

## Securing the world's energy supply:

# Industry must monitor equipment, people, safety issues to help world meet growing energy demand

2006 IADC CHAIRMAN **Claus Chur** knows that he's been leading an important group of people over the past year: "We are not just making hole. We, the drilling contractor industry, are an important part of the oil and gas industry and responsible for securing the continuing supply of energy."

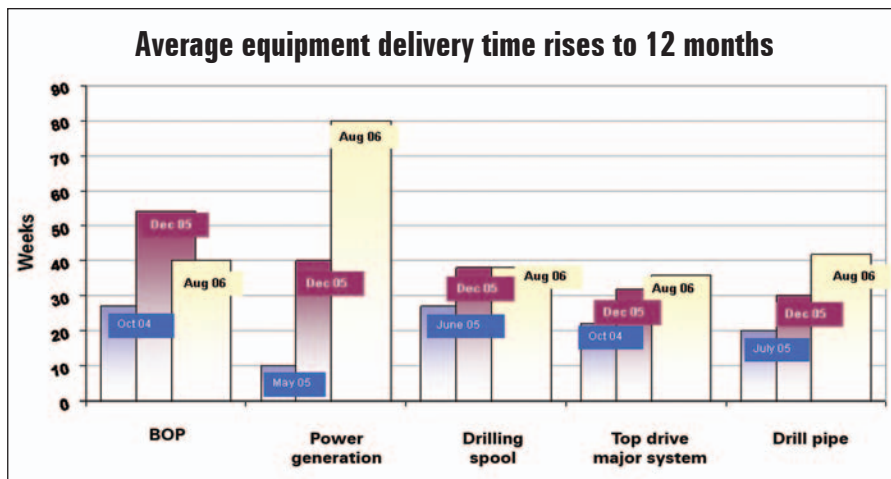
Mr Chur, director of Europe, Middle East and Russia for **KCA DEUTAG**, also recognizes the industry's importance in the years to come. A general increase in worldwide population and strong economic developments in societies such as China, India and South America will drive a significant increase in worldwide primary energy demand. That increase is estimated to be approximately 1.7% a year from 2002-2030. In other words, energy demand will rise by 50% over the next 25 years.

Looking on the other side of demand, oil will make up 35% of our energy supply in 2030, gas 25% and coal 22%. "The message is that hydrocarbons will supply about 80% of the total primary energy," Mr Chur said.

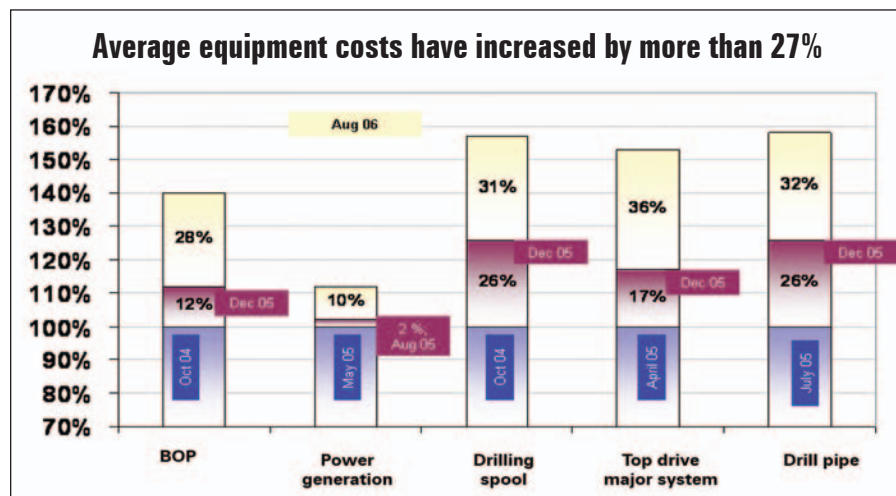
Biomass and nuclear sources make up a significant majority of the remaining 20%, and he pointed out that wind and solar together will provide only about 1.5% of total energy demand. "They will not supply any significant amount in the foreseeable future. Of course, there's nothing wrong with developing and making use of wind and solar energy in specific applications," Mr Chur said. "But it's totally irresponsible for politicians to tell the public that these forms of energy will deliver a significant contribution to the world energy supply."

## GROWING GAP

Even while the world's demand for energy grows, its existing production is decreasing steadily. In 10 years, this combination is expected to lead to a gap of 100 million BOED – almost the same amount as total current production. Significant investments will need to be made if the industry is to face the challenge of closing that gap.



Rig are only a part of our business – they can't be operated without proper equipment, and the supply of that equipment has become critical, said 2006 IADC chairman **Claus Chur** of **KCA DEUTAG**. These graphs show that both delivery times (above) and prices (below) have steadily increased since 2004.



About \$16 trillion is expected to be invested in the energy sector from 2001 to 2030, with 19% of that in oil, 19% in gas, 2% in coal, and a majority 60% in electricity. Therefore, about \$200 billion needs to be invested in the oil and gas industry per year worldwide, and nearly that much has already been invested in the industry this year.

## FLEET GROWTH

The worldwide land fleet has seen significant growth in 2006. In January, Mr Chur forecasted that the worldwide land rig count would increase by about 250

units in 2006 and by another 250 in 2007. At the time, some criticized his forecast as too high. But by August, he could already see that it was not too high but too conservative — now it looks like more than 300 rigs will be added worldwide this year.

In previous years, international land rig dayrate increases have been very moderate, rising by an average of 3%. But this year, supply shortages really shook things up. New contract rates have gone up 50%, and ongoing contracts have risen between 10% to 20%. For 2,000-hp rigs, \$30,000 a day isn't uncommon anymore.

Offshore is growing as well, with the industry seeing a rig shortage for the first time in 2 decades even as approximately 60 jackups and more than 30 floaters get under construction.

Mr Chur expects jackup demand to increase by 80 units from 2005-2007. This means an estimated shortage of 22 jackups this year and a projected 30 next year, and the supply shortage will likely remain until 2009. "After that, there are signs that there will be a slight oversupply of units. This could be an indication that jackup dayrates won't stay on as high a level as we see today," he said.

On the floater side, demand is expected to increase by 50 units from 2005-2007, with an estimated shortage of 9 units this year and 16 next year. Unlike jackups, however, floater demand is expected to stay above effective supply even into 2012, keeping the market tight and dayrates strong.

## OTHER FACTORS

**Equipment:** Rigs can't be operated without proper equipment, and the supply of equipment has become critical, Mr Chur said. Average delivery time has

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— Claus Chur, 2006 IADC chairman

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increased from 5-9 months to 12 months. On major equipment, it may take 15 months or even longer. Equipment prices have also increased on average by more than 27%.

**Human resources:** We know that more than 500 rigs will be deployed, both on land and offshore, in the next 2 years. This means 30,000 employees must be identified, hired and trained. Training will take time. For positions such as toolpusher, nightpusher and driller, 2-3 years of rigsite experience is necessary. The increase in personnel turnover and "poaching" aren't helping either, Mr Chur said. Neither will the fact that about 50% of the current industry workforce — effectively the most experienced

group — will retire over the next decade.

To meet this personnel challenge, he continued, the industry must:

- Remain fully committed to recruitment and training of new personnel.
- Plan for the next decade, not for the next public announcement.
- Provide skilled trainers, training programs and training facilities.
- Intensify the recruitment of nationals and "Eastern expats."
- Manage the knowledge transfer from those near retirement to accelerate the development of new recruits.

"We must have a more long-term perspective. We must not make the same mistake we made years ago of hiring and firing and losing a lot of skillful people," Mr Chur cautioned.

**Safety:** Safety performance has been flat for 4-5 years. While that's commendable in light of the significant increase in manhours, Mr Chur emphasizes that it must improve further: "I'm totally committed as is IADC to improving safety performance. It can be done." 💧