



## Financing Innovation- 19<sup>th</sup> October 2006

Nicky Dee

The Cambridge Energy Forum put together a timely and relevant group of speakers to discuss financing low carbon innovations. Some insights emerged from the evening: firstly that emissions trading appears not yet to be the solution to curbing greenhouse gas emissions for which it was originally intended, that the Carbon Trust's Venture Capital arm is becoming more like other Venture Capitalists, while D1 Oils is trying to show how different it is from its competition while persuading people that it really will deliver on its commercial promises.

The evening started with a reminder by Tony White of Climate Change Capital that the electricity industry has changed substantially over the last fifty years. It has moved from a monopoly, to a liberalised market. The implications for investors are that '...risks in the utility sector are as extreme as those in the oil sector'. This is due to being unable to predict prices prior to commencement of electricity generation. Investors in oil fields tend to anticipate future prices according to conservative estimates of the price per barrel, resulting in investment in oil fields which will produce barrels of oil costing less than \$30 for example. Similarly in electricity generation, investors have to become more familiar with financial forecasting. However this is associated with a conservatism which will result in a lack of investment in new low carbon technologies.

Tony White explained the effects of carbon emissions trading on the market. First he discussed the rationale behind the scheme, and how emissions permits were issued to industrial emitters of carbon dioxide. Once industry emissions were estimated, permits were issued to allow emissions at just below the estimated figure, so forcing industry to curb emissions. However estimates of emissions were overestimated by around 3%, which has resulted in a surplus of permits which has caused them to reach a third of their anticipated price. Further more, even though the permits were issued for free, they have served as an excuse for utility companies to raise prices. As a result they have achieved windfall profits, which have been used for investment in developing countries. This served as another illustration of uncertainty and unanticipated consequences in new schemes for the promotion of low carbon technologies.

The next view of investment came from Adam Workman of the Carbon Trust, who discussed their Venture Capital program for low carbon ventures. He showed that in the U.K., over £200m has been raised for business, but this is mainly targeted on mature revenue generating businesses. Out of eighty-five investors with identified investments in this area, over 60% have made just one investment, with very few making serial investments. This revealed the lack of investor experience in this arena in the UK, and served as an indicator of the importance of understanding sector specific issues in order to invest successfully in clean tech. One such issue had been identified by Tony White; the need to clearly understand the role of regulation within the market.

The central part of the Carbon Trust presentation focused on the basic building blocks of business that they look for. This presentation revealed little to those familiar with Venture Capital, citing the usual things a VC looks for: good management team, understanding of competition and market, revenue model, addressing and not ignoring weaknesses, leveraging partnerships and so on. Of critical importance is a plan for growth, including an exit point. When investors and partners are involved, expectations need to be managed. For example expecting an IPO<sup>1</sup> to consume half the management's time for twelve months, and to factor in the cost of advisors. Workman finished by asking whether the financial market for clean tech ventures was slowing. After a flurry of clean tech IPOs on AiM<sup>2</sup> in 2005-2006, these dried up in May 2006. In addition, there are few specialist analysts or funds, and some new ventures are failing to meet their commercial milestones. But nonetheless, global political news and oil prices are whetting investors' appetites.

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<sup>1</sup> Initial Public Offering

<sup>2</sup> Alternative Investment Market

Next Ed Gillespie<sup>3</sup> spoke on behalf of Shell Springboard<sup>4</sup>, a programme that offers Up to 6 awards of between £20,000 and £40,000, for entries submitted by midnight on 10<sup>th</sup> November. While this offers very early stage finance for low carbon ventures, with no conditions on how it is spent, it is also recommended in the terms and conditions that companies secure their IP first. A cynical audience member queried if this was a way for Shell to screen new clean tech ideas through a low cost mechanism.

Lynne McGregor discussed her experiences working with Imperial Innovations<sup>5</sup> in their role as a Carbon Trust Incubator. They have introduced 25 potential candidates to the incubator, approving 11 to be incubated. Of these, seven have reached investment readiness, and have raised or are due to complete over £7m. In their experience, incubation and business support accelerate the route to funding, and finance is key to enabling commercialization. She finished by giving three examples of typical applicants to the incubator, which together illustrated the need for the team, market and technology to co-evolve in order to achieve commercial success.

Finally, D1 Oils plc was presented to show the impact of finance and how it enables growth of a new venture. D1 was formed in 2002, and floated on AiM in October 2004 raising £15m at £1.50 on a pre new money valuation of £30m. It then went on to raise £32m in April 2005 as additional working capital, at £2.65. The market capital of the company today is c£70m at £2.12. This is a reminder of the scale of investment that can be required by a new venture for research, development, and capital costs prior to it being able to generate revenue.

Peter Davidson, a non-executive director of D1, talked of the importance of having a clear simple message which communicates the business effectively to others. When questioned whether it was possible to beat off competitors when the Jatropha crops were available to all, Peter highlighted both their first mover advantage in an immature industry, and their unique modular and transportable refineries that were unlike anything they had seen in their competitors. They had also taken the position of not patenting this process innovation, in interest of maintaining a trade secret. He was also questioned on their ability to deliver projected crops and yields. Peter was confident and thorough in his response, citing personal visits around the world to various plantations, and the conservative nature of yield estimates considering the breeding program they were conducting to increase yields. He emphasized the importance of under promising and over delivering, and he was going to make ‘...darned sure that D1 delivered’. Later it was revealed that this sometimes meant being ruthless with employees if their performance did not meet expectations.

The evening's speakers took the audience through financing innovation, from large scale mature investments, to high risk Venture Capital, to experiences from a clean tech firm newly established in 2002 with an aspiration of high growth. The Cambridge Energy Forum's usual nibbles and drinks re-energized the attendees, ready for a lively forum of discussion.

The forum questioned whether it was possible for financiers to expect high financial returns in addition to needed low carbon benefits. This prompted mixed responses which is typical when discussion a new disruptive industry. Some argued that commercial viability at this early stage in the industry was only possible with policy interventions via regulatory or fiscal incentives. When the speakers were asked what investors wanted to see prior to investment, the reply was several years of hard work. To entrepreneurs, this is a familiar story, where the early years of a business are characterized by hard work with few resources. Part of the entrepreneur's motivation is capturing the pot of gold after developing and finally commercializing their products after following a rainbow of investments. The evening finished by revisiting how regulation can create a competitive market for clean technologies. It was noted that clean tech should at least receive the same support as fossil fuelled technologies if we are to really tackle climate change. Investment in new low carbon technologies is clearly important in the fight against climate change. But investment is won with a commercial argument, which may only be achieved with backing from government.

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<sup>3</sup> Gillespie works with a communications company called Futerra which is managing the promotion of Shell Springboard.

<sup>4</sup> [www.shellspringboard.org](http://www.shellspringboard.org)

<sup>5</sup> Imperial Innovations listed on AIM on 31<sup>st</sup> July 2006. Their track record includes seeing 200 new ideas each year, from which result around 50 new patents- the majority from Imperial College. They have had 96 commercial IP deals in bioscience and engineering, have a license revenue of over £10m, and fifty eight spin-out companies.