



Sustainability Report

Highlights

2022



About INEOS Inovyn

INEOS Inovyn is Europe's leading chlorvinyls producer. Essential to modern day life, our products are used in some of the most demanding applications and can be found in industries ranging from construction and automotive, to pharmaceuticals and renewable energies.

Our well-invested, world-scale assets are complemented by an extensive international supply chain, providing INEOS Inovyn with an excellent competitive position.



4,308

Employees

8

Countries

15

Sites

150+

Products and Grades

€5.1bn

Revenue

Commercial
production volume:

9.1m tonnes*

Global leader

in Specialty
PVC

European leader

in General Purpose
PVC & Caustic Soda

*Based on figures from TenForce

INEOS Inovyn's

Value Chain



Our Sustainability Strategy

As an industry leader and world-class producer of chlor-alkali and vinyl materials, our products are fundamental to modern society. We embrace the responsibility that accompanies this influential position, and as European market leader, understand our potential to effect positive change throughout our value chains.

INEOS Inovyn's strategy towards sustainability is embedded within our 4 key pillars and we aim to position ourselves as an innovation pioneer, developing new solutions at every stage of the journey.



1 Responsible production:

Striving for zero incidents and taking an industry-leading approach on the health of our employees, partners involved in the value chain and our impact on the environment.



3 Circularity:

Advancing circular solutions to maximise efficient use of resources and ensure the long-term value of our products.



2 Carbon neutrality:

Accelerating the transition to a Net Zero carbon economy.



4 Value to society:

Products: Ensuring that our products continue to bring significant value to society

People: Ensuring that our employees are valued and INEOS Inovyn plays a positive impact on society and the communities in which we operate.



Highlights

Responsible production

- Safety Awareness Programme
- Driving action through SHE dialogue

[Read more](#)



Carbon Neutrality

- Strengthening our hydrogen business
Electrolysers, storage compression, and transportation
- Project Electra
World's first electric EDC cracker

[Read more](#)



Circularity

- Project Circle
Continuing our recycling journey through R&D, including dissolution technologies.
- VinylPlus® 2030 Pathways
Progress of the European Vinyls Industry across 3 pathways

[Read more](#)



Value to Society

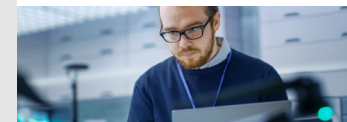
- INOVYN Awards 2022
Highest number of entries
- EcoVadis Rating
Gold score – consolidation of our scorecard
- Community Activities
Plastics-Free Mersey project
- Bio-attributed products
Extending the range of BIOVYN™ and ISCC Certification of REODRIN™
- Environmental Product Declarations
Updating to new methodology for all major products.

[Read more](#)

Further Activities

- Investigation report on PVC and its additives
The European Vinyl Industry response to a European Commission study
- Our Research Technology and Engineering facilities
How our expertise is supporting more sustainable practices across our business

[Read more](#)



Responsible production

We recognise the need to act responsibly. We also believe this responsibility should extend across our entire value chain to include suppliers, direct customers, and end users.

At the forefront of our priorities are safety, health, and the preservation of our environment. It is not only our duty but an unwavering commitment to safeguard and nurture the well-being of employees, contractors, and the communities in which we operate. We are proud to embed a culture of safety and a philosophy for driving continuous improvement, which is why INEOS Inovyn strives for **zero injuries and zero incidents**. During 2022 we improved INEOS Inovyn's robust employee safety performance, reaffirming our uncompromising group approach to safety. However, we also saw contractors' accident rates deteriorate and we are putting in place safety measures with our contractors, to return us to a leading safety position.

We actively engage with local authorities and regulators, ensuring compliance with all pertinent laws and regulations.

Our sites, which operate in accordance with the most stringent environmental and quality benchmarks, proudly bear testament to our values. Through partnering with local communities, we strive to enhance understanding of our operations, cultivating trust through open and honest dialogue.

By promptly addressing concerns and issues, we maintain our relentless focus to make a positive social and economic impact.

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Safety Awareness Programme

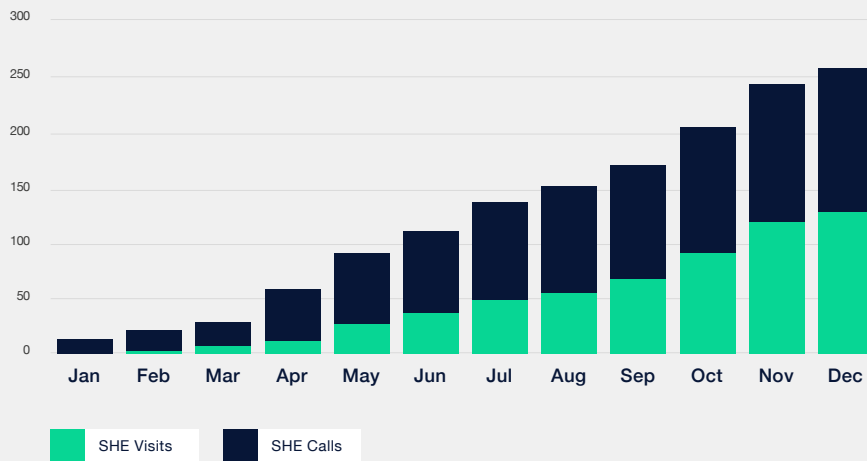
Driving action through SHE dialogue

The safety of our people, our customers and suppliers is INEOS Inovyn's number one priority.

Working closely with partners we have strengthened our Safety Awareness Programme, to actively promote the safe handling of products.

Since its launch we have carried out over 1,100 customer safety visits or calls to help create targeted safety interventions, which are transforming how customers handle our products and improve their own safety. We are showing safety leadership where it matters. As COVID-19 restrictions eased in 2022, our customer technical service and sales teams (chlor-alkali, Organic Chlorine Derivatives & Vinyls) were able to conduct physical Safety, Health and Environment (SHE) site visits. This formed an integral part of this process, as previously we were limited to SHE calls.

Cumulative SHE Visits and Calls – year 2022



By year end, a combined total of

258

calls and visits had been undertaken, with an even split between them.

We have committed to reduce our carbon emissions by

33%

by 2030

Carbon Neutrality


With the growing threat of climate change, **we are resolute in our focus on the challenges of climate change. By 2030, we will reduce our carbon emissions by 33% compared to 2019 levels, with an ambitious goal of achieving Net Zero by 2050.** To achieve these targets, we are positioning ourselves as research and development pioneers. By harnessing innovative and sustainable solutions, we can navigate a path to Net Zero whilst remaining profitable and staying ahead of regulation.

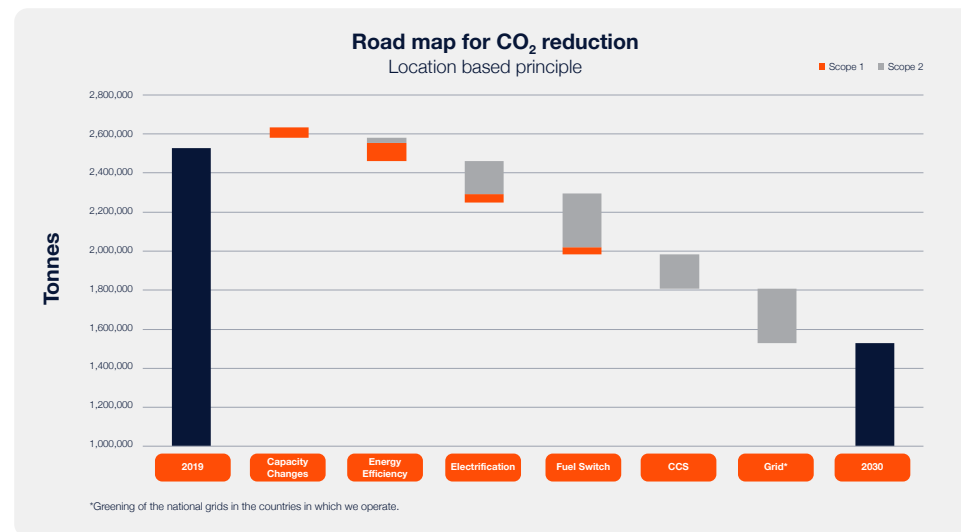
INEOS Inovyn has embarked on a comprehensive Net Zero journey, meticulously developing decarbonisation Roadmaps for every site. And we are already bringing our solutions to life. The graph opposite illustrates the anticipated carbon savings through implementing a combination of carbon abatement projects and methodologies.

We have identified several key avenues where significant savings can be achieved, including enhancing energy efficiency, electrifying assets, fuel switching (covering hydrogen adoption), and employing carbon capture, storage and utilisation.

Examples of strategic initiatives aimed at lowering scope 1 & 2 emissions include our recent Power Purchasing Agreement (PPA) agreements, projects such as Electra and the Tavaux MVR (mechanical vapour recompression) as well as various others at

different levels of development that will be communicated in due course.

 For more information on INEOS Inovyn's scope 1 and 2 emissions, please refer to GRI 305: emissions on page 85 of the full report, click [here](#) to download.



Strengthening our hydrogen business

At INEOS Inovyn, we are actively driving the development and deployment of hydrogen technologies across our global operations. Through strategic investments along the entire hydrogen value chain, from production to storage to utilization, we aim to unlock the full potential of this versatile energy carrier.

Our portfolio of ambitious hydrogen projects, detailed in the following section, demonstrates our commitment to enabling the transition to a cleaner energy system. Whether through renewable hydrogen electrolysis, sustainable blue hydrogen through carbon capture, and innovative applications in transportation, industry, and power generation, we are accelerating sustainable solutions.

With capabilities across geographies and the technical expertise of our people, INEOS Inovyn is poised to play a leading role in scaling up the hydrogen economy worldwide. Our investments today in this crucial technology will allow us to meet decarbonisation goals while catalysing

broader adoption for maximal societal impact. We look forward to sharing our ongoing progress in enabling this important, clean energy future.



This demonstrates our commitment to providing industry leadership and strengthening Europe's renewable hydrogen production. It allows our customers to calculate their own product footprints, enabling them to market lower carbon products."



Wouter Bleukx,
Business Director
Hydrogen at INEOS Inovyn

INEOS Inovyn is poised to play a leading role in developing the

hydrogen economy



Project Circle:

Advancing PVC waste recycling technologies in Europe



Creating a truly circular plastic economy remains a major challenge for Europe. Even PVC, one of the most recycled polymer in Europe, could be more frequently recycled if new technologies for complex waste combining different materials were developed. This is precisely what Project Circle is about.

In 2022, thanks to the VinylPlus® initiative spanning the past 20 years, close to one third of PVC waste is mechanically recycled in Europe, marking a significant stride towards a more sustainable industry. Unfortunately, some PVC waste streams are not recyclable mechanically, for example when combined with other materials such

as PET or polyester fibres. To enable all PVC waste to be recycled, INEOS Inovyn has embarked on a programme to develop advanced recycling technologies called 'Project Circle'.

"INEOS Inovyn is investing in new technologies to handle currently non-recyclable fractions, transforming them into the original raw material. These technologies also target the treatment and removal of legacy additives, such as lead and certain phthalates," shared Paul Daniels, Operations Director.

With the invaluable knowledge gleaned from their VinylLoop recycling operation in Italy, the Circle team is investigating three possible advanced recycling technologies: dissolution, gasification, and pyrolysis.

Dissolution technology aims to recycle PVC waste when mixed with other materials. The Circle developments seeks to improve the existing recycling process operated by VinylLoop by adding steps to extract additives such as stabilisers and plasticisers to address the legacy issue.

Meanwhile, INEOS Inovyn has been working alongside technology providers to explore gasification, which aims to recover hydrogen chloride gas (HCl) for use in PVC production chains and convert synthesis gas into methanol. Finally, the team is looking into pyrolysis, specifically to recycle mixed plastic waste containing PVC in order to recover HCl and pyrolysis oil to be converted into ethylene and ultimately new PVC.

While developing such technology is vital, INEOS Inovyn cannot operate in isolation. The entire supply chain must be integrated into the industrial setup. This is why we have been forming partnerships with customers, waste collectors and sorters to ensure a well-rounded approach to recycling PVC waste that allows for synergies with third parties and the widespread adoption of the technology for a sustainable PVC industry.

A strong emphasis is also placed on PVC waste sorting and the valorisation of by-products, which are being researched and implemented in collaboration with external partners.

A significant milestone on the Project Circle horizon is the first industrial PVC waste recycling unit. This ambitious venture aims to process between 20,000 and 40,000 tonnes of PVC waste each year. It should be operational by 2030. This effort symbolises a paradigm shift in the PVC industry and a remarkable stride towards a more sustainable future.

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BIOVYN™

Growing INEOS Inovyn's bio-sourced PVC portfolio across Europe

To strengthen cross-industry demand for lower carbon products, INEOS Inovyn has expanded its BIOVYN™ portfolio, to offer material certified by both the Roundtable on Sustainable Biomaterials (RSB) and International Sustainability & Carbon Certification (ISCC) from sites in Germany, Belgium, Sweden, Norway and France.

BIOVYN™ is INEOS Inovyn's PVC range produced with 100% substitution of fossil feedstock by bio-attribution, enabling greenhouse gas savings of over 90% compared to conventional PVC.

Following its successful certification and world-first launch at our Rheinberg site in 2019, INEOS Inovyn now offers a wide range of sustainably-produced suspension and emulsion bio-attributed PVC grades.

These continuous developments have created a wider reach for our bio-attributed production network using two key industry sustainability certification standards: RSB and ISCC PLUS. These certifications represent an important step towards carbon neutrality and a reduced dependence on depleting fossil fuel reserves.

BIOVYN™ will also play an important role in allowing INEOS Inovyn to work with our wide range of vinyl customers towards decreasing their carbon footprints, ranging from construction to automotive and design.

biovyn

greenhouse gas
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©Polestar 3 SUV

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The team at INEOS Inovyn is extremely proud to be working with Polestar to reduce the carbon footprint of its vehicles.



Arnaud Valenduc,
Business
Director of
INEOS Inovyn

Recently, BIOVYN™ was selected as the bio-attributed PVC of choice for premium automotive manufacturer, Polestar, in the manufacture of the interior of their new all electric Polestar 3 SUV model. BIOVYN™ will replace traditional leather or cloth upholstery and help mitigate Polestar's carbon footprint, while avoiding competition with global food chains.

BIOVYN™'s relevance across the automotive industry continues to grow in tandem with demand for more sustainable travel solutions, highlighted by Polestar's decision to choose our bio-attributed PVC as the preferred material for their production of technical and decorative surface materials for the automotive sector, through ContiTech Surface Solutions, Continental Corporation's specialist for surface materials and associated production technologies.

"The team at INEOS Inovyn is extremely proud to be working with Polestar to reduce the carbon footprint of its vehicles. As the first commercial producer of bio-attributed PVC, we have received considerable attention from all industries as we work together to improve sustainability and drive a more circular economy. We look forward to working together with the automotive sector on innovative solutions for a sustainable future." Arnaud Valenduc, Business Director of INEOS Inovyn.



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REODRIN™

REODRIN™ gains ISCC PLUS certification, opening the door to wider market applications

REODRIN™, is the world's first bio-attributed epichlorohydrin, which has attracted widespread industry interest since its launch in 2021.

Made by INEOS Inovyn, the product enables greenhouse gas saving of almost 70% compared to fossil-based epichlorohydrin, it is manufactured from 100% bio-circular, second-generation glycerine.

REODRIN™ obtained ISCC PLUS certification in October 2022, expanding deployment of the bio-attribution concept along our value chain and making it easier for customers to take advantage of the lower greenhouse gas benefits from this material.

reodrin

With the new certificate, INEOS Inovyn has also become the first ISCC PLUS-certified bio-attributed epichlorohydrin producer.

"This is a very important step in our quest to make REODRIN™ more widely available to the market. We continuously monitor market trends and listen to both our customers and suppliers, and it all led us to the same conclusion: the ISCC PLUS certification enables us to diversify our portfolio whilst allowing customers to benefit from REODRIN™'s advantages."



David De Clerck,
Procurement Director
INEOS Inovyn



It enables greenhouse gas saving of almost

70%

compared to fossil-based epichlorohydrin

It is manufactured from

100%

bio-circular, second-generation glycerine

Epichlorohydrin is widely used in industry sectors ranging from wind-turbine composite production to wastewater treatment and lightweight coatings for electric vehicles, making it an essential building block of society. By becoming the first producer of ISCC PLUS certified bio-attributed epichlorohydrin, INEOS Inovyn strengthens its status as an industry leader on the path to carbon neutrality.

To put this into context, every 2,000 tonnes of REODRIN™ replacing fossil-based epichlorohydrin is the equivalent of either reducing the CO₂ emissions of 1,000 Europeans per year, the same as taking 4,200 cars off our roads, or the CO₂ absorption of 300,000 trees.



2,000 tonnes of REODRIN™ saves the equivalent of

1,000

Average Europeans' annual CO₂ emissions.



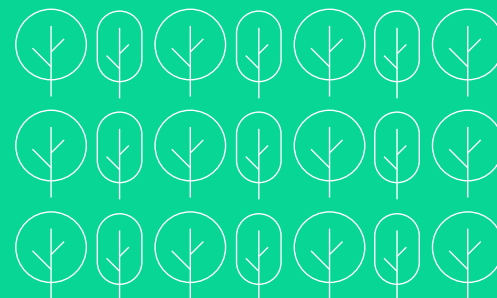
4,200

Cars off the roads each year



300,000

Trees annual CO₂ absorption



Powering Innovation & Sustainability

INOVYN Awards 2022

As an industry leader, we are committed to the future and growth of our vinyl industry. A strong industry with the ability to innovate, adapt and promote sustainable solutions benefits everyone.

To help this drive progress, INEOS Inovyn recognises the very best innovations across our global industry. Led by an independent panel of expert judges, the [INOVYN Awards](#) is designed to empower innovation and sustainability through celebrating key achievements across four categories, aligned with our pillars of sustainability: responsible care, carbon neutrality, circularity and value to society.

"Sustainability and innovation are at the very heart of our business. Through the INOVYN Awards we are delighted to be able to support those individuals

and organisations that are driving innovation, research and development in the field," commented Geir Tuft, CEO INEOS Inovyn.

Held every three years, our 2022 awards saw a record 130 entries submitted from 24 countries and 3 continents. The Awards ceremony took place on 20 October in Düsseldorf, Germany, and was attended by over 300 guests ranging from customers to suppliers and trade associations.

"Everything we have seen tonight shows how the whole value chain is simultaneously innovating towards sustainability and collaborating to solve the challenges of today and tomorrow. The next few years will be very exciting, and I look forward to being here in 5, 10 and 15 years' time to see the progress we have all made," said Geir Tuft at the Awards' conclusion.

“

Everything we have seen tonight shows how the whole value chain is simultaneously innovating towards sustainability and collaborating to solve the challenges of today and tomorrow.”

Geir Tuft, CEO INEOS Inovyn



INOVYN Award Ceremony 20th October 2022

Value to Society

People

Our people are the driving force behind our sustainability journey and ability to create ongoing value for society. Everyone in our organisation is united by a shared commitment to responsible operations and enabling positive change.

As a sizeable company, we have a moral responsibility to give back and continue adding value to society. This remains at the core of who we are. Our investments in employees, work with local suppliers, and community support reflect our ethos.

Looking ahead, we will highlight how sustainability is championed at all levels of our organisation. Our senior leaders and young graduates alike exemplify our blend of experience and fresh perspective; our combined unique insights reinforce our multidimensional approach to sustainability issues.

Our approach to equity, diversity, and inclusion

Through fair and transparent people processes we will strengthen our market leading position by attracting and retaining high performers regardless of their background.

With a sense of grit, rigour, and good humour, we will ensure:

- People are judged on what they do, not who they are.
- Striving for excellence is the norm, not the exception.
- Individual as well as shared ideas and experiences are valued.
- We treat each other with dignity and respect.

And in doing so:

- We will create a sustainable organisation with unity of purpose and effort.



Tony Moorcroft,
HR Director
INEOS Inovyn

We recognise
that our people
are the

**driving
force**

behind our sustainability efforts and ability
to create ongoing value for society.



Click [here](#) to read
our full report

