biofuel cities quarterly

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Editorial

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Dear readers,

Welcome to the final issue of the **Biofuel Cities Quarterly**.

After over three years, the Biofuel Cities European Partnership and project will come to an end on December 26th. The project consortium can look back at a very interesting and, from our perspective, successful project. The project began as biofuels for transport was still in its infancy in many countries. In the meantime biofuels have become a common fuel in transportation, although the pro's and con's of the different biofuels are still heavily debated. Discussions often focus on questions, such as are biofuels sustainable; what is the greenhouse gas performance; is there sufficient biomass for food, fuel, electricity and heat production, etc.

Biofuel Cities ends as a new phase in EU and global biofuels policy is about to start. Related to the publication of the new directive on renewable energy, this new phase also examines the requirements necessary to ensure the sustainability of biofuels.

We feel that the work is not over yet, as the biofuel debate moves into the broader field of clean fuels and vehicles. Local stakeholders can still benefit from the opportunity to exchange and interact on this topic at the pan-European level and so we would very much like to continue the work that we have started. To make this possible, we have submitted a proposal to prolong and expand the platform and a decision on this is expected in early 2010. To ensure that we are meeting your, our Participants, needs in times of changing policy and advancing technology, it is likely that the scope will be extended to renewable fuels in general, so also including other alternative transportation fuels like hydrogen and electricity. A continuation will also put more emphasis on bringing the relevant stakeholders together, fostering mutual learning.

Registered participants will be informed on any further action. From January 2010, the website will no longer be updated, however, any updates on the future of the platform will, of course, be communicated to you.

For now, I would like to thank all those that have contributed in making the Biofuel Cities European Partnership successful and would like to invite you to read this final newsletter.

I hope we will be able to welcome you again in a potential future project.

Enjoy reading!

In focus

Outcomes of the Biofuel Cities European Partnership

After three years, the Biofuel Cities European Partnership can look back at a very interesting and successful project. The hard work of getting the project off the ground started in the summer of 2006, with the Biofuel Cities European Partnership being launched a year later. The heart of the Partnership, the website *www.biofuel-cities.eu* attracted many visitors in a short space of time, with 1,414 people registering as participants and entering interesting resources and information into the shared databases. Today, more than 840 people read this printed newsletter and more than 4,750 people receive our electronic newsletter– figures we're very proud of.

The Biofuel Cities European Partnership is not just a website; the project consortium has been busy creating a number of interesting resources, often supported by the input of our many active participants. Although the project will finish at the end of this year, these products will still be available on the website and we hope they are of interest to you. Perhaps some of these publications and tools might have slipped your attention; therefore we take this opportunity to present to you the most relevant products in a nutshell.

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Content

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Outcomes of the Biofuel Cities European Partnership

A wealth of information

The Biofuel Cities website offers three different databases: Projects and Activities, Resources and Contacts.

Over the course of the project, participants were able to add their own activities to the **Project and Activity database**, and so give it more exposure to an international audience. The Biofuel Cities consortium partners have also added multiple projects and activities to complete the picture. To add an extra dimension, we also made these searchable by maps, allowing you to simply zoom to your region of interest. As of today, this database contains 254 projects and activities in (mainly) Europe, with this number growing all the time.

Complementing the Projects and Activities Database is the **Resource Centre**. Biofuel Cities European Partnership participants and the consortium have been busy populating this database, which now contains 528 resources. These vary from academic articles and reports, to websites and policy information, all intended to help give a deeper sense of understanding on the complex field of biofuels for transport to our Participants.

The third and final database hosts the **Contact database**. With more than 1,400 contacts of people that work in the field of biofuels, this acts as a 'who's who' for professionals in the field. This is complemented by the published list available on the Publications page of the website.

Study visits and workshops

During the three years of the Biofuel Cities European Partnership, a number of study visits and workshops took place, in order to bring best practice and real experience one step closer to those interested in exploring the possibilities of biofuels for transport. The results and conclusions of these can be found on the website. The cities of Stockholm, Graz and Tübingen, in the German federal state of Baden Württemberg hosted the study visits, focussed on the practical application of biofuels at the local level, while the workshops were hosted in cities from east and west, north and south: Rotterdam and Arnhem (the Netherlands), Krakow (Poland), Zaragoza (Spain), Sofia (Bulgaria), Stockholm (Sweden) and Brussels (Belgium).

While the study tours focused on the practical application of biofuels at the local level, the workshops allowed in-depth discussions on a range of closely related topics; standardisation, clean fuels and vehicle policy, and the role of End-users in the biofuels chain.

Publications

As well as hosting events, the Biofuel Cities European Partnership has also been supporting its participants through the development of several reports and studies about the application of biofuels. Let's take a closer look:

Fuels and warranty issues

Vehicle warranties and the use of biofuels gives an overview of vehicles that are commercially available and that have a manufacturers warranty to drive on the biofuels

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ethanol or biodiesel neat or in different concentrations can be downloaded from the websites Publications page.

According to valid fuel specifications for gasoline (EN 228) and diesel oil (EN 590) five % ethanol in gasoline and five % biodiesel in diesel is the highest allowed blend today. This is in line with the EU Fuel directive (98/70/EC). However, in spring 2009 the European Parliament and the Council of the European Union adopted amendments to the directive that, *inter alia*, make it possible to blend gasoline with up to 10 % ethanol and diesel oil with up to seven % biodiesel. It is most likely that this will initiate work in the European Standardization Organization CEN to redraft the gasoline and diesel oil standards to accept up to 10 % ethanol in gasoline and seven % biodiesel in diesel oil.

This report gives a detailed explanation of the criteria as applied to Bio-ethanol, Biodiesel, and explores the warranty situation in various EU Member States.

Fuel by fuel guidance

During the project, the Biofuel Cities consortium was busily gathering knowledge about a wide range of fuels that are currently in use in European cities, towns and fleets. This is now presented in our *Technical Guidance for Biofuels* report. Fleet managers and procurers in particular will find this guidance document of interest, as it offers practical advice regarding distribution and handling of fuels; information on fuel standards; user experiences; and guidance on sustainability issues.
The guide focuses on those biofuels, which are available on a relatively large scale: bioethanol, biodiesel, pure plant oil and biogas. These fuels are likely to make a significant contribution to EU target to replace 20% of fossil transport fuels by renewable fuels by 2020. Interviews with experienced users of biofuels, together with literature studies, represent an important part of the background material used to compile this guide.
Each fuel is presented separately. Whilst the guide is best understood as in its entirety, every effort has been made to ensure that each chapter can be read, understood and utilised independently.

Clean(er) fuel policies at the local level

Local Implementation of Clean(er) Fuel Policies in Europe gives practical recommendations to local governments and local stakeholders on how to establish successful projects with cleaner (bio) fuels. The recommendations are based on three case studies that illustrate what can be achieved when a local authority decides to take action. The cases presented are those of Stockholm (Sweden), Graz (Austria) and Lille (France). Despite having made strong strides towards independ-

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→ New resources: recommended websites and publications

Publications

- **International Panel for Sustainable Resource Management of the United Nations Environment Programme (UNEP) (2009)**: Towards Sustainable Production and Use of Resources: Assessing Biofuels. Available to download: *http://www.unep.fr/scp/rpanel/* and *http://www.unep.fr/energy/bioenergy*
- **Robert F. Service (2009)**: Green energy: another biofuels drawback. The demand for irrigation. Available to download: *http://www.sciencemag.org/cgi/content/summary/326/5952/516*

Websites

- **Biofuel Review** provides a news source for the biofuel industry: *http://www.biofuelreview.com*
- **DIBANET**, which stands for **"Development of Integrated Biomass Approaches NETwork"**, is a research project funded under the EU's Seventh Framework Programme with the title **"The Production of Sustainable Diesel Miscible Biofuels from the Residues & Wastes of Europe & Latin America"**: *http://www.dibanet.org*

Further resources are available on the Biofuel Cities website, which is updated regularly: *http://www.biofuel-cities.eu* **!**

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Outcomes of the Biofuel Cities European Partnership

ence from fossil fuels in the last 15 years, all of these cities are still to a certain extent dependent on fossil fuels. This illustrates well the time-scales that are involved in achieving fuel independence and emphasises the urgency with which this issue needs to be treated today. The good news is that much of the pioneering work has been done. Today progress can be made at much greater speed – if, but only if, a local authority decides to be proactive in introducing change.

Procuring biofuels for transport sustainably

With the transport sector generating almost one-third of CO2 emissions in the EU, and this trend is increasing, the EU has introduced a target that means 10 percent of all fuels, based on energy content, should be renewable by 2020. Reaching this target in a sustainable manner is essential and so, key issues, such as security of supply, biodiversity, socio-economic benefits and standards, need to be addressed.

The *Guide to sustainable biofuels procurement for transport* seeks to provide guidance for public authorities and other actors intending to purchase and use sustainable biofuels for transport. It highlights the current discussion on sustainable biofuels and provides advice for other challenges related to implementing biofuelled transport. Practical experiences from cities, such as Stockholm, Rotterdam, Lille and Graz, inspired the authors in their identification of the ambitious sustainable biofuel procurement criteria.

All these publications, guides and reports will continue to be available on the Biofuel Cities website.

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Outlook

What does the future hold?

In its three years, the Biofuel Cities European Partnership sought to demonstrate the broadscale use of new and innovative biofuel technologies, particularly in European local governments. Now as the Partnership comes to a close, let us to look ahead to the future and explore what biofuels for transport means for more sustainable and cleaner European cities, and what the future holds for the Biofuel Cities European Partnership itself.

EU Gothenburg meeting: Future road transport

The final EU Transport meeting under the Swedish presidency - *Future road transport – Safe & Clean* - took place in Gothenburg on 26 – 27th October 2009. Representatives from the European Commission, from national transport departments and from industry were invited, together with independent experts to give insights into the topic.

Two issues -deemed highly relevant regarding cleaner cities- were raised at the meeting, namely that it is necessary to relocate funding from research and technology to implementation and the market, and that there is a need for a clear and common strategy from the European Commission (EC) and the Member States about both transport research and the deployment of clean(er) vehicles, clean(er) fuels and technologies and the associated infrastructures.

There was near consensus on the belief that funding should be relocated from research to the market. Automobile manufacturers and transport related corporations stated that the technology is there, and now is the time to commence large-scale implementation. In doing so, the focus should be on more than the implementation of electric vehicles. In later discussions the EC confirmed that they realise a shift will have to take place from the "traditional" funding of technological research to market implementation.

A clear and common strategy should reflect the existence of a variety of clean(er) vehicles, clean(er) fuels and technologies and the associated infrastructures. The objective should be that any policy on clean transport becomes less "hype sensitive", offers a better stronghold for industry and end-users (by being explicit and consistent through time), and stimulates a substantial market development, so it becomes a starting point for large scale implementation.

Moving from "biofuels" to "cleaner fuels"

The recognised need for a clear and common strategy on cleaner fuels demonstrates that a focus on only one fuel type or technology will not be sufficient to develop a strong market for cleaner vehicles and fuels in Europe. Whether a one-sided focus on electric transport or biofuels exists, a unilateral focus will not work.

Why? On the one hand such an approach intensifies the efforts of the fuel-and technology lobbies that immediately start working on a new "hype" in clean transport policy formulation. On the other, most of the energy and budget is spent on fitting

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Outlook

What does the future hold?

fuel-specific technologies into all market segments in all local contexts. However, both market segments and local circumstances differ greatly from one another, favouring different technologies in different situations.

The discussions in Gothenburg underline the need for a transport policy that incorporates diverse fuels and technologies. The Biofuel Cities European Partnership has followed this line of thought by offering a neutral platform to discuss the application of various fuels in a number of different circumstances.

Moving from research to implementation

A further issue arising from the Gothenburg meeting is that the available budget for sustainable and cleaner transport is expected to shift from technology research to market implementation. There are several reasons for this. Firstly the EU policy objectives of 20 % CO_2 reduction in 2020, 20 % renewable energy and 10 % renewable transport fuels in 2020 can not be accomplished by research alone. Secondly, the technologies and fuels for implementation now exist and many are ready to be commercialised. This does not mean that these are perfect products, but they are fully developed and market ready. With continued investment in research and implementation of market ready products, the sector can develop further for the benefit of society and the affected industries. If there is no substantial return on R&D investments in sustainable cleaner transport technologies, the innovative capacity of this sector will wane.

The future of Biofuel Cities: the CO2 FreeWay project

Though the Biofuel Cities project will end this December, the project team wish to invest the wealth of knowledge collected in a new project, which is called CO_2 FreeWay. This project will look at all "alternative" fuels and energy efficient technologies, with a focus on implementation, rather than research. The proposal has been submitted under the Intelligent Energy for Europe call. A decision on whether our bid has been successful or not is expected in early 2010.

The target group is largely composed of public authorities and local governments, as well as managers of large private fleets.

The network and the accumulated knowledge of the Biofuel Cities project will be fully used in this new project. Those that are involved will actively work together to clean up future transport in Europe. We invite those who can -and those that would like- to contribute to this purpose to join the new partnership, should it be approved by the European Commission. We will keep you posted!

Floris Mulder, SenterNovem, The Netherlands

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Work in progress: relevant projects in the EU

GasHighWay

This EU-project, with full title "Promoting the Uptake of Gaseous Vehicle Fuels, Biogas and Natural Gas, in Europe", started on May 1st, 2009. The GasHighWay project will promote the uptake of gaseous vehicle fuels, namely upgraded biogas (biomethane) and compressed natural gas (CNG), as well as the production and upgrading of biogas for vehicle fuel. The long-term objective of the project is to promote the realisation of a network of filling stations for biomethane and natural gas reaching from the northernmost tip of Europe, Finland and Sweden, to the south, Italy (the GasHighWay). This objective will be reached by involving filling stations owners, operators of vehicle fleets, existing and potential biogas producers and municipal and regional authorities.

picture designed by: Martti Hänninen, Finland

***Visit:** http://www.gashighway.net*

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News from Biofuel Cities

Panel of the Sustainable Mobility Leadership Forum discusses prospects of bio-methane

The Sustainability Mobility Leadership Forum (SMLF), organised by the B.A.U.M. e.V. within the scope of the Biofuel Cities European Partnership project, took place in Munich on November 5th 2009. Maria Wöber, representing the Munich-based consultancy "GibGas" (*www.gibgas.de*) gave a remarkable lecture on the prospects of bio-methane as alternative fuel. According to Wöber, the crucial advantage of bio-methane is that it can be extracted from both renewable primary products and from organic waste materials, such as grass clippings or biosolids. Furthermore, bio-methane can be generated exactly where it is consumed, resulting in an ideal and sustainable cycle at a regional level. Bio-methane would also be particularly applicable as power fuel in agriculture.

According to Wöber, there are many arguments in favour of an increased application of bio-methane: In terms of acreage efficiency among all biofuels, bio-methane is unbeatable. Also bio-methane could be employed in natural gas-dedicated vehicles without modifying their engines. Besides, Wöber argued that the use of bio-methane could reduce the dependency on fuel imports from other countries.

For more information, visit:
http://www.baumev.de

Breakfast at Sustainability's' in Brussels: What role for biofuels in sustainable urban mobility?

The third edition of Breakfast at Sustainability's once again provided real food for thought in Brussels (Belgium). As part of a series of informal meetings on urban sustainable development organised by the ICLEI Brussels office, approximately 50 participants gathered to discuss the role of biofuels in sustainable urban mobility in the frame of the Biofuel Cities project.

Source: Jonas Ericson, 2009

After an introduction to the topic by moderator Per Godfroij, participants heard from Ulf Hafseld of StatoilHydro ASA, a member of the Clean Energy Partnership, who reported on the latest developments of their hydrogen project. Also from the City of Stockholm (Sweden), where they aim to be fully fossil fuel-free by 2050, Jonas Ericson gave an insight into the city's successful clean vehicles policy. By combining national and local incentives big steps have already been made towards achieving that goal. For instance, through congestion charges the city reduced car traffic by 20 % and by 2010 100 % of the municipal fleet will be clean. The city is currently exploring the use of electrical cars, plug-in hybrids, and ethanol hybrid-electric buses.

On the other hand, while MEP Claude Turmes, Vice-President of the Green Group in European Parliament, acknowledged the potential of local biofuels production with short transport distances, he saw little role for biofuels in sustainable urban mobility. The difficulty of feeding 9,5 billion people including a growing middle class in China and India with an increasing meat consumption, energy-efficiency in cars as the far better option compared to biofuels and the lack of alternative fuels for shipping and aviation for transport, were some of the reasons mentioned.

As the host for the event, the representation of the Stockholm Region added a very special note to proceedings by having one tree planted for each participant at Lake Victoria (Tanzania), marking the 15th anniversary of its presence in Brussels.

For more information, please contact:
peter.defranceschi@iclei.org

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Work in progress:
relevant projects in the EU

Biofuel as Social Fuel

Based on the question how "Bio" fuels might become a synonym of social progress and global responsibility, the project "Biofuel as Social Fuel" refers to the necessity of a socio-ecological transformation process into north and south. This includes technological development as well as changes in methods of production and consumption habits.

A new research group will examine two project regions in Brandenburg (Germany) and Ribeirão Preto (Brazil) as examples to analyse whether the production of biogenic fuels conforms to the concept of sustainability in all its dimensions and where, in contrast, new problems are generated. These issues will be discussed in Potsdam, near Berlin on Friday, December 11th.

Visit: *http://www.sozial-oekologische-forschung.org/de/*

NEMO project

The NEMO project (Novel high performance enzymes and micro-organisms for conversion of lignocellulosic biomass to bioethanol) is aimed at developing manufacturing methods for liquid biofuels from agricultural and forestry waste, such as straws and wood chips. Agricultural and forestry waste is mainly lignocellulose, which consists of sugars but in a form that makes them difficult to be used by microbes in the production of ethanol. The project develops enzymes that can be used to cut lignocellulose into sugar compounds suitable for fermentation. The objective is also to tailor the metabolism of microbes so that they can produce large volumes of ethanol out of the biomass sugars economically and efficiently. The project evaluates the suitability of the developed enzymes and yeast strains for industrial biofuel manufacturing processes.

NEMO is funded by the EU, will last four years and develops the next, 2nd generation production technology for the utilisation of lignocellulose raw material in the production of ethanol. The cost-effective production of the next generation biofuel requires the technology to be developed further.

Visit: *http://www.vtt.fi/news/2009/08192009.jsp?lang=en*

Imprint

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Comments welcome!

The Biofuel Cities consortium has constantly striven to provide relevant and user-friendly services and products, both in terms of quality and quantity of information design and of the actual information supplied. We hope that our work was of interest to you and supported your activities in the field of biofuels for transport. Please send any comments to *secretariat@biofuel-cities.eu*

Event calendar

→ 28 January 2010
GasHighWay – A Trans-European Road to Renewable Mobility

Malmö, Sweden

NGVA Europe organises the first international workshop within the scope of the EU-project "Promoting the Uptake of Gaseous Vehicle Fuels, Biogas and Natural Gas, in Europe". Success stories and best practice cases from countries where the infrastructure development of NG/biomethane filling stations and number of NGVs is already on its way are going to be presented. The participating GasHighWay countries are: Finland, Sweden, Estonia (and observers from Latvia and Lithuania), Poland, Czech Republic, Germany, Austria and Italy.

The workshop addresses to fleet operators, biogas and natural gas companies, producers of filling stations and components, OEMs and others being related to the NGV industry, decision makers, as well as European and national authorities. Participation is free of charge.

For more information, visit:
www.gashighway.net

→ 2 – 7 February 2010
Bioenergy Expo

Verona, Italy

Bioenergy Expo is the exhibition of sustainable energy designed to offer new income opportunities for agricultural entrepreneurs and present information and opportunities to energy sector operators concerning the generation of energy from agricultural sources. The event is scheduled alongside Fieragricola.

Topics covered include different types of biofuels and vehicles, including second generation biofuels from lignocellulosic materials and environmentally friendly vehicles.

For more information, visit:
http://www.bioenergyweb.it/index_en.asp

→ 9 – 11 February 2010
F.O. Licht´s 3rd Annual Developing and Commercialising Next Generation Biofuels

London, United Kingdom

Utilising new technologies to deliver increased cost efficiency and GHG savings of ethanol, biodiesel and advanced transportation fuels. This conference brings you information on technological developments and examines the prospects for bringing next generation biofuels to market. The conference covers ground-breaking developments in cellulosic ethanol,synthetic biology, biomass-to-liquids, renewable diesel, algal biofuels, waste-to-ethanol, biomass management and advanced biofuels including biobutanol and biogasoline.

The event includes a one-day Pre-Conference Seminar on Developing Algal Biofuels, designed to provide practical information on the commercialisation of algae-based biofuels.

For more information, visit:
http://www.agra-net.com

→ 9 – 12 March 2010
The European Fuels Conference 11th Annual Meeting

Paris, France

This 3-day event will present case studies and best practice examples on environmental issues impacting the European refining and automotive sector. It will also include an alternative fuels symposium as well as a CO_2 energy-efficiency workshop. Participants can exchange ideas and experiences, and keep up-to-date on technical and legislative developments.

For more information, visit:
http://www.wraconferences.com/efc09

→ 9 – 10 March 2010
International Advanced Mobility Forum

Geneva, Switzerland

This event will feature presentations and discussions on three main topics: the efficient use of liquid fuels (synthetic fuels, ethanol) and gaseous fuels (natural gas, hydrogen) in combination with hybridized technologies, the use of electricity directly as "fuel" (plug-in hybrid, pure battery vehicles), as well as the influence on emission of climate-relevant gases and energy availability on the technological options. Delegates will have the opportunity to network and to participate in panel discussions.

For more information, visit:
http://www.iamf.ch/en/

→ 15 – 17 March 2010
World Biofuels Markets

Amsterdam, The Netherlands

World Biofuels Markets

World Biofuels Markets is a industry networking event where, each year, the leaders of the biofuels world convene to meet new customers, suppliers and partners and help drive innovation and business. This conference will bring together key players of the industry and provide delegates with the opportunity to network with the who's who of the biofuels world. During the event a wide range of issues related to biofuels will be addressed in multi-streamed seminar sessions.

For more information, visit:
http://www.worldbiofuelsmarkets.com/