



Transforming
Industry Concretely:
**The CHOVET
Method**



White Paper

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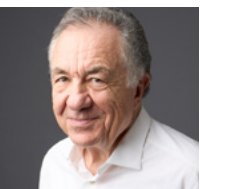
Although nearly a third of global CO₂ emissions come from heavy industry, the transition to a sustainable industrial model has become a historic imperative. In this context, companies that are able to turn this challenge into a driver of innovation, competitiveness, and resilience are poised to become the leaders of tomorrow.

Reconciling industry and sustainable development is no longer a utopia: it is a strategic urgency. Decarbonization is not just a response to regulatory or societal pressure; it opens a genuine opportunity for reinvention, value creation and long-term economic sustainability.

For more than 60 years, CHOVET has supported industrial companies in the design and delivery of tailor-made projects, at the crossroads of operational performance and reduced environmental impact. With field-based, pragmatic and rigorous engineering, CHOVET acts as a catalyst for transformation, combining technical excellence, economic realism and environmental ambition.

This white paper offers a structured overview of the challenges of industrial decarbonization, the available levers for action, and the concrete approaches we implement every day. It is intended for all those who wish to act—effectively and sustainably—for a more responsible industry.

Georges Sontag
President of CHOVET



Industrial decarbonization: a historic necessity

Heavy industry accounts for nearly a third of global CO₂ emissions. The future of our planet therefore depends on rethinking our industrial model. What was once optional has now become a historic necessity.

The energy transition should not pit ecology against industry but reconcile them. It opens a tremendous field for innovation, competitiveness and value creation. Those who adapt will be the leaders of tomorrow.

Georges Sontag, President of CHOVET

European Union commitments:



Climate neutrality
by 2050



–55% greenhouse gas emissions
by 2030 vs. 1990



42.5% renewables
in gross final energy consumption.



Reduce final energy consumption by 38%*
and primary energy by 40.6%.



“Fit for 55” package: –62% emissions
for sectors covered by the EU ETS, –40% for other sectors.



CO₂ Carbon Border Adjustment Mechanism (CBAM)

*Primary energy is the energy available in nature before human transformation (e.g., wood, crude oil, natural gas). Final energy refers to the energy actually delivered, consumed and billed to the end user.



■ A complex and polarized environment

The global environment is increasingly unstable and polarized: geopolitical conflicts, trade tensions, energy dependencies, scarcity of resources—so many factors that are redefining industrial balances and challenging our ability to reconcile sovereignty and ecological transition.

Rapid industrialization in countries such as China or India—which together account for nearly half the world’s population—has led to a surge in emissions despite considerable efforts made, particularly by China. Europe and the United States themselves experienced intense industrial development in the past, often at the cost of heavy environmental and human consequences.

What is striking today is the deindustrialization of the Old Continent, and to a lesser extent, of the United States. By massively offshoring production capacity to emerging countries, these powers have externalized a significant share of their emissions.

Producing elsewhere also means outsourcing pollution we would not tolerate at home. But in a tense international context—diplomatic, military, economic—Europe now faces a strategic choice: reindustrialize while taking control of its ecological future, or continue to subcontract its transition to players such as China, whose environmental priorities are not always aligned.

Beyond climate, this is a question of coherence, sovereignty and long-term resilience. To carry weight on the world stage, in the world stage, Europe must defend an autonomous vision, able to withstand political about-faces—as illustrated by environmental U-turns observed in the United States, for example. Promoting a low-carbon, efficient industry is a strategic imperative for Europe. Sooner or later, other major powers will also have to reduce their carbon footprint—for climate, image or competitiveness reasons. The methodological and technological lead Europe takes today will be a decisive competitive advantage tomorrow. The current profusion of technical solutions adds complexity to multi-stakeholder decision-making.

CHOVET a catalyst for the transition

With over 60 years of expertise, CHOVET positions itself as a strategic partner in the design and execution of **ambitious, sustainable, and tailor-made industrial projects**. Combining technical rigor, long-term vision, and in-depth field knowledge, CHOVET supports its clients on their **decarbonization journeys** without compromising operational performance.

From constraint to cooperation: building a European ecological soft power

It is also essential to clarify the purposes and real impacts of decarbonization. Too often seen as a burden, it is at times sold as a miracle cure. Neither penance nor magic bullet: decarbonization is a long-term strategic and ethical undertaking.

Thanks to its low-carbon energy mix (39% nuclear), France enjoys a valuable advantage. Alongside countries such as Sweden, it can play a driving role in building a coherent and ambitious European strategy. As a committed and expert player, CHOVET actively contributes to this dynamic.

For France and Europe, decarbonization can become a lever of power and influence. But what works within the Union cannot be mechanically applied to other regions of the world with very different realities. Europe assumes a pioneering role—sometimes criticized as “green imperialism”—but it above all defends the conviction that a concerted ecological transformation is beneficial in the long run.

Given the diversity of situations, Europe must favor a cooperative approach built on dialogue, education and shared benefits. Constraint alone will not secure support. We need a genuine ecological soft power built on leading by example and collaboration.



Act now: an economic and strategic lever

In the face of the climate emergency, action is no longer just an environmental imperative: it is a strategic lever to bolster the competitiveness and resilience of industrial value chains. Already underway in some sectors, the energy transition shows it is possible to combine economic performance with emissions reduction—the manufacturing and construction industries are a telling example.

■ A sector-based approach to optimize energy efficiency

Outside the transport sector, most of France's major greenhouse-gas emitters have reduced their emissions since 1990. Manufacturing and construction stand out, with a 54% drop over the period.

This progress is due not only to reduce activity in certain industries (such as steel or cement) but, above all, to improvements in energy efficiency. GHG intensity—that is, emissions per unit of GDP — fell by 62% between 1990 and 2023.

In other words, industry has continued to produce, but more frugally, with far better-controlled energy use. A tangible proof that sobriety and productivity can coexist.

■ Between financial incentives and societal expectations, a transformation to seize

Decarbonization offers industry a genuine opportunity for transformation. The sector, which accounts for nearly 20% of France's GHG emissions, has many levers: electrification of processes, energy optimization, adoption of low-carbon technologies...

These shifts require significant investment that rarely pays back in the short term. Easier access to green finance—public subsidies, green bonds, innovation schemes—is therefore crucial to secure projects.

Pressure no longer comes only from regulators. Customers, investors and talent expect clear, measurable and credible commitments. Decarbonization has become a criterion for trust, loyalty and attractiveness.

It is essential to position this transition not as a constraint but as a winning strategy. It should also feature in industrial communication—not to paper over everyday efforts, but to anchor them in a coherent and mobilizing trajectory.

Although some technologies are still maturing, now is the time to invest, experiment and move forward. CHOVET is already supporting clients on this path, proving that a high-performing, efficient and sustainable industry is not only possible—it's already underway.

Key figures for decarbonization in France:



60% of energy
consumed in
France comes from
fossil sources



**Industry accounts
for 20%**
of national GHG
emissions.



**12% of national
emissions**
come from 50
industrial sites.



EU 2030
target:
-55%
emissions

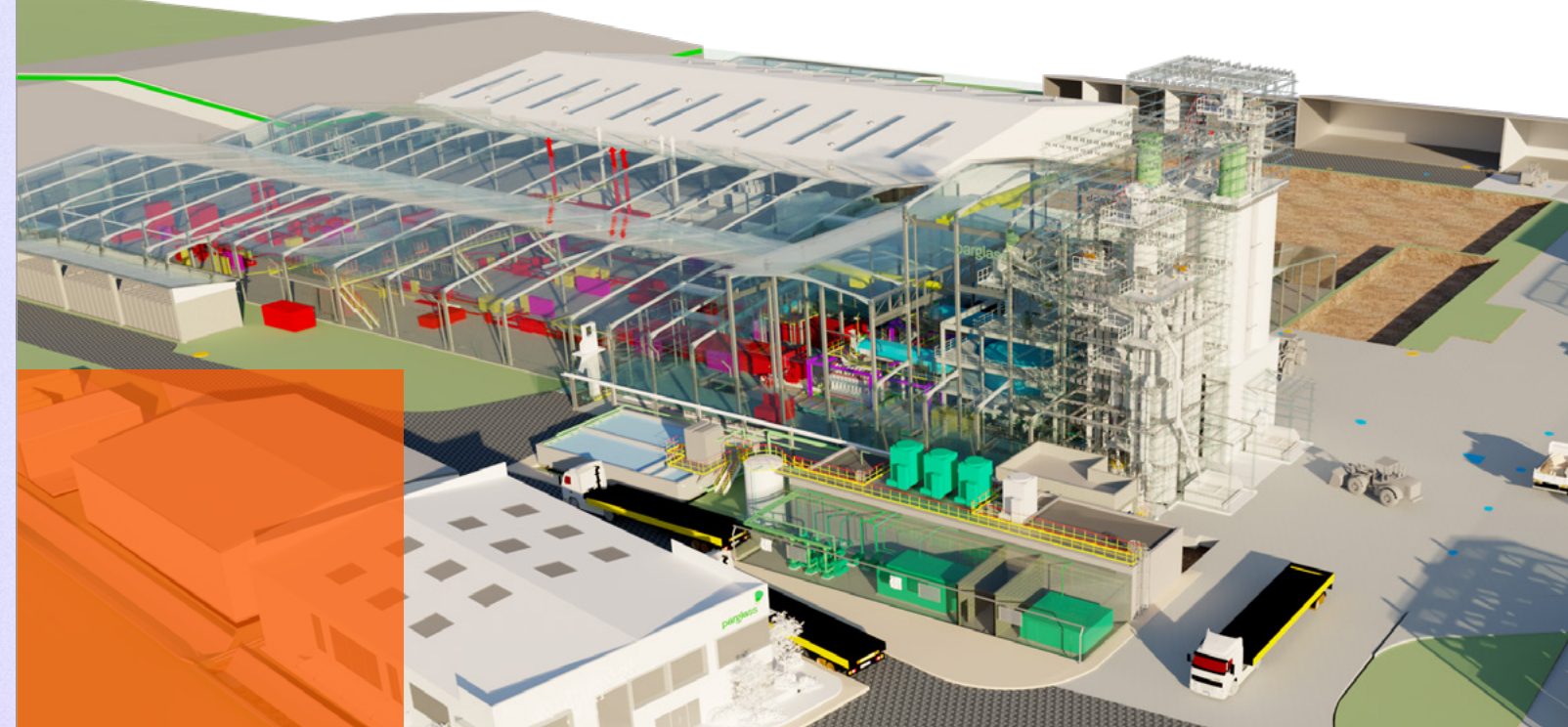


France 2030 :
€5.6bn
for industrial
decarbonization.



€610m
to support
innovative low-
carbon technologies

The CHOVET Method Engineering, efficiency, results



At CHOVET, decarbonization is neither a marketing buzzword nor a theoretical concept. It is a concrete and rigorous approach rooted in industrial reality.

Far from ideological discourse, CHOVET provides tailored, measurable and effective solutions adapted to each production context.

Our approach combines quick wins with long-term trajectories, co-designed with our clients.

The goal: maximize energy gains without compromising performance or economic viability.

■ Optimize without disrupting

CHOVET works on live sites with a clear priority: help improve efficiency without disturbing production lines. Each project is designed to reconcile industrial performance and energy sobriety. Reducing the carbon footprint does not mean sacrificing productivity. On the contrary, the projects we deliver pursue a dual optimization—environmental and operational. Examples include: improving furnace thermal efficiency, lowering mill power consumption, optimizing firing or agitation processes.

■ Tangible, multi-sector solutions

In 2024, more than half of CHOVET's project portfolio directly concerns industrial decarbonization. All others include an environmental component, whether modernization, capacity increase or energy optimization.

Types of projects supported:

- ☑ CO₂ capture.
- ☑ Energy optimization
- ☑ Low-carbon processes
- ☑ Treatment and valorization of effluents / industrial waste (liquid, gaseous and solid)

CHOVET operates across all sectors:
cement, glass, minerals, recycling, construction materials...

■ Solid growth prospects and strengthened commitment

2024 marks a strategic turning point for CHOVET, with sustained business growth and an intensified focus on the energy transition.

“Our role as engineers is to make this transition technically reliable, economically viable and compatible with production continuity.”

Damien Michel, Managing Director of CHOVET

Backed by more than 60 years of expertise and a market in full transformation, the company shows sustained growth, in line with the business plan defined during the 2023 LMBO. Teams are expanding: 50 employees, consultants and partners now form an expert task force in energy efficiency, industrial processes and circular economy.

Exemplary projects in France and worldwide

“What sets us apart is our ability to combine technical expertise, agility, and in-depth knowledge of industrial processes. We speak the same language as our clients.”

In 2024, CHOVET supported several industrial leaders in the concrete implementation of their low-carbon roadmaps.

These projects demonstrate the range of possible approaches, the technical solutions implemented, and our teams’ ability to adapt, both in France and internationally.

HOLCIM

“As part of our decarbonization strategy, we are adapting our installations to develop separate grinding. This allows us to formulate low-carbon cements by reducing the clinker content—the main source of CO₂ emissions. We integrate alternative constituents while guaranteeing the technical performance of our binders.”

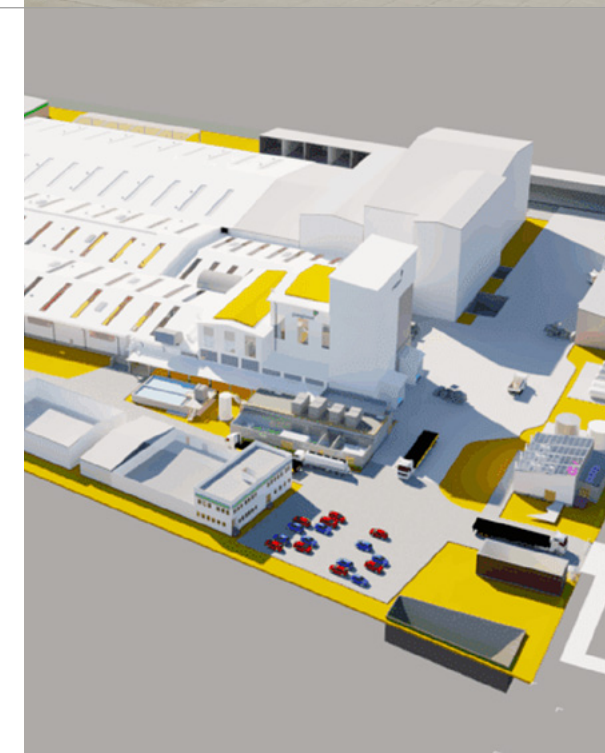
Christophe Riout
Managing Director, Cement Operations, Lafarge France, Holcim Group



PARGLOSS

“We are working closely with CHOVET on a pioneering project in the glass industry to build a new plant equipped with a 100% electric furnace. CHOVET has been involved since the initial phases, notably in process design and integrating technical constraints. Their contribution has been decisive in enabling us to coordinate the overall works and pursue our very ambitious objective: building the Americas’ first 100% electric furnace and offering the most sustainable packaging glass in the world.”

Sergio Cibils Baumann
Director, Parglass



LHOIST CO₂ capture

“We are one of the world leaders in the production of lime, dolomite and mineral solutions, actively engaged in decarbonizing our industrial processes through several projects, including studies with CHOVET related to CO₂ capture—a strategic step in reducing the lime industry’s carbon footprint.”



Damien Michel
Managing Director at Chovet

Yannick Avril
CAPEX & Engineering Director Europe, Lhoist



ISOVER – Saint Gobain

“Specialists in thermal insulation within the Saint-Gobain group, we are accelerating our transition to low-carbon insulation materials by acting on industrial processes through energy optimization of furnaces and transformation equipment. Our partnership with CHOVET is a long-term one. We first collaborated on more ‘classic’ projects tied to our activities, then our work evolved to align with the challenges of the energy transition. Today, CHOVET is supporting us in implementing these new industrial processes.”

Antonio Roussoulières
Capital Projects & Global Engineering Director, Isover



Accelerate,
innovate, support:
CHOVET's
ambitions
for tomorrow



■ CHOVET is actively preparing for the future, structuring its priorities around three major strategic pillars:

1. Accelerate innovation,

by developing new technology partnerships to deliver ever more effective solutions suited to the growing demands of the energy transition.

2. Launch a new high value-added service offering from 2025, including:

- Opportunity and feasibility studies (audit of liquid/gaseous/solid industrial effluents for valorization),
- Investment cost reliability,
- Tailored regulatory support,
- A decarbonization roadmap proposal.

3. Strengthen our international presence

with gradual deployment in high-potential markets: Southern Europe, the Middle East, Africa and the Americas.

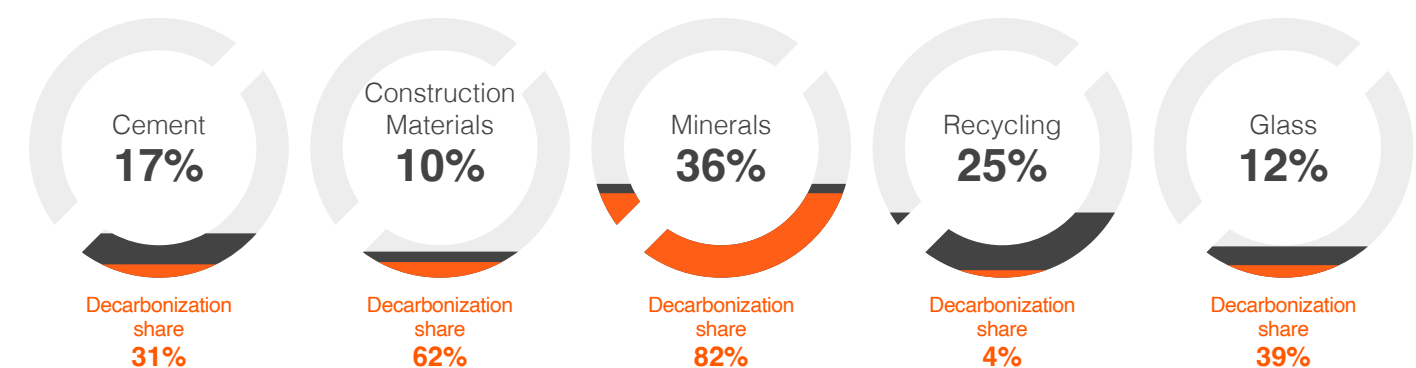
New Actors

CHOVET is also involved at the heart of innovation alongside new decarbonization players

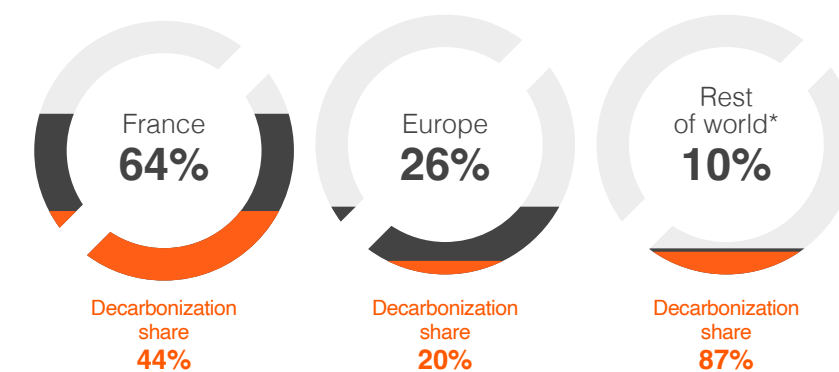
- Waga Energy
- EPYR
- PERFESCO

CHOVET 2024 data

Sector breakdown of projects
(share indicating projects involving decarbonization):



Geographical breakdown:



* Africa, Latin America, Middle East

CHOVET, the agile partner with strategies tailored to different markets

Combining multisector expertise with a pragmatic engineering mindset, CHOVET adapts its interventions to the economic, regulatory, and cultural realities of each territory—with a shared ambition: to accelerate credible, effective, and well-tailored decarbonization.

In an environment governed by exacting standards, structuring support schemes and strong societal expectations, CHOVET deploys proactive, rigorous and tailor-made engineering. The challenge: ensure projects on technical, economical and operational aspects—while preserving confidentiality.

In these fast-growing industrial contexts, where regulatory frameworks are still taking shape, CHOVET offers robust, efficient, and scalable solutions. Its approach: attentive listening, adaptability, and long-term cooperation to support a gradual yet transformative transition.

Thanks to its agility, CHOVET adapts to local contexts to deliver the best possible expertise for each client.



Setting yourself up for success

Strong support at every key stages:

- ✓ Based on a rigorous diagnosis
- ✓ Identify economically viable technological solutions
- ✓ Implement the chosen solutions appropriately
- ✓ Monitor and adapt production parameters
- ✓ Identify and manage external obstacles

■ Final word

Industrial decarbonization cannot be approached through a single lens. It brings together multiple issues: technological, economic, social, institutional, cultural. Its success depends on our collective ability to combine these dimensions intelligently, pragmatically and ambitiously.

To be fully accepted, deployed and valued, decarbonization must convince decision-makers, reassure citizens and be embedded in solid public policies. It will happen—because it is necessary, because the climate emergency demands it, and because industry understands what is at stake. But to be durable, effective and widely shared, it must be driven by a clear, credible and economically responsible vision.

At CHOVET, this vision lies at the core of our commitment. If you are leading an industrial project and are seeking a partner able to combine technical expertise, environmental performance and strategic understanding, we are ready to support you.

CHOVET: trusted engineering for a decarbonized industry.

CHOVET

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Publisher

CHOVET

16 Rue du 8 Mai 1945, 69100 Villeurbanne

Website

chovet.pro

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