EuChemS
Division of Chemistry and the Environment

Newsletter 11
March 2026

ICCE 2027 – International Conference on Chemistry and the Environment

6–10 June 2027 | Gdańsk, Poland

On behalf of the **Division of Chemistry and the Environment** (**DCE**) of the **European Chemical Society** (**EuChemS**), the **Polish Chemical Society**, and the *Local Organizing Committee*, we are pleased to invite you to the **International Conference on Chemistry and the Environment (ICCE 2027),** organized in collaboration with the **University of Gdańsk** and the ***Kuyavian-Pomeranian Science and Technology Centre.***

The conference will take place at the Faculty of Chemistry of the University of Gdańsk.

ICCE 2027 will offer a high-level scientific forum dedicated to advancing research at the interface of environmental chemistry and sustainability. The conference will bring together researchers, experts, industry representatives and policy makers.

- **Scientific Scope**

The conference programme will highlight a selection of key topics in environmental chemistry, while remaining open and flexible to accommodate new themes and emerging areas of interest. Planned sessions will include, among others:

- Fundamental and applied environmental chemistry
- Environmental fate and effects of contaminants
- Emerging pollutants, microplastics, and industrial chemicals
- Advances in environmental analytical sciences, including high-resolution and non-target screening approaches
- Chemical risk assessment and next-generation regulatory science
- Marine and coastal environmental challenges
- Sustainable chemistry and pollution prevention
- Strengthening the academia–industry–policy interface

By combining cutting-edge research presentations with structured interactive formats, ICCE 2027 seeks not only to disseminate scientific results but also to actively shape future research directions, strengthen professional networks, and inspire the next generation of environmental chemists.

- **Interactive Discussion Panels during ICCE 2027**

Dedicated Discussion Panels are planned as an integral part of the scientific programme. These interactive sessions are designed to stimulate open dialogue and foster meaningful knowledge exchange across career stages.

Particular emphasis will be placed on creating space for early-career researchers to engage directly with experienced experts and senior scientists - encouraging discussion and the development of new collaborative perspectives. A special support programme, including free registration vouchers, will be available for young scientists and early-career researchers.

- **More Than a Conference**

Beyond the scientific programme, we invite participants to experience the charm of Gdańsk - a historic jewel on the Baltic coast, where the legacies of Johannes Hevelius and Daniel Gabriel Fahrenheit meet the spirit of the Solidarity movement led by Lech Wałęsa. Stroll through its picturesque streets, admire the colorful Hanseatic architecture, and immerse yourself in a vibrant cultural scene that seamlessly blends history, science, and maritime heritage. Gdańsk offers not only opportunities for knowledge and discovery but also unforgettable experiences at every turn.



**Pictures obtained from Gdańsk Organistation for Tourists https://got.visitgdansk.com*

Join us in Gdańsk from 6–10 June 2027 and contribute to advancing innovative, knowledge-based solutions for environmental protection and sustainability.

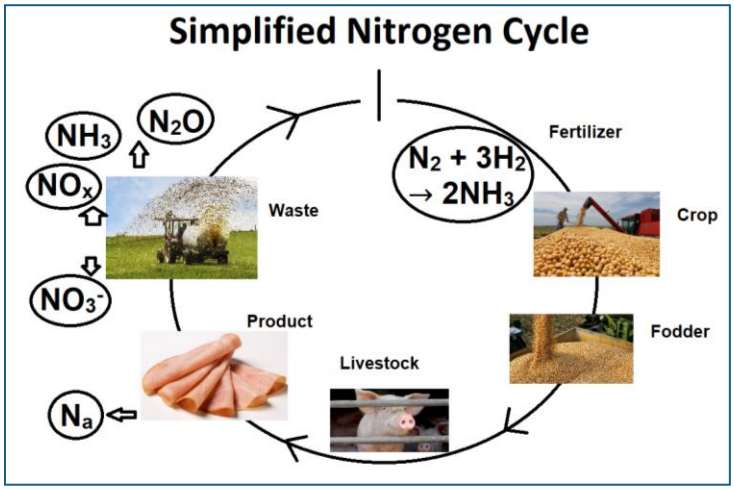
Anna Białk-Bielińska and Bogusław Buszewski
On behalf of the ICCE 2027 Organizing Committee

Nitrogen Policy in Historical Perspective

Introduction

Nitrogen is one of the most crucial elements for life on Earth. A key component of amino acids and DNA, it is indispensable for plant growth and agriculture. Though nitrogen gas (N_2) makes up nearly 78% of Earth's atmosphere, this form is unusable by plants. It is inert due to the incredibly strong triple bond between the two atoms. It is only through specific natural and human-driven processes that nitrogen becomes ‘fixed’ into forms usable by plants. Apart from

natural processes involving a lot of energy, such as lightning and wildfires, only nitrogen-fixing microbes such as *Rhizobium* and *Azotobacter* have succeeded in breaking this bond.



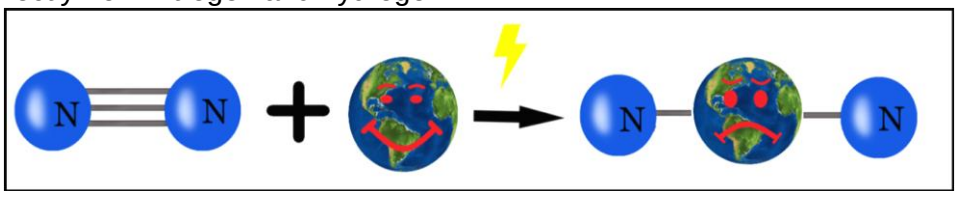
"Guano War" between Chile and Bolivia (1879-1883)

Nitrogen fixation

Long before the scientific understanding of nitrogen, agrarian societies recognized the fertility-enhancing properties of organic matter. In many ancient civilizations, manure application formed the cornerstone of agricultural practice in Asia, the Middle East, and Europe. In South America, guano was already being used as a fertilizer more than 4,000 years ago. Guano is the accumulated excrement of seabirds or bats, often found on small islands. During the heyday of the Inca Empire, around 1400 AD, guano was mined and used on the land in a very efficient manner, enabling twice as many people to be fed.

When the Europeans conquered and destroyed the Inca empire, they were only interested in gold and silver. With the Inca Empire, the use of guano, once more precious than gold, almost disappeared.n the 19th century, guano was (re)discovered as a popular fertilizer, in Europe and in the USA. This led to enormous trade flows, wealth for Peru, rapid depletion of the main guano islands, a worldwide search for similar islands, piracy and various "guano wars".
The Irish famine (1845-52) was also mainly due to the potato disease that travelled to Europe with guano. When the largest guano reserves were depleted around 1880, an alternative was found in the form of Chilean saltpeter. Around the turn of the century, this was the most important fertilizer in Europe and North America.

In 1903, Norwegian scientist Kristian Birkeland succeeded in producing nitrogen oxide using an electric arc, the same principle as lightning. Ten years later, this Birkeland-Eyde process would be superseded by the more efficient Haber-Bosch process, which produces ammonia directly from nitrogen and hydrogen.

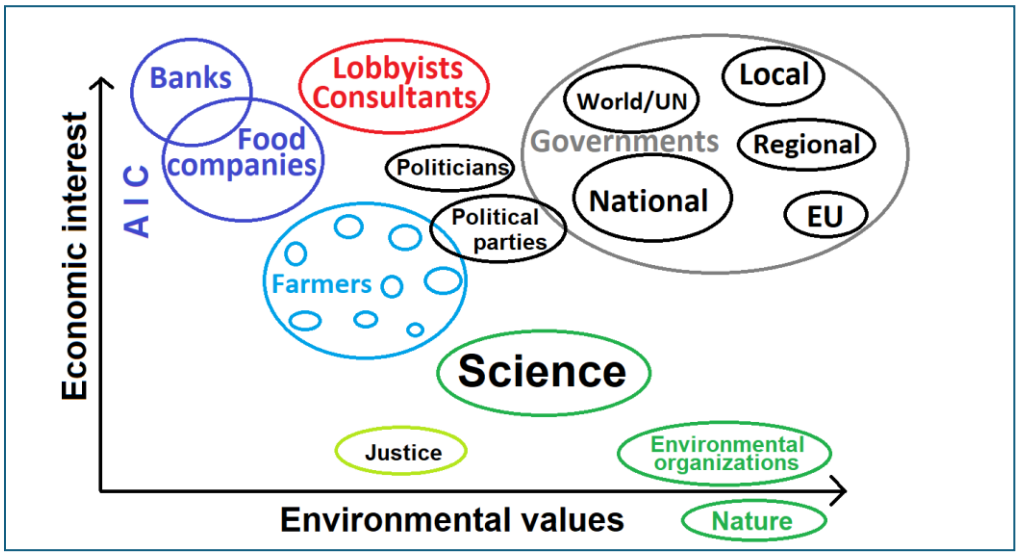


20th century: from nitrogen-poor to nitrogen-rich

Today, around 250 million tons of ammonia are produced each year, which accounts for approximately 2% of global energy consumption. The use of fertilizers has been an important factor in the spectacular increase in agricultural productivity in the 20th century.

After the Second World War, the credo in Europe was: 1) No more war; 2) No more hunger. This resulted in various partnerships, such as NATO and (the precursors to) the EU. To stimulate food production, agriculture was systematically made 'more efficient' through extensive mechanization, upscaling and the use of crop protection products (pesticides and herbicides) and artificial fertilizers. Environmental problems were of secondary importance.

From the 1960s onwards, concerns began to arise about the negative effects of pesticides and other toxins. Nitrogen, although also harmful to the environment, was ignored for decades. Not by science, but by politics. This was partly due to its positive image: "Nitrogen is not a poison, it is a fertilizer, good for nature, isn't it?" The problems, such as eutrophication and loss of biodiversity, were greatest in areas with intensive livestock farming, such as the Netherlands and neighboring countries. Thanks to the proximity of major ports such as Rotterdam, Antwerp and Hamburg, livestock farming was able to develop well there due to the supply of cheap nitrogen-rich animal feed from distant countries.



Actors involved in nitrogen policy

No real measures were taken, so nitrogen concentrations gradually increased to 100-1000 times the desired levels. But this would change overnight in 2019.

A verdict like a sledgehammer blow

On May 29, 2019, the Dutch Council of State, the highest administrative court, ruled that the country's nitrogen policies were inadequate to protect vulnerable ecosystems under EU law.
This triggered construction freezes, stricter emission limits, and fierce farmers' protests against perceived threats to the livelihoods. Since then, nitrogen has been a controversial topic in Dutch politics. Similar problems also exist in the neighboring countries like Belgium and Germany, as well as in New Zealand, for example.

The Netherlands even had a 'Minister of Nature and Nitrogen' from January 2022 to July 2024, as far as I know the first chemical element to have made it that far. In recent years, political parties have been falling with proposals to tackle the nitrogen problem, such as a drastic reduction in livestock numbers.

During regional elections in 2023, the BoerBurgerBeweging (BBB, Farmer Citizen Movement), which represents the interests of farmers, even became the largest political party nationwide, since many voters were concerned about the fate of farmers.

Since July 2024, the BBB has been represented in the government, but few concrete steps have been taken to really tackle the nitrogen problem. The motto is to postpone real measures.
Looking ahead, nitrogen policy in Europe and the Netherlands will likely tighten further, driven by legal obligations to restore nature and by EU climate targets. This points toward structural shifts in land use, reduced livestock numbers, more circular farming systems, and potentially fundamental changes in dietary patterns and consumption. In February 2026, a new (minority) government took office in the Netherlands, led by *Democrats 66* party (**D66**). This party, which also provided the new Minister of Agriculture, is pursuing a responsible agricultural policy, the exact opposite of that of the previous government. Time will tell whether this government will succeed in actually changing policy in the right direction.

Farmers' protests in The Netherlands (2022)

Willem de Lange
Member of DCE from Netherlands

The High See Treaty

The High See Treaty, known as Biodiversity beyond National Jurisdiction (BBNJ), started officially on January 17th, 2026. BBNJ provides a legal pathway for protecting the global ocean area beyond countries' national jurisdictions. The Treaty contains a Preamble, 12 Parts, 76 Articles, and 2 Annexes.

In 2018 UN started negotiations for the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction. It presents the biological diversity loss leading to the degradation of ecosystems of the ocean. This is due to climate change impact on marine ecosystems, warming, de-oxygenation, acidification, pollution, mainly plastic pollution. It also has the goal to advance scientific research, globally.

The treaty ensures the responsibility of the different stakeholders and addresses all the inequalities in sharing the benefits offered by the ocean.

For becoming a legal instrument it has to be signed by 60 countries, which happened now. Now the ratifying countries are legally bound to sustain the conservation and the correct administration of the High-Seas biodiversity.

Almost 2/3 of the ocean is a common property. It has a big importance for the planet health due to its rich biodiversity and natural resources. Thus, a legal status has to be implemented.



The High Seas Treaty will complement the national efforts and ensures coordinated conservation measures critical for realizing biodiversity as well as climate goals. It will also help regional cooperation of 21 nations for a sustainable management of 100% of the ocean areas under their jurisdiction. A more cohesive system of management from coastlines to open ocean will be created.

The BBNJ consists in 4 directions:

1) *Establish the Marine protected areas*

The Marine Protected Areas (MPA) are geographical regions, clearly defined, and their biodiversity and ecosystem integrity preserved. New MPA will be proposed, based on scientific evidences, by consultation.

2) *Regulate the exploitation of Marine genetic resources*

Rules for commercial applications of genetic materials from marine organisms and sharing the benefits will be established. These materials may be employed in food, medicine, cosmetic for human health and wellbeing.

3) *Capacity of marine technology building and transfer supporting developing countries*

The treaty includes sharing of technology and knowledge, help to low-income contries for sustainable ocean policy and participation to high sea governance.

4) *Assesment of environmental impact of current and future human activities*

Standard procedures based on international standards will be established for the solutions applied solving the pollution in high sea.

The BBJN has been ratified by 83 parties. Ursula von der Leyen, the president of the European Commission, signs the treaty in 2023

For the correct implementation of the High Seas Treaty negotiations are needed. The following aspects have to be solved:

- Formation of governing structures;
- Clarifying the roles and responsibilities of institutions, for providing data and scientific and technical advice;
- Creating tools and mechanisms to have an equitable implementation;
- Ensuring that funding and technical knowledge is distributed equitably so that all member states can participate.

Only through a correct government and financial mechanism the treaty becomes functional in protecting the global ocean also for the generations to come.

References

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Directorate-General for Maritime Affairs and Fisheries (2026) High Seas Treaty enters into force: A milestone for ocean conservation. https://oceans-and-fisheries.ec.europa.eu/ news/high-seas-treaty-enters-force-milestone-ocean-conservation-2026-01-16_en?

Emeritus Professor Michaela Dina Stanescu
Member of DCE from Romania

The evertéa foundation

Born in 2013 in Valence (Drôme area), the Evertéa Foundation is a scientific foundation of recognized public interest. The aim of the foundation is to improve research activities in health and the environment and to extend the scientific knowledge toward the citizens.

The Foundation's main objective is to attain a pollution-free world and, for that, it relies on scientific research in the fields of ecotoxicology and toxicology. Several research projects are funded annually through a call for proposals, with topics defined by our international scientific committee composed of recognized experts in their fields. These scientific projects are also monitored and assessed by the Scientific Committee, which is actively involved in the projects carried out by the Foundation.

The ambition to sustain research in health and the environment is also demonstrated in supporting young researchers, with best presentation awards at national and international conferences. The Foundation is also supporting research networks such as ECOTOXICOMIC (https://ecotoxicomic.org/) and is involved in larger-scale projects: - European Pharm-ERA project (https://pharm-era.hub.inrae.fr/), a research network based on 10 multidisciplinary doctoral projects dealing with pharmaceuticals in the environment; - CAPSTONE COST action (https://www.cost.eu/actions/CA24108/)dealing with Oxidative stress and Adverse Outcome Pathways (AOP)).

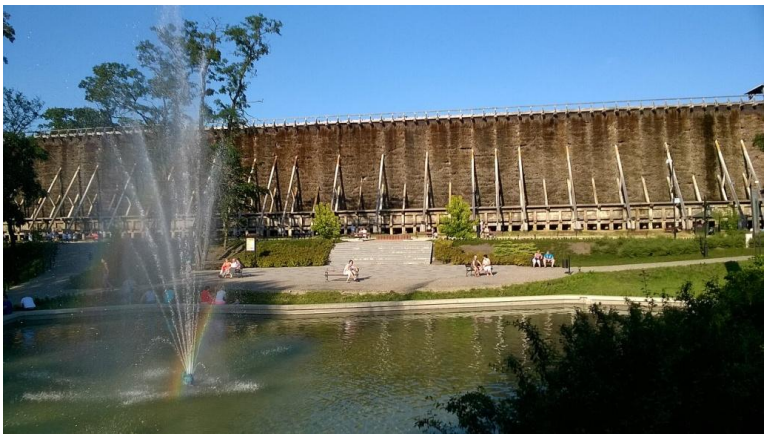
Informing of the impact of pollutants on the environment and on the importance of understanding and finding solutions to ban pollution is also an essential part of the evertéa Foundation's activities. The evertéa Foundation is known to the general public for planning numerous events aimed at popularizing and disseminating scientific knowledge, such as conferences with researchers, a science broadcasting program, and the development of citizen science projects, which enable people to get interactions in their local ecosystem and help us carry out actions in our region.

With this in mind, the Foundation is working on numerous other projects that are accessible to the general public, communities, and businesses. Among these activities, specific training courses have been developed for researchers and decision-makers. Joining our community of researchers and making a donation (https://fondationevertea.org/faire-un-don/) is a way to support the actions of the evertéa Foundation and the research in health and environment. Finding solutions today, we will allow protecting human and environmental health for tomorrow.

For more information about the evertéa Foundation, its various actions and projects, visit fondationevertea.org. Follow us on LinkedIn to stay up to date with our latest news. Projet: Hackathon - Fondation evertéa https://fondationevertea.org/projet-hackathon/

Conferences 2026

"Ciechocinek Brine – Health-Promoting Waters of Pomerania and Kuyavia"



March 15-17. 2026

Session I: *Brine Valley and Magical Ciechocinek;*
Session II: *Therapeutic and Rehabilitative Significance of Ciechocinek Waters;*
Session III: *Cosmetic and Medical Chemistry;*
Session IV: *Safety of Cosmetic and Hygienic Products;*
Session V: *The role and importance of health resorts in health-promoting and tourism activities.*

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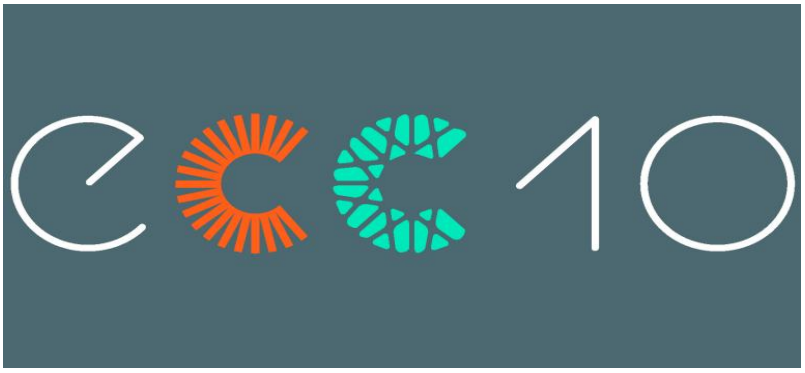

https://euchems2026.eu

The goal of this two-day conference series is to stimulate a stronger interaction among professionals working in different areas of analytical sciences. Scientists from applied and fundamental research, from industry, education, and regulation are welcome.

https://cha26. scg.ch

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