

EUROPE

Industry is set for **MODEST SLOWDOWN** after good year in 2006

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LAST YEAR WAS A GOOD ONE for the European chemical industry, according to economists at the European Chemical Industry Council (CEFIC). The 2.5% growth in chemical production was above the average for the past five years, and it was strong enough that even the prospect of a modest slowdown in 2007 leaves CEFIC members reasonably pleased. In fact, the economists say, chemical industry production will remain robust this year, with growth of 2.2% over 2006. And that is not including the European industry's star sector, pharmaceuticals.

If pharma is factored into the industry's growth, performance looks better. In 2006, CEFIC says, production, including drugs, grew by 3.6% over 2005 levels. And in 2007, CEFIC economists predict, the level will be up 3.0%—a slight cooling, but still a pleasing prospect for the industry.

Moreover, according to CEFIC Chief Economist Moncef Hadhri, chemical sales are doing even better than production, reflecting a rise in chemical selling prices.

Chemical business has improved strong-

ly, according to the December statistics reported by CEFIC, for two major reasons. First, domestic sales have been propelled by the generally favorable business climate in most of the chemical industry's customer industries. According to CEFIC, chemical sales have improved continuously since the beginning of 2006 and are forecast to be up 4.6% over 2005.

The other major reason is the dynamic growth in trade with major European Union trading partners. In particular, Hadhri says, EU chemical exports to Canada, the U.S., and Mexico are outpacing imports by 1%.

Most chemical sectors have benefited from the improved business conditions, CEFIC says. Basic inorganics, polymers, and petrochemicals showed continued growth in 2006. Fine and specialty chemicals rebounded sharply, up 2.8% year-to-year after a drop of 1.2% in 2005, as stronger industrial demand materialized. And healthy

consumer confidence has led to higher consumption, in turn boosting demand for chemicals used in consumer products by nearly 4% in 2006.

So how does all this shape the outlook for 2007? Hadhri and his fellow CEFIC economists agree the European business climate deteriorated slightly during the last quarter of 2006. That cooling has tempered their forecast: Current chemical confidence is still good, but optimism is gradually falling, they say.

PRODUCTION BY SECTOR

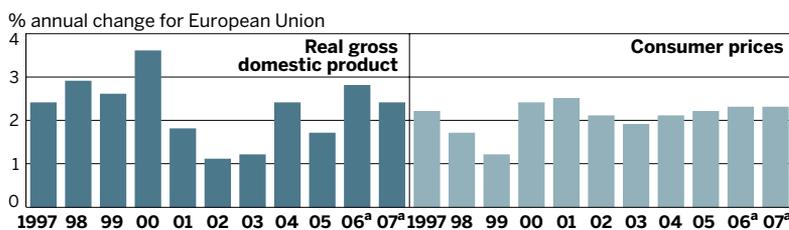
Drugs and petrochemicals will lead growth in 2007

| | ANNUAL CHANGE | | |
|--|---------------|-------------------|-------------------|
| | 2005 | 2006 ^a | 2007 ^a |
| Pharmaceuticals | 3.5% | 6.5% | 5.0% |
| Petrochemicals | 1.4 | 2.3 | 3.6 |
| Polymers | 3.0 | 1.1 | 1.5 |
| Consumer chemicals | 3.0 | 3.8 | 2.7 |
| Specialty & fine chemicals | -1.2 | 2.8 | 1.7 |
| Basic inorganics | 3.1 | 3.5 | 1.8 |
| Chemicals excluding pharmaceuticals | 1.5% | 2.5% | 2.2% |
| Chemicals including pharmaceuticals | 2.2% | 3.6% | 3.0% |

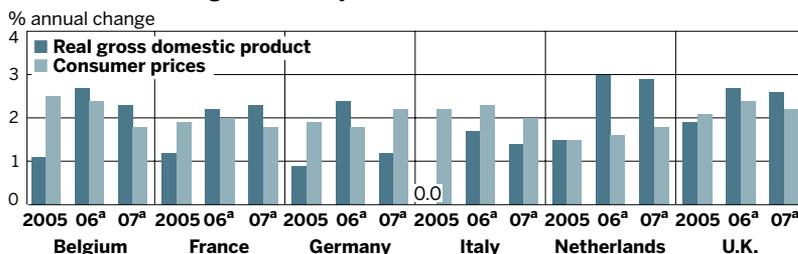
^a Estimates. SOURCE: European Chemical Industry Council

BASICS

European Union economy overall is set to cool slightly ...



... with moderate slowing in most major countries



NOTE: Data for 2000 and years after are for 25-member EU; data prior to 2000 are for 15-member EU. ^a Estimates. SOURCE: European Union

The declining confidence is partly explained, the economists say, by a widely expected slowdown in the global economy, especially in the U.S., that reflects uncertainty about global oil prices and the weak U.S. dollar.

Economists at Zurich-based bankers Credit Suisse point out, for example, that the dollar "has substantially depreciated recently." What's more, they see little likelihood that the dollar will strengthen during the first few months of this year. It could weaken even further, they warn.

"Only when there are increasing signs that the U.S. economy is regaining its footing," and the central banks in a few European countries pause in raising interest rates, Credit Suisse economists say, will the dollar regain strength. They don't expect that to happen at least until the second half of 2007.

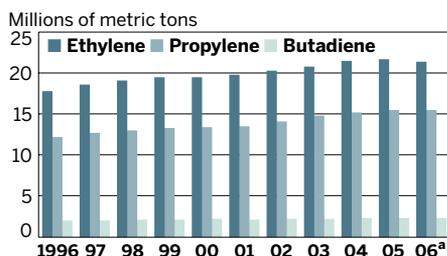
CEFIC economists, though, pick up positive signs that will keep any slowdown for the European chemical industry to a modest level. They would concur with Jean-Philippe Cotis, chief economist at the Organization for Economic Cooperation & Development, who suggests that the world economy may be facing "a rebalancing of

growth across OECD regions.” The slowdown in the U.S. and Japan, he says, should remain well-contained. Meanwhile, growth should remain buoyant in China, India, Russia, and other emerging economies.

And in the EU countries that have adopted the euro as the single currency, Cotis adds, recent hard data, as well as business and consumer confidence, even suggest that a solid upswing may be under way.

PETROCHEMICALS

Ethylene production slipped slightly



^a Estimates based on nine months' data.
SOURCE: Association of Petrochemicals Producers in Europe

What's more, the strong demand following such an upswing is expected to be profitable demand, predicts an industry report published in December by Standard & Poor's Ratings Services.

European chemical companies are expected to continue to generate healthy cash flows in 2007, the report says. "The generally good business conditions, with solid demand growth and high capacity utilization, are expected to continue throughout 2007," says Standard & Poor's (S&P's) credit analyst Tobias Mock. "Although demand growth could soften somewhat compared with 2006, credit quality is expected to be supported by good operational performance."

The 20% decline in the oil price in 2006 had not filtered through the value chain by the end of the year, the report says. Even through the third quarter, petrochemical companies managed to keep prices up, pocketing a large part of the savings generated by reduced raw material costs. Consequently they were able to post excellent results, S&P's report says.

However, the drop in oil prices inevitably cascades down the value chain, S&P notes. This began happening in fourth-quarter 2006, which indicates that specialty chemical producers will soon start to benefit from reduced costs for the petrochemicals that are their raw materials.

Europe has developed into a growth

region of the global economy, the Credit Suisse analysts point out, and it is benefiting from solid economic expansion. That, in turn, should help maintain European consumer demand in what Credit Suisse analysts see as a world economy that will begin reaccelerating this summer.

THE STRENGTHENING worldwide economy, Credit Suisse analysts add, should mean good investment opportunities in areas such as the alternative-energy sector. Global population growth and the increasing economic participation of countries such as China and India should boost demand for energy, keeping the price of oil relatively high. A sustained high oil price, they point out, "enhances the attractiveness of alternative sources of energy such as solar and wind power."

Such innovative technology areas are in their developmental infancy, though, compared with

longer established chemical industry sectors. It is in these sectors, even those thought "mature" by many observers, where growth continues to be strong.

That is particularly true in Germany, which in 2005 and 2006 finally shook off the languor that had affected the entire EU. This year, German results are expected to slow slightly after a strong 2006 but will grow nonetheless.

As the German Chemical Industry Association (VCI) observed in its end-of-year

Werner Wenning, who is also chairman of Bayer, at VCI's annual end-of-year press conference in Frankfurt in early December.

As VCI economists point out, the chemical industry is regarded as an early indicator of general economic trends because it produces many intermediate goods and supplies its products to many downstream industries. The chemical industry's upswing began in 2003, VCI says, driven primarily by the rapid economic boom in China, culminating in an "excellent" year in 2006.

VCI calculates that production increased by 3.5% in 2006 and that sales rose by 6.0% to more than \$200 billion. These results would mean that production has risen more strongly than the association was expecting as recently as last summer, its economists say.

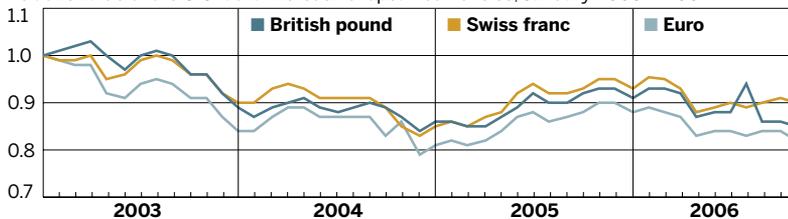
The German group and Bayer are working on the general assumption that the dollar will continue to be weak, at a level of \$1.30 to the euro, the currency in most of the EU. The costs of raw materials and energy will continue to increase, Wenning said. Moreover, "we assume that overall world economic growth will slow down, but even then there will still be good developments. All in all, we are satisfied with the economic developments" in 2006, he concluded.

Similarly, "the Dutch chemical industry can look back on an extremely good year," in which sales were "well above the EU average," said Rein Willems, chairman of the Association of the Dutch Chemical Industry (VNCI).

CURRENCY

Although strengthened in 2005, dollar turned down again in 2006

Relative value of the U.S. dollar versus European currencies, January 2003 = 1.00



SOURCE: U.S. Federal Reserve

report on the chemical industry's performance, production is expected to increase by 2.0% this year over last, while the industry's sales should be up by 2.5%.

"That's not a recession scenario, but one for growth rates that are below those of the past two years," conceded VCI President

In 2006, he reported in December, the Dutch chemical industry's sales soared by 15.0% in comparison with 2005, to reach nearly \$60 billion. "This growth," Willems said, "is the result of a 6.5% increase in production output and an 8.5% increase in selling prices."

He attributed the Netherlands' excellent production performance to the upturn in the economy, a low number of maintenance outages, and the commissioning of new plants. And the good performance was racked up, he added, despite energy costs that were significantly higher than in 2005.

Willems made one cautionary point. With a slight softening of oil prices, "the chemical industry is encountering increasing difficulty in passing on the higher energy costs in selling prices, and this could impose pressure on margins."

In Finland, chemical industry economists face the problem of reconciling the picture that industry managers report with the economic forecasts published by ETLA, a Finnish economic research institute.

ETLA has discontinued its quarterly forecasting reports and publishes forecasts only twice a year, most recently in September 2006. In that report, it forecast Finnish chemical industry growth of 8.3% in 2006 and of 3.7% in 2007.

Those figures are too high, fret economists at Finland's Chemical Industry Association. During the first 10 months of 2006, the industry's production was only 4.8% higher than during the comparable period of 2005, one economist points out, making it virtually impossible to show growth for the entire year of more than 5.0%.

The industry association also considers ETLA's forecasts for 2007 to be on the high side, based on what the association considers to be ETLA's overly positive view on "the development of the most important customer sectors of the Finnish chemical industry." With the international economic condition slowing, a growth forecast of 2-3% might be more realistic, the association suggests.

It remains to be seen how the European chemical industry will be affected by the advent this June of REACH, the EU's program to register, evaluate, and authorize chemicals.

As Wenning noted at the VCI conference in December, European chemical company managers estimate that REACH will cost their industry more than \$5 billion over the next 11 years. Half of that, he explained, will be spent on testing and registration. The other half will cover substitution of what he described as long-established and well-tested materials. And the \$5 billion,

he added, does not take into account any adjustment costs and loss in sales of the industry's customers along the value chain.

Innovation is already a problem for the chemical industry, worry consultants at Boston-based AMR Research. Technology investments in the European industry this year will be designed to improve and enhance manufacturing operations, they say, rather than support the kind of product innovation that fueled growth 20 or 30 years ago.

The industry may be forced, however, to redirect its investment planning by the need to focus and increase R&D spending on innovative products that will substitute for less desirable ones under the REACH regime. That, at least, is the expectation

dangerous substances will be progressively substituted with safer alternatives. This will help improve citizens' health and avoid environmental damages. REACH will also encourage innovation in the chemical industry and increase consumer confidence in their products."

Over the 11 years, the regulation will require the registration of some 30,000 chemicals currently in use. It is expected that the most dangerous among them—probably about 10%—will be progressively phased out and replaced by safer substances, Dimas says. REACH will be administered by the European Chemicals Agency in Helsinki, Finland. Some 100 people are expected to be on staff when the agency begins operations this spring, and that number will grow to about 400 in 2010.

At the French Union of Chemical Industry, officials acknowledge the competitive and regulatory challenges faced by French chemical companies. Nonetheless, they report, the industry appears to be experiencing a healthy influx of both public and private initiatives aimed at boosting research and innovation.

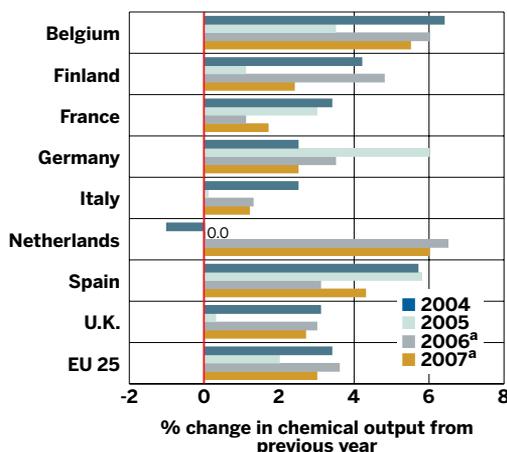
For example, the Council for the Strategic Development of the French Chemical Industry (COSIC) is leading the way to create various projects, including financing for R&D arising from a French government scheme to cultivate competitiveness in industry. Moreover, COSIC is helping create networks for advanced research programs and is pushing politicians to favor environmentally friendly operations.

With REACH in mind, VNCI's Willems, for one, has called on the government in the Netherlands to establish "a number of preconditions that need to be met" if the chemical industry is to maintain its position as a major driving force behind the Dutch economy in the future.

Two of his clutch of requests involve support of innovation in the chemical industry. For example, he called for the government and the chemical industry to invest a combined \$1.3 billion during the coming five years on innovation initiatives.

He also urged the new Dutch government to reduce the administrative and compliance burdens imposed on entrepreneurs by a streamlining of site and project inspections and a drastic simplification of the permits needed for plants to operate. ■

PRODUCTION BY COUNTRY Production in France, Spain will buck downward trend in major European countries



^a Estimates. EU 25 = 25-member European Union.
SOURCES: National chemical associations, European Chemical Industry Council, C&EN estimates

of the European Commission, which last year guided the controversial legislation through to completion.

FOLLOWING A VOTE by the European Parliament on Dec. 13, 2006, to accept a hard-fought compromise on REACH, and a vote by the EU Council of Ministers on Dec. 18, 2006, the regime will enter into force on June 1, points out Stavros Dimas, EU environment commissioner.

"REACH is currently the most ambitious chemicals legislation in the world, and a marked improvement over the current situation," Dimas says. "More information will be available about substances in everyday products, and it is expected that most