

We are integrating

# The UN Global Goals for Sustainable Development



**ALUMICHEM**

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## **SUSTAINABLE BUSINESS FOR A SUSTAINABLE FUTURE**

At Alumichem, we are committed to promoting sustainable development in the world. We know that sustainability and growth are mutually dependent, and sustainability is a central part of how we do business. We define sustainable development as The Brundtland Report did in 1987:

*“A development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”*

– Gro Harlem Brundtland

If all countries and companies worldwide continue business-as-usual, then the demand and consumption of Earth’s resources will grow, and this might destroy its ability to regenerate itself. Therefore, we seek to minimize the Ecological Footprint we put on Earth as a company and as human beings.

It is our core business to innovate and optimize the chemical processes used in the treatment processes of water and wastewater. We develop and implement technologies and smart solutions for wastewater treatment and water management that will allow us to operate in a resource-constrained world.

### **We focus on where we make the most significant difference**

We are ambitious in the Alumichem. As a market leader in the Nordic countries for chemicals and water treatment solutions, we develop green and sustainable technologies for water treatment.

We integrate a business-driven CSR (Corporate Social Responsibility) in our daily activities where we strive to:

Be at the forefront of developing sustainable technologies.	Make solutions that help municipalities and industries to meet the stringent regulations for water treatment processes.
Work passionately to ensure that all customers get products of the highest quality.	Serving our customers quickly and efficiently with the highest degree of integrity.

## THE UN GLOBAL GOALS FOR SUSTAINABLE DEVELOPMENT

The UN General Assembly set the 17 Sustainable Development Goals in 2015, which concerns all 193 member states. They are to be achieved in 2030 and sets a historic opportunity for global sustainable development. They show a common direction for sustainable development for both countries and companies.

*“Companies are vital partners if we are to achieve the goals in 2030 and can contribute through their core business.”*

- Ban Ki-Moon

The 17 Global Goals are a unique opportunity to develop and implement business-driven solutions and technologies for solving the world’s most substantial sustainability challenges. At Alumichem, we can make a difference and promote sustainable development for future generations by focusing on our core products and services.

## ALUMICHEM' CONTRIBUTION TO A SUSTAINABLE FUTURE

Alumichem supports the UN Global Goals because the achievement of all these can create a sustainable future. We are all responsible for our limited resources and future generations.

As a company in the water industry, Alumichem can make a unique contribution to a selection of the goals. We work in-depth with four specific goals, which we have integrated into our daily activities. We focus on:



**Clean Water** by treating wastewater and minimizing sludge/residual waste.



**Clean Oceans** by eliminating microplastic and contaminants from water led to the oceans.



**Circular economy** by promoting resource reuse in the whole water cycle.



**Good health** by developing new, eco-friendly solutions for water treatment.



**Better infrastructure** by Reducing particle contamination and Eco-friendly de-icing.



**Partnership** at the international level. We work with partners and universities worldwide.



**Quality Education** by Cooperating with schools and universities. Students, projects, internships etc.

## GLOBAL GOAL NO. 6

### Efficient and Future-proof Wastewater Treatment



#### **No. 6: Ensure availability and sustainable management of water and sanitation for all**

**6.3.** By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.

**6.6** By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.

**6.a.1** By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies.

#### **The challenge:**

Untreated and polluted wastewater is a big challenge worldwide. Our unique aquatic environment is under pressure and exposed to more and more contaminants in unnaturally high concentrations.

#### **How we meet the challenge:**

At Alumichem, we improve water quality by developing chemicals and our innovative technologies.

The regulations for wastewater treatment are becoming more and more strict, and it is crucial that wastewater treatment is optimized and streamlined. Continuously, we future-proof wastewater treatment by introducing new water purification technologies.

One example is Alumichem' new bubble technology/ advanced oxidation technology that safely and efficiently disinfects and removes contaminants. It is highly cost-effective and reduces the amount of excess sludge from the purification process.

We make wastewater cleaning smarter and more cost-effective by updating existing purification systems. We adapt them to meet future requirements for purification or deliver new efficient water purification systems.

Alumichem helps protect and restore water-related ecosystems by delivering wastewater treatment plants to several industrial laundries in the Nordic countries. Wastewater from industrial laundries contains an alarming amount of microplastics, toxins, and heavy metal, and an effective purification process is crucial to the surrounding ecosystems.

Hospital wastewater is another focus area. Alumichem IntenseOx can target specific bacteria, and medicine remains in the wastewater will be significantly reduced.

## GLOBAL GOAL NO. 14

### Sustainable Development in the Oceans



**No.14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development.**

**14.1.** By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.

**14.2.** By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans.

**14.3.** Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels.

#### **The challenge:**

The environmental footprint of human behaviour is increasing. Our oceans contain visible plastic as well as the less noticeable pieces of microplastic which binds many toxins, heavy metals, medicine remains, and multi-resistant bacteria. These are harmful to both humans and marine life. Micropollutants are non-biodegradable and end up in the water cycle and accumulate in the body.

#### **How we meet the challenge:**

Alumichem supports sustainable management and protection of the marine and coastal ecosystems by developing and implementing technologies for effective wastewater treatment.

We prepare water treatment plants for the future and can remove all harmful particles and complies with the stricter requirements in Denmark, the EU, and at the international level.

Our CSS technology can remove up to 99,7 % of all microplastic particles, and the IntenseOx technology removes organic micropollutants from

wastewater and sludge. We have state of the art equipment to ensure clean water for the aquaculture (fish farming) without dirt and sludge in the water, and we safely remove multi-resistant bacteria from hospital wastewater.

## GLOBAL GOAL NO. 3

### Prevent Deaths and Illness by Eliminating Hazardous Chemicals in the Water



#### **No.3: Ensure healthy lives and promote well-being for all at all ages**

**3.9** By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.

#### **The challenge:**

Our drinking water is at risk. More and more contaminants measured in our surface and groundwater – both in Denmark and worldwide – put our health at risk.

Wastewater from the industry often contains substances that may not be captured in a standard cleaning process, e.g., too high a content of heavy metals in the drinking water.

#### **How we meet the challenge:**

Clean water worldwide without any health risks for humans is a focus area for the Alumichem.

At Alumichem, we innovate technologies for a high-quality process to purify wastewater and clean for residues of contaminants. One example is Alumichem' unique CSS system and precipitation chemicals which can catch heavy metals and bind them to the sludge.

We prepare water treatment for the future by innovating technologies that remove more contaminants than the legislation of today requires. Among others, we have developed our IntenseOx technology for the removal of organic micropollutants and carcinogen substances. We supply the technology to partners in the Nordic countries and North America.

## GLOBAL GOAL NO. 12

### Sustainable use of Wastewater in a Circular Economy



#### **No. 12: Ensure sustainable consumption and production patterns**

**12.4.** By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment

#### **The challenge:**

Clean water is at risk of becoming a scarce resource in the future. Less and smarter use of Earth's resources is central for a sustainable future, and it is necessary to redefine the economy and focus on a circular definition where we reuse resources and regenerate the natural water systems.

The traditional use of water consists of 3 steps: First, we withdraw water from the ecosystem; secondly, we use the water (e.g., for production, in households, in agriculture); and thirdly, we return the water to the ecosystem after a purification process in a water treatment facility.

This linear system is challenged by the concept of a circular economy for water, which focuses on reducing the use of water and reusing the water.

The logic is that we have to regenerate the resources by keeping the water in use and avoiding withdrawal of water from the ecosystem. We do that by eliminating ineffective actions and rethinking the way we use water - both in privacy and the industrial production processes.

**How we meet the challenge:**

By effectively cleaning wastewater from the industry, Alumichem helps create environmentally sound management of chemicals from the production processes throughout their life cycle. It significantly reduces chemicals released to the environment and water systems, thereby minimizing their adverse impacts on human health and the environment.

Conventional chemical water cleaning processes generate much excess sludge. We have innovated new products that make it possible to reduce the amount of excess sludge significantly.

More importantly, the process generates clean sludge without chemical residues and no secondary pollution caused by chemical additives. By transforming highly degradable organic compounds, we make it possible to reuse the sludge. Alumichem' eco-friendly green solutions provide smarter use of water.

## GLOBAL GOAL NO. 9

### Cleaner Air and Sustainable Winter Maintenance



**No.9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.**

**9.4.** By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.

#### **The challenge:**

As living standards rise in many countries, so does air pollution. Part of the pollution is particles that come from cars, power plants, construction, and the like.

#### **How we meet the challenge:**

Alumichem produces a Nordic Eco-labelled product - ICE & DUST-AWAY, which can bind the particles to the road and thereby reduce the particle pollution in the air. The product is also a "green alternative" to road salt, which contaminates groundwater.

## GLOBAL GOAL NO. 17

### Global Partnerships for Sustainable Development



#### **No.17: Strengthen the means of implementation and revitalize the global partnership for sustainable development**

**17.16.** Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries  
Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships.

All the UN Global Goals are interdependent, and their fulfillment in 2030 requires global partnerships and a strong commitment from all levels.

At Alumichem, we cooperate at the international level with partners, and we work with well-known universities worldwide. We are present in Ghana, North America, and the Nordic countries where we implement our environmentally sound technologies.

In Denmark, we cooperate with Technical University of Denmark (DTU) and other suppliers of knowledge and technology. We always strive for the newest experience when we innovate technologies.

## GLOBAL GOAL NO. 4

### Promoting Sustainable Development Through Education



**No.4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.**

**4.7.** By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture's contribution to sustainable development.

At Alumichem we are promoting quality education and our extensive knowledge about sustainable development and solutions, by cooperating at the international level with schools, and well-known universities. We collaborate with schools and universities in the form of mutual visits, projects, internships, and apprenticeships.

In Denmark, we cooperate with Technical University of Denmark (DTU), Dansk Industri among others. Alumichem collaborates with municipalities on better information about vocational education and job opportunities.