



POST-EVENT REPORT

ANTWERP, BELGIUM • 24–27 FEBRUARY 2026



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INTRODUCTION

From 24–27 February 2026, ESF Europe returned – this time in Antwerp, one of Europe’s most strategically important industrial clusters – bringing together senior leaders from across refining, chemicals, energy, and technology for four days of insight, collaboration, and forward-looking discussion.

Against a backdrop of rising energy costs, regulatory pressure, and intensifying global competition, the event addressed one of the industry’s defining challenges: how Europe can maintain industrial competitiveness while delivering on its decarbonisation ambitions.

Through a dynamic programme of keynote sessions, fireside chats, panel discussions, technical presentations, and networking, ESF Europe 2026 explored the strategies, partnerships, and technologies needed to strengthen resilience, unlock investment, and accelerate industrial transformation across the downstream sector.



**Official Opening
from Jean-Luc Crucke,
Belgian Minister of Mobility,
Climate and Environmental
Transition**



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Bruges**

PARTICIPATING COMPANIES



MEDIA PARTNERS



KEY SPEAKERS



Jean-Luc Crucke
Belgian Minister of
Mobility, Climate and
Environmental
Transition



Rob Ingram
CEO Olefins &
Polymers Europe
INEOS



Alice Wells
Executive VP Europe
EXXONMOBIL



Ahlem Friga-Noy
Senior VP
Public Affairs,
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TOTALENERGIES



Jeffrey van Geloof
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Sr VP BU Hydrocarbons
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Antwerp Platform
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Ivan Pelgrims
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Antwerpen
EVONIK



Dan Carter
President, Technical
Consulting &
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WOOD



**Erika Sanchez
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DOW



Annika Tibbe
Global VP Commercial
Operations & Business
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NESTE



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VP, Senior Project CCS,
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**BASF
ANTWERPEN**



Tom Hautekiet
Chief Business
Development &
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**PORT OF
ANTWERP-
BRUGES**



Walmir Soller
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Chris Avison
Head of Low
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Renewables
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Zina Skoufa
Managing
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**JOHNSON
MATTHEY**



Jan-Dirk Van Loon
Senior Director Net Zero
Strategy and
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Markus Hartung
VP
EVONIK



Ron Venner
Chief Growth Officer
**LUMMUS
TECHNOLOGY**



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VP, Head of EMEA
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MACKENZIE**



Alan Gelder
Head of Downstream,
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Carlos Diaz
Sr Manager
Renewable Fuels
Business Development
REPSOL



Piet De Paepe
Sr Partner & Global
Head of Chemical
Practice
**BAIN &
COMPANY**

EVENTS HIGHLIGHTS



VIDEO HIGHLIGHTS HERE

Watch the full highlights video to relive the energy, insights, and innovation from ESF Europe 2026!



EVENT PHOTOS HERE

See the Full Photo Gallery from Antwerp!



CASE STUDY

Antwerp gives industrial transition a real-world stage

4

Days

336

Registered
Delegates

31

Countries

64

Speakers and
panellists

37

Presentations

149

Pre-arranged
1-to-1 Meetings

25

Sponsors &
Exhibitors

7

Panel
Discussions

2

Seminars

6

Medias &
Associations

2

Networking
Mixers



SEMINARS

ESF Europe 2026 began with seminars hosted by **Wood** & **Honeywell UOP**.

wood.

Kicking off the day, Wood's seminar, **"Building Resilience in Times of Uncertainty,"** explored how the European downstream industry can maintain profitability while advancing sustainability. Notably, the opening fireside chat featuring INEOS and S&P Global Energy grounded the discussion in real-world project experience, highlighting the commercial realities of balancing sustainability with profitability. Expert insights and case studies further demonstrated how organisations can unlock growth, integrate digital tools, and navigate an evolving market landscape shaped by policy shifts and economic pressures.



Honeywell UOP

Building on this, Honeywell UOP's seminar, **"Unlocking Opportunities: Supporting Resilience & Adaptability in Europe's Energy Sector,"** focused on the role of technology innovation in strengthening operational performance and accelerating the deployment of low-carbon solutions. From renewable fuels to hydrogen purification and carbon capture, the session highlighted the practical pathways enabling Europe's energy transition.

Together, the seminars provided delegates with actionable insights into managing risk, improving asset performance, and positioning for long-term success in an increasingly complex energy landscape.

DAY 1

The conference opened with a high-level plenary focused on Europe's industrial future – competitive, resilient, and decarbonised. We were honoured to welcome **Jean-Luc Crucke, Belgian Minister of Mobility, Climate and Environmental Transition**, whose keynote address highlighted the importance of aligning policy frameworks with industrial competitiveness, while ensuring progress toward climate targets.

Setting the market context, **Alan Gelder** Downstream Global SME, SVP Refining, Chemicals & Oil Markets, Commodities Research, at **WoodMacKenzie** provided a comprehensive overview of the challenges and opportunities facing the refining and petrochemical sectors, exploring shifting demand dynamics, global competition, and evolving regulatory frameworks.

This was followed by a technology keynote from **Lummus Technology** focused on achieving profitable decarbonisation, emphasising the need to integrate renewable technologies, digital optimisation, and commercially viable solutions into industrial strategies.

The keynote fireside chat with **Rob Ingram, CEO of INEOS Olefins & Polymers Europe**, delivered a clear and urgent message: Europe's chemical industry is not facing a demand crisis, but a competitiveness crisis, driven by high energy and carbon costs, regulatory pressures, and intensifying global competition.

Read the full takeaways from the INEOS fireside chat >>>>



Read the full takeaways from the keynote panel discussion here >>>>

This theme was reinforced in the keynote panel, **“European Refining and Chemicals Industries at a Crossroads – From Crisis to Opportunity”**, where industry leaders from **ExxonMobil, Wood, TotalEnergies, Neste, Borealis**, and **WoodMacKenzie** reinforced that without decisive action, Europe risks continued deindustrialisation, with plant closures, investment flight, and weakening value chains already underway.

Across both discussions, a consistent message emerged: decarbonisation must not come at the expense of industrial competitiveness. Panellists called for a more balanced and pragmatic approach, highlighting the need for policy certainty, technology-neutral frameworks, and a level playing field to enable investment, innovation, and long-term resilience.

Following the plenary session, the conference split into parallel technical streams, showcasing the technologies driving industrial transformation.

STREAM A

The Carbon Capture, Hydrogen & Ammonia session explored emerging solutions enabling large-scale decarbonisation, from ammonia cracking and hydrogen recovery to RFNBO demand and CCS integration. Presentations from **Air Liquide**, **Wood**, **H2SITE**, and **Argus Media** highlighted the practical pathways to deploying these technologies at scale.

Following the lunch break, the programme continued with a focus on Sustainable Fuels, examining how to scale SAF and e-fuels, reduce project risk, and move from concept to execution, with contributions from **Honeywell UOP**, **Verso Energy**, **Kent, io consulting**, and **ILF Consulting Engineers**.

The stream concluded with the “**IMO: Help or Headwinds for CORSIA & SAF?**” panel, which explored the diverging decarbonisation pathways of aviation and shipping, and highlighted how regulatory frameworks are increasingly shaping investment decisions. Mandate-driven systems were seen as critical to scaling sustainable fuels, while ongoing uncertainty around the IMO Net Zero Framework continues to impact momentum. Experts from **Mærsk McKinney Møller Center for Zero Carbon Shipping**, **AIT Worldwide Logistics**, **Honeywell UOP**, **Johnson Matthey**, and **Lux Research** pointed to growing competition for limited feedstocks, reinforcing the need for policy alignment and cross-sector collaboration.

Read the full takeaways from the IMO panel discussion here >>>>



STREAM B

The Advanced Catalyst Technologies session brought together insights from **Sarlux**, **Evonik**, and **SolidSky**, showcasing how catalyst innovation is improving process efficiency, enabling alternative feedstocks, and supporting the transition to sustainable fuels and circular chemicals.

In the afternoon, the stream shifted to Industrial Decarbonisation & Energy Efficiency, focusing on practical solutions to optimise assets, improve heat recovery, and reduce emissions through operational excellence, with input from **BD Energy Systems**, **Calgavin**, **Nexson Group**, and **WIKI**.

Closing the stream, the **“Routes to Rise and Thrive – AI, Digital Transformation & Energy Efficiency”** panel focused on the shift from digital experimentation to real-world implementation. AI is increasingly being embedded into operations to improve decision-making, optimise performance, and enhance energy efficiency, with value already being realised today. However, speakers from **Vitol VPR Refinery**, **Saras**, **KBC (A Yokogawa Company)**, **Axens**, and **Wood** emphasised that scaling impact depends less on technology and more on data quality, integration, and organisational adoption, with energy efficiency emerging as a key driver of both cost competitiveness and long-term transformation.

Read the full takeaways from the AI & Energy Efficiency panel discussion here >>>>



NETWORKING MIXER

HORTA

HOSTED BY



A Yokogawa Company

Beyond the conference sessions, ESF Europe once again provided extensive opportunities for networking and collaboration.

The first day concluded with an evening mixer at HORTA, hosted by KBC (A Yokogawa Company). Set in the iconic Art Nouveau venue, the event created a vibrant and memorable backdrop for informal conversations and new connections.



DAY 2

Day Two opened with a technology keynote from **Mark Danks**, Chief Commercial Officer – Licensing, **Johnson Matthey**, focusing on scaling sustainable fuel technologies and accelerating project deployment. The session emphasised the importance of partnerships, innovation, and execution in moving projects forward at pace.



New for 2026, **The Innovation Hub** showcased **HEXANA**, **D-Carbonize**, and **Gradyent**'s emerging technologies, from advanced modular reactors and digital twins to carbon tracking solutions, demonstrating how innovation is enabling real-world progress toward decarbonisation.



The keynote panel, **“Advantage Antwerp – The Jewel in Europe’s Industrial Landscape”**, positioned Antwerp as both a cornerstone of Europe’s industrial base and a barometer of its competitiveness. Panellists from **TotalEnergies**, **Port of Antwerp-Bruges**, **Evonik**, **BASF Antwerpen** and **BCG** highlighted the cluster’s strengths – scale, integration, and collaboration – while also addressing growing challenges from global competition and rising imports. The discussion reinforced that maintaining competitiveness will require coordinated action, affordable energy, and policy certainty.

The programme then shifted to industrial decarbonisation, with sessions focused on cluster-level optimisation and cooperation, integrated utility management, and programme-based approaches to emissions reduction. The speakers from **KBC (A Yokogawa Company)**, **Port of Rotterdam**, **Axens** and **Solomon Associates**, emphasised that successful decarbonisation requires not just individual projects, but coordinated, system-wide strategies.

Read the full takeaways from the Antwerp panel discussion here >>>>



Our next panel, **“From Ambition to Action,”** heard from **Kent, Blue Circle Olefins, Repsol, EBRD, and VIA Solutis**. Turning low-carbon ambition into bankable projects remains a key challenge, with many initiatives still struggling to reach FID. Speakers highlighted the need for stronger demand signals, greater policy clarity, and closer collaboration to unlock investment and move projects from concept to execution at scale.

Read the full takeaways from the projects panel discussion [here >>>>](#)



The final theme of the conference was Circularity, Low-Carbon Chemicals, with presentations from **Blue Circle Olefins, Enkern, and Gidara**. As the industry looks to scale sustainable value chains, the session explored how circular feedstocks, waste-to-chemicals pathways, and integrated processing models are enabling the transition to a more resource-efficient future.

The conference concluded with a dynamic closing debate, **“What Should be Spearheading the Transition: Reducing Process Emissions or Lowering Product Carbon Footprints?”**, featuring **Dow, Braskem, Lummus Technology, and LyondellBasell**. The discussion highlighted the tension between process-led regulation and product-led demand, emphasising that while reducing emissions at source is critical, long-term investment will depend on creating value and demand for low-carbon products across the value chain, supported by clear policy frameworks and aligned incentives.

Read the full takeaways from the chemicals panel discussion [here >>>>](#)



PORT OF ANTWERP-BRUGES SITE VISIT

The event concluded with an exclusive visit to the Port of Antwerp-Bruges – Europe's largest integrated chemical cluster.

The tour demonstrated how world-leading companies operate within a highly interconnected ecosystem, sharing infrastructure, resources, and utilities to maximise efficiency and sustainability. From hydrogen networks to circular economy projects, the visit brought to life the collaborative model underpinning Europe's industrial future.



**Port of
Antwerp
Bruges**





A CALL TO SAVE THE CONTINENT'S CHEMICALS INDUSTRY

Keynote Fireside Chat with

Rob Ingram, CEO, **INEOS Olefins & Polymers Europe**, and

Piet de Paepe, Senior Partner & Global Chemicals Practice Lead, **Bain & Company**

As Europe's chemicals industry faces unprecedented competitive pressure, Rob Ingram is a vocal defender, calling for decisive political action before it's too late. During ESF Europe, Rob sat down in an exclusive fireside chat to discuss the scale of the challenge and the urgent action needed to safeguard Europe's industrial backbone, and why INEOS continues to invest in Europe.

TOP 5 HEADLINE TAKEAWAYS

- **Europe's chemical industry is not disappearing, but it is fundamentally transforming -** Demand for petrochemicals will continue to grow, yet Europe's industry will look very different in the future, with fewer assets, greater consolidation and a stronger focus on competitiveness and value creation.
- **Global competitiveness has become Europe's defining challenge -** China's unprecedented capacity expansion, the US feedstock and energy advantage, high European energy costs, CO₂ costs and regulatory burdens have fundamentally altered the competitive landscape for European industry.
- **Europe needs a new industrial strategy, not just climate ambition -** Decarbonisation remains the right objective, but competitiveness must be the engine that enables investment, innovation and sustainability. Europe needs policies that support both industrial resilience and climate goals.
- **European production still matters -** Europe cannot rely solely on imports or survive exclusively on speciality products. A healthy industrial ecosystem requires both high-value differentiated products and a strong domestic manufacturing foundation to support supply chains, innovation and strategic autonomy.
- **Europe's future remains in its own hands -** Many of today's challenges are the result of policy choices. That means solutions are also within Europe's control. Industry and policymakers must now move from discussion to action to secure a competitive, sustainable and strategically important chemical industry for the future.

"Demand isn't disappearing — competitiveness is"

FULL TAKEAWAYS

CEFIC HAS PUBLISHED A RATHER PESSIMISTIC REPORT. WHY IS THE EUROPEAN CHEMICAL INDUSTRY IN SUCH A CRISIS?

Our industry is facing significant disruption and transformation. Multiple economic, geopolitical and market challenges are accelerating structural change, and as a consequence, the industry will no longer operate in the same way it has historically.

However, fundamentally, the materials we produce are essential to our way of life and are strategically important to national and global economies. Demand for these products is not disappearing; in fact, long-term global demand for essential materials is expected to continue growing.

The US's bet on investing heavily in new capacity to meet anticipated demand growth from China has been challenged by the scale of China's own capacity expansion. In its drive for self-sufficiency, China has significantly increased domestic production to the point of overcapacity and is now increasingly recognising the strategic and economic advantages of being a net exporter of these vital materials and is likely to continue leveraging this position.

Like other regions, such as Japan and South Korea, Europe has become caught in the crosshairs and is increasingly paying the price for operating ageing assets and lacking a natural feedstock advantage. However, Europe's position is arguably even more challenging, magnified by high energy costs, escalating CO₂ pricing and a regulatory framework that progressively reduces free carbon allowances.

WHAT CAN THE INDUSTRY DO COLLECTIVELY, IN THE SHORT, MEDIUM, AND LONG TERM, TO RESPOND?

First and foremost, immediate short-term actions must focus on Europe's competitiveness, namely its energy prices and CO₂ costs. Politically, Europe has spent the past six years advancing the view that sustainability drives innovation and investment, thereby strengthening competitiveness.

However, there is an argument that this approach may be putting the cart before the horse, when in fact, it's competitiveness that is the key, and is the engine that drives the innovation and the investment required to become sustainable.

In the medium term, the focus must be on Europe's overregulation. Today's policies are not material- or technology-neutral, limiting options. They do not incentivise

reaching the goal; instead, they penalise for not making progress. By predetermining the only routes and steps to reach goals, options are limited, and flexibility is reduced. The reality is, if we want to reach our goals at scale and speed, we need as many options as possible and as much flexibility as we can get.

Some of the challenges faced are the result of choices made by Europe. Equally, that means some of the solutions are also choices Europe can make. However, solving the problem does not sit solely with politicians and regulators. Industry itself must take ownership and act.

It could be argued that today's consolidation and rationalisation are needed to create a leaner, stronger, and more fit-for-purpose industry capable of competing in an increasingly global, highly competitive market. The future for Europe may mean fewer assets and fewer producers, but those that remain are likely to be stronger, more efficient and more productive, helping to build a more resilient and sustainable industry over the long term.

WHAT DO WE EXPECT AS IMMEDIATE SIGNALS FROM OUR POLITICIANS AND FROM OUR LEADERS?

Talk must now translate into action. Antwerp has already hosted three summits attended by the European Commission and Heads of Government from Member States. Across all three meetings, the industry's messages have been clear and consistent. Yet despite broad recognition of the challenges facing European industry, there has been limited meaningful action in response. As an immediate first step, Europe must intervene to address the EU ETS benchmark system and the continued reduction of free allowances. Under the current timetable, benchmark resets and declining free allocations are set to further increase pressure on European industry this year. Without intervention, a situation already widely acknowledged as a serious threat to Europe's industrial competitiveness, economic stability and strategic sovereignty will only deteriorate further.

Clearly, addressing the structural flaws within the EU ETS and identifying the right long-term solution will take time. However, in the meantime, Europe cannot allow the system to continue intensifying the pressures already being faced. Industry needs some breathing space. Ideally, this would include a temporary suspension or easing of aspects of the EU ETS framework while longer-term reforms are developed and implemented. At a minimum, the system requires restructuring and an overhaul to ensure it is genuinely fit for purpose.

"Europe must decarbonise without deindustrialising"

WOULD IT BE A SOLUTION THAT EUROPE SIGNIFICANTLY INVESTS IN ENERGY, NUCLEAR, WIND AND IN FEEDSTOCK?

We can clearly see the impact that achieving a structural cost advantage has had on the US petrochemicals industry. The boom in onshore oil and gas development and the resulting access to abundant, competitively priced ethane feedstock have fundamentally transformed the country's position in global petrochemical production.

Europe, meanwhile, also possesses geological resources that could create opportunities for domestic onshore gas production. While there has been limited political willingness to pursue that option, it is important to recognise that this has ultimately been a strategic policy choice not to provide its chemical industry with the same level of feedstock advantage and competitiveness.

But there are other routes. The development and the drive to increase renewable power generation are both necessary and commendable, but it's not enough. Europe needs a balanced energy strategy that combines renewables with other scalable and reliable energy sources, including nuclear power and natural gas,

supported by carbon capture, recognising the importance of providing industry and society with reliable, affordable and scalable energy.

Furthermore, as power demand increases through greater electrification, Europe will also require a significant expansion of its power grid infrastructure and far greater interconnectivity between regions to ensure energy can be delivered efficiently, reliably and at scale.

WITH STEEL AS INSPIRATION, WHAT ARE YOUR OPINIONS ON THE EU ETS, AND HOW IT RELATES TO CBAM?

While the objective of reducing CO₂ emissions through the EU ETS is unquestionably the right one, the mechanism, as it stands today, raises legitimate questions about whether it is delivering genuine decarbonisation or simply reducing European emissions through deindustrialisation and the relocation of energy-intensive industries

The reality is that demand for materials such as steel and chemicals remains strong. Yet Europe is steadily losing industrial capacity while production increasingly shifts to regions with lower carbon costs and less stringent environmental standards. The resulting products are then imported back into Europe to meet domestic demand, creating an ultimate lose-lose scenario in which Europe loses economically, and the world loses environmentally.

Meanwhile, CBAM is often touted as a solution to the ETS's shortcomings and is currently being implemented across several sectors, including the steel sector. In principle, it is a logical step towards creating a more level playing field between European producers and imports. However, CBAM, in its current form, is not fit for purpose for the chemicals industry, given its highly complex, integrated and interconnected value chains. Within chemicals, many downstream products are excluded. Foreign producers can easily circumvent CBAM by exporting processed goods such as ammonia and fertilizers instead of raw materials.

If Europe is to achieve both climate ambition and industrial resilience, policy must focus not only on reducing emissions within its borders, but on reducing global emissions while preserving a competitive and sustainable industrial base



"China changed the game; Europe must adapt to the new reality"

WHERE DOES CHINA'S OVERCAPACITY LEAVE EUROPE?

China's significant capacity build-up, catalysed at least in part by policy incentives linked to emissions and industrial development targets ahead of 2030, will naturally decline as the deadline approaches. However, even if growth slows, Europe still needs to contend with the sheer eye-watering scale of the new capacity for years to come.

Many of these new assets are facing economic challenges, particularly where feedstock and input-cost advantages are lacking, and as such, market pressures may force rationalisation, to which the Chinese system will likely intervene decisively when required.

In the meantime, Europe must recognise and adapt to this new reality. Regardless of how the situation evolves in the long term, the scale of China's industrial capacity has fundamentally changed the competitive landscape. For the foreseeable future, Europe will need to learn to operate alongside the new gorilla in the room.

THE US HAS BECOME AN IMPORTANT FEEDSTOCK SUPPLIER – WHAT DOES THAT MEAN FOR EUROPEAN CAPACITIES?

The US benefits from significant feedstock, energy and productivity advantages, while largely avoiding the carbon costs faced by European producers. As a result, it is likely to play an increasingly important role as an exporter into Europe, particularly in commodity-grade products. Consequently, imports will continue to play an increasingly important role in meeting European demand for commodity chemicals and polymers.

Europe's competitive position, on the other hand, is likely to become increasingly focused on speciality and differentiated products, leveraging its ability to manage complex production processes.

However, Europe cannot thrive on specialities and differentiated products alone. Much like a tree, the chemical and polymer ecosystem cannot consist only of fruit and flowers. It also requires a strong trunk and healthy roots.

Finding that balance will be critical to ensuring both the competitiveness and long-term sustainability of Europe's chemical industry in an increasingly dynamic global landscape.

TURNING TO MANUFACTURING IN THE US VS. EUROPE – HOW HAS THAT DRIVEN INEOS' VISION TO INVEST IN EUROPE AND IS THERE STILL A BUSINESS CASE FOR PROJECT ONE?

There are broadly two schools of thought regarding Europe's future industrial position. The first view is that Europe is a market in which products should be manufactured locally to meet local demand. The second sees Europe primarily as a destination market for product exports. INEOS is firmly in the former camp that believes there is enduring value in producing in Europe to serve European demand, and Project ONE is a clear demonstration of that commitment.

That said, the world in 2026 looks very different from the world of 2019, when the final investment decision was taken. Many of the geopolitical, legal, regulatory and economic challenges facing European industry today were not anticipated at that time. The energy crisis, accelerating deindustrialisation pressures, shifting trade patterns, and heightened geopolitical tensions have fundamentally reshaped the industrial landscape.

Yet, somewhat ironically, these developments have reinforced rather than weakened the business case for Project ONE. The strategic value of embedding the economics of US ethane feedstock into European production has been demonstrated repeatedly at every stage of the economic cycle and across a wide range of market conditions, whether characterised by high gas and low oil prices or low gas and high oil prices.

In addition, the opportunity to produce lower-carbon ethylene in Europe has emerged as a significant advantage and an important source of future value.

Whilst we anticipated that some European cracker capacity would close over time, we had no anticipation that the closures would be as significant, dramatic, and as rapid as we've seen.

Despite the challenges, the complexity and the costs involved in bringing a project of this scale to completion, we remain incredibly excited about its future and cannot wait to get it online.

"A strong industry needs roots, not just flowers"



WHAT ENCOURAGING MESSAGE WOULD YOU WANT TO GIVE TO OUR EUROPEAN BUSINESS LEADERS?

Petrochemicals are essential to modern life. They are also strategically important to Europe's economy and industrial value chains. Demand for petrochemical products will continue to grow globally and in Europe. The industry, therefore, has a future. However, it is increasingly clear that it will not survive in its current form. We need to acknowledge that reality and focus on defining Europe's place in the industry's next chapter.

European production will remain essential, particularly where it complements imports. European production must focus on where it adds value to the European value chains. Leadership in low-carbon and circular products has the potential to become an additional and important source of competitive advantage.

We must continue to make the case to the European Commission, the European Parliament and Member State governments that this industry remains vital to Europe's economic strength, strategic resilience and industrial sovereignty, but it needs help, and now.

If today's challenges are, in part, the consequence of policy choices, then the solutions are also within Europe's control!

"Europe's challenges are policy choices, and so are the solutions"

KEYNOTE PANEL

European Refining and Chemicals Industries at a Crossroads - From Crisis to Opportunity



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The last 12 months, Europe's refining and chemical industries have faced a wave of plant closures and project abandonments, driven by crippling energy and carbon costs, mounting competitiveness concerns, and regulatory uncertainty.

As pressure mounts and crisis mode nears, it has never been more critical for the sector to unite to strengthen global competitiveness, revitalise operations, and, despite fragile market confidence, accelerate investment in innovation and sustainability.

Against this backdrop we gathered industry leaders to discuss what have been the drivers of refining and chemicals closures and deindustrialisation, What may be the consequences if there is not a change in direction, the solutions for European refining and chemicals to survive and thrive and much more.

DIVERSITY MATTERS

Neste's global presence across feedstock sourcing and refining operations provides flexibility and resilience in an increasingly volatile market environment. With refining assets spanning multiple continents, the company is diverse in what and where they produce, from renewable diesel and sustainable aviation fuel (SAF) to renewable feedstocks for the chemicals and polymers industry. This geographic and product diversity enables Neste to adapt more effectively to changing market conditions, shifting trade flows and evolving tariff regimes.

DECARBONISATION MUST NOT BECOME DEINDUSTRIALISATION

Without a level playing field, the current EU ETS framework risks exporting European industry and importing higher-carbon products, achieving the opposite of its environmental objectives.

MAINTAIN FREE ALLOWANCES AND MODERATE THE ETS CAP REDUCTION PATHWAY

Climate ambition must be aligned with industrial reality. The current trajectory towards zero allowances by 2039 risks undermining competitiveness, investment and the future of Europe's energy-intensive industries.

INNOVATION IN EUROPE, FOR EUROPE

Europe excels in research, development and early-stage innovation, yet too often other regions capture the benefits of scaling and commercialising them. How can Member States create the conditions that enable European innovations not only to be invented here, but also scaled, manufactured and commercialised in Europe?

INDUSTRIAL DECLINE IS OFTEN IRREVERSIBLE

Once a refinery closes, it won't reopen. Once a chemical plant is closed, the infrastructure, skills, and supply chains are gone. Policymakers must recognise the strategic importance of the refining and chemicals sectors as the foundation to energy security, manufacturing competitiveness, technological innovation and sovereign defence. They provide the building blocks upon which broader economic growth depends. It's our responsibility as an industry to help raise awareness and understanding of this reality.

A WAKE-UP CALL?

Cefic's figures point to a 9% contraction in European chemicals production and a 20% contraction in refining. Europe is already a net importer of diesel and jet fuel, and that dependency continues to grow. The consequences extend far beyond the refinery gate. Refineries provide roughly half of the feedstock used by the chemical industry. The same trend is evident across manufacturing value chains. Europe's share of global plastics production has fallen from 22% to 12%. Industry must continue to make the case that these sectors are not legacy industries of the past but strategic industries of the future.

SET THE TARGET, NOT THE TECHNOLOGY

Advocating for a more grounded approach, policy should be focused on defining the desired outcome, and then allowing innovation, competition and market forces to determine the most effective way of achieving it. This requires technology-neutral policies supported by robust cost-benefit analysis and a clear understanding of what can realistically be deployed at scale.

POLICY CERTAINTY DRIVES INVESTMENT CERTAINTY

As a result of the current policy and regulatory landscape, building a robust investment case, forecasting future returns and making a bankable investment decision for new industrial projects in Europe has become increasingly difficult. With the exception of certain established pathways, such as traditional SAF projects integrated into existing facilities and supported by access to low-carbon hydrogen, many investments face significant uncertainty.

DECARBONISATION REQUIRES A VIABLE BUSINESS MODEL, NOT JUST A TECHNICAL SOLUTION

In past industry transitions, investments such as cleaner fuels were supported by value-adding upgrades like efficiency gains, residue processing and capacity improvements that strengthened asset profitability and helped justify capital spend conversely today's decarbonisation projects such as CCS requires significant capital but generates limited direct revenue, as captured CO₂ has few scalable end uses beyond niche applications like enhanced oil recovery. As a result, the economics depend largely on policy support rather than intrinsic market value.

REFLECTING OPERATIONAL REALITIES

while the industry supports the development and scaling of SAF, current mandates are often not aligned with how production facilities actually operate and scale. The sharp mandate increases, from 2% to 6% to 34%, do not reflect the incremental nature of industrial investment, plant optimisation and supply chain development required to deliver SAF at scale.



FOCUS ON OUTCOMES, NOT PATHWAYS

What should matter is the product carbon footprint, not the specific pathway to achieve it, allowing industry to optimise for the most efficient and cost-effective solutions.

ONE MORE DEATH SENTENCE FOR AN INDUSTRY ALREADY IN DECLINE?

The methane emissions regulation is an example of a near-term policy reform that requires urgent attention. While reducing methane emissions is absolutely the right objective and supported by industry, the current design risks unintended consequences for Europe's security of supply, potentially affecting access to up to 87% of crude oil sources and 43% of gas imports due to limited global MRV infrastructure. It could also add around \$9 per barrel to costs, further increasing pressure on Europe's refining sector. We need pragmatic solutions that balance environmental ambition with operational reality, ensuring climate goals are achieved without undermining competitiveness, affordability or security of supply.

COMPETING FOR CAPITAL

Europe is not only competing for markets; it is competing for investment capital. The cumulative impact of regulations—from the windfall profit tax and methane emissions regulation to the Corporate Sustainability Due Diligence Directive (CSDDD) and other Green Deal measures—has increased costs, complexity and uncertainty for investors. To attract and retain global investment, Europe needs to reassess the regulatory burden, simplify where possible and restore competitiveness by ensuring that sustainability objectives are balanced with investment attractiveness and industrial growth.

OUR INDUSTRIES ARE AT THE FOREFRONT OF THE ENERGY TRANSITION

We are making the investments, developing the technologies, driving innovation and transforming our facilities to deliver lower-carbon solutions. We understand the scale of the challenge and the actions required, but we need a policy and regulatory framework that supports these efforts and enables us to invest with confidence.



INACTION IS NOT A PLAN

While policymakers have an important role to play in restoring competitiveness, industry cannot simply wait for regulatory change. Companies must have proactive, robust strategies for their assets, continue to improve their competitive position and be ready to seize opportunities as the policy and regulatory environment evolves. Not acting is not a strategy—industry must take responsibility for its future and actively shape it.

A RED CARPET FOR THE US, RED TAPE FOR EUROPE

Europe needs to be stronger and more strategic at the negotiating table. Today's 15% is frankly a red carpet for the US, and red tape for Europe. Europe must not be naïve and take decisive action to ensure all players follow the same rules, level the playing field and protect our industries from subsidised competitors.

WE NEED TO CHANGE THE NARRATIVE

The chemical industry is too often portrayed as part of the problem, when in reality it is a critical part of the solution. We need to change the narrative and help our citizens, voters, and even some policymakers fully recognise the sector as one of the essential building blocks of modern prosperity, industrial competitiveness and strategic resilience. Far from a legacy industry that can simply be phased out, we are part of the solution - investing, innovating, scaling and commercialising the technologies needed to deliver the energy transition. As an industry, we need to do a better job of explaining our value, demonstrating our contribution to society and making the case that a strong chemical sector is not optional.

PANEL DISCUSSION

IMO: Help or Headwinds for CORSIA & SAF?



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Global shipping and aviation are on converging decarbonisation paths, but with diverging regulatory approaches. As the IMO prepares to adopt its Net Zero Framework and CORSIA continues to evolve, the panel explored whether these systems are complementary or in conflict, and what this means for SAF, marine fuels, and investment.

IMO VS. CORSIA: FUNDAMENTALLY DIFFERENT REGULATORY MODELS

The IMO operates a binding, global framework enforced across international shipping, while CORSIA relies on voluntary national participation with limited enforcement. This creates a structural imbalance: shipping has a unified regulatory driver, whereas aviation depends heavily on regional mandates to drive real investment.

MANDATES, NOT OFFSETS, ARE DRIVING REAL SAF SCALE

CORSIA's offset-based design lacks the "teeth" to catalyse projects, whereas EU and UK mandate-driven systems are proving critical to unlocking investment and enabling FID. Durable, long-term regulatory certainty – not short-term incentives – is essential to scaling SAF production.

THE IMO NET ZERO FRAMEWORK INTRODUCES A MARKET-BASED DECARBONISATION MECHANISM

By setting declining GHG intensity targets and enabling trading of surplus compliance units, the framework creates both penalties for underperformance and rewards for over-compliance, effectively establishing an internal carbon market within shipping.

ADOPTION RISK REMAINS THE BIGGEST NEAR-TERM UNCERTAINTY

While the IMO Net Zero Framework has been agreed in principle, geopolitical pressure – particularly from the US – has delayed formal adoption until November. Its success now depends on implementation; without this, momentum across marine decarbonisation risks stalling.

TECHNOLOGY NEUTRALITY VS. POLICY DIRECTION: A CRITICAL TENSION

The IMO's technology-agnostic approach allows flexibility and innovation across fuels (methanol, ammonia, biofuels, e-fuels), but creates uncertainty for investors. In contrast, aviation policy often "picks winners," providing clearer signals but less flexibility. Finding the balance between openness and certainty remains a core challenge.

SHIPPING'S FUEL FLEXIBILITY IS BOTH AN ADVANTAGE AND A CHALLENGE

Marine engines can utilise a wide range of fuels, enabling rapid experimentation and diversification. However, this flexibility complicates standardisation, delays decision-making and increases investor risk compared with aviation's single-fuel system (kerosene/SAF).

MARINE AND AVIATION ARE COMPETING AND COLLABORATING FOR THE SAME FEEDSTOCKS

Bio-based and synthetic feedstocks are limited, and both sectors are scaling in parallel. Near-term competition, particularly for molecules like methanol, will intensify, while long-term growth depends on the joint scale-up of e-fuels and supply chains.

METHANOL EMERGES AS A KEY CROSS-SECTOR MOLECULE

Already gaining traction in shipping, methanol offers a versatile pathway into aviation via methanol-to-jet (pending approval). Its role as both a fuel and an intermediate positions it as a critical bridge between sectors, helping de-risk early investments and scale infrastructure.

INVESTMENT DECISIONS ARE DRIVEN BY OFFTAKE CERTAINTY, NOT FUEL PREFERENCE

Projects will align with whichever sector offers stronger, more stable offtake agreements. In practice, this shifts competition from “fuel vs fuel” to “policy vs policy,” where regulatory strength determines capital allocation.

COST COMPETITIVENESS REMAINS THE ULTIMATE BENCHMARK

Regardless of regulation, the long-term success of alternative fuels depends on achieving parity with conventional fuels. Without cost reduction, neither mandates nor incentives will sustain large-scale adoption across either sector.

A FRAGMENTED POLICY LANDSCAPE RISKS INEFFICIENCIES ACROSS SECTORS

Separate regulatory systems for aviation and marine create inconsistencies in carbon accounting, incentives and fuel valuation. Greater alignment could improve system-wide efficiency, avoid market distortions and maximise decarbonisation impact.

REVENUE RECYCLING COULD ACCELERATE NEXT-GENERATION FUELS

The IMO framework’s potential to generate over \$10 billion annually opens the door to targeted support for zero- and near-zero fuels, helping scale higher-cost solutions like e-fuels that are essential for long-term decarbonisation.



SHORT-TERM AMBIGUITY VS. LONG-TERM CONVERGENCE

While near-term uncertainty remains around policy adoption, technology pathways and fuel allocation, the long-term trajectory is clear: both sectors will rely on a mix of scalable low-carbon fuels, with increasing convergence in supply chains and technologies.

COLLABORATION ACROSS SECTORS IS NO LONGER OPTIONAL

Achieving scale requires tighter integration across the value chain. From producers and licensors to airlines, shipowners and regulators, coordination will be critical to de-risk projects, align demand and build resilient global fuel systems.

ONE CLEAR PRIORITY: ADOPT THE IMO FRAMEWORK

Formal adoption of the IMO Net Zero Framework is the single most important step to unlock investment, create market certainty and ensure shipping contributes meaningfully to global decarbonisation.

PANEL DISCUSSION

Routes to Rise and Thrive – AI, Digital Transformation & Energy Efficiency



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wood.



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AI is moving from pilot-stage experimentation into embedded operational use, with a growing focus on tangible impact across energy efficiency, cost performance, and refinery competitiveness. The discussion highlighted a clear shift towards practical implementation, where value delivery, data readiness, and organisational adoption are now critical to scaling success.

FROM DIGITISATION TO AI-ENABLED DECISION-MAKING

The industry is progressing along a clear maturity curve: digitisation first, then optimisation, and now AI-supported decision-making. AI is not replacing existing tools but enhancing them, helping operators better interpret data, prioritise actions, and optimise energy performance in real time.

TANGIBLE VALUE IS ALREADY BEING REALISED TODAY

Early applications are delivering measurable benefits across predictive maintenance and anomaly detection, process optimisation in complex, non-linear systems, and real-time energy management. These improvements range from incremental efficiency gains to more material performance uplifts in advanced use cases, reinforcing that AI is already commercially relevant, not just experimental.

DATA QUALITY REMAINS THE CRITICAL FOUNDATION

The effectiveness of AI is directly tied not simply to the volume of operational data available, but to its quality, reliability, and context. Many refineries are still constrained by limited instrumentation and inconsistent utility system data, making data cleansing, integration, and the ability to distinguish trustworthy data from unreliable inputs essential before scaling AI solutions.

ADOPTION, NOT TECHNOLOGY, IS THE REAL BOTTLENECK

A recurring theme was that the biggest challenge is not selecting the right tools, but ensuring they are actually used. Successful adoption depends on developing solutions with end-users rather than for them, embedding AI within existing workflows, and establishing clear ownership of outputs. Without strong user engagement throughout the process, even well-developed tools risk being ignored or switched off.

INVESTMENT DECISIONS REMAIN COMMERCIALY DRIVEN

Despite growing sustainability pressures, margin and cost reduction continue to dominate decision-making, as confirmed by audience polling. This is typically assessed through factors such as payback period, return on investment, implementation timelines, and strategic positioning. AI initiatives that can demonstrate rapid and measurable returns are proving particularly effective in building the business case for broader digital adoption.

ENERGY EFFICIENCY IS A COMPETITIVENESS LEVER, NOT JUST A SUSTAINABILITY GOAL

Improving energy performance is now central to maintaining cost competitiveness, particularly in less complex refineries. In many cases, efficiency improvements also unlock additional capacity, demonstrating that energy reduction, increased throughput, and margin improvement can be achieved simultaneously when investments are well targeted. In Europe's energy landscape, reducing energy consumption and reducing costs are increasingly becoming one and the same objective.

BALANCING TRADE-OFFS IS BECOMING MORE COMPLEX

Operators must increasingly navigate competing priorities, including margin versus emissions reduction, efficiency versus operational flexibility, and incremental improvements versus transformational capex. Running closer to thermodynamic limits can improve efficiency, but may reduce flexibility and resilience under changing operating conditions.

AI IS DELIVERING 'QUICK WINS' – BUT LIMITS WILL BE REACHED

Many sites are capturing value through AI-enabled optimisation, predictive analytics, and operational improvements with minimal capex. However, there is growing recognition that these gains will diminish over time and that a step change will eventually be required, with longer-term competitiveness depending on more structural changes, including new process configurations and technologies.

AI IS ENABLING A SHIFT TOWARDS FASTER, MORE PROACTIVE OPERATIONS

By automating data analysis and surfacing insights more quickly, AI is enabling faster decision-making, reducing reliance on manual reporting, and improving the ability to anticipate and act ahead of issues. As a result, the role of engineers is beginning to shift from reactive troubleshooting towards more proactive optimisation and scenario planning.



WORKFORCE TRANSFORMATION IS ALREADY UNDERWAY

AI is reshaping how engineers work rather than replacing them, reducing time spent on manual data handling while increasing focus on interpretation and decision-making. This shift is driving demand for broader, more cross-disciplinary skillsets, with AI seen as a tool to accelerate learning and capability development, particularly for newer engineers.

SCALING FROM PILOT TO DEPLOYMENT REQUIRES SPEED, CLARITY AND USER OWNERSHIP

Successful implementation depends on phased rollouts with clear use cases, strong end-user involvement from the outset, minimising manual interventions or hybrid processes, and delivering value quickly to maintain momentum. Long implementation timelines risk losing organisational engagement before benefits are realised.

HYBRID MODELLING AND SYSTEM INTEGRATION ARE THE NEXT FRONTIER

Combining physics-based models with data-driven AI approaches is emerging as a key enabler for operating beyond historical data limits, improving prediction accuracy, and expanding optimisation beyond current operating windows.

BEYOND THE REFINERY: OPTIMISATION AT CLUSTER LEVEL

There is growing interest in moving beyond individual site optimisation towards industrial cluster integration, where energy and resource efficiency can be improved across interconnected assets rather than within a single refinery boundary.

DATA OWNERSHIP REMAINS A STRATEGIC PRIORITY

As operations become increasingly data-driven, maintaining control over data ownership, storage, and access is becoming a critical consideration. Companies are placing greater emphasis on retaining control of their operational data and infrastructure, recognising that ownership of high-quality data will be a key source of competitive advantage in an AI-enabled future.

LOOKING AHEAD: GRADUAL EVOLUTION, THEN STRUCTURAL CHANGE

Over the next 3–5 years, the industry is expected to continue incremental efficiency improvements through digital tools, integrate AI more deeply into daily operations, and begin adopting new technologies such as electrification, hydrogen, and alternative feedstocks. Longer-term, this may lead to fundamental shifts in refinery configuration, driven by energy costs, carbon pricing, and policy direction.

DATA-DRIVEN ORGANISATIONS WILL LEAD THE TRANSITION

Companies investing now in data infrastructure, digital capabilities, and AI adoption are positioning themselves for long-term competitive advantage. The gap between digital leaders and laggards is likely to widen significantly over the next decade.



PANEL DISCUSSION

Advantage Antwerp - The Jewel in Europe's Industrial Landscape



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There is perhaps no more symbolic place than Antwerp to discuss competitiveness, resilience, and decarbonisation. As Europe's largest integrated chemical cluster, Antwerp is a cornerstone of the continent's industrial economy. What happens in Antwerp extends far beyond Belgium; it matters for Europe's strategic autonomy, its climate ambitions and its long-term competitiveness.

Just weeks after the European Industry Summit in Antwerp, where competitiveness was put at the core of the European policy agenda. Across boardrooms, across policy circles, the message has been loud and clear: we need to take action to make sure that Europe remains the global industrial powerhouse, and we need to understand what it takes, under what conditions we can do that.

Against this backdrop, we gathered industry leaders who are not simply observing this transformation but actively shaping it. Leaders anchored in Antwerp's industrial cluster, responsible for real investment decisions, operating under real-world constraints, while driving innovation and industrial transformation.

SCALE AND COLLABORATION MATTER

Despite the existential challenges facing the industry, those in Antwerp are arguably better positioned than many in the industry across Europe, thanks to the size, scale and integration of its cluster. The concentration of industrial assets, infrastructure and logistics partners creates opportunities that are simply not available to smaller, more isolated sites. One example is the cluster's ability to move away from burning natural gas for heat generation by leveraging shared steam and energy networks. Antwerp's strength lies in its ability to collaborate. Whether through shared heat, utilities, chemicals, waste management, water infrastructure or logistics, the cluster creates opportunities to drive efficiencies and competitiveness.

ANTWERP'S STRENGTH IS ALSO ITS EXPOSURE

As one of Europe's largest industrial ports, it benefits from scale, integration, and global connectivity, but it also faces direct competition from imports. This shift is clearly visible in current trade flows. Until around five years ago, Antwerp's chemical exports consistently exceeded imports, but today, that balance has structurally changed, and rising imports have fundamentally altered market dynamics, leaving capacity utilisation across Antwerp's basic and intermediate chemicals portfolio at just 70–75%, well below the 85% needed to sustain a healthy and competitive industry.

ANTWERP IS EUROPE'S INDUSTRIAL BACKBONE

Located at the heart of one of Europe's strongest economic regions, it provides access to around 60% of European demand within a 500-kilometre radius. Combined with its world-class port, infrastructure and logistics connectivity, Antwerp's scale and integration enable the secure, efficient and competitive supply of essential products, from fuels to a wide range of petrochemicals and chemicals that underpin Europe's economy and industrial value chains. Antwerp's competitiveness is essential to preserving Europe's industry.

ANTWERP IS A BAROMETER OF EUROPE'S INDUSTRIAL COMPETITIVENESS

The interconnected Antwerp, Rotterdam, Rhine, Ruhr Area (ARRRA) forms the heart of Europe's industrial ecosystem, supplying the essential feedstocks that support automotive, construction, manufacturing and countless downstream industries across the continent. As the region becomes increasingly reliant on imports for critical chemicals and materials, it risks undermining its industrial resilience, strategic autonomy and employment base. The chemical industry is not an isolated sector; it is a foundation of Europe's wider economy, supporting millions of jobs in manufacturing, logistics and services across the ARRRA cluster and beyond.



TOTALENERGIES' INVESTMENT DECISIONS ARE DRIVEN BY THREE PRIORITIES:

competitiveness, integration and decarbonisation - Projects must improve operational performance, enhance reliability, reduce costs, as well as strengthen integration across the value chain, both within the company and through affiliates and partnerships. Decarbonisation is a key investment objective, but it must be achieved in a way that preserves competitiveness and creates sustainable long-term value for the business. Competition for capital is fierce, but Antwerp continues to stand out thanks to its operational excellence, integration opportunities and industrial scale.

PEOPLE AND SKILLS REMAIN ONE OF ANTWERP'S GREATEST STRENGTHS

Antwerp's competitive advantage lies not just in its infrastructure, but in its people and culture of a highly skilled workforce, combined with a unique willingness to collaborate and solve problems together.

ANTWERP'S FIVE CORE USPS

First is scale, which drives efficiency and lowers costs. Second is market proximity, with around 60% of Europe's purchasing power located within 500 kilometres of Antwerp. Third is connectivity: as one of the world's leading ports, Antwerp benefits from extensive deep-sea, rail, inland waterway and road connections. Fourth is its integrated value chains, spanning from basic chemicals and feedstocks through to speciality products and consumer goods. Finally, Antwerp benefits from deep industrial know-how, with decades of expertise, skilled talent and operational excellence concentrated within the cluster.

NO COMPANY CAN DO IT ALONE

No company can tackle today's challenges alone. Collaboration is increasingly critical to sharing infrastructure, whether for CO₂ transport and storage, hydrogen networks, water systems or other strategic assets that will shape the industry's future. Partnerships also enable companies to optimise energy use through shared utilities, waste heat recovery and coordinated infrastructure planning, while ensuring electricity grids can support future industrial demand. By working together, the industry can strengthen resilience, reduce duplication, lower costs, accelerate innovation and unlock investment opportunities that would be difficult to achieve individually.

AFFORDABLE, RELIABLE ENERGY IS THE FOUNDATION OF INDUSTRIAL COMPETITIVENESS

Historically, energy-intensive industries thrived where energy was available, affordable, and predictable. Today, Europe faces a growing disadvantage, with energy costs significantly higher than those in competing regions such as the US and China, putting increasing pressure on industrial investment and competitiveness. Data centre demand is only set to exacerbate the situation.

EUROPE NEEDS A TECHNOLOGY-NEUTRAL ENERGY STRATEGY

Electrification must play a central role in reducing dependence on fossil fuels, but it cannot be the only solution. Europe needs a balanced energy mix, including renewables, nuclear, SMRs and low-carbon molecules, supported by stronger grids, transmission infrastructure and cross-border connectivity to deliver secure, affordable and scalable energy for industry.

MADE IN EUROPE, MADE WITH LOWER CARBON

This will only work if the market rewards it and global competitors play by comparable carbon-cost rules. Today, CO₂ remains a cost rather than a source of value, and without customer demand or a willingness to pay for lower-carbon products, the economics remain challenging. Europe's low-carbon industry competes on an uneven playing field. Many imported products have a significantly higher product carbon footprint than their European equivalents, yet they often face no comparable carbon costs in the marketplace.

DECARBONISATION CAN BE A COMPETITIVE ADVANTAGE

If Europe creates the right pathways, moves at the right pace and develops protected lead markets for low-carbon products, decarbonisation can strengthen rather than weaken industrial competitiveness. Chemical clusters such as Antwerp are well-positioned to lead in low-carbon chemistry, supported by emerging CO₂ infrastructure, expanded electrification, and access to low-carbon power. The winners will be those who can successfully industrialise these technologies at scale.



POLICY CERTAINTY IS ESSENTIAL FOR INVESTMENT

Major industrial investments are planned over decades, but today, companies lack confidence and visibility on the regulatory, energy and carbon-cost landscape beyond 2030. No company invests for 30 years on the basis of four years of policy certainty. Long-term visibility beyond 2030 is critical to unlocking industrial investment in Europe.

SUPPORTING FIRST MOVERS - MECHANISMS SUCH AS CONTRACTS FOR DIFFERENCE (CFD)

can help unlock early investments, de-risk innovation and create the scale needed to drive wider industrial transformation.

NO-REGRET INVESTMENTS

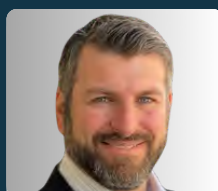
Certain pathways deliver clear benefits regardless of how markets, technologies or policies evolve. Electrification strengthens both decarbonisation and energy sovereignty by reducing dependence on imported fossil fuels. Similarly, CCS can deliver direct, measurable CO₂ reductions, while lowering product carbon footprints can improve the sustainability and competitiveness of industrial value chains.

THE JEWEL IN EUROPE'S INDUSTRIAL LANDSCAPE

Antwerp is a jewel in Europe's industrial landscape. Built on its port, industry and people, it has shone for decades, and with the right choices, it can continue to shine for decades more.

PANEL DISCUSSION

From Ambition to Action



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Turning low-carbon ambition into bankable, scalable industrial reality remains a core challenge. While technologies exist and policy support is growing, misalignment across finance, regulation, supply chains, and execution continues to delay projects. The panel explored how to close the gap between vision and final investment decision (FID).

THE GAP BETWEEN AMBITION AND BANKABILITY REMAINS THE BIGGEST BARRIER

Many projects stall before FID due to high development costs, unclear revenue visibility, and misaligned incentives across grants, offtakers, and lenders. Without early-stage risk capital and regulatory clarity, projects struggle to progress.

A “CIRCULAR DEPENDENCY” IS DELAYING PROJECT DEVELOPMENT

Offtakers wait for regulatory certainty, lenders wait for offtake agreements, and developers lack the funding to advance projects to maturity. Breaking this cycle is critical to unlocking investment.

THREE CORE RISKS DEFINE PROJECT VIABILITY: FEEDSTOCK, DEMAND, AND TECHNOLOGY

Securing reliable feedstock supply, clear long-term demand, and confidence in technology performance remain the primary challenges shaping investment decisions.

SUPPLY CHAIN STRATEGY IS OFTEN OVERLOOKED TOO LATE

Projects frequently fail at FEED stage due to poor supply chain planning, cost uncertainty, and limited visibility on sourcing, local content, and vendor strategy. Early integration is essential to avoid cost overruns and delays.

COLLABORATION MUST REPLACE TRADITIONAL CONTRACTING MODELS

Moving beyond siloed, transactional relationships toward integrated partnerships across developers, contractors, financiers, and regulators is critical to improving project success rates.

EUROPE'S INNOVATION MODEL IS NOT DELIVERING SCALE

While rich in R&D and pilot projects, Europe struggles to scale commercially viable technologies. Focusing on deploying existing technologies at scale, rather than over-prioritising novel innovation, is key to delivering real impact.

STACKING RISKS IS KILLING PROJECTS BEFORE FID

Combining new technologies, unproven business models, and uncertain markets creates compounded risk that investors are unwilling to absorb. Reducing and sequencing risk is essential to reaching bankability.

REVENUE CERTAINTY IS CRITICAL TO UNLOCKING FINANCE

Mechanisms such as Contracts for Difference (CfD) and guaranteed offtake agreements create predictable revenue floors, enabling lenders to model downside risk and improve project bankability.

GUARANTEES CAN CROWD IN PRIVATE CAPITAL

Public financial tools, including first-loss guarantees, help de-risk projects and attract commercial lenders that would otherwise not participate, lowering the overall cost of capital.

REGULATION MUST MOVE FROM COMPLEXITY TO CLARITY AND REALISM

Long-term stability is essential for investment, but Europe's regulatory framework is often too complex and disconnected from industrial realities. A more practical, holistic approach is needed.

FLEXIBILITY IN FEEDSTOCKS AND END MARKETS IS ESSENTIAL

Overly prescriptive regulation that ties specific technologies to specific sectors risks undermining project viability. Developers need the flexibility to adapt to market conditions and optimise scale.

DEMAND CREATION IS THE ULTIMATE DRIVER OF SCALE

Without strong, sustained demand signals – through carbon pricing or mandates – the market will not deliver net zero outcomes. Creating demand for sustainable products is the most effective way to de-risk investment.

CARBON PRICING MUST REFLECT THE TRUE COST OF EMISSIONS

Achieving net zero requires significantly higher carbon prices. Without this, low-carbon alternatives will struggle to compete with fossil-based processes.

EARLY-STAGE DEVELOPMENT FUNDING IS A CRITICAL BOTTLENECK

Smaller developers, in particular, lack the capital to invest in early engineering, procurement, and supply chain planning, limiting their ability to progress projects.

PROJECT DELIVERY MODELS MUST ADAPT TO NEW RISK PROFILES

Traditional EPC and lump-sum structures are often ill-suited to first-of-a-kind projects. More flexible, collaborative contracting models are needed to manage uncertainty and share risk effectively.

EUROPE MUST ACT NOW TO REMAIN COMPETITIVE

Without decisive action, there is a real risk that the European chemical industry loses ground to other regions. Scaling circular and low-carbon value chains is not just a climate imperative, but a strategic one.

ALIGNMENT ACROSS POLICY, FINANCE AND EXECUTION IS ESSENTIAL

Delivering projects at scale requires coordinated action across the entire ecosystem. Fragmentation between these areas continues to delay progress and increase risk.

FROM AMBITION TO ACTION REQUIRES ONE THING: EXECUTION AT SCALE

The technologies, capital, and policy tools increasingly exist. The challenge now is deploying them – faster, at scale, and in a coordinated way – to turn ambition into real industrial transformation.



PANEL DISCUSSION

What Should be Spearheading the Transition: Reducing Process Emissions or Lowering Product Carbon Footprints?

PROCESS FIRST

Decarbonise production. Tighten carbon pricing, enforce benchmarks, invest in electrification and CCS. Make “dirty” expensive.

Regulate how we make things.



PRODUCT FIRST

Stimulate demand for low-carbon products. Mandate product carbon footprints, let market signals pull investment.

Make clean valuable. Regulate what we sell.

The chemical industry is decarbonising on two fronts. Producers face mounting pressure to cut emissions from their own processes: carbon pricing, ETS reform, and emissions caps. At the same time, downstream customers are asking for products with lower carbon footprints, creating market pull for cleaner materials.

Both approaches promise to drive investment. But they create different incentives and carry different risks. Process regulation makes “dirty” expensive, but it applies only where the regulation exists, and production can move. Product demand makes clean valuable, but it depends on customers' willingness to pay a premium, and that willingness can be fragile. This panel debates which force is actually moving capital, whether they reinforce or undercut each other, and what happens when they point in different directions.



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EUROPE'S FOCUS ON PROCESS EMISSIONS

by addressing the problem at its source, Europe's regulatory toolkit of instruments, such as the ETS, CBAM, and the Industrial Emissions Directive, primarily targets process emissions. Focusing on reducing CO₂ emissions from industrial stacks has several advantages: it is straightforward, transparent, and difficult to manipulate, since emissions can be measured and accounted for directly.

THE CONVERSATION NEEDS TO MOVE FROM COST TO VALUE

customers make decisions based on value, so the challenge is to identify a competitive attribute that carries the additional cost as value throughout the supply chain and ultimately to the final consumer. In the chemical industry, this is challenging because converters, brand owners, and retailers all need to perceive and capture value. The product carbon footprint is a strong candidate for this attribute. It captures the embedded Scope 1 and 2 emissions of a product, and ultimately Scope 3 emissions, providing a powerful way to understand and communicate how the entire value chain contributes to emissions. The next step is ensuring that this attribute is recognised and rewarded in the market.

CREATING CARBON AND DEMAND SIGNALS FOR INVESTMENT

Dow's Carbon Footprint Ledger (CFL) methodology, which builds on established mass-balance approaches in GHG accounting, helps to create both the carbon-pricing and demand signals needed to unlock investment. However, voluntary approaches alone are not enough to drive the scale of change required. Long-term investments require policy certainty and durable mandates that provide confidence in future demand and returns.

THE COMPLEXITY OF FEEDSTOCK DECARBONISATION

while improving process emissions is relatively straightforward because the key variables are largely under direct control, the carbon footprints of feedstock, by contrast, are significantly more complex.

Switching to alternative feedstocks, whether chemically recycled or renewables, introduces new supply chains, certification requirements, and sustainability criteria. As a result, the transition requires new capabilities, new partnerships, and a learning process across the entire value chain.

THE DISCLOSURE OF CARBON FOOTPRINT IS KEY

Mandates can help establish a market-based price for CO₂ by creating demand for lower-carbon solutions. As these solutions compete, the value of CO₂ will be determined by the benefits they deliver and the demand they generate. Today, however, sustainable products often carry a price premium, while conventional alternatives do not bear the full cost of the environmental externalities they create. In effect, higher-emission solutions benefit from an implicit subsidy, as their environmental impacts remain largely unpriced.

AMBITION ALONE DOES NOT DRIVE INVESTMENT

Dow's Path2Zero project in Fort Saskatchewan, Alberta, demonstrates how decarbonisation and competitiveness can reinforce each other when the right conditions are in place. Canada combined effective carbon pricing, supportive carbon and CCS policies, access to competitive energy, a feedstock advantage, and a clear demand signal for low-carbon products. Together, these factors created a compelling investment case. If ambition alone were sufficient, Europe would be leading the way in chemical-sector decarbonisation, but investment ultimately follows economic and policy fundamentals, not ambition alone.



FROM MARKET DOWNTURN TO TRANSITION OPPORTUNITY

In today's market downturn, when many companies are focused on survival, there is an opportunity to lay the foundations for a long-term market framework that supports a circular, low-carbon economy. Ultimately, achieving Europe's circularity and climate ambitions requires shared responsibility and accountability across the value chain, with producers, businesses, policymakers, and consumers.

CREATING A LEVEL PLAYING FIELD FOR LOW-CARBON INNOVATION

by placing the responsibility for a product's final carbon footprint at the end of the value chain, all participants compete on the same basis, that is, delivering the best low-carbon solutions. This creates a level playing field, aligns incentives across the value chain, and rewards lower-carbon products regardless of where emissions reductions occur. In turn, it can stimulate innovation, accelerate investment, and drive competition to develop more sustainable solutions.

NOW IS THE TIME TO ALIGN TO DRIVE DEMAND

while the challenge is complex, it is time to align, collaborate, and create incentives for the rest of the value chain to ensure that the value generated by consumer demand for low-carbon products flows back to producers. Emerging initiatives, such as the Industrial Decarbonisation Accelerator Act (IAA) and the Chemical Industry Package, provide encouraging signals, but success will depend on alignment across the value chain. The opportunity is here, and now is the time to build consensus on how the market should work.

MAKING LOW-CARBON VALUE A MARKET STANDARD

Value is what we assign to low-carbon products, and delivering that value comes with a cost. The key is to let the value chain compete on how to deliver the lowest possible cost for that defined value. However, the first step is a collective agreement that this value must be recognised in the market. That recognition can only be secured if it is embedded in mandates or regulations, creating a consistent and enforceable foundation for competition and innovation.



HARMONISING CARBON FOOTPRINT STANDARDS

Carbon footprints can be measured and validated using established ISO-based methodologies. However, the resulting figures depend heavily on the starting parameters, which are not standardised and harmonised. Initiatives such as the Together for Sustainability (TfS) have made important progress in developing common approaches for chemical supply chains. However, a key gap remains upstream, particularly in the consistent accounting of feedstock carbon footprints.

FROM OVERCAPACITY TO OPPORTUNITY

Current overcapacity presents an opportunity to accelerate the transition to low-carbon and alternative feedstocks while future-proofing industrial assets. Rather than simply rationalising capacity, existing facilities could be repurposed and adapted to process recycled, renewable, or other lower-carbon feedstocks. This approach can help preserve industrial capabilities, support decarbonisation goals, and create a pathway for long-term competitiveness.



TESTIMONIALS



"ESF Europe provides the platform to meet the key players in the industry in an excellent atmosphere"

Commercial Manager Hydrogen EMEA



A Yokogawa Company

"ESF was fantastic. It was the Kit Kat in the fridge for all those needing a decarbonisation snack. The quality of speakers was excellent, as was the organisation and mixers. Thank you"

Business Development Manager

S&P Global

Commodity Insights

"Great conference, well organised with good topics and speakers. Good place to network"

Sr. Director, Chemical Consulting, Sustainability & Circularity Lead



"As usual with EPC conference, very professional organization with great atmosphere allowing efficient networking and discussions"

Sr. Director, Chemical Consulting, Sustainability & Circularity Lead



"ESF 2026 was a very good experience. Intense networking on a conference that remains at human size. Topics focus on actual and coming challenges and panels raise the debate with a great deal of complementarity in the approach"

Digital Transformation Manager



"Very useful conference with a lot of networking opportunities, interesting topics regarding decarbonization and sustainable technologies with respectable technology and catalyst providers"

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"Great event from industry for industry covering the full value chain!"

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Technical Project Manager GDP

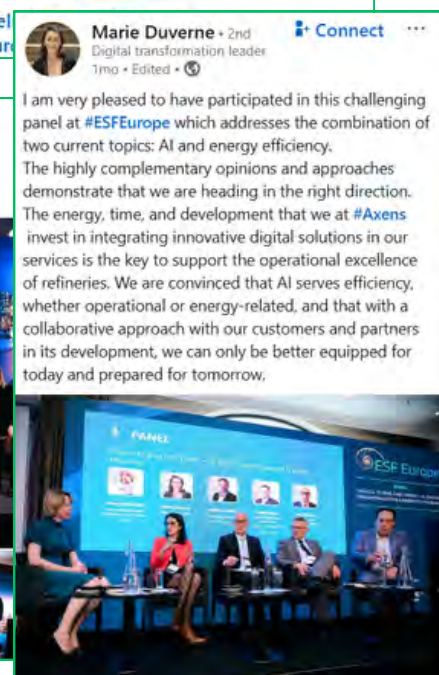
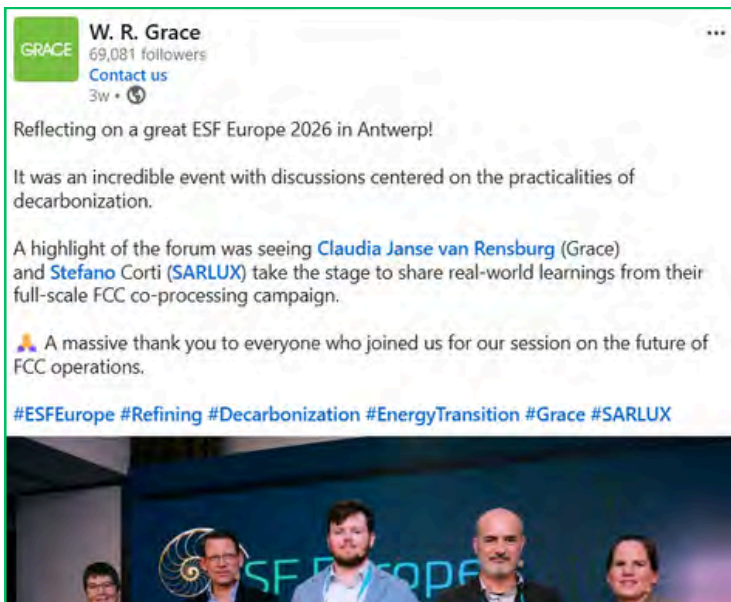
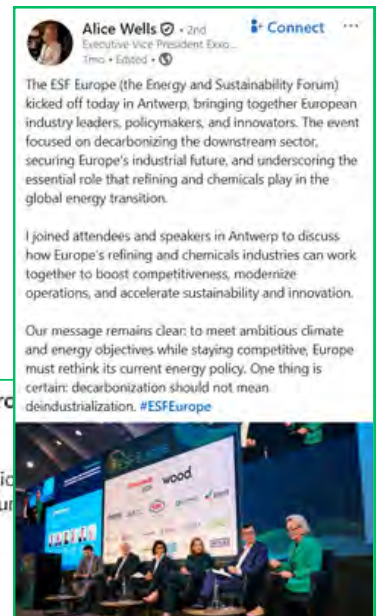
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