



INTERNATIONAL
COUNCIL OF
CHEMICAL
ASSOCIATIONS

The Chemical Industry: Energy & Climate Change Priorities

The global chemical industry provides economic, societal and environmental contributions and solutions in the communities in which they operate around the world.

The global chemical industry provides solutions to the challenge of climate change, both through improvements in operational efficiency and in product innovations.

A global climate framework is needed to address risks posed by rising GHG emissions. Controlling GHG emissions is a global challenge that needs global efforts to be effective, efficient and real.

ICCA partners with political and other stakeholders to determine how to best address climate change issues.

ICCA

The International Council of Chemical Associations (ICCA) is the world-wide voice of the chemical industry, representing chemical manufacturers and producers all over the world. It accounts for more than 75% of chemical manufacturing operations with a production exceeding USD 1,6 trillion annually. ICCA promotes and co-ordinates Responsible Care® and other voluntary chemical industry initiatives.

<http://www.icca-chem.org/>

The global chemical industry...

...leads by example, improving energy efficiency in its own facilities.

- Europe's chemical industry reduced overall GHG emissions by almost 30% between 1990 and 2005, even as production rose by 60%.
- The Japanese chemical industry reduced unit energy consumption by 2010 to 83% of the 1990 fiscal year level.
- Since 1974, the U.S. chemical industry has reduced its fuel and power energy consumed per unit of output by nearly half. Since 1990, the U.S. chemical industry has reduced GHG emissions by 26%.
- Brazilian chemical industry association members reduced specific overall energy consumption by 37% between 2001 and 2009, while increasing overall production by more than 45%. By 2009, about 18% of the whole energy came from renewable sources.

...partners with governments and international organizations to increase resource efficiency in industrialized, emerging and developing economies.

- ICCA is partnering with the International Energy Agency (IEA) and others to develop three "chemical technology roadmaps" that identify contributions to lowering GHG emissions in the areas of catalysis, construction materials, and biofuels.



RESPONSIBLE CARE®
OUR COMMITMENT TO SUSTAINABILITY



INTERNATIONAL
COUNCIL OF
CHEMICAL
ASSOCIATIONS

...contributes to energy efficiency by improving processes and developing sustainable technologies for energy generation, storage and recovery.

The twin goals of ICCA's climate strategy are:

- Promoting GHG emission reductions in industry's own operations.
- Ensuring that both current products, and new products being developed, help reduce GHG emissions throughout society.

...advocates a Life Cycle Approach that includes GHG emissions from both production and consumption of products and materials.

- ICCA's 2009 Carbon Life Cycle Analysis (c-LCA) report, *Innovations for Greenhouse Gas Reductions*, articulates the chemical industry's energy savings and reduced GHG emissions along the industry value chain.
- Despite rising product-related GHG emissions, the chemical industry has delivered net GHG emission reductions.
- Examples of emissions savings enabled by the chemical industry:
 - Insulation materials for the construction industry: Reduces the heat lost by buildings and thus the use of heating fuel. Insulation alone accounted for 40% of the total identified CO₂ savings.
 - Use of chemical fertilizer and crop protection in agriculture: Increases agricultural yields, avoiding emissions from land-use change.
 - Advanced lighting solutions: Compact fluorescent lamps (CFLs), with longer lifetimes and greater luminous efficacy than incandescent bulbs, save significant energy.

...promotes economically viable energy efficiency measures.

- Economically viable energy-efficiency measures are the key to effective climate protection.
- ICCA encourages demand for energy-efficiency and energy conservation, with a focus on the largest, most effective, and lowest-cost abatement opportunities.
- Government policies should promote a level playing field for a diverse energy and feedstock supply.
- Government policies should support processes, products and applications that offer greater energy and resource efficiency, through enhanced awareness, faster permits for new investment and access to finance.



The global chemical industry...

- ...prepares for the future by **investing in research** to develop and implement **new technologies**.
- ...produces solutions that enable other industries and sectors to improve their **environmental performance**.
- ...focuses on **improving the quality and efficiency** of products throughout their life cycle.
- ...enables products to perform to the **highest standards** during their lifespan, while reducing their carbon emissions.

- ⇒ Innovation, research and development, and climate technologies are essential to global climate mitigation and adaptation.
- ⇒ Continued innovation requires a long-term, stable and reliable framework for R&D and deployment, with appropriate funding and support.
- ⇒ Legislators and industry partners should support the chemical industry's efforts to innovate and promote regional and global technology development and cooperation.
- ⇒ A mechanism to enhance technology sharing among the developed, emerging and developing world could create positive business opportunities for all parties.
 - ◇ This would require: 1) appropriate financial incentives, such as a non-market mechanism under UNFCCC, to compensate for risks; 2) effective intellectual property protection; and 3) a continued focus on innovation.

Innovative chemistry makes energy and climate change solutions possible:

- Insulation foams in building save **2.4 billion tonnes of GHGs**. Efficient insulation can reduce energy costs by as much as **60%**.
- Chemical products for vehicles save **230 million tonnes of GHGs**. Emissions can be reduced through lighter plastic parts that reduce a car's weight, tires that create less emissions and gasoline and diesel additives that **improve energy efficiency**.
- Modern compact fluorescent lamps offer more effective lighting and have a longer lifetime than incandescent bulbs, saving **700 million tonnes of GHGs**.
- A major breakthrough in plastics manufacturing is metallocene catalyst technology, which makes polyethylene films stronger and lighter, **lowering direct emissions**. Metallocene polymers also enable modified plastics to be used more widely in automotive applications, replacing steel.

The Role of the Global Chemical Industry in:

Innovation

Innovative chemistry solutions enable products to perform to the highest standards during their lifespan, while reducing their carbon emissions

Low Carbon Economies

ICCA's contribution and commitment is twofold:
1) Improving efficiencies of energy use during chemical manufacturing processes.
2) Developing and producing products that enable cross-sector emission reductions.

ICCA

The International Council of Chemical Associations (ICCA) is the world-wide voice of the chemical industry, representing chemical manufacturers and producers all over the world. It accounts for more than 75% of chemical manufacturing operations with a production exceeding USD 1,6 trillion annually. ICCA promotes and co-ordinates Responsible Care® and other voluntary chemical industry initiatives.

<http://www.icca-chem.org/>