



Conference report 2008

13th ERTC Annual Meeting, Vienna



Difficult times ahead

Plenary session highlights key industry challenge

One word sums up the outlook for the European refining industry, as indicated by the opening speakers in Vienna – difficult. European refiners are used to challenges but the impression given at the 13th ERTC Annual Meeting was of particularly tough times ahead.

Alois Virag, OMV senior vice president, refining and marketing, made some basic observations. Oil product demand in Europe and North America has probably peaked. Most growth will be in the Middle East and Asia. By 2025, demand in Germany is predicted to be down on 2004 levels: 40% for gasoline, 28% for heating oil and 12% for diesel. The picture will probably be the same across the EU. In Europe, not only is the refinery product slate out of line with local demand, but refinery expansions in the Middle East and Asia will threaten the export market for gasoline and lead to increased competition in the home diesel market, and in every other product market.

Turning to the environment, Virag was keen to stress that, first, energy efficiency remains the refiner's most potent counter to climate change and, second, that biofuels have a long way to go before they can be regarded as a wholly acceptable part of the solution. He noted that, currently, the energy value of one sport utility vehicle tank refill is sufficient to feed one person for a year.

Biofuels also came in for flak from Anders Roj, fuels and lubricants chairman of ACEA, the European Automobile Manufacturers' Association. Roj suggested that it should be possible to meet the EU carbon dioxide emissions target for light-duty vehicles of 120 g/km by 2012, but that this will be via a raft of measures, including improved engine technology, better driver behaviour and alternative fuels. In principle, biofuels are part of the answer but, as far as ACEA is concerned, ethanol and FAME are not really suitable alternatives for gasoline and diesel. The organisation also wants to see consistent quality standards for these products across Europe, and it still harbours concerns over the sustainability of some biofuel production routes.

The introduction of biofuels is being driven strongly by various EU directives, part of a package intended to improve the environment and preserve the Earth's climate.

Unfortunately, according to Isabelle Muller, secretary general of EUROPIA, although there are good intentions behind much of the legislation from Brussels, it threatens considerable damage to the health of the refining industry.

The EU is pressuring refiners with regulations that, she feels, sometimes fail to add up. Muller cited the Integrated Pollution Prevention and Control Directive, the EU ETS (the carbon-trading scheme), and the twin Fuel Quality and Renewable Energy directives; these last two, when taken together, provide a rather incoherent platform for the introduction of biofuels. Muller was adamant that EU energy and climate policy needs to be enacted as part of a broader initiative that takes account of security of energy supply and European industrial competitiveness. Muller's call for more joined-up and considered action on the part of the EU could not have been clearer.



Martin Murphy from GTF welcomed delegates to the conference, saying that to overcome the challenges refiners would need "talk and technology" – two things that ERTC was designed to provide.

Analysts tell it straight

Johannes Benigni, managing director, JBC Energy, kicked off his presentation in a forthright manner by saying that things might look bad downstream but it was nothing to the situation facing the upstream sector. Great – someone is worse off than us. Though it is hard to believe.

Benigni listed the four principal challenges facing the European refining industry:

- falling product demand in OECD countries and a slowdown in demand growth in the developing world
- a worsening imbalance between diesel and gasoline coming out of Europe
- reduced gasoline demand in the USA caused by efficiency improvements, fuel switching and the rapid rise in biofuel use
- punitive EU environmental legislation that undermines the competitiveness of European refineries.

His conclusion was stark: expect to see refinery consolidation within Europe (and the USA).

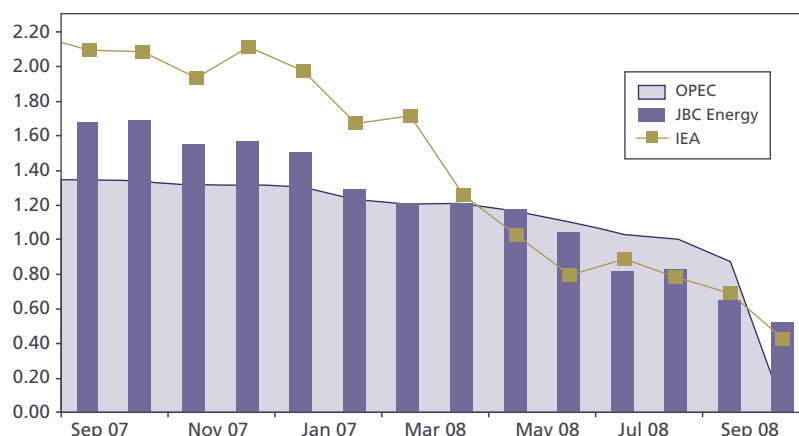
The message from Colin Birch, vice president, Purvin & Gertz, was pretty much in line with Benigni's. He agreed that the time when the USA ceases to provide a sink for excess European gasoline is fast approaching.

Birch put a figure of \$2/bbl on the penalty that could be incurred by European refiners as a result of the EU ETS carbon-trading scheme. Then he added to European woes by raising the subject of the International Maritime Organization's

drive to reduce sulphur levels in marine bunkers, which will also have serious cost implications for refiners. In another conference session, Kevin Clarke, executive vice president of KBC, estimated the costs likely to be incurred by the industry in meeting the specifications currently on the table. His bottom line was \$60–80 per tonne of bunker fuel produced, way in excess of the figure of \$18 per tonne he estimated it would cost the shipping industry to fit seawater

scrubbers to its fleets. Expect to hear more about this in the coming months.

Unlike Benigni, who finished on an undeniably negative note, Birch tried to put a positive spin on his final analysis. He envisaged a European refining industry focused on middle distillate and chemical feedstock production, departed from the fuel oil market – but leading the world in the application of carbon capture and storage technology.



World oil demand growth 2008: Forecast changes – JBC Energy, IEA and OPEC (mbpd)

TECHNOLOGY FOCUS

Innovation holds the key to refining challenges

Thanks to the efforts of an astute advisory board, the conference technical sessions perfectly reflected the challenges facing the refining industry in Europe. Over half the papers were directly concerned with improved conversion technology, with the emphasis on either upgrading residues or modifying the product slate to meet current market demands.

In the past, ERTC papers about fluidised catalytic cracking have generally focused on improving gasoline quality and yields. Here, the emphasis was on residue upgrading and producing more petrochemical feedstocks, lower olefins and diesel. Shell presented its new MILOS (middle distillate and lower olefins selective) process technology, which reduces gasoline/light cycle oil (LCO) yield ratios by about 50%. Papers on hydrocracking, hydrotreating and hydrogen production were conspicuous throughout, again reflecting the increasing demand for diesel in Europe – heavy hitters such as Technip, DuPont, UOP and Fluor all gave papers on what is probably the biggest issue on European refiners' agendas at the moment.

Following a couple of years when biofuels dominated the ERTC agenda, this year there was not too much said. Albemarle talked about catalysts for co-processing vegetable oils, and Avantium talked about the use of furanics in gasoline. However, there was a sense that the industry knows all it needs to know about first-generation biofuels and is waiting for improved second-generation products.

Finally, it was heartening to note that every major refining catalyst supplier (Albemarle, Axens, BASF, Criterion Catalysts & Technologies, Grace Davison, Haldor Topsøe and Johnson Matthey) turned up with papers on improved catalyst technology. These companies are not only all very competitive, they have also established an impressive track record of innovation that will stand the industry in good stead.



OMV's Alois Virag (left) pays tribute to conference organisers – Anne Holden, Roger Wiltshire and Martin Murphy of GTF.

Incisive Media to front future ERTCs

This year's ERTC in Vienna was the last under the stewardship of GTF's Roger Wiltshire, Martin Murphy and Anne Holden. The three partners have chosen to step down from the conference business and take a well-deserved rest, after 13 years during which they established ERTC as the prime annual forum for the European refining industry.

Next year's conference, to be held in Berlin, and the other ERTC-related meetings in 2009 will be run by international publishing and media organisation Incisive Media. The company, which operates across the main areas of financial services with leading brands in the financial, legal, accountancy, IT and energy sectors, is busy gearing up to take over where the founders have left off.

Victoria Kerridge, Head of Events at Incisive Media, said, "We are very excited to count ERTC as part of our global events portfolio. At Incisive we pride ourselves on having market-leading brands and a strong reputation within our core markets. The addition of Global Technology Forum provides us with the opportunity to expand our portfolio into a new market, and my team and I are looking forward to working on the 2009 ERTC series of events, in particular the Annual Meeting. I'd like to thank Roger, Martin and Anne for all their help during the transition of the GTF business and look forward to meeting many of you in Berlin in November."

European refiners face a complex slate of challenges over the next few years, and the exchange of knowledge and ideas will become even more important than it is today. Incisive Media has committed to maintaining this aspect of ERTC's role, and is looking forward to welcoming delegates to the 14th Annual Meeting in November 2009, the first of a new era for ERTC.

"The best perspective on the European refining business."

NICK GUDDE, BP, UK

"Good-quality presentations and an excellent overview of the industry."

MANFRED STEINER, OMV, AUSTRIA

OPEC MAKES CASE FOR GREATER COOPERATION

It would be a great pity to hold an oil industry conference in Vienna without input from OPEC. On this occasion, Safar Ali Keramati, senior refinery and processing analyst, provided an insightful overview of the world's oil supply and demand situation.

He presented data that proved the rise in oil price to around \$60–70/bbl a few years ago was largely driven by a tightening in the market, though this was not the result of a crude shortage but more to do with the ability of refiners to keep up with the product demand growth. In contrast, the recent dramatic escalation to nearly \$150/bbl was purely down to the action of financial speculators. In view of the economic crisis now enveloping the world, the equally dramatic fall was hardly surprising as people dived out of oil and back into the US dollar.

At a time when demand growth forecasts are being revised downwards, and when non-OPEC production is rising and financial markets have turned distinctly bearish, we are in danger of a significant oil price undershoot, which will badly affect the entire oil industry. Keramati concluded with a plea that OPEC has consistently been making for greater cooperation between all the oil-exporting countries with the aim of bringing greater stability to the global oil market to everyone's benefit.



TALKING POINT

Hospitality suites – ideal venues to meet and greet



Delegates once again took the opportunity to explore industry issues and see what supplier companies had to offer in this year's hospitality suites. The host companies see ERTC as an ideal venue to talk to customers and establish their areas of interest and concern. Colin Baillie, Grace Davison marketing manager, refining technologies Europe, said the two main areas that its customers are focusing on are residue processing and LCO. "LCO maximisation has been gathering momentum for the last year, but particularly in the last couple of months we have received a great deal of feedback from customers on this topic."

Süd-Chemie believes that dieselisation was a key issue at this year's event. "Customers want to discuss alternative diesel production and converting gasoline units to diesel, and are driven by the imbalance of diesel and gasoline supply and demand," said Axel Düker, director sales EMEA, Süd-Chemie. "We have supported ERTC from its beginning; it is an opportunity when people in the industry can talk together."

Anders Rasmussen, head of corporate public relations, Haldor Topsøe, views ERTC as the main event in Europe, and the best chance to meet clients. "There are many other conferences and exhibitions where clients could meet vendors like us. However, this event has the most delegates, so you can be sure you will meet them here." The company is promoting its next-generation BRIM™ catalyst technology, which helps customers to meet sulphur specification standards and the increased demand for ultra-low-sulphur diesel.

DuPont's suite also focused on environmental performance. The company has recently acquired the IsoTherming™ hydroprocessing technology, which enables refiners to remove sulphur and nitrogen from the hydrocarbon stream, for example, for the production of ultra-low-sulphur diesel, but at lower cost. "Clean fuels is an important issue around the world, as countries tighten up on air quality and industrial plant emissions," said DuPont's Tony Parker, business development manager.

Although most of the host companies have supported ERTC for many years, this year saw newcomer Taper-Lok take a suite. The company manufactures lightweight, high-integrity sealing technology that helps eliminate fugitive emissions. "Taper-Lok is a regular at NPRA," said Erik Howard, vice president sales and engineering, "and we had heard that ERTC is Europe's equivalent. The company is growing into new markets, and we are here to meet the key people in the European industry."

Criterion Catalyst & Technologies was on hand to discuss the issues of the day, and how its catalyst range could provide solutions. Robin Nelson, managing director, commented: "Although demand growth may slow as a result of the financial crisis, the drive to secure a responsible energy future will remain a high priority in our industry." Nelson believes technology development will remain a key enabler to meeting the challenges. "While we can expect greater stakeholder scrutiny on all aspects of our business, projects and financial delivery, I am convinced that our industry can rise to these challenges while meeting the wider needs of the global stakeholder."

"The conference is well organised – one of the best in the business."

HARRY KRAMER, NICKELHÜTTE AUE, GERMANY

"An important opportunity to meet vendors."

SIRPA LONKA, NESTE OIL, FINLAND

"It is a European conference, but you meet people from all around the world and discuss global problems."

SERGEJ OKUNCEV, MAŽEIKIŲ NAFTA, LITHUANIA

CONCEPT TO REALISATION

Pre-conference seminars highlight innovative solutions

You always know when you are at a Shell seminar. Who else would have a Ferrari F1 car parked in the coffee room? Although the celebrated motor racing team has not been quite so dominant since Michael Schumacher retired, Shell Global Solutions remains in pole position as far as refining technology is concerned.

At the company's pre-ERTC seminar, Gerard de Nazelle, head of research and innovation, went through more new technology in 30 minutes than you normally get during whole conferences – and that was after dashing through the latest Shell scenarios, Scramble and Blueprints. Take a look at these on the Shell website because they are of immense relevance for those involved in the energy industries.

The first part of the seminar provided tips on how to survive the challenges facing refiners in the global financial chaos. Capital discipline and operational and project excellence were key themes, and constant reference was made to the need to move projects from concept to realisation as quickly and efficiently as possible.

Operational and financial agility were also considered essential requirements by various Shell presenters, and Ahmed El Sawy, chief operating officer of the Soukhna Refinery and Petrochemicals Company, really forced this point home. His presentation on the project to build a new 240,000-bbl/d complex refinery on Egypt's Gulf of Suez coast was the day's highlight.

Over at Albemarle's seminar, attendees enjoyed a variety of presentations on the theme of sustainability. John Steitz, the company's executive vice president, who introduced the seminar, also commented

on the challenges posed by the volatile economic situation and the fluctuating price of oil.

Austrian refiner OMV's Karl Hutter discussed his company's experience of co-processing bio oils, and Panos Dimitriadis from Motor Oil (Hellas) in Greece shared the company's work to maximise LCO and increase liquefied petroleum gas olefinicity. UOP described how Unicracking® catalysts can help refiners to meet the increasing demand for low-sulphur diesel and optimise hydrogen consumption.

Speakers from Albemarle covered topics ranging from biofuels and processing heavier feedstocks to the reduction of sulphur and nitrogen oxides. Frans Plantenga, technical director of the company's alternative fuel technologies division, discussed the company's activities in biomass fuels, such as Neste Oil's NExBTL®, and in Fischer-Tropsch technology. Carel Pouwels, fluidised catalytic cracking product development manager, stressed the importance of good catalyst accessibility and accessibility retention, in particular for processing heavier feedstocks such as bitumen and oil sands. Stephan Zuidendorp, development manager, continued the theme of how to treat difficult feedstocks by describing the company's catalysts for fixed- and ebullated-bed processes.

Bob Leliveld, marketing manager HPC, emphasised the importance of correct catalyst selection and optimum functionality in the reactor, especially for the production of low-sulphur products such as 10-ppm ultra-low-sulphur diesel. Marc Nicolas, product manager, described how Albemarle's SO_x- and NO_x-reduction additives can help refiners meet regulatory limits without large capital investment.



This Ferrari was going nowhere fast, especially as delegates to the Shell seminar were being invited to change a front wheel against the clock. A team at a previous event apparently did this in less than two seconds, which is close to the time achieved by Ferrari pit teams.



"Tough times call for agility plus the capacity to move from concept to reality as quickly and efficiently as possible," said Dave Clark, Shell Global Solutions' commercial director for refining and chemical licensing.

At the Axens seminar, "Getting the most out of crude," Christian Dupraz, director of marketing and technology for gasoline and petrochemicals, opened the event with a discussion of market highlights and perspectives. Artur Thernesz, director, downstream technology and development, MOL, Hungary, presented a perspective on the central European investment outlook and refined product demand, and Paulo Roberto Costa, downstream director from Petrobras, discussed his company's business strategy.

Topics also included refinery master planning from an environmental perspective; catalytic reforming for gasoline; distillates hydrotreating; and upgrading Canadian crudes. Cécile Plain presented a series of case studies on hydrocracking solutions for refinery performance improvement.

UOP's seminar also discussed the challenges facing refiners today, and featured presentations and workshops on the key issues, including energy and operating efficiencies, greenhouse gas management, deep conversion and upgrading, gasoline surpluses and tight diesel markets.



Sustainability, with topics ranging from biofuels and processing heavier feedstocks to reducing sulphur and nitrogen oxides, was a key theme at Albemarle's seminar.

2009 CONFERENCE CALENDAR

For further details of forthcoming conference and training courses in 2009 please visit www.gtforum.com or visit the individual websites listed below.

ARTC 12th Annual Meeting

10–12 March, Hilton Hotel, Kuala Lumpur
www.gtforum.com/artc-annual-meeting

ERTC Coking & Gasification Conference

20–22 April, Hilton Hotel, Budapest
www.gtforum.com/coking-and-gasification

ERTC Asset Maximisation Conference

11–13 May, Corinthia Towers Hotel, Prague
www.gtforum.com/asset-maximisation

Refining Management Forum

1–3 June, Hotel Cascais Miragem, Portugal
www.gtforum.com/refining-management-forum

ERTC Sustainable Refining Conference

28–30 September, Radisson SAS Royal Hotel, Brussels
www.gtforum.com/sustainable-refining

ERTC Biofuels+ Conference

30 September–2 October, Radisson SAS Royal Hotel, Brussels
www.gtforum.com/bio-fuels

ERTC Petrochemical Conference

5–7 October, Sheraton Hotel, Rome
www.gtforum.com/petrochemicals

ERTC 14th Annual Meeting

9–11 November, Maritim Hotel, Berlin
www.gtforum.com/ertc-annual-meeting

Keep up to date with all the programme developments for ERTC and ARTC conferences and ERTC training courses by registering your details at www.gtforum.com/remind-me.html



Cultural benefits

While delegates grappled with solutions to the latest refining challenges, their partners had an opportunity to take in the sights of one of Europe's most elegant capital cities and the surrounding areas.

Over the two days, partners visited the 12th century Klosterneuburg Monastery, and enjoyed a tour that included the Vienna State Opera, the Museum of Fine Arts, the Vienna Hofburg, the City Hall and the Burgtheater. The group ended its outing with a stop at Belvedere Palace, one of the world's most beautiful baroque buildings, before joining the delegates for lunch at the Hilton Vienna Hotel.

RECOGNISING EXCELLENCE

Join us in celebrating excellence in the European refining industry at the European Refining Technology Awards (ERTA) ceremony and dinner!



Taking place on Tuesday, 10 November, the inaugural awards will follow day one of the ERTC 14th Annual Meeting in Berlin, Germany. For more information about attending, categories and entries, please email saffa.khan@incisivemedia.com