Long term thinker

Though neither scientist nor engineer by training, Justin Adams is BP's director of long term technology. He talks to *Hester Thomas* about how technology is helping to shape the company's long term future

Some people relish the prospect of being interviewed and photographed for *Frontiers* magazine. Others regard it as just one more task in a day's work. A few have mixed feelings. Justin Adams, BP's director of long term technology, falls into the latter category.

The main reason for his mild reticence is quite simple: modesty. He is concerned that by being in the spotlight he will be seen as taking credit for work done by many people and in which – in his view – he played but one part.

Adams started working full time with BP in 2003, taking a consultancy role as a strategic advisor on long term technology to BP's Group Technology team. He joined the company in his current role in early 2005.

His initial remit was to conduct a group-wide review of technology activities and future needs for a time horizon spanning up to 25 years. In his current role, he has led the development of BP's Long Term Technology Strategy.

It is this strategy that has caused a stir and put 35-year-old Adams in the limelight. 'It's the piece of work that I'm most proud of,' he admits, quickly adding: 'I was lucky to be in the right place at the right time.'

He warms to the topic as he explains that 'a three-bucket framework lies at the heart of the strategy.'

His choice of the word 'bucket' is revealing. Where others might have chosen a more business-oriented description such as 'three-pillar', he opts for a workmanlike term. It is indicative of a man interested in practical solutions.

'We need to focus on three buckets of activity,' he continues. 'Extensions to the core exploration and production business and technologies which push the boundaries of where and how we operate; development of a broad set of technologies around carbon conversion; and thirdly, the creation of a suite of activities based on low carbon options. These will be targeted at the power and transport sectors, and potentially in the longer term, at the heat sector as well.'

The Long Term Technology Strategy has sent ripples not only through BP but also beyond – Adams is regularly invited to ▶

BP's director of long term technology, Justin Adams, is helping to plan the company's activities for the coming decades

"My role is understanding the future value that technology can provide to BP – and communicating that clearly"

▶ speak to external groups on BP's long term thinking. The strategy is notable not only for its direction, simplicity and clarity but also because it has helped establish BP's long term technology priorities and a myriad of novel business opportunities. For example, the strategy was one of the original drivers for two new businesses launched by BP – BP Alternative Energy and BP Biofuels. Adams remains heavily engaged in both businesses.

Future value

So how did he develop the strategy? 'I combined holistic thinking and common sense,' he says, with disarming simplicity. What he omits to mention is that he unites a vast, deep knowledge of the energy sector – the issues, technologies, processes and people, built up meticulously over ten years – with a profound understanding of BP's core capabilities as well as its potential.

Curiously, Adams is not a technologist – that is, a trained scientist or engineer. His degree from the University of Bath in England was in business administration with a focus on strategy, finance and operations. He also spent six months in US education at the business and leadership school at the University of Richmond, Virginia.

'However, I love technology,' he explains. 'My strength is in understanding the future value it can provide to the business and being able to communicate that clearly.'

He has the ability to immerse himself in particular areas, quickly coming to grips with what matters and why. Test him and he will hold his own in conversations about advanced biofuels, lithium ion batteries, fuel cells and next generation photovoltaic technology – among many other subjects. Steve Koonin, BP's chief scientist, has referred to him as 'an honorary physicist' – a comment that Adams took as a compliment, coming as it did from one of the world's leading physicists.

Adams' career has been built around a potent mixture of blue chip businesses, new technologies and entrepreneurial ventures. From the age of 12, his holidays were spent working in his father's business. On graduating he joined TransDek, a new company his father had established, specialising in loading systems, which recently won the Queen's Award for Innovation. He accepted the hard task of knocking on the doors of UK distribution companies to sell an innovative powered loading system. Over three years, he developed 12 key accounts, generating over £1 million of sales.

Simultaneously, he was becoming increasingly interested in sustainable development – a subject about which he remains passionate. Adams left TransDek and took a six month sabbatical, trekking in the Andes and thinking about his future: 'How could I combine my love of business with a desire to leave the world in a better state than I'd found it?'

He concluded that business and technology consulting would provide broad access into many companies. He returned in early 1997 to join Arthur D Little. There, he

rose to lead the consultancy's Advanced Energy Systems practice in Europe.

His work spanned the globe, focusing on advanced energy technologies across a variety of areas and working with leading companies including Shell, Statoil, BG Group, Endesa, Amerada Hess and Petrobras. By 1999 his major client was BP. Projects included developing strategies for renewables, hydrogen, and gas to products – areas that stood him in good stead for his current role.

In 2001, he left Arthur D Little and switched to the client side, becoming chief executive officer of High Power Lithium in Switzerland. This small, new, advanced battery technology company is developing next generation lithium ion materials for hybrid electric vehicles. Adams established the company's strategic plan, secured funding from two venture capital groups and set up a partnership with Toyota. Mindful that he did not want to become 'a battery geek,' he negotiated his exit, while retaining an interest in the company.

Then a chance meeting in 2003 with BP's Chris Mottershead, distinguished advisor, energy and the environment, led to Adams' re-entry into the corporate world and his move to BP.

His current remit is to turn parts of BP's Long Term Technology Strategy into reality. Recognising that BP cannot pursue every technology in-house, he is helping to develop models that will enable the company to access novel technologies through venturing. This includes partnerships with smaller, innovative companies, developing relationships with venture capital companies, and leveraging BP's strong links with universities to foster spin-out companies. Most recently he has been building relationships with leading biotechnology companies to support the launch of the new BP Energy Biosciences Institute (*Frontiers*, August 2006).

'I want to help stimulate the development of technologies that will provide solutions to the key challenges of climate change, energy security and energy poverty,' he asserts. 'And for BP to become the most successful, forward-looking and positively viewed energy company in the world.'

One of his major motivations is the prospect of a more sustainable future in which his three children will thrive. It is them, plus his wife, who he says 'are the most important part of my life and help keep me anchored.'

A modest man but one attuned to finding innovative opportunities at the interface where technology meets business. ■

Conversion in Room 40

In *Frontiers*' anecdotal series from BP's Technical Advisor community, *Joep Font Freide*, BP Advisor and Gas to Products Technology Excellence Manager, takes a wry look at life on the Kenai Peninsula

Since August 2002 I have been a regular visitor to Room 40 of a small hotel on the Kenai Peninsula in Alaska, home to BP's demonstration plant for converting natural gas into clean liquid fuels. Whenever I booked in via the phone I always ended up in Room 40. In the beginning it was a simple room with the usual bed, cupboard, table and chairs and a TV. Over the years it has improved with a TV inside a cupboard, small fridge and microwave. The last time I arrived there was a new heater, one which I could thankfully switch off – Alaska can reach 25°C in summer.

Kenai is a very friendly place, where the local car rental company – represented by a lady in pyjamas – has your car waiting for you at -10°C in winter with engine running, heating on full blast and the lights on, so you just need to hop in. Sometimes I get yelled at across a dining room: 'Remember me? I saved your life.' And we shake hands, since indeed I was the man role-playing a heart attack on the 7th floor of the demonstration plant in a safety exercise with the local emergency services.

I have been a frequent visitor since we built the demonstration facility at Nikiski near Kenai in 2001-2, turning natural gas into pipeline-stable, synthetic crude. Developing and scaling up the technology is just one of the challenges of Nikiski. The local team plus worldwide support from partnering companies have all become experts in more than one way. We now know all about compressors, seals, nitrogen packages, power dips, leach fields, steam boilers – and moose that can easily clear our 3m-high security fence with an Olympic winning jump. And how to shovel snow.

Such topics and others are discussed in depth by the team as we seek new solutions and keep making progress. If those solutions don't come in work hours, there is always the evening, and of course the next day.

This is one of those 'next days' and I am on my way to the plant, leaving Room 40 behind. Five bald eagles are thermalling over the single road leading to the plant, their white heads lighting up in the rising morning sun, with the Mount Spurr volcano dominating the horizon. In 20 minutes I will turn off into John Collins Way: it is another new day, and gas to liquids conversion is well on its way. ■