The World Chlorine Council® (WCC®) is a global organisation representing the chlorine and chlorinated products industries. It brings together national and regional trade associations, along with their member companies.
The WCC® currently represents about 90% of global chlorine production capacity.

Its mission is to

- promote safety, environmental and health best practices across the chlor-alkali industry with a focus on co-ordinating worldwide implementation of Responsible Care in all aspects of chlorine chemistry – including safe production, distribution and use
- share information and develop strategies on current and emerging issues (regulatory, health/safety/environment)
- anticipate and prevent unwarranted restrictions on chlorine chemistry (products and processes)
- ensure appropriate representation of the chlor-alkali industry with key international bodies
- promote the benefits of chlorine chemistry to society and address the sustainability of the chlorine industry.

To learn more about the UNEP Global Mercury Programme, visit "Partnerships":
http://www.unep.org/hazardoussubstances

Responsible Care®
Good Chemistry at Work

For more information on the Responsible Care initiative, visit **www.responsiblecare.org**.

WCC® Secretariat:
World Chlorine Council® - Secretariat
700 2nd Street, NE
Washington, DC 20002
United States of America

info@worldchlorine.org

UNEP Global Mercury Partnership

Reduction of Mercury Emissions & Use in the Chlor-Alkali Sector

How this partnership has delivered on reducing mercury consumption and mercury emissions

Summary

- In 2003 the United Nations Environment Programme (UNEP) Governing Council concluded that there was sufficient evidence of global detrimental impacts related to releases of mercury. According to UNEP these impacts include human and environmental health.
- According to UNEP, the chlor-alkali industry is a significant user of mercury but the releases are small.
- For economic and environmental reasons, mercury-cell technology is not the preferred technology and existing facilities will be phased out taking into account the economic lifetime. Access to adequate financial capacities is the key factor for conversion.
- The World Chlorine Council® (WCC®) entered into a partnership with the UNEP Global Mercury Programme to promote and share best practices to reduce mercury use by and emissions from chlor-alkali manufacturing sites.
- Results in reducing mercury use and emissions are communicated annually to UNEP to demonstrate progress.

Update January 2017

Background

The UNEP Global Mercury Programme was established by the UNEP Governing Council® to address global mercury pollution. The primary objective of the programme is to facilitate global efforts to reduce and, where possible, eliminate the use and release of mercury.

This also applies to the Chlor-Alkali Industry, as one of the three main processes for the production of chlorine and caustic soda is mercury-based.

The World Chlorine Council® entered into the Global Partnership on Mercury Reduction in the Chlor-Alkali Sector representing the global Chlor-Alkali Industry to collaborate with governments and other stakeholders. Partnerships are co-ordinated by UNEP.

Three Steps to Success

As part of the Global Partnership on Mercury Reduction in the Chlor-Alkali Sector, WCC® has voluntarily developed a triple approach. These three key elements of progress have led to this sector significantly decreasing the amount of mercury used by and released to the environment.

Today mercury based chlor-alkali electrolysis accounts for less than one percent of the total global emissions of mercury from all natural and man-made sources.

1. Promotion and Implementation of Best Techniques and Practices

WCC® advocates the adoption of Best Available Techniques (BAT) and Best Environmental Practices (BEP) to facilitate reductions in mercury used by and released to the environment from mercury-cell facilities around the world.

The global chlorine industry has sponsored or facilitated international workshops, designed to allow industry experts and facility managers to share the strategies and analyse how they may be applied to other facilities to further reduce mercury use and emissions.

Prior to forming the Partnership in 2005 WCC® hosted workshops in Brazil (2002) and India (2004). Since then WCC® has held workshops in Russia (2005) and Mexico (2006) as part of the Partnership.

2. Mercury Reporting and Measuring Progress

An important objective of the Partnership is to collect data concerning mercury use and emissions within the chlor-alkali industry. WCC® data represent about 90% of the global chlor-alkali production capacity using mercury cells. Information on mercury use and emissions from WCC® chlor-alkali facilities are compiled and provided to UNEP on an annual basis. In 2016 WCC® submitted data to UNEP summarising mercury use, consumption and emission by region/ country for the years 2002-2015. The most significant elements of this report are summarised here.

3. Regional/National Reduction Programmes

WCC® member associations continue to reduce mercury use and emissions at the national and regional levels. The results of these efforts contribute to the positive global results:

• Mercury-based facilities in Europe have cut emissions by 98 percent since the mid-1970s, resulting in less than 0.8 g mercury/tonne chlorine capacity. Over the last fourteen years, a mercury capacity reduction of 60% was achieved.

• The United States has reduced overall mercury usage by more than 95 percent over a fourteen -year period.

• Brazil has reduced mercury emissions by more than 95 percent since the 1970s. The mercury based capacity was reduced by 36% over the reported fourteen years.

• In Russia, a reduction in air emissions led to more than 36 tonnes of savings between 2005-2015.

• In India al mercury plants are closed by the end of 2015.

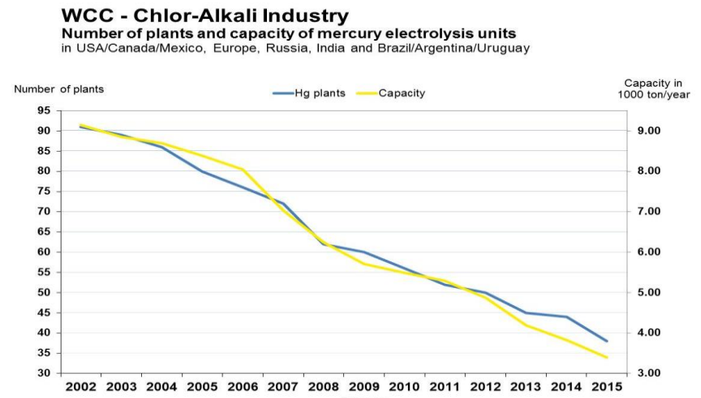
WCC® supports the following:

- Closure or conversion of mercury cell chlor-alkali plants to non-mercury processes when the existing plants reach the end of their economic lives
- No construction of new mercury cell facilities
- Use of best environmental practices and best available techniques to handle mercury-containing waste from existing facilities.
- Sound management of surplus mercury from closed or converted cells

Positive results

Mercury-based production capacity down

The number of plants and the mercury-cell based production capacity show a worldwide decrease. The number of plants went down from 91 to 38 over the period 2002-2015 (- 58 %) and the mercury cell-based capacity from 9.1 million tonnes to 3.4 million tonnes (- 62%).



Global mercury emissions down by 77%

Global **mercury emissions** have been substantially reduced in the period 2002-2012. They went down from 24.6 tonnes/year to about 5.6 tonnes, a 77 % decrease over the fourteen years of reporting by WCC®.