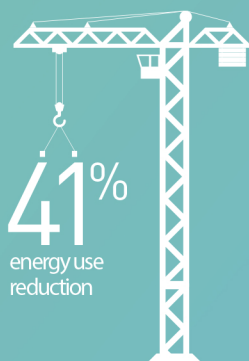


Through chemistry innovations and our actions, we contribute to sustainability & energy efficiency

Building energy efficiency

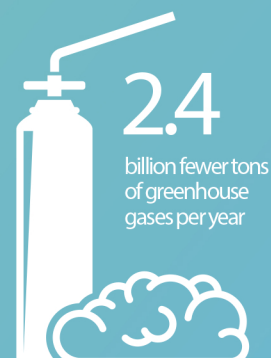
Combining ambitious building efficiency improvements with lower-carbon fuels could lead to a 41 percent reduction in energy use and a 70 percent reduction in GHG emissions by 2050.



Source: ICCA (2012), Building Technology Roadmap

Advanced foam & piping

The use of advanced insulation foams in buildings saves 2.4 billion tons of greenhouse gases per year. Efficient insulation can also reduce energy costs by as much as 60 percent. With the use of plastic pipe, wasted heat is 20 percent lower than with copper pipe.



Source: ICCA (2012), ICCA & Sustainability

Automotive solutions

230 million tons of GHG emissions saved

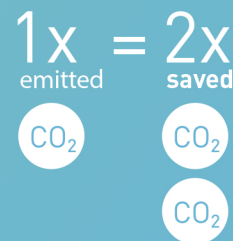
The use of more efficient automotive technology like lightweight plastic parts, tires that create less emissions and gasoline and diesel additives that reduce fuel consumption helps save 230 million tons of GHG emissions.



Source: ICCA (2017), Avoiding GHG Emissions: The Essential Role of Chemicals

CO₂ savings in manufacturing

For every unit of CO₂ emitted in the manufacturing of the products of chemistry, two units of CO₂ are saved through the energy savings enabled by those products. By 2030, the GHG savings-to-emissions ratio could increase from 2:1 to 4:1.



Source: ICCA (2009), Innovations for GHG Reductions: A Life-Cycle Quantification of Carbon Abatement Solutions Enabled by the Chemical Industry

Detergent enzymes

The chemistry of detergent enzymes, one of the largest and most successful applications of modern industrial biotechnology, has reduced the amount of electricity needed to do a load of laundry by 30 percent while reducing water consumption.



Source: ICCA (2012), ICCA & Sustainability.



70%
less energy

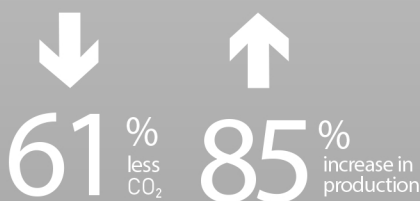
Modern light bulbs

Modern, compact fluorescent light bulbs offer more effective lighting and have a longer life than incandescent bulbs. They use 70 percent less energy than conventional light bulbs and save 700 million tons of GHG emissions annually.

Source: ICCA (2012), ICCA & Sustainability.

Improving performance in our own operations

In the European chemicals sector, total GHG emissions have fallen nearly 61% since 1990.

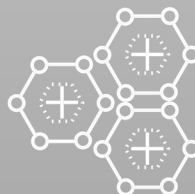


Source: CEFIC (European Chemical Industry Council), Data for 1990-2015.

In the USA the GHG intensity has improved 31% since 1990, and absolute process emissions (including process CO₂, nitrous oxide, methane, and HFCs) declined by 35% between 1990-2021.



Source: ACC (American Chemistry Council), Data for 1990-2021



In the Japanese chemicals sector, GHG emissions have fallen 9% since 2013.



Source: JCIA (Japan Chemical Industry Association), Annual Report 2021, Data for 2013-2019.



The International Council of Chemical Associations (ICCA) is an association of innovators, visionaries, solutions providers and product stewardship pioneers. Through ongoing innovation in chemistry and the constant improvement of safe chemicals management, the global chemical industry makes a significant contribution to a sustainable society: improving human health, protecting the environment, and delivering prosperity worldwide.

