

# MAKING THE BUSINESS CASE FOR SAFETY: The Value of Setting Long-Term EHS Goals



It's easy to get focused on immediate safety goals in your workplace, such as giving safety orientations to workers you've just hired, complying with new requirements in the OHS laws that are about to take effect and simply keeping the OHS program operating effectively. But setting long-term environmental, health and safety (EHS) goals can have a much bigger impact on your workplace's overall safety performance and culture. For example, in 1995, Dow Chemical set EHS goals it wanted to attain by 2005. The company drastically improved its EHS performance and attained nearly all of these goals. The initiative not only contributed billions to Dow's bottom line, but also improved employee morale, enhanced the company's industry standing and helped it attract and retain top talent. Here's a look at a case study from the Campbell Institute on Dow's approach and its success as well as how it followed up those initial goals.

## Dow Chemical's 2005 Long-Term Goals

Dow Chemical is a multinational corporation with core global businesses manufacturing plastics, chemicals, agro-science products, and hydrocarbons and energy. By 2005, Dow had 42,000 employees worldwide and manufactured more than 5,000 products at 156 manufacturing sites in 37 countries.

In setting its 2005 goals, Dow's first step was to select a guiding philosophy. Company leadership chose to create a culture predicated on environment, health and safety. They then set breakthrough goals that would challenge employee imagination and capabilities, revolutionize the way it addressed EHS performance and make its EHS program a model for industry best practices. But they also made sure these goals were feasible, knowing that Dow's management systems and attitude would need to change significantly to reach the goals.

In 1996, Dow publicly committed to comprehensive 2005 EHS goals, agreeing to aggressively improve performance across key EHS metrics. The goals were broken into three groups:

**Prevent EHS incidents.** The goals in this group include valuing above all things the safety of employees and communities; continuously improving Dow's performance to protect the environment, health and safety of its workforce, neighbours and the public; working with distributors, customers and suppliers to continuously improve the way they handle, transport and use Dow's products; and significantly improving Dow's EHS performance by reducing:

- Injuries and illness per 200,000 work hours by 90%;
- Loss of primary containment (LOPC) incidents (such as leaks, breaks, and spills) by 90%;

- Transportation incidents per 10,000 shipments by 90%;
- Process safety incidents (such as fires, explosions, and significant chemical releases) by 90%; and
- Motor vehicle incidents per 1 million miles by 50%.

**Increase resource productivity.** In this area, Dow aimed to continuously enhance resource productivity to reduce risk and minimize its impact on the environment and health, and increase global competitiveness through greater efficiency; emphasize pollution prevention in processes; and transfer and use the best available technology to build the most environmentally sound and safe facilities. The company also set specific goals of further reducing air and water emissions of priority compounds by 75% and chemical emissions by 50%. And it set a goal of reducing:

- Dioxin emissions by 90%;
- The amount of waste and wastewater generated per pound of production by 50%; and
- Energy use per pound of production by 20%.

**Business accountability.** Dow decreed that its eight global business groups were directly accountable for their own EHS performance, in addition to profit and loss. In fact, many businesses tie a portion of their variable pay directly to the achievement of EHS goals. By hardwiring EHS into the business, it put ownership and accountability into the hands of every Dow employee.

To implement these EHS objectives, Dow executives focused on both the 'soft' and 'hard' characteristics of the initiative. The soft side focused on human behaviours, while the hard side focused on the companywide operating disciplines, processes and tools. Management believed the soft side was especially important; it wanted to make safe behaviours a habit. But it's more difficult to drive behavioural change.

Integration was critical to the initiative's success. That is, EHS has to be infused into the company's strategy, management systems and metrics, and fully integrated into the day-to-day operations. Other critical success factors included:

- Endorsing EHS as the top priority at the company's highest levels;
- Increasing accountability among leaders, employees and contractors;
- Transparency in reporting EHS progress publicly against key metrics;
- Active leadership commitment and engagement; and
- Requiring employees to include EHS in their individual goals.

*The results:* Dow invested \$1 billion to achieve the 2005 EHS goals, which resulted in an overall value of more than \$6.5 billion. Notably:

- The Injury/Illness Rate (IIR) was reduced by 84%;
- LOPC incidents and process safety incidents decreased by more than 70%;
- Emissions of priority chemicals went down by 84%.
- Solid waste was reduced by 1.6 billion pounds;
- Water use was reduced by 183 billion pounds; and
- 900 trillion BTUs of energy were saved.[\[/learn\\_more\]](#)

Dow Chemical's 2015 Long-Term Goals

Dow didn't rest on its laurels. Instead, it set new 10-year goals to be achieved by 2015. The new goals captured the gains the company achieved with the 2005 goals and reflected new commitments in the following areas:

- Local protection of human health and the environment;
- Sustainable chemistry;
- Breakthroughs to world challenges;
- Product safety leadership;
- Contributing to community success;
- Energy efficiency and conservation; and
- Addressing climate change.

The specific 2015 goals that focused on local protection of human health and the environment focused on these areas:

**IIR.** Achieve an IIR of 0.12 per 200,000 hours of work, including injuries to both Dow employees and contractors.

**Severity rate.** Reduce the injury severity rate by 75%. (The severity rate is similar to the injury and illness rate, but it weighs incidents by the severity of the injury to focus injury and illness prevention efforts on minimizing the *impacts* of injuries rather than the number of injuries.)

**Severe motor vehicle accident rate.** Reduce the rate of motor vehicle accidents causing or having high potential to cause injuries to 0.28 incidents per million miles driven.

**LOPC.** Reduce LOPC incidents to fewer than 130 incidents at *all* sites.

**Transportation incidents.** Decrease the number of hazardous material transportation LOPC incidents by 75% and eliminate highly hazardous material releases, such as those posing a toxic inhalation hazard or involving flammable gas.

**Process safety incidents.** Reduce process safety incidents by 75% and the severity rate by 95% at all sites, according to the 2005 baseline.

**Environmental releases.** Decrease companywide emissions of volatile organic compounds, nitrogen oxide compounds and priority compounds by 30%. In addition, reuse 300 million pounds of by-products instead of disposing as waste.

*Preliminary results:* Just seven years into the new EHS plan, Dow's achievements were shaping up to be just as impressive as those made under the 2005 goals. For example:

- The 2015 target was to drive the IIR to no more than 0.12 incidents per 200,000 hours. The IIR in 2011 was 0.30 per 200,000 hours, representing a 42% reduction;
- The 2011 severe motor vehicle accident rate of 0.17 per million miles driven was already less than the 2015 goal of 0.28 per million miles driven;
- The number of process safety incidents in 2011 was 74% lower, compared to a reduction target of 75%; and
- Dow's goal was to reduce LOPC incidents 90% by 2015 and by 2011 there had been an 80% reduction. [/learn\_more]

## **BOTTOM LINE**

EHS improvements continued to pay off for Dow. The company realized more than \$4 billion in additional savings from reductions in energy use, wastewater and chemical emissions, and an additional \$100 million from reductions in injuries, LOPCs and process safety incidents. Projects to reduce and reuse waste in new and innovative ways returned a net present value of more than \$2 billion per year to the company, which were especially critical to the company's bottom line during the 2008 financial crisis. The tangible benefits included reductions in workers' comp premiums, which fell by 75% between 2005 and 2009. As a safety or EHS coordinator, show this case study to senior management as proof that a serious commitment to long-term EHS goals can result in significant benefits for workers and the environment as well as the company's bottom line.

### ***Insider Source***

'The Dow Chemical Company: The Inseparability of Safety and Business Success' and Epilogue: 2005-2012, The Campbell Institute, Jan. 31, 2013