eTAP Environmental Technologies Action Plan

INTERVIEW

NOVAMONT – a world leader in bioplastics from biodegradable, renewable and compostable sources

Christophe Doukhi-de Boissoudy, General Manager of Novamont France, answers our questions about his company, a European leader in the field of bio plastic. The Head of Novamont, Catia Bastioli, was recently named the 2007 European Inventor of the Year.

- **Please tell us about Novamont in a few words and key figures.**

Novamont develops and produces the Mater-Bi® technology, a family of biodegradable and compostable thermoplastic materials. Our goal is to find new ways of using vegetable raw materials, sources that are renewed, year by year, by transforming them into "bioplastics" for specific applications. These products have a low environmental impact, and have all of the properties of the traditional materials, while being completely biodegradable.

With a turnover of €41 million in 2006, Novamont employs 120 people and supplies over 60 percent of global bio-plastics, producing 60,000 tons of Mater-Bi® per year.

- **Please tell us about the Mater-Bi® technology.**

Novamont manufactures and sells various lines of biopolymers for a variety of manufacturing processes, all with the Mater-Bi® trademark. The material is available in granular form with different formulations and/or grades.

- **What are the costs of such products in comparison to products made from fossil fuels? What are their environmental advantages?**

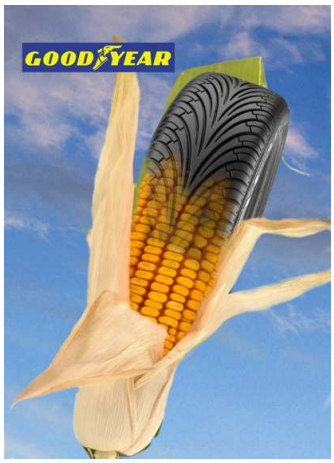
Products made from bio plastic cost between 1.5 and 4 times more than plastic products made from fossil fuels. This is mostly due to the high prices of raw materials, and also because production processes have not yet achieved their maximum efficiency.

Mater-Bi® is a type of bioplastic developed by Novamont. It comes from renewable resources of agricultural origin, which reduces greenhouse gas emissions and the consumption of energy and non renewable resources. Furthermore, it completes a virtuous circle: the raw materials of agricultural origin return to the earth through processes of biodegradation and composting, without releasing pollutants.

Mater-Bi®:

- Is completely biodegradable in different environments, for example, in composting and in the soil[1].
- Can be coloured in bulk using biodegradable master batches (coloured plastic additives).

- **What products is Mater-Bi® currently used for? What products do you think it can potentially be used for in the future?**



Bags (carrier bags, bin bags, etc.), clingfilm and agricultural mulching represent most of the current applications of Mater-Bi®.
Mater-Bi® was also used to produce the 'Green Pen' (manufactured by Lecce Pen), which was chosen to be the official pen of the world summit meeting in Rio de Janeiro. Nappies, catering products, tyres, etc. are also examples of the multiple applications of Mater-Bi®.

In the near future, Mater-Bi® is mostly going to be used for thermoforming, and replace conventional polypropylene in products such as yoghurt pots, or cosmetic packaging.

- **Concerns have been raised about bio-plastics and their environmental impacts, notably with regard to the use of GMOs. Have you developed ways to respond to these issues?**

Novamont is committed to developing processes and technologies that have a low environmental impact. This is of the same importance to us as the excellence of our products.

Novamont has chosen to use GM free vegetable starch (mostly maize) because it has a minimal impact on the environment. Maize is very abundant in Europe and its starch is of very good quality. Furthermore, Novamont is willing to replace the fossil fuels it uses during the manufacturing stages of Mater-Bi® by sunflower-based bio fuel.

In the long term, Novamont is looking forward to regionalizing all its vegetable production in order to reduce the environmental impacts related to transportation. Currently, all raw materials that are used to produce Mater-Bi® are from Europe. Novamont intends to open a new Mater-Bi® factory in France, located close to some of the largest French agricultural basins.

[1] In accordance with the European norm EN 13432, and with certification programs issued by some of the leading international bodies

- **Is there a way to distinguish bio-plastic products from other plastic products:**
  - For consumers who would like to buy bio-products?
  - To prevent bio-products that can be composted from 'contaminating' the waste stream of plastics that can be recycled?

There are two main ways that consumers can use to distinguish bio plastic products from conventional plastic products:

- Firstly, by touch. Bio plastics have a softer feeling and are silkier than conventional plastics.
- Secondly, it is very likely that a product without a quality label is not made of bio plastic. Consumers should look for the presence of labels such as EN 13432[2], 'ok compost' or similar.

Once consumers know how to tell bio plastics apart, they will be able to sort their waste correctly, so that bio plastic does not get mixed up with other plastics. As for downstream sorting, the creation of a new specific waste stream is not a major problem for waste management companies.

- **What are your expectations in terms of turnover and market share for the future?**

Novamont's expectations are quite ambitious. We hope to raise our market share by between 25 and 40% per year, and expect our turnover to grow accordingly. Our production could reach 100,000 to 120,000 tons in Europe.

In 2006, our turnover was around €41 million euros. The company firmly supports innovation, and holds 800 international deposed patents and 80 patent families, while investing some 30 percent of its resources back into R&D. We want Novamont to be reactive and adapted to the market.

Sources:

- **Novamont website www.novamont.com**

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[2] Packaging - Requirements for packaging recoverable through composting and biodegradation