

Editorial

EU to step up transition towards bio-based economy

With the conclusions of the last IPCC climate change conference in mind the European Commission has decided rigorously to increase its targets in the reduction of CO2 emission to 20% by 2020. Interestingly the UK decided to go even further to a reduction with 60% by 2050. These targets are extremely high, especially since we are still a long way from the much more limited targets set by the Kyoto agreement for 2010. Further, detailed forecasting and planning on such a long term is hazardous, can also be risky with respect to the EU's global competitiveness and has an uncertain outcome on the climate if these ambitions are not matched by the rest of the world. Nevertheless, the intention is good and these targets will definitely increase the sense of urgency and provide a stimulus for the transition towards a bio-based economy.

In achieving these targets the use of renewable resources will have to play a pivotal role. Volume wise it makes sense first to consider biomass use in the field of bio-energy and transport fuels, an application that can be implemented relatively easily and fast. Therefore it is not surprising that this is also specifically mentioned by the EU as a promising way to go. However, given the scale of the targets and volumes required, the consequence may very well be that the demand for raw materials for biofuels will skyrocket, with ensuing price hikes. Since the required raw materials (vegetable oil for biodiesel and starch and sugars for bioethanol) are also essential staple foods, unwanted food supply problems may arise that can put particularly third world countries in a tight spot. It is noteworthy that prices of vegetable oils and carbohydrates on the world market are already rising.

Also unwanted side effects like transforming rain forests into agricultural acreage (e.g. in Brazil and Malaysia!) must be considered. This does not mean that the EU's targets are unwanted or not feasible, but it does mean that it would be wise carefully to consider what transition pathways to take. Encouraging the use of food sources as feedstocks for bio-energy may be relatively easy to implement on

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a short term, but giving a boost towards the technological development of the use of non-food organic waste streams and lignocellulosics as feedstocks for second generation bio-ethanol production may make more sense in the long run. Also I think it would be wise to consider the so-called "Bio-cascade" principle.

This principle tells us preferably to use biomass for material products in which their chemical complexity and functionalities can be maintained, and use biomass only in second instance, at the end of its life cycle, as a bio energy feedstock.

However, in one way or the other, the expected boost in commercial activities in bio-based, might ask for action of entrepreneurs. These actions might differ, depending on the company's position. For companies with established bio-based products, it might be wise to secure supply of resources on the long term and prepare for either shortage or increase in price. Also, it might be wise to prepare for a market growth as the awareness about sustainable development in the public opinion will surely increase demand for already known and established products. For companies that only just start with bio-based products, it might be wise to consider different bio-based feedstocks and their expected use in the future. Moreover, a well-planned and well-aimed marketing campaign might help. In conclusion, the best we can do, is use the present political and public attention further to expand all our efforts to take the Bio-based Economy one step further.

Prof. dr. Hans Derksen
President Platform Bio-based business

Invitation to the

We invite you to the EU- Conference "Renewable Raw Materials for Industry, Contribution to sustainable chemistry". This conference is under patronage of Dr. Peter Liese, Member of the European Parliament, Committee on the Environment, Public Health and Food Safety. Substitute member of the Committee on Industry, Research and Energy with contribution of several directorates of European Commission as well as from industry, academia and agriculture.

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ERRMA

Prepared by



Supported by



The European Association for Bioindustries

EU- Conference "Renewable Raw Materials for Industry Contribution to sustainable chemistry" in conjunction with the launch of the European Science to Business Award 2008 on 17. and 18. October 2007 Bruxelles

"Renewable raw materials have the potential to bring big economic, functional and environmental advantages to a range of industries". This is the message of the conference, which takes place in

**Thon Hotel in Brussels City Centre (the former Tullip Inn Hotel)
Avenue du Boulevard 17, direct to Metro station Place Rogier on 17 and 18 October 2007.**

The conference will demonstrate the opportunities for renewable raw materials by integrating, in a balanced form, a number of political, economic, technological, agricultural and environmental relevant aspects.

The conference is prepared by ERRMA, the European Renewable Resources and Materials Association, in cooperation with SusChem, the European Technology Platform for Sustainable Chemistry, and supported by EuropaBio, the European Association for Bioindustries and COPA/COGECA, the EU- Farmers Organisation. The Directorates General of Research, Enterprise and Industry, Environment and Agriculture of the European Commission as well as industry, agriculture and academic institutes will contribute to this conference.

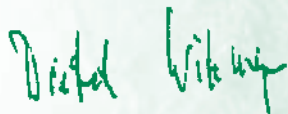
A true highlight of this Conference will be the launch of the European Science to Business Award 2008 to be presented at our evening reception on 17 October 2007 in the same Hotel, immediately after the first day session.

The prestigious award is endowed with a prize money of 100.000 Euro and extensive business coaching. It was for the first time awarded in 2006 by Degussa in the field of material sciences and related technologies.

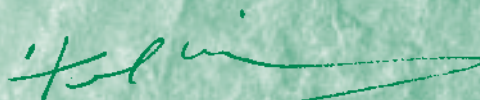
You are cordially invited to attend our conference and to come to the reception.

The "European Science-to-Business Award" has been initiated by Degussa, the global market leader in specialty chemicals, Germany. The aim is to reward young top scientists, who have completed outstanding innovative research that has excellent commercialisation potential at research facilities in Europe.

We are looking forward meeting you in Brussels the 17th and 18th of October 2007.



ERRMA
Dietrich Wittmeyer



GreenTech
Johan Haarhuis



www.errma.com

With its strong agricultural heritage, it is perhaps not surprising that France is leading the search for new chemicals based on crops.

In April last year, President Jacques Chirac announced a major initiative, BioHub®, as part of a new wave of innovation being pursued under the French Industrial Innovation Agency (AII) (www.aii.fr).

BioHub® CEREAL-BASED CHEMISTRY

BIOHUB®

The French Industrial Innovation Agency creates, selects and finances major programmes for structuring industrial innovation proposed by large companies, with global market prospects and the aim of obtaining a significant share of the market. The AII has a capacity for intervention starting at € 2bn, later continuing at € 1bn per year.

BioHub® is the first project approved by the European Commission last year.

Its aims are to get the most out of agricultural resources by developing new chemical and biochemical processes to synthesize chemical products.

The BioHub® programme will require € 90 million over seven years. Some 50 % of costs will be covered with the state aid, of which € 21.5 million will take the form of grants and € 20.3 millions the form of repayable advances.

The BioHub® programme is led by ROQUETTE.

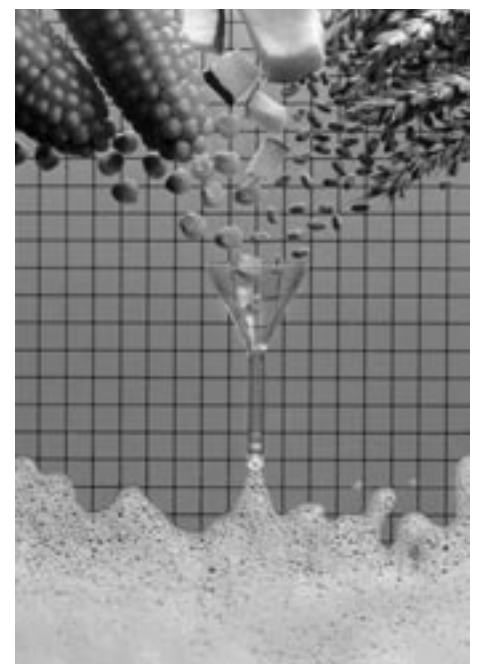
When in 1933, the ROQUETTE family first began to extract starch from potatoes and to transform it into derivatives, few people were aware of the long-term significance: driven by scientific endeavor, the natural resources (maize, wheat, potato and peas) would become ideally suited to the exacting demands of today's industrials and consumers.

ROQUETTE's basic feedstock, namely starch, is obtained by fractionating these agriculture raw materials. The starch derivatives are obtained by enzymatic hydrolysis, chemical (hydrogenation for instance) and white biotechnological processes. Together these renewable raw materials generate well over 600 products. ROQUETTE

is the world leader in polyols like sorbitol and number 4 in starch derivatives.

ROQUETTE factories in Europe, Asia and America operate a fully integrated international production and delivery system. The biggest is at Lestrem, in Northern France. Not only is this the largest of its kind in Europe, it also turns out the world's most diversified range of products. Alongside it are the ROQUETTE Research and Development Laboratories, exemplifying the company's commitment to innovation in both products and chemical and biotechnological processes.

Using renewable resources, ROQUETTE's chemists are creating products that previously relied on non-renewable raw materials.



innovation being pursued
the search for
the form of repayable advances as well a
processes to synthesize chemical product

The BioHub® programme is the main pillar of this sustainable development strategy.

ROQUETTE, as a grain processor, has to be one of the main drivers for the development and the promotion of the Bio Based Chemistry.

ROQUETTE is notably participating to the ERRMA group (European Renewable Resources and Material Association ; www.errma.com) sponsored by the European National RRM agencies as Ademe in France, NNFCC in the United Kingdom, Platform Bio-based Business in The Netherlands and Valbiom in Belgium as well as RRM active companies. ERRMA co-operates closely with different general directories of European Commissions namely: GD Enterprise and Industries and DG Research and the BREW working group. This BREW working group lead by Pr PATEL from University of Utrecht examined the potential processes to produce bulk chemicals from renewable resources (www.chem.uu.nl).

The consortium of the BioHub® programme, led by ROQUETTE, includes major European groups such as ARKEMA, COGNIS, DSM, EUROVIA, SIDEL, SOLVAY, SMEs such as METABOLIC EXPLORER or the polymer producer TERGAL INDUSTRIES, as well as public research laboratories such as INSA (Lyon and Rouen, France) and IMMCL (Lille, France)

METABOLIC EXPLORER (METEX), a leading industrial biotechnology company focused on the development of strains for the production



of bulk chemicals, is involved in BioHub®. The company develops new processes of fermentation and bioconversion for the manufacture of a range of organic molecules traditionally produced by chemical synthesis. For BioHub®, METEX is aiming to design and create new cellular factories that will be used for the production of a biopolymeric, commodity chemicals and bioplastics.

A whole range of products are being investigated through the BioHub® programme including biosolvents, bioplasticizers, biocomplexing agents, biofluxing agents and biopolymers. The BioHub® programme will notably study

the use of Isosorbide (a sorbitol derivative) for the production of new polymers for use in heat-resistant food packaging, or the production of PVC-plastifiers to replace phthalates.

By developing new products from renewable raw materials and new production processes that use white biotechnologies rather than petrochemicals, the BioHub® programme will look for new ways to reduce green house gas emissions and to preserve the fossil resources.

**Christophe Rupp-Dahlem -
Director - Vegetal Based Chemistry
Programme Roquette Frères (F) Lestrem**



eco-point

innovative cleaning
and maintenance products



Bio Based Cleaners

Have you ever wondered what connection there might be between a sugar beet and a cleaning product? This connection may not seem very obvious, but for Eco-Point, it is. Lactic acid, retrieved from the molasses of sugar beets, is a common ingredient used in several Eco-Point cleaners. Eco-Point, a Dutch company founded in 1991, has embedded the use of bio based raw materials in its philosophy for the development and production of industrial cleaning and maintenance products.

Philosophy

Ever since we can remember there has been a conflict between 'traditional' cleaning and maintenance products on the one hand, and the safety of man and his environment on the other. Eco-Point is a pioneer in the field of cleaning, degreasing and lubricating technology which aims at neutralising or minimising this conflict.

This results in the implementation of safer, less environment damaging systems, with improved quality without increased operational costs.

In the field of safe, ecological innovations Eco-Point has made its own, spectacular inventions and applied them to its products. These products are characterised by the fact that no concessions have been made to their

effectiveness but they are safe for humans, the environment and materials.

Eco-Point sells a broad spectrum of products for a multitude of applications: degreasers, descalers, adhesive removers, products to remove ink, rust and oxidation, paint, substitutes for dangerous solvents such as trichloroethylene, benzene, methylene chloride, toluene, speciality lubricants, hand soaps and metal working fluids.

Eco-Point uses materials such as sugar beets, oranges, corn, coconuts and rapeseed for the production of cleaning and maintenance products.



f cleaning, degreasing and lubricating technology wider ranging
without increased operation to remove ink, rust and oxyda by

Company history

As from the founding year 1991 Eco-Point experienced a steady growth. In spite of growing interest in environmental and safety issues, this was by no means self-evident. One of the conflicting factors was the misguided view that existed about what was 'green', 'eco', and 'environment'. These factors did offer Eco-Point the opportunity to discuss its views with its

Based on thorough market research, Eco-Point has decided to change its marketing approach by defining 8 fields of interest that enable the company to gain better knowledge of customer needs and product applications. These fields of interest are Food, Automotive, Metal, Printing, Construction, Chemicals, Services and Non-profit.

The organization and product portfolio have

changed accordingly : specific product / market combinations have been created and several business units were established in order to create the best possible match between Eco-Point and the customers. Product development is more focused than ever. And best of all: sales representatives were selected according to their specific knowledge on the above mentioned fields of interest. This makes Eco-Point a rare - and therefore unique-, highly qualified supplier



The Eco-Point production site and office building in Halsteren, The Netherlands, stems from the company's philosophy, the vision at the heart of the company's activities, which is expressed by the use of natural or recyclable materials.

of bio based cleaning and maintenance products.

Coming soon: sustainability seminar

Sustainability has always been a major issue in the way EP has been working. Awareness of People, Planet and Profit fits Bio Based Business like a glove. However, sustainability exceeds the use of renewable materials.

Taking responsibility by respecting all stakeholders (such as customers, employees, suppliers, the environment, citizens close by and far away) is the new adagium embraced in Eco-Point's newly defined company mission. So the words Respect and Responsibility are never far from our company logo. Eco-Point is convinced that not just people and planet will benefit from this, but that it is a prerequisite for sustainable future profits.

This shapes the near future in a way that we strive for synergy of people, planet and profit. Management and employees are convinced that well-being will improve

customers and to prove itself. The decision to do things in an ecologically sound manner was made by more and more companies.

The decision was wider ranging than they realized, as it also brought about the benefits of: safety, comfortable working conditions, and the realization of contributing to the environment. Step by step recognition came.

Current situation

Eco-Point currently employs approx. 50 people in The Netherlands, Belgium, Germany and the UK. The head office is situated in Halsteren, The Netherlands. Eco-Point mainly targets the industrial market, using its own, very active sales force.



ng than they realized, as it Eco-point's newly defined company mission
respecting all stakeholders (such as customers, employees Eco-Point i

results either directly or indirectly. Well-considered care for our planet will increase awareness in every aspect of daily life, thus creating the start of a positive change.

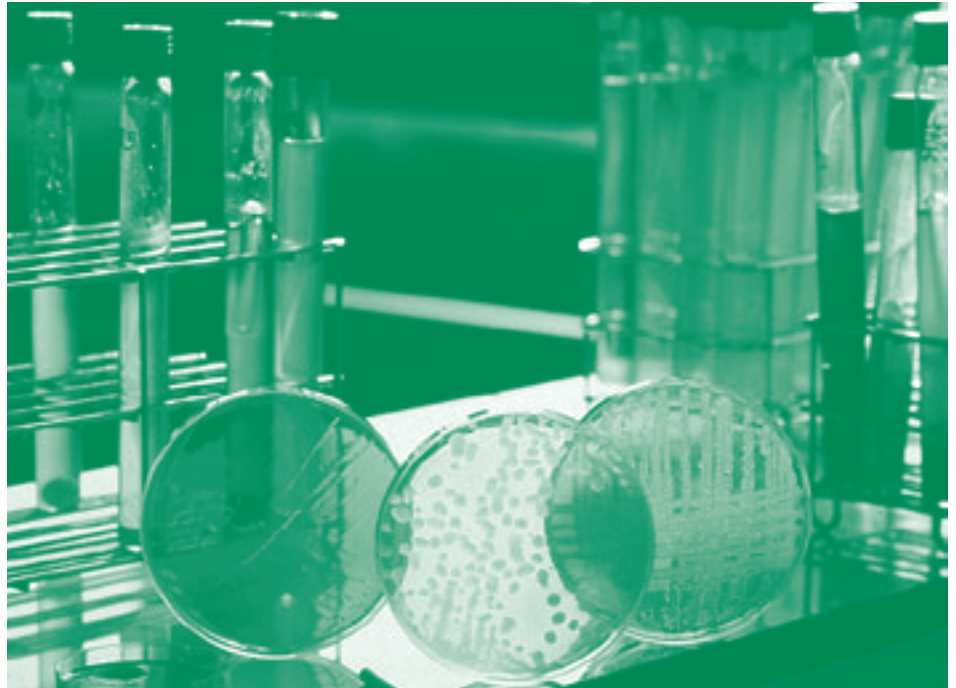
Examples

- The use of renewable materials such as oranges, sugar beets, corn, coconuts, rapeseed in the vast majority of Eco-Point products
- Employees benefit physically and mentally by easy access to wellness centers
- Leadership by coaching
- Access to media about sustainability (e.g. "An Inconvenient Truth")
- A zero effluent production method (by re-use of production water)
- Use of Green-Power: electricity from BB materials
- Company building in Halsteren made of natural or recyclable materials such as wood, loam, linseed oil, recycled rubber, glass and steel
- Free collection and reuse of empty drums
- Eco-Point was nominated for the ING Care and Profit Prize 2006.

Eco-Point will be involved in the organization of a seminar on the Awareness on Sustainability in June 2007. In close cooperation with Rabobank and Price Waterhouse Coopers Eco-Point wants to give an incentive to local companies to

make sustainable thinking part of their daily routine.

For more information: www.eco-point.com (English version under construction).



Calendar of events

2nd South Asia Renewable Energy Conference 2007 and RENEXPO® India 2007
25-26 April, 2007 in New Delhi. 1st International Trade Fair for Renewable Energy in India.
www.renexpo-india.com/conference

15th European Biomass Conference and Exhibition
07-11 May 2007. ICC Berlin International Congress Center, Berlin, Germany
www.conference-biomass.com/Biomass_2007

10th International Congress on Biotechnology in the Pulp and Paper Industry
ICBPPI: Integrating Biology with processes MADISON, Wisconsin 10-14 June 2007
Abstracts to be considered for oral presentation may be submitted on-line. Mail to: ICBPPI@ecc.uwex.edu

Natural Gas Vehicles (NGVs) for a BETTER CLIMATE; A BETTER CLIMATE for NGV
20-21 June 2007, Straatsburg
For more information: <http://www.engva.org>; email info@engva.nl; call NL +31 23 554 3050

'Renewable Raw Materials for Industry: Contribution to Sustainable Chemistry
Two day symposium. 17-18 October 2007 Brussels.
www.greentech.eu e-mail: mvanboven@europoint.eu

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