



## Technology Innovation & Sustainability

### **Speech by Andrew Liveris, Chairman & CEO, The Dow Chemical Company**

HPPO Groundbreaking Ceremony, Antwerp, Belgium

September 27, 2006

Today we are celebrating a milestone event one that symbolizes not just one – but two – groundbreaking achievements:

- First, it marks the unveiling of an innovative technology for the Propylene Oxide industry one that represents a four-year collaborative effort between Dow and BASF – the world's two largest chemical companies – to successfully develop and commercialize Hydrogen Peroxide Propylene Oxide technology.
- Second, this event marks the construction of the world's first-ever, commercial-scale H-P-P-O plant. This facility reflects Dow's unwavering commitment to grow with our customers in Europe by meeting their ongoing needs for propylene oxide – a key component for polyurethanes and other derivatives and to do this in a way that supports our goals for sustainability and environmental progress around the world.

Like many successes, however, HPPO did not happen overnight. As the largest single producer of propylene oxide, Dow had been working hard to develop HPPO for quite some time – and so was BASF. Meanwhile, global demand for propylene oxide was growing, so we started a joint research program in 2002 to accelerate results.

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By working together, Dow and BASF have achieved HPPO success much faster – and more cost-effectively – than either of us could ever have done alone. Along the way, we realized we needed a partner with a strong leadership position in hydrogen peroxide and Solvay is the perfect fit. I think that Jürgen, Christian, and John would agree that there is no question that our companies are each more competitive as a result.

There is also no question that HPPO demonstrates how technology innovation is alive – and thriving – in the chemical industry innovation in collaborating across company lines and in creating solutions that benefit customers, consumers and communities.

This capability to innovate is vitally important in a marketplace that faces higher feedstock and energy costs, faster growth in emerging economies, and growing global competition. In this environment, innovation, speed and low-cost are key to competitive advantage and HPPO technology delivers on all fronts.

In fact, not only does our joint venture with BASF reduce the capital required for a new build, but the very nature of HPPO technology reduces costs as well.

- First, HPPO is a simple, single-product, high-yield process one that does not generate any co-products. Therefore, the building of an HPPO plant requires less equipment and infrastructure, less capital investment, and can be built in less time.
- Second, not only does this technology allow us to deliver a high yield from a smaller plant, it also enables us to reduce overall processing costs.
- And third, it offers the flexibility to build similar cost-effective plants around the world to meet global demands.

In addition – and this is critical – HPPO technology will help minimize our environmental footprint on the world in three key ways:

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- We expect to cut waste water by 70-80 percent.
- We anticipate cutting energy consumption by up to 35 percent.
- And because they are smaller, HPPO plants require less land.

These benefits are fully aligned to Dow's leadership and commitment to sustainability – where we make a business case for enhancing both profitability and quality of life. Minimizing waste, improving efficiency and making the best use of our energy and land resources are key elements of energy conservation and environmental progress.

At Dow, we don't take this responsibility lightly. Since 1994, in fact, we have improved energy efficiency by 22 percent and have reduced wastewater by 38 percent and we are not letting up. We have set even more aggressive sustainability goals to improve on these and other fronts by the year 2015.

Success, however, requires continued innovation and to Dow, this is part of the beauty of HPPO technology it enables us to grow and meet the needs of our customers, while also addressing the larger issues faced by the world. Let me expound for a few minutes on those two points.

First – strategic growth. To accelerate our growth as a company across the cycle, Dow is preferentially investing in our Performance businesses and products worldwide – such as Polyurethanes and propylene oxide – in both developed and emerging economies.

Our investment in HPPO here in Antwerp is a case in point, as it supports a Polyurethanes industry in Europe that continues to grow at a rate two times the GDP of this region, while also supporting the increasing need for derivatives, including propylene glycols and glycol ethers.

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Equally important, this new HPPO plant not only gives Dow the local capacity it needs to meet ongoing demand for propylene oxide in Europe, but the technology can help us meet growing global demand as well.

Worldwide, propylene oxide is a \$10.5 billion industry, growing at 3-4 percent per year through 2010, and we are committed to supplying it as cost-competitively as possible. This means continuing to operate our current sites in Europe, the United States and Latin America while also exploring HPPO investments with BASF in emerging, high-growth economies as well – such as Asia and the Middle East.

Of critical importance here is the fact that HPPO requires less infrastructure and capital, providing us with the flexibility to choose the best, most strategic locations for growth – and we plan to take full advantage of this capability.

By bringing HPPO technology into emerging regions, we not only improve profit margins, but we also help improve the standard of living – the human condition – worldwide by supplying a material that is essential to human progress.

The propylene oxide materials produced here, for example, will be used in a variety of products that touch human lives – including yours and mine – in many positive ways such as:

- Insulation that helps conserve energy
- Refrigerators and coolers to keep food fresh
- Bedding and furniture that is more comfortable and long lasting
- Automotive foams to make cars safer
- Strong, lightweight composites to replace metal and wood
- Effective medicines to help save lives
- Durable paints to protect and beautify homes and buildings

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- More reliable brake fluids for safer driving
- And high-performance de-icing agents to keep aircraft safe in the winter.

As a chemical company, Dow is in the business of chemistry and innovation, but how our products create value in the world will always drive what we do. This is where the human element at Dow comes into play – with 43,000 employees worldwide committed to creating sustainable solutions for future generations. They are dedicated to making a positive difference in life – not just for the good of our company and our customers – but also for the betterment of society as a whole.

In closing, I'd like to say, once again, how excited we are about HPPO technology an investment that demonstrates Dow's commitment to customers in Europe to our continued focus on innovation and collaboration with respected partners like BASF and Solvay and to creating a better world for future generations.

Thank you.