

Service status

Sven Royall, Vice President Customer Services and Intermediates, outlines measures to improve the robustness of chemicals operations in the US in light of tough operating conditions, ambitions to grow in key derivatives markets, and the potential impact on the European chemical industry of proposals for the next phase of the EU Emissions Trading Scheme.

North America has been the leading producer and exporter of chemicals for nearly a century. In recent years, however, unprecedented rises in the price of oil and gas, combined with increasing influence of low cost Middle East producers, has changed the competitive landscape and created a tough operating environment.

Oil and gas price trends have adversely affected the competitiveness of North American producers by driving up feedstock and energy costs. At the same time new capacity from lower cost centres of production in the Middle East and Asia have begun to have an impact on North American chemical exports.

The Americas continues to be a vitally important region for Shell Chemicals however. It accounts for 35% of our total capital employed and almost 50% of

Shell's ethylene capacity. Over the last 10 years we have invested nearly \$4 billion in North America, and plan to continue to invest significantly over the next 10 years.

As part of an integrated energy company we are well placed to take advantage of synergies and operational efficiencies through deeper oil-chemicals integration at our key manufacturing sites in the US.

We have been undertaking a number of projects along these lines, including feedstock diversification and value chain optimisation, in order to ensure our operations are positioned to deliver robust performance for customers in the face of this challenging industry outlook.

Part of this means taking advantage of opportunities to diversify the feedstock slate, for instance with cat cracker dry gas and hydrowax, where they are available and meet the needs of the business and our customers.



We are also strengthening our derivative value chains in the US, by focusing on higher value product grades in both existing core markets as well as new application areas. These include utilising surfactant chemicals in enhanced oil recovery techniques (see page 12) and exciting opportunities for PDO/PTT in China's textiles market (see page 20)

CONTRIBUTION TO ENERGY EFFICIENCY

The threat of global competition is just as real in Europe, particularly in light of the European Union's recent proposals for the next stage of its Emissions Trading Scheme (ETS), which is being extended to cover the chemical industry (see box right).

The chemical industry has worked hard to improve the efficiency of its operations. It also has a key role to play in providing downstream users with innovative solutions to climate change.

For example, Shell's NEODOL chemicals have been key to the development of laundry detergents that work at lower temperature – helping to reduce the energy used in this household routine.

The drive to improve the thermal efficiency of our homes and offices has been supported by the increasing use of expanded polystyrene (EPS) foam in

building insulation solutions. Shell is the world's leading producer of Styrene Monomer (SM), the raw material for EPS.

You can read about the role that this highly thermally efficient material is playing in reducing greenhouse gas emissions and energy costs for consumers on page 10.

Shell solvents are also proving key to an efficient, less energy-intensive extraction process that is helping metal mining companies respond to demand for these important commodities - see page 6.

GROWTH AMBITIONS

Competitive and environmental pressures mean there is a clear need to continue to focus on optimising the efficiency and productivity of our operations wherever those opportunities exist.

But there are also markets and regions of the world where we have significant growth ambitions, and where we believe we are well placed to take advantage of the right opportunities when they arise.

On page 16 you can read about the potential for the Propylene Oxide – Derivatives (PO-D) business in emerging polyols markets such as India. At the time of going to press a major expansion of our polyols manufacturing complex at Pernis in The Netherlands was being commissioned.

This project will raise flexible polyols capacity at the site from 155 kt to 255 kt per annum, increasing our ability to respond to demand from customers in both established and emerging markets.

It is also an example of growing our business in a sustainable way. The expansion has been achieved by making optimal use of existing assets to deliver additional capacity and will also result in improvements in the environmental performance of the polyols complex.

At the heart of the expansion is our position as global technology leaders in propylene oxide (PO), the feedstock for polyols production. We are committed to growing our PO-Derivatives business in line with the demands of customers and intend to continue leveraging the advantages of our SM/PO process technology in future investments. Given our focus for growth in Asia Pacific/Middle East, we are pursuing a number of potential new projects centred on locations in these regions.

“Over the last 10 years we have invested nearly \$4 billion in North America and we plan to continue to invest significantly over the next 10.”



Shell Trading, London - "cap and trade" systems like the EU ETS could be a key stepping stone on the road to a global market for carbon dioxide emissions.

A KEY MECHANISM FOR EMISSIONS REDUCTION

The world will need to secure vast amounts of extra energy in coming decades to both support economic growth and reduce poverty.

This energy will need to be produced in an environmentally and socially responsible way, including dealing with green house gas (GHG) emissions.

In March 2007, European leaders committed to reducing GHGs by 20% by 2020 compared to 1990 levels, increasing to 30% if other industrialised nations took similar steps. A key mechanism for achieving this reduction is the ETS.

In January 2008, the EU proposed its Energy and Climate Change Package. This included a revised ETS, to run from 2013 to 2020, requiring member states to auction emissions allowances.

Auctioning will be introduced gradually for some industries, and concessions could be made

for industries exposed to global competition if an international agreement is not reached in time.

Shell is supportive of regional cap and trade systems, which will be a key stepping stone on the road to a global market for CO₂.

For the chemical sector, exposed to greater global competition, auctioning should be phased in gradually as the market adapts to the CO₂ price and to avoid harming competitiveness.

Eventually, all regional systems should be linked to ensure a level playing field globally.

The European chemical industry reduced CO₂ emissions by 17% between 1990 and 2005 and continues to play a key role in providing innovative solutions in tackling climate change through downstream application of end products, such as insulation (see page 10).

Plant optimisation at the Geismar, Louisiana, manufacturing site has been focused on higher value growth markets for key derivative value chains.

