



**EUROPEAN
MID-CENTURY STRATEGY
FOR A SUSTAINABLE
CHLOR-ALKALI INDUSTRY**

SAFE. COMPETITIVE. GREEN.

euro 17.
chlor

A sector group of Cefic 



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FOREWORD

Another big step forward towards being a responsible and competitive sector.

As one of Cefic's key Sector Groups, Euro Chlor has consistently delivered balanced, science-based information and been committed to measuring key sustainability data since 2001. With the publication of concrete sustainability targets in 2004, the chlor-alkali industry even led the way for the wider chemical industry. I am delighted that Euro Chlor is now taking another big step forward in its goal of being a responsible and competitive sector with the publication of this European Chlor-Alkali Mid-Century Strategy (MCS).

This initiative will provide a necessary contribution to Cefic's European Chemical Industry's Strategic Response to the new EU Green Deal. Examples of this include ensuring the European chlor-alkali industry aims to become climate neutral and a green hydrogen player by 2050, as well as increasing both chemical and mechanical recycling of chlorine intermediate and end-products. To achieve this MCS, the association is setting itself and its members challenging priorities and building new KPIs to measure them and complement the existing ones. Continuing to build the industry's image as an attractive employer and further increasing public awareness on the value of the chlor-alkali industry and its products are, for me, two of these priorities that are a win-win for both Cefic and Euro Chlor alike.

At the same time, Euro Chlor's MCS can help to fulfil Cefic's Mid-Century Vision for the European chemical industry by innovating in sustainable solutions – especially in relation to hydrogen and in advancing its own production technology. By working across Cefic and with all the other related value chain players to make things happen, I am convinced that Euro Chlor will achieve all it has now set out to do. Best of luck and I look forward to seeing the first results!



*Marco Mensink
Cefic Director General*

Our contribution to a safer, more competitive and 'greener' future for Europe.

Making chlorine, caustic soda and hydrogen seems simple. You only need salt, water and electricity. These three key ingredients are the foundation of thousands of different products which Europe relies on every day to keep us safe, healthy and comfortable.

Chlorine and caustic soda (also known as chlor-alkali) are vital in the preparation of paper, aluminium, PVC, polyurethane, water treatment chemicals and more. These are the building blocks for sports equipment, cars, clean drinking water, modern medicines, solar panels, windmills, batteries, electronics and many other essential items. When making chlor-alkali, hydrogen can be produced which may one day energise Europe.

Chlor-alkali chemistry will remain essential in the production of over half of the chemicals and materials that will build a safer, stronger and more sustainable Europe. It will also provide key products to support Europe's 'Green Deal' ambitions.

However, chlorine, for example, cannot be easily transported into and around Europe meaning it must be made locally and used immediately. As such, Europe needs a vibrant, local chlor-alkali industry to ensure that its essential products are always readily available.

To address this, Europe's chlor-alkali industry works together under its trade association Euro Chlor to support a safe, sustainable and successful chlor-alkali industry for Europe. Across 19 European countries, over 6,600 people are directly employed in the production of chlor-alkali but millions more jobs are dependent on the availability of this vital chemistry.

Euro Chlor's mission is to safeguard our industry in Europe so that the key products are available for future generations. To do this, our MCS, elaborated with the support of Roland Berger, focuses on four key elements that will define our industry by the middle of this century: becoming a safety leader, competitive supplier, climate neutral player and circularity champion. These form the basis of our strategy for 2050 to ensure we remain safe, competitive and green.

Marleen Pauwels
Euro Chlor Managing Director



OUR VISION



SAFE. COMPETITIVE. GREEN.

Towards a safe, competitive,
climate neutral and circular
European chlor-alkali industry.

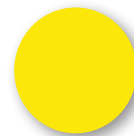
2050

Safety leader



Remain a leader in safety by continuously delivering outstanding performance throughout the value chain, including contractors, transporters and customers.

Competitive supplier



Regain long-term international competitiveness and aim for continuous growth in demand for chlor-alkali products.



Climate neutral player



Contribute to Europe's Green Deal through climate neutral production and by facilitating the energy transition.

Circularity champion



Facilitate cradle-to-cradle usage and recycling of the chlorine atom. Drive circularity in the chlorine production process.

OUR MISSION

2020

2030

Euro Chlor... a safe and competitive supplier of chlor-alkali products and an integral part of Europe's climate neutral and circular economy transition.

Intelligence

Collect and share knowledge

Create independent content



Networking

Connect players

Engage with relevant stakeholders



HOW

will we achieve
our 2050 goals?

2050

Compliance

Set and recommend safety standards



Advocacy

Represent interests and speak as one voice

Build and maintain a positive public image



SAFETY LEADER



Euro Chlor as a safety leader by 2050.

European chlor-alkali remains committed to ensuring that all our colleagues return home safely at the end of each day. We already measure and share safety information between our members but everyone in our supply chain can benefit from this. Excellent progress has been made in this key topic, but more can and must be done.

As such, by 2050, we will expand our ambitions and further improve our status as a safety leader in the chemical industries:



We will continue to strive for zero incidents within our industry.



We will share our experience with everyone in Europe who handles and sells chlor-alkali products, working with them to keep everyone safe.



We will collect data that can inform decision makers, ensuring that chlor-alkali products coming into Europe are subject to high safety standards as well.



SAFETY LEADER

Selected priorities

Lost-time injuries (LTI) incidents



Aim for zero LTI incidents related to chlor-alkali production

By 2050, the chlor-alkali industry will expand its safety focus to the entire value chain and ensure a level HSE* playing field within Europe.

**HSE - Health, Safety and Environment*

Transportation incidents



Monitor the number of incidents linked to the transportation of chlor-alkali chemicals

Process incidents and loss of chemicals

Monitor the number of process safety incidents and loss of chemicals to land, air or water



WHY ?

Because every incident involving chlor-alkali is one too many.




COMPETITIVE SUPPLIER




Euro Chlor as a competitive supplier by 2050.

As part of a global community, we are highly dependent on others. As one of our key ingredients is electricity, we need reliable and affordable energy to make our essential products. In addition, to protect our planet, everyone must reduce their emissions and aim to use more climate neutral energy sources.

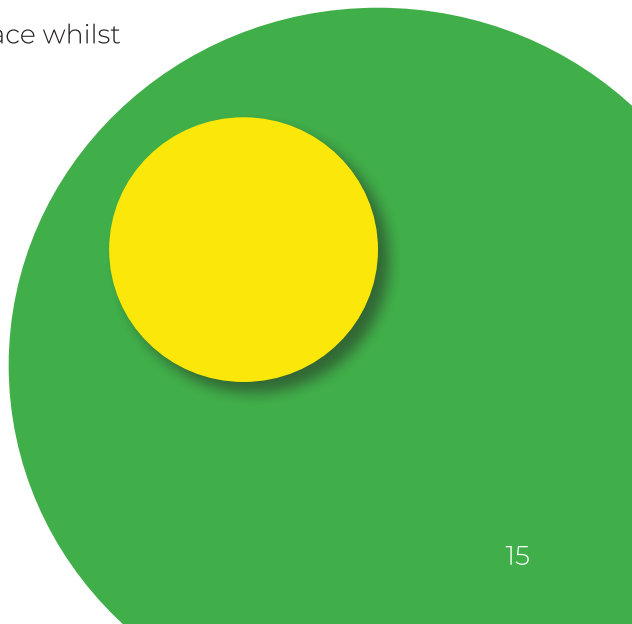
Unfortunately, other parts of the world may not be moving towards such energy sources at the same speed. As such, we rely on mechanisms to protect us from potentially cheaper but higher carbon footprint imported materials. Without this, Europe risks becoming more reliant on other global regions due to products here being less affordable. Efforts are needed by us to retain our status as a globally competitive supplier of chlor-alkali so that we are still here in the middle of this century:



We will share objective, factual and practical information with decision makers to support Europe's green ambitions. This will take place whilst ensuring the supply of our essential products.



We will also work towards making our industry an even more attractive place to work, to complement the efforts of our skilled colleagues.



COMPETITIVE SUPPLIER

Selected priorities

Electricity price per region



Level competitive differences with non-EU regions to maintain Europe's competitiveness

By 2050, the chlor-alkali industry will maintain access to cost-competitive energy, level the playing field with non-EU regions, and boost its image.

Public awareness



Boost the industry's image as an attractive employer, increase awareness on value and uses of chlor-alkali products

Cost of CO₂ emissions



Safeguard access to cost-competitive energy during the transition to a CO₂ emission-free industry

WHY ?

Because we make essential building blocks for Europe, so let's keep us producing here.

CLIMATE NEUTRAL PLAYER



Euro Chlor as a climate neutral player by 2050.

Over the past 20 years, Europe's chlor-alkali industry has improved its energy efficiency. This is reducing both the amount of electricity we need, and the amount of emissions made on our behalf. Now though, we are approaching a limit to what more can be done due to the immovable laws of physics.

As such, any further improvements will be made by us supporting Europe's transition to climate neutral energy sources. Though this is not something we can do alone, we still aim to become a climate neutral player by 2050.

Many sectors, not just ours, will electrify their activities. This means that changes to the electrical grid may be needed. In addition, innovative methods to 'balance' this network will be needed for when the sun doesn't shine, or the wind doesn't blow. Europe's chlor-alkali industry can play a role here:



We will work to boost the use of any hydrogen our industry produces.



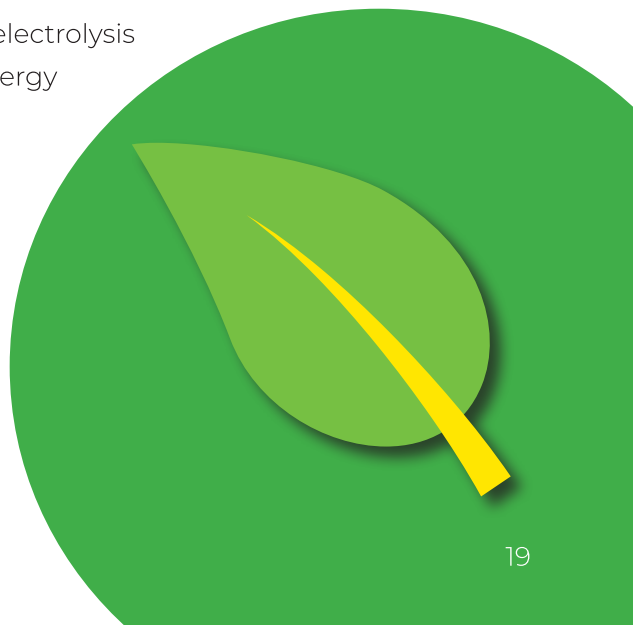
We will study options to produce hydrogen by the electrolysis of water as hydrogen is an important part of the energy transition to a climate-neutral Europe.



We will collect data on innovative technologies to make chlor-alkali production even more energy efficient.



We will investigate ways to help balance Europe's electricity grid, whilst keeping regulators informed on our efforts and the role we can play.



CLIMATE NEUTRAL PLAYER

Selected priorities

Climate neutral energy



Cooperate with electricity and steam providers to source climate-neutral energy for chlor-alkali production process

By 2050, the chlor-alkali industry will aim to become a green hydrogen player, invest in climate-neutral energy sources, and advocate the role it can play in the energy market.

Power grid balancing



Use chlor-alkali production capacity to contribute to grid balancing at times of peak demand or supply

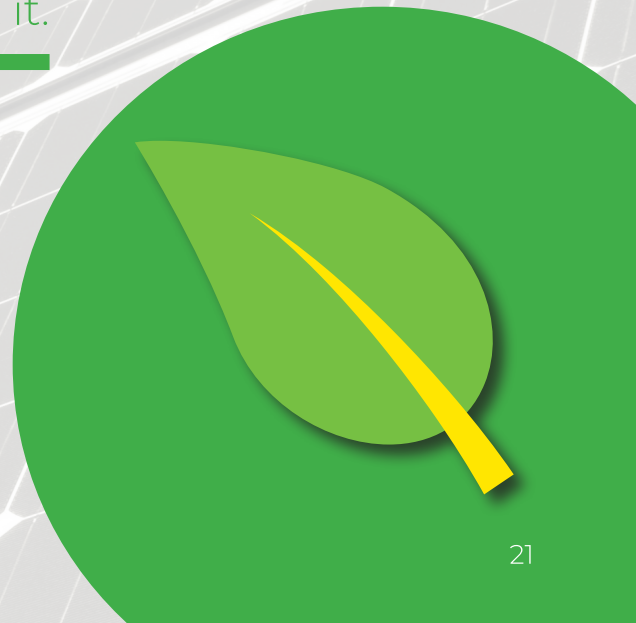
Green hydrogen



Strive for 100% hydrogen utilisation and position the chlor-alkali industry as producer of green hydrogen

WHY ?

Because we only have one planet so let's work together to protect it.



CIRCULARITY CHAMPION



Euro Chlor as a circularity champion by 2050.

In the 19th century, chlorine was a waste product made in the production of lye for soap. Today this valuable chlorine has been turned into an essential part of the many hundreds of products Europe now benefits from.

Additional true circularity within our industry is limited, so we must find innovative ways to help achieve Europe's ambitions here:

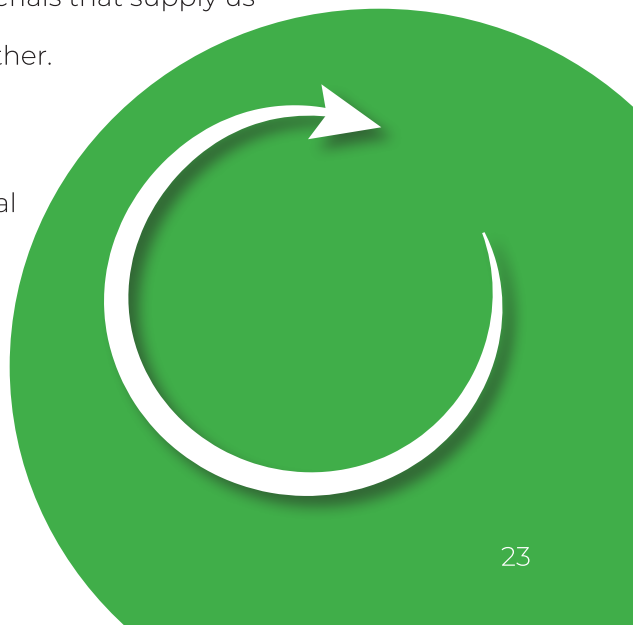


We will work with our customers to identify ways to increase the recycling of the products made by the wider chlor-alkali industry.



We will also investigate ways to use all the raw materials that supply us and look for mechanisms to reduce waste even further.

We will work to become a circularity champion in the chemical sector.



CIRCULARITY CHAMPION

Selected priorities

Chemical recycling



Increase recycling of chlor-alkali products into basic raw materials to achieve a circular value chain

By 2050, the chlor-alkali industry will increase recycling of its products and production waste, and become more transparent on lifecycle environmental impact.

Lifecycle transparency



Fully understand the environmental impact of chlor-alkali products and share knowledge to facilitate circularity initiatives

Zero-waste production



Recycle production waste and design zero-waste production methods

WHY ?

Because resources are scarce so we cannot afford to waste anything.



NEXT STEPS



Next steps to achieve our 2050 goals.

We are proud to announce our Mid-Century Strategy, which represents European chlor-alkali's contribution to the European Union's (EU) Green Deal.

By ensuring a vibrant European chlor-alkali sector, these essential products needed to achieve the EU's ambitions will be available safely and sustainably.

Euro Chlor will play several roles within this new strategy to guide and monitor the industry. The association and its members will ensure we reach these goals by accrediting and setting technical, safety and sustainability standards; enabling networking by connecting players to share best practices on these important subjects; enhancing industry intelligence by collating knowledge; and creating exciting, engaging and educational content.

We strongly encourage all interested parties to discover more about this initiative at www.eurochlor.org/mcs, follow [#eurochlorMCS](https://twitter.com/eurochlorMCS) on social media and contact us at eurochlor@cefic.be to get involved.

We do not claim to have all the answers here, but we stand ready, open-minded and willing to contribute to a better Europe into the coming decades. By working together on these, Euro Chlor and its member companies will ensure that **safe**, **competitive** and **green** chlor-alkali is available, for Europe, into the second half of this century.

Jürgen Baune
Chairman of the Euro Chlor Management Committee



ABOUT US

KEY FACTS

38 producing members

104 partners

60 manufacturing locations in
19 European countries

97% of all European production
capacity

9,416 kilotonnes of chlorine
produced in 2019

17.

Who is Euro Chlor?

Euro Chlor supports a safe, competitive and green chlor-alkali industry for Europe.

Chlor-alkali is an essential building block for the manufacture of numerous products that we rely on every day. Across Europe, millions of jobs are dependent on the availability of competitively priced chlor-alkali supplies.

Chlor-alkali chemistry is also vital for the development of the innovative materials we will need in the future.

Euro Chlor represents the interests of chlor-alkali producers in Europe; encourages best practices in safety, health and environmental protection and promotes the economic and social benefits of chlor-alkali and the many industries that rely on them.

Based in Brussels, Belgium, Euro Chlor is a sector group of Cefic (European Chemical Industry Council).

Euro Chlor is a member of the World Chlorine Council, a global network of regional organisations that represents producers accounting for more than 85% of worldwide chlor-alkali production capacity.



@eurochlor

S U S T A I N A B L E

Our members

Altair Chimica SpA

Anwil SA (ORLEN Group)

Arkema France

BASF SE

Biomca Química SL

Bondalti Chemicals SA

Borregaard AS

BorsodChem Zrt.

Brenntag UK Ltd

CABB AG

CABB GmbH

Covestro AG

Donau Chemie AG

Dow Deutschland
Anlagengesellschaft mbH

Electroquímica de Hernani

Electroquímica Onubense SL

Ercros SA

Evonik Operations GmbH

Fater SpA

Industrial Chemicals Limited (ICL)

Ing. Luigi Conti Vecchi SpA

INOVYN ChlorVinyls Limited

Kapachim SA

Kemira Oyj

KEM ONE

Micro Bio (Irl.) Ltd.

MSSA SAS

Nouryon

PCC Rokita SA

Produits Chimiques de Loos
(Tessenderlo Group)

Química del Cinca SLU

SC Chimcomplex SA Borzesti

Società Chimica Bussi SpA

Spolek pro chemickou a hutní
výrobu, a.s. (Spolchemie)

Vencorex

VESTOLIT GmbH (Orbia)

Vinnolit GmbH

Vynova Group

Map of chlorine production plants (1st January 2020)





Euro Chlor was supported by Roland Berger, leading global consultancy firm of European origin. With its 2,400 employees working in 35 countries, Roland Berger has been advising companies, governments and associations for over 50 years.

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