



WORLD chlorine council®

SUSTAINABILITY  
PROGRESS REPORT

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# Introduction to the World Chlorine Council (WCC)

The World Chlorine Council (WCC) is a global network of national and regional trade associations and their member companies representing the chlorine and chlorinated products industries. Formed in 1993, WCC features participation from chlor-alkali (chlorine, caustic soda/ potash and hydrogen) producers across China, Europe, India, Japan, Latin America, North America, and South Korea and works to include all global players. WCC represents the majority of the world chlorine capacity, and its mission is to be a global forum to promote health, safety, and environmental best practices to provide society with the benefits of the chlor-alkali industry. WCC is accredited as a non-governmental organisation by the United Nations (UN) General Assembly and is a recognised major stakeholder that provides input into UN processes on priority international issues.

## WCC Vision

WCC's Vision is to ensure that "Chlor-alkali chemistry is recognised as making an essential contribution to a sustainable world."

## WCC Goals

**Safety:** Promote the continuous improvement of safety, environment and health performance, progress and practices worldwide in chlor-alkali production, transportation and use.

**Active Engagement:** Maintain active engagement with our partners to share our knowledge, insights and perspectives.

**Sustainability:** Demonstrate and communicate the environmental, social, and economic contributions of chlor-alkali chemistry.

**Advocacy:** Participate in key international, regulatory and policy fora to promote informed decision making by World Chlorine Council member organisations and key stakeholders.

**Communications:** Communicate the opportunities, progress, and the challenges facing chlor-alkali chemistry to our members and society.

# Progress on Sustainability: WCC Perspective

The chlor-alkali industry's dedication to continuous social, economic and environmental improvement, known as the “triple bottom line” of sustainability, guides its activities.

Addressing the social component, but also related to economic and environmental components, WCC organises ‘Water Forums’ in countries where safe drinking water and proper sanitation remain challenging. These Water Forums are held every few years and bring together renowned speakers that are experts in their field and decision makers that can move the needle in bringing clean water and sanitation services to communities. In addition, WCC members have ongoing water-related programs and philanthropic initiatives and are engaged with their local and regional stakeholders.

The economic component of sustainability is also an important factor, as economic growth is critical to solving both environmental and social challenges, including poverty reduction. The global chemical industry has a critical role to play as both an employer in chemical manufacturing operations, and enabling economic activity via products that support a range of industries including agriculture and healthcare. Moreover, chemistry is essential in enabling economic activity through innovation. Virtually all manufactured products are touched by chemistry, especially chlor-alkali chemistry, and without chemistry, many new technologies would not be possible. In addition, sharing best practices to enhance safety, and protect our environment and colleagues, is a top priority. WCC members are continuously optimising their operations to help minimise emissions, reduce waste, and improve safety during the manufacture and transport of chlor-alkali products.

Lastly, chlorine chemistry helps improve the environment. It has a role to play in protecting marine life from invasive species, reducing habitat loss from agriculture, providing renewable energy, and minimising the impact of wastewater discharge, among other beneficial environmental applications.

**As the world increasingly seeks sustainable solutions to pressing problems, WCC is pleased to present its fifth triennial report of the chlor-alkali sector's achievements and contributions.**



# How chlorine chemistry supports the UN SDGs

In 2015, the United Nations (UN) announced 17 Sustainable Development Goals (SDGs) to achieve by 2030. Attaining these goals is no easy task and requires thoughtful solutions to be deployed by a multitude of stakeholders working across borders.

One of these tools to help achieve these goals is chlorine, an abundant building block element well known as a public health staple used to disinfect drinking water. Chlorine also has a lesser known but critical role in making many of the products that we benefit from daily. Often referred to as chlorine chemistry, it is a key component to help achieve many of the 17 SDGs.

WCC has participated in UN global conferences on sustainable development from our earliest days. A WCC delegation addressed the 2002 World Summit on Sustainable Development (“Rio+10”) in South Africa. Ten years later in 2012, WCC participated in the UN Conference on Sustainable Development (“Rio+20”) in Rio de Janeiro. At that time, the global community was focused on achieving the eight Millennium Development Goals, which had been adopted by the UN General Assembly in September 2000. These included halving, by 2015, the proportion of the world population that in 1990 lacked sustainable access to safe drinking water (achieved five years early in 2010) and basic sanitation (not achieved by 2015). WCC promoted the role of chlorine chemistry in helping to reach those goals.

WCC participation in global sustainable development continued as the UN General Assembly adopted the 2030 Agenda on Sustainable Development in September 2015, when the 17 SDGs were unveiled. As a registered observer under the UN Economic and Social Council, WCC attended several UN General Assembly Open Working Group meetings on setting the water and sanitation goal and associated targets. WCC submitted a statement to the UN on the role of drinking water chlorination in helping to achieve global access to safely managed drinking water. In July 2018, WCC exhibited with safe water partners at the UN High Level Political Forum on Sustainable Development in New York City, highlighting the multiple and diverse SDGs that chlorine chemistry will help achieve by 2030.

In March 2023, WCC attended the United Nations Water Conference highlighting its commitment to global water challenges and the critical role of chlorine in supporting the SDGs. The conference facilitated the exchange of knowledge and best practices related to water management, with WCC emphasising chlorine’s essential role in maintaining clean and safe water supplies. This effort aligns with the SDGs, especially those concerning clean water and sanitation.

This report provides some examples of how chlorine chemistry is helping to meet current and future global sustainable development challenges.



## Providing safe drinking water

Chlorine plays a crucial role in ensuring safe drinking water, disinfecting wastewater, and supporting water infrastructure through the use of PVC (polyvinyl chloride) pipes. It can be used for water disinfection at both an individual household level and on a larger scale in municipal drinking water facilities. This scalability makes chlorine a particularly effective tool in helping achieve **Sustainable Development Goal (SDG) 6** — ensuring access to clean water and sanitation for all.

Chlorine's unique abilities to make water safe to drink is essential in attaining SDG 6. According to the World Health Organization and the UN Summary Progress Update 2021: SDG – water and sanitation for all, 2.2 billion people lack even basic drinking water service, and 2 billion people use a drinking water source contaminated with faeces. Contaminated drinking water is estimated to cause 505,000 diarrhoeal deaths each year.<sup>1</sup>

To improve access to safe drinking water, the WCC has partnered with organisations all over the globe. Provided in more detail below, the Water Forums WCC holds bring together experts to help find solutions to achieve SDG 6. Additionally, WCC has created informative posters to educate those with water cisterns on proper ways to maintain them, so they safely contain drinking water for households. Lastly, WCC members aid philanthropic organisations working on the ground providing access to clean drinking water in developing communities in Haiti and Honduras.

WCC's website has additional drinking water resources available at <https://worldchlorine.org/publications/>.

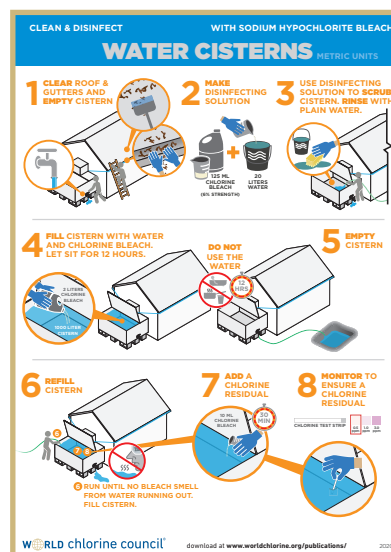
<sup>1</sup> UN-Water. Summary progress update 2021: SDG 6 – water and sanitation for all. [https://www.unwater.org/sites/default/files/app/uploads/2021/12/SDG-6-Summary-Progress-Update-2021\\_Version-July-2021a.pdf](https://www.unwater.org/sites/default/files/app/uploads/2021/12/SDG-6-Summary-Progress-Update-2021_Version-July-2021a.pdf)



## How is WCC contributing?



**The WCC Clorosur Water Forum**, held in Brasilia in October 2023, highlighted sustainable water usage in Latin America, drawing 123 participants from 15 countries. It focused on environmental responsibility, addressing climate challenges, and enhancing investments and public policies in line with UN Sustainable Development Goals. Key speakers, including representatives from notable financial and development institutions, emphasised the importance of informing decision-makers, ensuring mutual accountability, and attracting sector investments. The event showcased the WCC's commitment to promoting sustainable water management and collaboration within Latin America's water industry.



### Developed Infographic Posters explaining how to use chlorine chemistry to disinfect cisterns

In collaboration with the Water Engineers for the Americas, WCC maintains informative posters on how to disinfect cisterns using chlorine chemistry.

In many parts of the world, individual homes store collected drinking water in large tanks or cisterns. To keep these tanks clean and the household protected from water-borne illnesses, these tanks need to be regularly cleaned and disinfected. This helps to get rid of any potentially harmful bacteria or viruses that are growing within. Here, chlorine-based disinfectants are vital due to their excellent and proven properties in addition to their affordability and applicability across a wide range of cistern sizes.

The posters explain how to safely and effectively disinfect cisterns via simple diagrams. It is hoped that these posters can be used to safeguard the health of people in developing communities across the globe. They are available via the resource's pages of the WCC website.

### Jal Jeevan Mission (JJM): Advancing Sustainable Water Solutions with Chlorine Chemistry

India's Jal Jeevan Mission (JJM), launched in 2019 by Prime Minister Narendra Modi, seeks to provide safe and adequate drinking water to every rural household by 2024. As of May 2024, the mission has already reached over 76% of the target, a significant jump from the initial 16.8% when the program began. Central to this initiative is the use of chlorine chemistry in disinfecting groundwater, ensuring safe water supply to millions of rural homes.

Chlorine, produced through the chlor-alkali process, is essential for treating water at various stages of the supply chain. Sodium hypochlorite (bleach) is commonly used to disinfect groundwater, eliminating harmful pathogens and reducing waterborne diseases. This simple yet powerful chemical treatment ensures that communities, especially in rural areas, have access to potable water, supporting the mission's goal of improving public health.

The Jal Jeevan Mission showcases how sustainable solutions, like chlorine-based disinfection, play a pivotal role in India's efforts to provide clean water and build resilient water infrastructure. The chlor-alkali industry remains integral to this mission, offering a long-term roadmap for sustainable and safe water management.





## Ensuring adequate and healthy food

Chlorine chemistry improves food supply, reduces food waste, and contributes to food safety. In addition to crop protection compounds that improve agricultural yields, chlorine chemistry helps keep food safe and fresh for longer. Products such as sodium hypochlorite bleach are used to sanitise and disinfect food contact surfaces and equipment. Chlorine chemistry is also used to make certain types of food packaging that can help extend the shelf life of food and prevent spoilage and contamination.



## Supporting Health Care

Chlorine chemistry is used in the manufacture of many of the most critical pharmaceuticals and healthcare products. Also, surface disinfection using chlorine-based products reduces the spread of infectious diseases.

Many pharmaceuticals are made possible by chlorine chemistry either being a part of the synthesis of pharmaceuticals, or present in final compounds. These include medicines to treat HIV/ AIDS, allergies, arthritis, cancer, depression, diabetes, heart disease, hypertension, infections, pneumonia, ulcers, and more.

Further, an estimated one-quarter of medical devices and equipment depend on chlorine chemistry. Chlorine-based plastics are used to manufacture intravenous drips and blood bags, sterile tubing, prosthetics and heart catheters. Chlorine helps make polycarbonate face shields that protect healthcare workers, and even semi-conductors for diagnostic medical instruments are made using chlorine chemistry.

Chlorine chemistry is also helping in the fight against mosquito-borne diseases, such as Zika virus, malaria, and dengue. Mosquito-borne diseases cause millions of deaths globally every year. From anti-mosquito sprays, placing chlorine disinfectants in areas that collect water, to special impregnated sleeping nets, chlorine chemistry is essential in protecting against diseases caused by biting insects.

In hospitals, schools, day cares, nursing homes, and elsewhere, chlorine-based disinfectants (such as bleach) help protect people from infection by inactivating pathogens on surfaces. This is especially important in healthcare settings where there is an increased risk of spreading pathogens among patients.

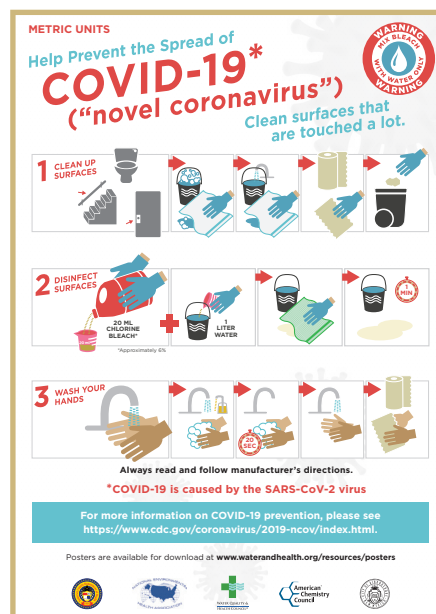




## How is WCC contributing?

### "Clorosur's Ongoing Fight Against Dengue: Harnessing Chlorine Chemistry for Public Health"

Brazil has experienced a significant increase in dengue fever cases, with millions affected by this mosquito-borne illness, primarily transmitted by the *Aedes aegypti* mosquito. These mosquitoes thrive in stagnant water, particularly in regions with high temperatures and intermittent rains. Clorosur, the Latin American Chlor-Alkali and Derivatives Industry Association, has been actively involved in combating the spread of diseases like dengue through its focus on the effectiveness of sodium hypochlorite (bleach) in eliminating mosquito larvae. This initiative builds on the results of a 2016 study conducted in partnership with the University of São Paulo's Nuclear Energy Center in Agriculture (CENA/USP). Sodium hypochlorite has been proven effective in treating stagnant water in containers such as plant dishes, drains, and water tanks. Clorosur continues to advocate for the use of chlorine chemistry to protect public health and is extending this initiative to other parts of Latin America, where cases of mosquito-borne diseases such as dengue, Zika, and chikungunya are prevalent.



### Chlorine Chemistry: A Continuing Ally in Public Health Efforts

Chlorine chemistry played a crucial role in combating the COVID-19 pandemic, with the American Chemistry Council's Chlorine Panel creating and distributing educational materials on disinfecting surfaces to prevent the virus spread.

Worldwide, chlor-alkali producers supplied chlorine-based products essential for sanitation and medical equipment, demonstrating the industry's vital contribution to global health safety.





## Creating Renewable Energy

Chlorine chemistry is a building block in the manufacture of key ingredients in solar panels, wind turbines, and hybrid car batteries.

In solar panels, chlorine chemistry is used to help purify the silicon found in grains of sand that is used to make solar panel chips. Wind turbine blades are often made from chlorine-based epoxy resins.

Clean, energy-efficient hybrid vehicles contain electric motors powered by nickel metal hydride battery packs; these batteries, which last longer than the most advanced lead-acid battery, use potassium hydroxide, a co-product of chlor-alkali production, as an electrolyte. Hydrogen, a valuable co-product of the chlor-alkali process, is used as a fuel in buses and cars, promoting a cleaner living environment in cities.



## Building Sustainable Cities and Communities

Chlorine chemistry helps achieve sustainable cities and communities with affordable and durable housing materials, and telecommunications and computer technology.

Polyurethane foam insulation, advanced refrigerants, and PVC based window frames, manufactured using chlorine chemistry, increase the performance of home heating and air conditioning systems. PVC water pipes are extremely durable and versatile. They can be used in the home or to carry drinking and wastewater throughout cities. Fiber optic cables and computer chips, that use chlorine chemistry to make the glass and silicon wafer components, help make cities 'smart' by communicating residents' movement to optimise transit systems.

### Enhancing Solar Efficiency: The Role of Chlorine Chemistry and Titanium Dioxide Nanofluids

Chlorine chemistry not only plays a crucial role in purifying silicon for solar panel but also in the synthesis of titanium dioxide ( $\text{TiO}_2$ ).  $\text{TiO}_2$  nanofluids are revolutionising solar power by enhancing efficiency through superior heat transfer and thermal management. These advancements enable more effective cooling of photovoltaic systems, thereby boosting energy conversion rates. Innovations include improved nanofluid stability and conductivity, thanks to careful surfactant selection and the incorporation of  $\text{TiO}_2$  into conducting polymers. Such progress promises significant strides in renewable energy.

[MDPI](#), [SpringerOpen](#), [MDPI](#), [IntechOpen](#) - [Open Science Open Minds](#)



## Responsibly and Safely Producing More Whilst Using Less

Chlorine chemistry fosters responsible consumption and production of products made other by industries that reduce feedstock inputs and minimise waste.

For example, aluminium beverage cans are recycled by bubbling chlorine gas through molten aluminium scrap to reduce impurities for reuse. In addition, using chlorine chemistry to manufacture titanium and titanium dioxide results in less waste compared to other chemical processes to make these products. This conserves resources, reduces waste, and contributes to a circular economy.

The global chlor-alkali industry itself is also reducing its footprint by moving towards more efficient technologies in the chlor-alkali manufacturing process that reduce emissions and conserve less energy. In addition, the chlor-alkali industry is committed to safe management of substances throughout their lifecycle. WCC not only focuses on safe production, but also on open communication with stakeholders about chemicals management, and on good product stewardship according to the standards of Responsible Care® and the International Council of Chemical Associations' (ICCA) Global Product Strategy (GPS):

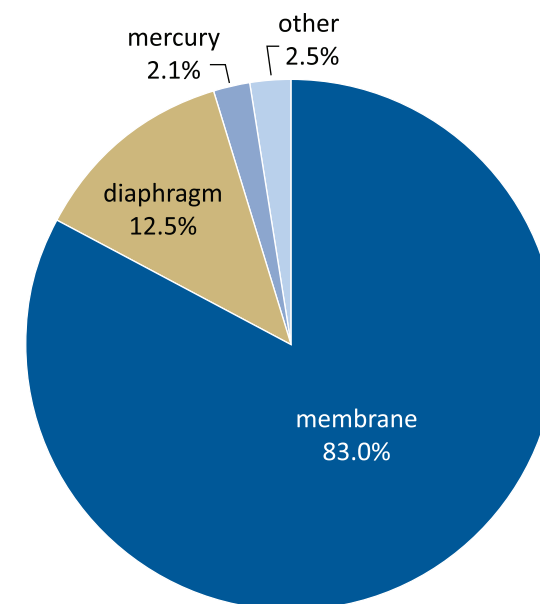
- **Responsible Care®** is the chemical industry's unique global initiative that promotes continuous improvement in health, safety and environmental performance, together with open and transparent communication with stakeholders. It includes a tracking and reporting element that allows identification of the areas that require special attention. Responsible Care® has fostered the development of the ICCA GPS.
- **The ICCA Global Product Strategy** seeks to improve the industry's management of chemicals including the communication of chemical risks throughout the supply chain. GPS advocates at harmonising safety assessments at the global level to evaluate and provide guidance on safety and risk management for chemicals in commerce.

## How is WCC contributing?

WCC closely monitors and supports the global efforts of the chlor-alkali sector to transition from the mercury cell process to newer production technologies under sound business management approaches, consistent with the requirements of the Minamata Convention on Mercury.

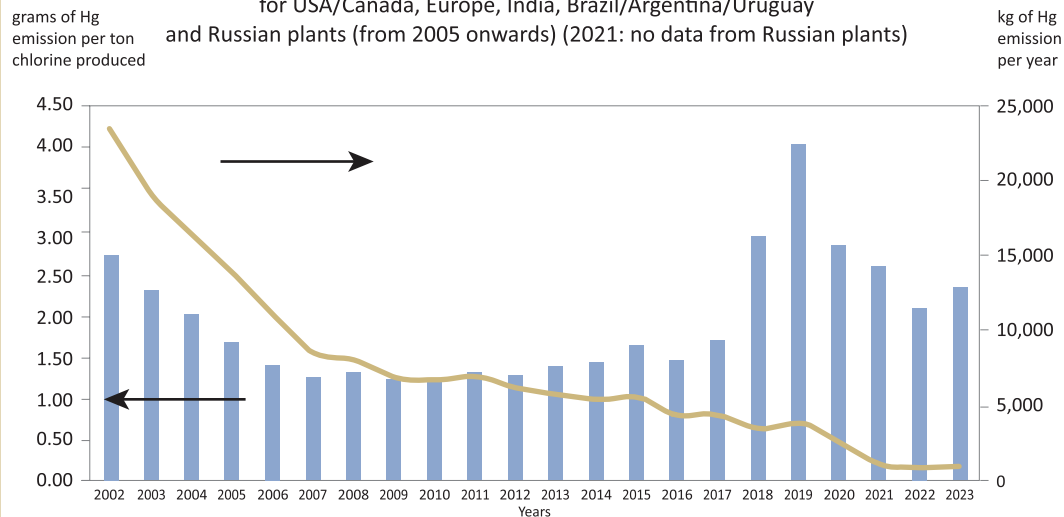
In first instance, this is done through [comprehensive data collection \(see below and on page 12\)](#).

**Chlorine production technology as % of installed world capacity (88,902 kt)**



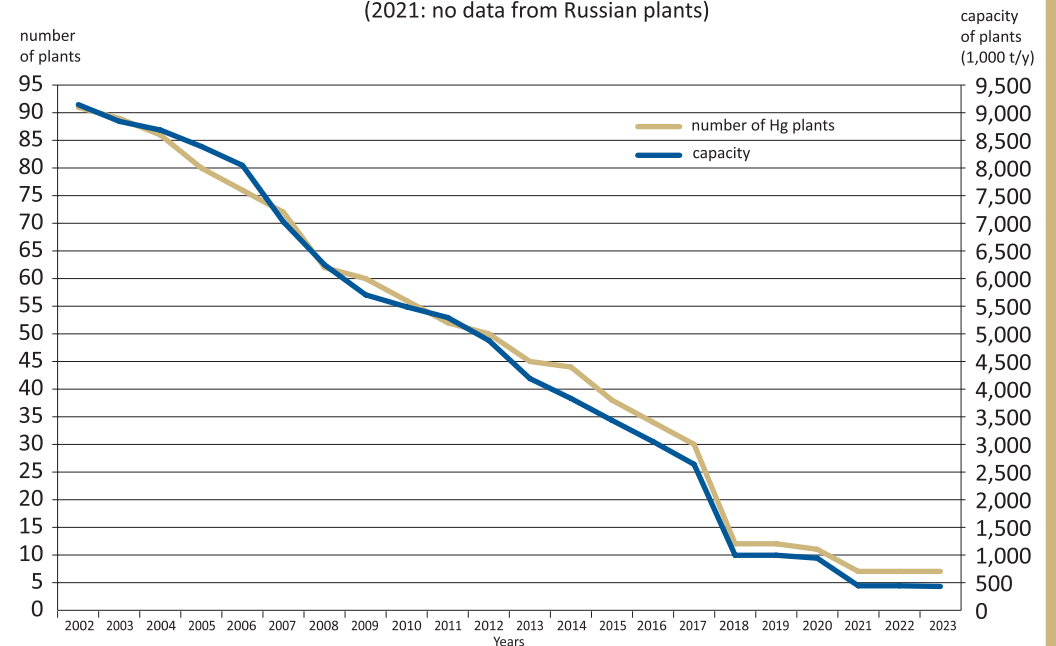
### Mercury emissions across the globe WCC - Chlor-Alkali Industry Total mercury emissions (air + water + products)

for USA/Canada, Europe, India, Brazil/Argentina/Uruguay  
and Russian plants (from 2005 onwards) (2021: no data from Russian plants)



As an industry, chlor-alkali producers have long focused on minimising their environmental impact. Many **WCC** regions continue to collect sustainability data, such as energy consumption, carbon footprint, and incident data, with **Euro Chlor** in Europe compiling this information since 2001 through its **annual Sustainability Report**. Now entering its third decade, **Euro Chlor** is actively working toward a **safe, climate-neutral, and circular industry** by 2050. Their efforts align with global sustainability goals, including the **UN Sustainable Development Goals (SDGs)** and the European Union's **Green Deal**.

### Evolution of worldwide chlor-alkali capacity on mercury WCC - Chlor-Alkali Industry Number of plants and capacity of mercury electrolysis units in USA/Canada/Mexico, Europe, Russia, India, Brazil/Argentina/Uruguay (2021: no data from Russian plants)





### Engagement in Global Mercury Initiatives

WCC puts great effort into maintaining open dialogues with the **UN** and other stakeholders. As a recognised **NGO**, WCC has actively participated in regional and global initiatives to address mercury emissions, particularly through the **Minamata Convention on Mercury**.

WCC member companies are transitioning to **mercury-free technologies** as older facilities are phased out. The chlor-alkali industry has already achieved an **89% reduction in mercury cell capacity** since 2002 and has reduced its mercury emissions by **85%** during the same period. Currently, the sector accounts for less than **1% of global mercury emissions**, further reflecting the industry's commitment to environmental responsibility.

In line with the **Minamata Convention**, WCC and its members actively promote **Best Available Techniques (BAT)** and **Best Environmental Practices (BEP)** at existing facilities. These practices include:

- Monitoring and managing **mercury-containing waste** in accordance with the **Basel Convention**.
- Safely handling and disposing of **end-of-life mercury** from decommissioned cells, following **Responsible Care®** principles ([World Chlorine Council](#), [World Chlorine Council](#)).

### Global Knowledge Sharing

The WCC further contributes by organising **stewardship workshops** in key regions, sharing BAT/BEP guidelines, and discussing emerging technologies to enhance chlor-alkali production. This also includes innovations like **recycling hydrogen** and the use of **cogeneration** for improved efficiency. These efforts help to support ongoing sustainability improvements across the global chlor-alkali sector.





## Protecting Life Below Water

Chlorine chemistry helps destroy invasive species that damage aquatic ecosystems

As ships traverse the globe, they can bring with them plants and animals from other areas in their ballast water, which has the potential to disrupt local ecosystems. When the ship's cargo is added, this ballast water is pumped out for stability, inadvertently releasing these 'invasive' species into the environment. These species can upset the balance of local ecosystems. By carefully treating this ballast water with hypochlorite (or bleach), these species are exterminated, as are their impact on the environment.

## How is WCC contributing?

### A Role for Chlorine Chemistry in Managing Ship Ballast Water

Under the International Maritime Organisation's Ballast Water Management Convention, ships of nations that are parties to the convention will be required to treat their ballast water before discharging it to receiving waters, to help protect aquatic ecosystems globally. This will help achieve the UN Sustainable Development Goal 14, which focuses on preserving life below water. Available ballast water treatment technologies include chlorine-based methods that employ hypochlorite's or chlorine dioxide to destroy "stowaway" organisms in ballast water tanks. In 2019, WCC issued a brief on this topic that presents an overview of the main treatment technologies for ballast water and some considerations for each technology. It can be accessed at <https://worldchlorine.org/publications/>.

#### WORLD chlorine council®

##### Ballast Water Treatment with Chlorine-based Disinfectants

August 2019

The International Maritime Organisation's (IMO) Convention for the Control and Management of Ships' Ballast Water and Sediments is a vital tool to prevent the damaging effects on aquatic ecosystems caused by the exchange of untreated ship ballast water. Chlorine chemistry, when correctly applied, is an integral part of ballast water management plans to help protect Earth's aquatic species from the impacts of non-native species.

##### ISSUE SUMMARY

Ballast water is marine, brackish, or fresh water taken into and discharged from ship ballast tanks to improve their stability and maneuverability. The process of adding (ballasting) and releasing (deballasting) water is vital to a ship's operation, but it can be disruptive to aquatic ecosystems by promoting the spread of invasive species. Ballast water can contain aquatic life forms that may be native to the ecosystem of the water "intake" point but foreign to the ecosystem of the water "release" point. For example, zebra mussels, which are freshwater mussels indigenous to the lakes and rivers of Russia and Ukraine, are now thriving in numerous non-native freshwater bodies worldwide. Their dense growth in these areas blocks pipelines and clogs water intakes, among other detrimental effects.

The International Maritime Organisation's (IMO) [Convention for the Control and Management of Ships' Ballast Water and Sediments](#), commonly referred to as the Ballast Water Management Convention (BWMC), aims to prevent the spread of harmful aquatic organisms from one region to another by establishing standards and procedures for managing and controlling ship ballast water and sediments. The BWMC applies to all ships that carry ballast water and travel internationally. It sets requirements for global ballast water management, but permits national, regional, and local authorities to establish their own regulations within their respective territorial waters. The Convention requires ships to have and implement an acceptable ballast water management plan. Under the BWMC, as of 8 September 2017, ships must either perform ballast water exchange (substitution of water in ship's ballast tanks) according to specifications, or use an approved treatment system.





## Protecting Life on Land

Chlorine chemistry helps enhance life on land through its role in the manufacture of crop protection compounds.

Over 80% of the most commonly used crop protection compounds use chlorine chemistry in the manufacturing process or chlorine is in the final product. These agricultural inputs improve yields, reduce food waste, reduce soil erosion, and help prevent habitat loss. By preserving more land for natural habitats, fewer species are threatened by habitat loss.



## Partnerships Promoting Stewardship and Sustainable Development

The crux of WCC's Mission and Goals depend upon the partnerships it forges with organisations around the world. WCC is inherently reliant on its regional members working together to promote stewardship within the industry, and to share chlorine chemistry's benefits to external stakeholders. In addition to the collaboration WCC fosters with other chlor-alkali associations, WCC also partners with external institutions such as the UN and philanthropic organisations.

The many chlor-alkali associations around the globe that make up the WCC leverage their partnership to promote stewardship and safety within the industry. Knowledge is exchanged within WCC to share lessons on how to safely produce, handle, and transport chlor-alkali products (more detail provided below). Additionally, as previously discussed, WCC has a formalised partnership with the UN on mercury emission reduction, and continues to partner with external stakeholders to bolster the impact and expertise at the WCC Water Forums held around the globe.

## How is WCC contributing?

The WCC safety programme targets continuous improvements in global safety performance – both at facilities and during product transportation. Key initiatives include:

### **WCC incident reporting and tracking programme:**

The WCC Global Safety Team tracks and shares lessons learned in major incidents to help prevent future incidents.

### **Active participation in stewardship workshops:**

WCC participates in stewardship workshops that are organised across the globe offering expert presentations, allowing further sharing of best safety practices and lessons learned.

**Safety Seminars:** WCC holds an annual Safety Seminar to share experiences, advice and learnings with as wide an audience as possible:

In 2019 WCC held a **Safety Seminar in Johannesburg**, South Africa. With over 60 participants from across Africa, Asia, Europe, and North America, the seminar brought together producers, distributors and users of chlorine. The seminar covered many topics pertaining to chlorine safety, including chlorine incident avoidance and risk assessment, and the vital role that training plays in the safe handling of chlorine.





In 2023, WCC held a **Safety Seminar in Johor Bahru**, Malaysia. The two-day event had over 70 attendees to learn more about chlor-alkali safety. Participants came from Malaysia, India, Thailand, Australia, New Zealand, Singapore, Republic of Korea, United States, Pakistan, and even the Netherlands. The seminar covered many topics pertaining to chlorine safety, including atmospheric monitoring, hydrogen handling, accidental mixing prevention, and the vital role that training plays in the safe handling of chlorine. The meeting wrapped up with a plant tour.



## No Goal Stands Alone

The UN SDG's are intentionally interconnected. Achieving one goal, helps achieve another, and no single goal can be fully attained in isolation. Chlorine chemistry has a direct role in helping achieve the many goals previously discussed. However, chlorine chemistry indirectly helps attaining other goals as well.

For example, SDG 5, Gender Equality, is bolstered by chlorine chemistry's role in SDG 6, Clean Water and Sanitation. The task of fetching water in developing countries is disproportionately carried out by women. Therefore, achieving SDG 6 helps achieve SDG 5. Taking this further, when people have improved access to safely managed water, students can attend school and parents have more time to participate in the labour force, which helps achieve SDG 4 (Quality Education) and SDG 8 (Decent Work and Economic Growth). As one can see, no goal exists in a silo – they are all linked.

The interconnected nature of the SDGs underscores the importance of SDG 17, Partnerships for the Goals. Achieving any and all of the SDGs relies upon a concerted effort of people in different fields, types of institutions, and geographies coming together. WCC brings together those in the chlor-alkali industry to partner across borders, and it leverages external partners to help achieve the SDGs in multiple disciplines and functions. WCC cannot achieve every SDG on its own; however, we will continue to play our part to promote and foster their attainment today for a better and more sustainable tomorrow.



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