LiqBio—liquid biofuels in New Zealand

The quarterly electronic newsletter from the Bioenergy Association of New Zealand (BANZ) on the Liquid Biofuels Sector http://www.bioenergy.org.nz/liquid_biofuels.asp

June 2009, Issue 3[a]**

Inside this Issue

Welcome

Welcome to the third issue of 'LiqBio' the dedicated Liquid Biofuels in New Zealand newsletter. This issue again welcomes more new members to BANZ with a specific liquid biofuel interest.

Liquid Biofuels has not been far from the news in the last few months with the introduction of the **Biodiesel Grant Scheme** and the **Consultation on the EN Test Method**—both very welcome developments and both supported by BANZ. We note some further issues in this newsletter that warrant further consideration.

We also welcome the great news from EECA on the recent **changes to the Biodiesel Grants Scheme with regard to the rollover of volumes sold from month to month.**

BANZ is also pleased to announce a **partnership between BANZ and New Zealand Trade and Enterprise (NZTE)**. BANZ is working with NZTE specifically to promote skill, technologies, know how and in particular innovation in New Zealand liquid biofuels. There are many success stories out there and much for our New Zealand industry to promote. Information produced will be available on the BANZ and NZTE web-site and serve to promote 'NZ know-how' overseas.

We also acknowledge EECA's funding for this and previous newsletters and also their continued partnership with BANZ.

This issue also profiles **Flo-Dry Engineering.**

The biofuels web-pages (www.liquidbiofuels.org.nz) have been updated with more details on who is doing what in New Zealand on liquid biofuels. If your details are not on the site—contact us.

Andre Hamman, Convener of the BANZ Liquid Biofuel Interest Group

New BANZ Members with a Liquid Biofuels Interest—Welcome!

Company/Individual/Organisation	Contact	Type of Membership
New Zealand Trade and Enterprise	Barbara Webster	New Zealand TRADE & ENTERPRISE BANZ Partner
NuWay Energy (NZ) Ltd.	Paul Bowie	Full Associate
BP Oil NZ Ltd.	Barry Blackett	Full Associate
Maxall Energy	Ian Maxwell	Ordinary Associate

Partnerships This newsletter is supported by the Energy Efficiency and Conservation Authority

EECA Energy Efficiency and Conservation Authority Te Tari Tiaki Pūngao

a**—note—this issue has corrected information relating to the Biodiesel Grant Scheme—Rollover—page 2. A correction e-mail was issued on 6 July 2009.

Biodiesel Grant Scheme

Introduced in May 2009 the Biodiesel Grant Scheme is the Government's replacement for the old Biofuel Obligation repealed in December 2008. The Scheme, which focuses on biodiesel, effectively creates a level playing field between bioethanol and biodiesel and is a welcome boost to the liquid biofuels sector in New Zealand. The Scheme offers a subsidy of 42 c/litre for biodiesel manufactured in New Zealand (several conditions apply).

Key documents setting out the details of the Scheme are as follows:

- Scheme Description Document (updated on 30 June 2009)
- Scheme Funding Agreement (updated on 30 June 2009)
- Scheme Application Form

BANZ issued the following press release in support of the new Scheme—here.

Latest News

EECA announced the following welcome amendments on 30 June:

Rollover—*The amount of funding available for the grants was previously a fixed amount each month ($750,000 per month in the first year) with no ability to rollover unspent funding to the remaining months of the year. It is now possible to rollover unallocated funding to the rest of the year. Note—rollover is specific to grant funding and not volumes.*

Under the Scheme, the Crown will provide a grant of up to 42.5 cents per litre for biodiesel or biodiesel content of a biodiesel blend meeting specified criteria and dependent on an annual cap (see Appendix 2) and where a monthly threshold is exceeded the grant is spread evenly (at a lower rate) across the total sales claimed for that month. Where the available grant is not claimed in any month the shortfall will be spread equally over the remaining months in the funding year (see Appendix 2).

Returns details to include origin of feedstock—Details as follows—

The Return records each month's sales under the Scheme for the Producer and also acts as the invoice mechanism for the grant. Consequently and for the avoidance of doubt, Producers must submit a "nil" Return where applicable to confirm no sales for a month.

In addition to information related to the grant criteria, Producers will also be asked to provide information on the Return of feedstock type/s used (e.g. tallow, used cooking oil) and feedstock country/countries of origin for the biodiesel sales they are claiming that month.

Amendments are included in the key documents as listed above (the first two of which were updated on 30 June).

Consultation on the EN Test Method

The Joint Ministry of Commercial Affairs (MCA) and Ministry of Economic Development (MED) consultation on the Revision to the EN Test Method (14103) earlier this month was a welcome step forward in the resolution of the well documented difficulties with this test method.

BANZ supported the proposed change in the sample analysis methodology (assuming that it is in line with international approaches and consistent with the Mittlebach Method). The BANZ submission can be accessed here.

Other issues of concern?

At the time of the consultation on the EN Test Method, a number of Members also raised concerns about the following issues that may warrant further attention:

- **Cold Flow Properties**—(specifically **Cloud point and Cold Filter Plug Point** (**CFPP**) - In colder climates, we must be very mindful of the cold flow properties of diesel and biodiesel alike. This is especially true as fuel sources are readily transported across the country. Two critical tests used to measure cold flow properties are:

  - **Cloud point** (**CP**): the temperature at which a sample of fuel just shows a cloud or haze of methyl or ethyl ester crystals when it is cooled under standard test conditions.
  - **Cold Filter Plug Point** (**CFPP**): the temperature at which fuel crystals cause a fuel filter to plug. This test is considered a better indicator than cloud point of low temperature operability.

  There are clearly different temperature zones in New Zealand—middle to lower South Island in winter time for example. Cloud points and Cold Filter points differ by biodiesel type. Standards need to be set by geography, application and blend to avoid issues in the market. This may be a bigger issue in some cases than the NZ Standards not being met. Is this an issue that we need to address for some specific areas of New Zealand and for specific blends and source materials? Let us know your views.

- **Reproducibility** factor of 3.10% and Repeatability factor of 1.80% for Methyl Esters content should also be considered for incorporation into the Minimum Standard (96.5%) set Methyl Esters in Biodiesel.
- **C8 to C12 fatty acid esters** should also be consider for inclusion in the proposed modification to the method EN14103 as this may affect some specific cases.

- **Ester test and feedstock types**—The Engine Specification Regulations 2008 refer to an ester determination test that is far from satisfactory for the feedstocks that can be used. Some feed stocks don't relate well to the standard ester determination test as its not designed to identify all the esters that biodiesel made from some feedstocks have. There may also be issues around the expected performance of engines when operating on the different esters produced.

  If you have any comment to make on any of these issues — please note them to the Executive Officer.

Liquid Biofuel Interest Group—Committee Meeting

The most recent meeting of the Committee was 2nd June. Key issues discussed included:

- General support for the new Biodiesel Grant Scheme
- Future focus issues for the Group including Strategy and future R&D needs
- Development of a relationship with NZTE to promote NZ biofuels skills and innovation overseas.

The next meeting is scheduled for 4th August 3.30 pm. Minutes are available in the Members Only Area of the BANZ web-site.

Member Profile—Flo-dry Engineering Ltd.

Flo-Dry Engineering Ltd (**FDEL**) was established in 1985 as a design and manufacturing company for the Flo-Dry direct fired rotary driers and complete processing systems. In 1990, Tissa and Nele Fernando bought the Company from other owners that included Auckland Farmer's Freezing Co. Ltd, which held 60% of the shares.

Projects executed by **FDEL** have ranged from animal by-products processing to wastewater treatment within both- industrial and municipal plants. Today, main focus of the company is on developing, constructing and delivering Biodiesel Plants, Flo-Dry Electro Dewatering (FEDW) plants & Sludge Drying Plants for municipal sewage sludge treatment plants.

FDEL has demonstrated the ability to manage projects in **Australia, New Zealand** and in more distant locations like **UK, Chile and India**. Quality and reliability of the plants is evidenced by the number of repeat client orders being received over the years.

The company employs a team of eight engineers, and two support staff to develop, design, install and commission the plants. Comprehensive after-sales service ensures smooth operation of plants and equipment supplied. Association of the company with the client is viewed as a long-term partnership.

FDEL is driven by one priority – to provide a responsive, competent and comprehensive service to industry. The company's capabilities extend from initial customer requirements to developing specific packaged systems, technical development and manufacture of specialised equipment for a large portfolio of customers in many industry sectors.

FDEL has recently developed, based on intensive laboratory experimentation, packaged systems for **FRDB (Flo-Dry Reactive Distillation Biodiesel)** based on continuous **Reactive Distillation Process**. Patent for this unique process has already been applied. **FDEL** now plans to venture in the manufacture of standardised packages for rendering plants and other end users as forward integration. **Reactive Distillation Process** can employ a wide range of raw materials including animal tallow and waste vegetable oil to produce Biodiesel-named **EVERDIESEL**, meeting New Zealand, Australia, National and International Standards.

Another packaged system developed by **FDEL** is **Electro Dewatering** of Municipal Sludge, termed as **FEDW**- **Flo-Dry Electro De Watering** package. This package developed in-house based on intensive laboratory tests and demonstration plant runs, is also awaiting commercialization. Patent application has also been lodged. Process uses very low voltage potential applied across electrodes dipped in conductive sludge. With controlled conditions of flow, current, pH, temperature, polymer, etc an increase of **DS** (dry solids) of around **30 %** can be guaranteed over the achievable DS by polymer addition only.

Both of these packaged processes are now part of business line, thus are included in the **Quality Management System**- **ISO 9001: 2008**.

FDEL's strengths lie in the team, comprising of specialists from industrial backgrounds. They understand the priorities, problems and constraints that clients often have to deal with, and therefore provide more effective support.

Further details at www.flo-dry.com

biofuels news—NZ Focus

Biodiesel Grants Scheme Announced – see link here to original statement from the Minister.

Green Party Member's Bill – Sustainable Biofuel Bill – available here.

Gull steps up for Environment Day (5th June 2009) – Good news for eco-friendly drivers filling up on fuel as celebrations of World Environment Day were marked by Gull who lead the charge with a discount to its biofuels by 12 cents a litre for 24 hours from 7am. World Environment Day is organised by the United Nations. The theme for this year was uniting to combat climate change, encouraging nations to agree on a new idea, at the climate convention meeting in Copenhagen late this year.

Biofuel test flight shows promising results, (10th June, 2009) – Scientific tests have shown that up to 1.4 tonnes of fuel can be saved on a 12-hour flight powered by a 50/50 blend of jatropha biofuel and traditional jet fuel. This result is one of the key findings from Air New Zealand's biofuel test flight last December. The biofuel test programme included on the ground and in-flight tests of the engine and aircraft components. During the flight, analysis was carried out at various altitudes and under a variety of operating conditions to measure the biofuel's performance. A report prepared after the test flight says the jatropha biofuel has the potential to be used with traditional A1 jet fuel at a blend ratio of up to 50/50, but further industry evaluation must now be conducted to certify the fuel for everyday use.

New Zealand Innovation in Liquid Biofuels—new initiative with New Zealand Trade and Enterprise (NZTE)

BANZ and the Liquid Biofuels Interest Group are delighted to advise of a new partnership with New Zealand Trade and Enterprise (NZTE).

Behind the scenes NZTE staff are working on many areas to support New Zealand businesses — bioenergy is no exception and in particular this latest initiative focuses on liquid biofuels.

NZTE are particularly interested in the innovative skills that NZ companies have to offer to an international market.

NZTE staff in a variety of international locations frequently reference details from the BANZ web-site and have asked BANZ to update this information.

BANZ is in contact with a number of leading players in the sector requesting their information. The details will be presented as a summary table on the BANZ and NZTE web-sites. Each company returning a form will have a dedicated one page summary of their activities.

If we have not been in touch with you—please contact Connie Crookshanks to request an information table.

New Zealand TRADE & ENTERPRISE

Sustainability Loophole—really?

On 10 June, the Green Party announced its Sustainable Biofuel Bill aimed at restoring "*a sustainability standard*" - *Government Mistakenly Gives Biofuel Subsidy to Foreign Farmers*.

Green Party MP Jeanette Fitzsimons said that the Government's new biodiesel subsidy scheme "*risks doing more harm than good to the environment and to New Zealand business*", as she released her Member's Bill to fix the mistake.

Ms Fitzsimons went on to add, "*Under the Government's scheme, responsible Kiwi firms can be undercut by diesel made from clearing tropical rainforests*." adding, "*National threw the baby out with the bathwater when they repealed sustainability standards. I assume it must have been a mistake because their biodiesel scheme defeats the purpose which is to look after our environment and our economy."*

BANZ Executive Officer, Brian Cox said at the time that he welcomed the initiative but noted that he didn't think it was too much of an issue as current New Zealand companies act sustainably and the subsidy is only for NZ manufactured fuel.

Mr Cox noted, "*The liquid Biofuels Industry in New Zealand has great potential—boosted further by the Governments recent Biodiesel Grant Scheme. I would say that they are all well aware of the merits of selling sustainable NZ grown fuels—anything else would be commercial suicide. In today's market its sustainability that sells."*

Mr Cox also added that as far as he could tell, as the Scheme clearly identifies, the production of biodiesel has to be undertaken in NZ, and so for anyone to consider importing a foreign feedstock for conversion, the "*economics just don't stack up*".

The Sustainable Biofuel Bill can be downloaded here. The Bill went to the House on 30 June as it was drawn from the Member's ballot. See more details here.

Note — Revisions to the Biodiesel Grant Scheme criteria require producers who are seeking the subsidy to identify the source of their feedstock on their Returns forms.

Membership—Liquid Biofuel Interest Group

Membership of the Liquid Biofuel Interest Group (LBIG) is open to Members of BANZ. If you are interested in Membership please contact Connie Crookshanks.

- Individual Members interested in Membership of an Interest Group are subject to a charge of $100 per Group.
- Associate and Corporate Members are permitted to have Membership of at least one Interest Group included in their Membership fee.

The Bioenergy Association of New Zealand Inc. (BANZ) comprises companies, research organisations and individuals who have an interest in markets for converting biomass or biomass residues into energy. To receive this newsletter regularly contact Connie Crookshanks for membership details. See here for more info.

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