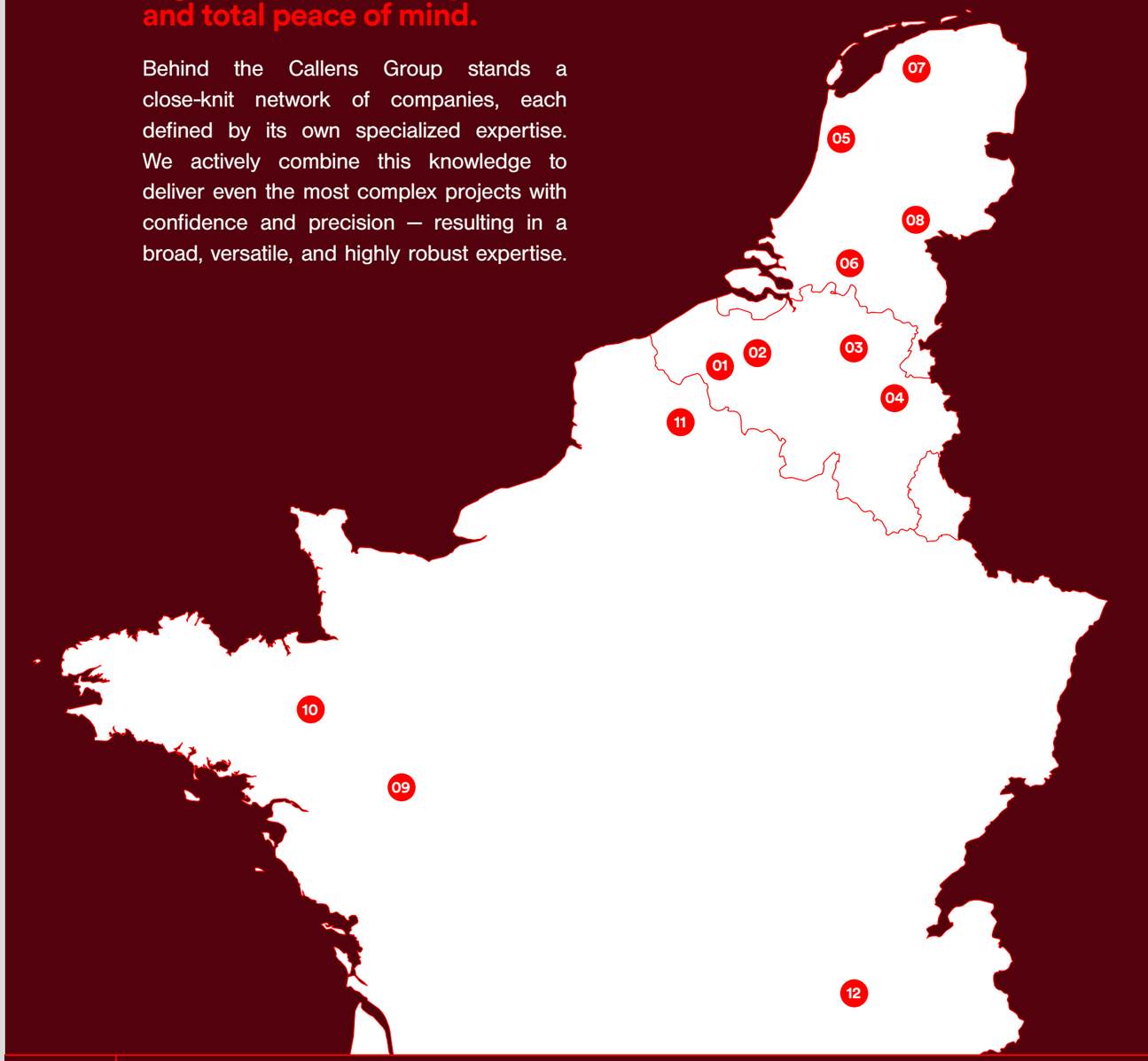
Ellen Beernaert
Sales Manager
Service & Maintenance

Richard Zappeij
Service Manager

1966

The Callens Group brings together craftsmanship, service, and total peace of mind.

Behind the Callens Group stands a close-knit network of companies, each defined by its own specialized expertise. We actively combine this knowledge to deliver even the most complex projects with confidence and precision — resulting in a broad, versatile, and highly robust expertise.



Always nearby

Belgium

01 — Waregem HQ
02 — Lochristi
03 — Laakdal
04 — Awans

Netherlands

05 — Moerkapelle HQ
06 — Tilburg
07 — Leeuwarden
08 — Arnhem

France

09 — Angers HQ
10 — Rennes
11 — Douai
12 — Lyon

Our commitment

You receive an installation designed, built, and fully supported by a robust group of companies, with a unified technical vision and clear lines of responsibility.

Integrated Project Approach
Engineering, execution, automation, service, and maintenance are managed seamlessly as one group. Information flows smoothly across the entire chain, ensuring consistency in decision-making and technical execution.

Maximum Production Reliability
Robust planning ensures maximum production reliability. Any potential downtime is kept to an absolute minimum and is always technically anticipated — making it fully predictable for you.

Driven Teams
With over 350 dedicated professionals and a shared passion for excellence, we strive for the highest possible end result. Customer satisfaction is central at every level: project management, safety, technical expertise, and beyond.

Complementary Areas of Expertise
We combine our complementary expertise wherever it adds value to your project. This gives you access to deep, specialized know-how while maintaining clear oversight and control.

Rapid Support
The group operates regional service and maintenance teams that support installations from design through commissioning — enhancing long-term continuity and operational reliability.

Quality and Safety
Our certifications are the hallmark of our structured approach throughout preparation, execution, and aftercare — reinforcing our commitment to quality, safety, and excellence.

References Across All Sectors
Want to see what Callens Group can deliver? We are proud to present references within your sector, showcasing proven solutions and advanced technologies.

Uniform Project Methodology
Engaging multiple centers of expertise within the Callens Group? Uniformity is guaranteed. You receive a clear, well-structured project dossier, supported by standardized procedures for design, safety, execution, and reporting.

Always available

There is always a dedicated point of contact available — by phone or on site — to align and advise whenever questions arise, at any stage of the project.

Smooth Follow-Up

During on-site execution, we maintain momentum. Agreements and points of attention are addressed immediately, ensuring steady progress and clarity throughout the works.

Close to You for Interventions

Thanks to our strong regional presence, service interventions and frequent follow-ups are handled efficiently, ensuring rapid response and operational confidence.

Callens Group

Power in every degree

callens.eu