

EuroBioRef

Project acronym: EuroBioRef
Project Title: EUROpean multilevel integrated BIOREFinery design for sustainable biomass processing
Instrument: Large Scale Collaborative Project
Thematic Priority: FP7-ENERGY.2009.3.3.1
Grant Agreement: 241718
Start Date of Project: 01/03/10
Duration: 48 Months

SP10 – Exploitation, Dissemination, Communication, Standardisation and training activities WP10.2 – Dissemination and Communication

Deliverable report

Due Date of Deliverable: M12 - 28/02/2011
Actual Submission Date: M14 - 28/04/2011

Deliverable Identification

Deliverable Number: D10.2.1
Deliverable Title: Report on the Dissemination Activities
Responsible Beneficiary: EUBIA
Contributing Beneficiaries:
To be Submitted to the EC: YES

History

| Version | Author | Modification | Date |
|---------|------------------------|-----------------------|------------|
| V1 | Eibhilin MANNING EUBIA | | 14/03/2011 |
| V2 | Eibhilin MANNING EUBIA | Review of entire text | 26/04/2011 |
| | | | |

Approval

| | Name | Organization | Date | Visa |
|--------------------------------|------------------|--------------|------------|------|
| <i>Deliverable Responsible</i> | Eibhilin MANNING | EUBIA | 14/03/2011 | OK |
| <i>Work Package Leader</i> | Franck DUMEIGNIL | UCCS-CNRS | 28/04/2011 | OK |
| <i>Sub-Project Leader</i> | Michele ARESTA | CIRCC | 28/04/2011 | OK |
| <i>Coordinator</i> | Franck DUMEIGNIL | CNRS-UCCS | 28/04/2011 | OK |

Dissemination level

| | | |
|----|--|---|
| PU | Public | X |
| PP | Restricted to other programme participants (including the Commission Services)* | |
| RE | Restricted to a group specified by the consortium (including the Commission Services)* | |
| CO | Confidential, only for members of the consortium (including the Commission Services) | |

* In case of dissemination level of PP/RE, the persons (or group of persons) agreed to have an access to the document are: Not applicable

Proprietary rights statement
 This document contains information, which is proprietary to the EuroBioRef consortium. Neither this document, nor the information contained herein, shall be used, duplicated or communicated by any means to any third party, in whole or in parts, except prior written consent of the EuroBioRef consortium.

Content

| | |
|---|----|
| Content | 2 |
| Executive summary | 4 |
| Description of the deliverable objective and content | 4 |
| Brief description of the state of the art | 4 |
| Deviation from objectives and corrective actions | 5 |
| Innovation brought and technological progress | 5 |
| Analysis of the results | 5 |
| Impact of the results | 5 |
| Related IPR | 6 |
| Publishable information | 6 |
| Conclusion | 6 |
| ANNEX I – Technical content | 7 |
| 1 Report on collaborations with European Networks and organizations of events (EUBIA) | 7 |
| 2 Dissemination to the Scientific Community (DTI) | 7 |
| 3 Dissemination to the Industrials (EUBIA) | 10 |
| 4 Citizen Awareness | 13 |
| ANNEX II – EuroBioref Projects Networking Event Report | 14 |



This page is intentionally left blank



Executive summary

Description of the deliverable objective and content

This document is the dissemination report of Eurobioeref project FP7 and describes the dissemination activities that have been done in the context of the project, according to the original plan for dissemination activities described in Sub Project 10: Exploitation, Dissemination, Communication, Standardisation and training activities specifically related to Work Package 10.2 on Dissemination and Communication. This work package should be the voice of the project. It internationally spreads project information in order to attract interest and investors for future development of this technology in Europe. The objective is to conduct the relevant information and outputs of the project to the maximum audience inside and outside the EuroBioRef consortium.

The tasks involved in this dissemination report are Task 10.2.1 Networking and organization of Eurobioeref events, Task 10.2.3 Dissemination to industrial community 10.2.4. Dissemination to scientific community & Task 10.2.5 Dissemination to larger public.

This report is to be updated on an annual basis. The purpose of the present document is to present the dissemination perspectives in detail, listing the activities carried out in year one of the project. The technical deliverable in Annex I compiles of:

1. Report on collaborations with European Networks and organizations of events (EUBIA/TUDO);
2. Dissemination activities report the scientific community (DTI);
3. Dissemination Activities report to industrials (EUBIA).

Brief description of the state of the art

Eurobioeref has planned a wide and effective dissemination of results as one of the strong components of the project and as one of the overall goals to be achieved.

Work package 10.2 objectives are:

- To ensure that the project's ambitions, activities and outputs are visible to a wide range of stakeholders;
- To define a communication and dissemination strategy to ensure the visibility of the EUROBIOREF project;
- To disseminate the generated knowledge to the scientific community;
- To create and maintain a public website containing a project and partner overview, a publication and presentation list, the public deliverables and audiovisual showcases as well as use it as a portal to current events of EUROBIOREF.

The objective is to conduct the relevant information and outputs of the project to the maximum audience inside and outside the EuroBioRef consortium.

Conferences and journals are an important way to disseminate scientific knowledge, and Eurobioref will follow this approach with dissemination to the scientific community. Eurobioref partners are planning to present papers in several conferences and journals. Given the lifespan of the project, it is likely that results will first be published in conferences, and then, later on, in journals, presenting a more complete description of models and results. Several editions of a given conference are targeted, and it may (will) happen that particular events not foreseen at the moment may be addressed as well.

EuroBioRef is targeting major events in the area of Biorefineries, not only in the research and development area, but also in the industrial area, and later on encompassing a standardisation approach as well. The identification of these events is done via a watchdog perspective of what is being organised. Furthermore, special attention is given to events organised by the European Commission, at various levels, where the project will also play (and is actually playing) an active role.

Press Releases will raise visibility in press and websites and raising awareness in the general public. Dissemination activities of Eurobioref also include interaction with other biorefinery projects selected in the FP7 Joint Call on Biorefineries. The goal is not only the exchange of information, but also the creation of any possible synergy on the development of the technical work.

Deviation from objectives and corrective actions

NA

Innovation brought and technological progress

NA

Analysis of the results

In terms of quantitative results, there have been 27 dissemination activities to the scientific community. There has been one abstract accepted for publication in a scientific journal by CIRCC. The consortium has carried out 38 dissemination activities related to the industrial community during year 1. It should be noted that many of the dissemination activities are relevant to academic, scientific and industrial communities.

Impact of the results

Concerning dissemination activities, a range of them took place in the first year, and are presented in details in Annex I: Public Website, Press Release, Leaflet, Newsletter, Papers Conferences and Journals, & Communication to Industry, Participation in Target Events & Workshops & Interaction with other Projects and Fora.

Related IPR

NA

Publishable information

All the information related to this deliverable which can be published ('PU').

Conclusion

The project dissemination is progressing as expected. The project has been disseminated in specialised fora both in the scientific and industry domains, and the project consortium has been active in the organisation of events in those communities that have led to a recognition of the Eurobioref project.

ANNEX I – Technical content

1 Report on collaborations with European Networks and organizations of events (EUBIA)

Partners involved are TUDO, CNRS-UCCS, CNRS-RENNES, EUBIA, DTI. Contributions have been carried out by EUBIA & CNRS-UCCS in year 1 of this tasks.

A specific session dedicated to EUROBIOREF was organized during the 18th European biomass exhibition held in Lyon in May 2010. EUBIA presented the poster of the Eurobioref project as elaborated by PDC-GMBH and UCCS-CNRS and EUBIA in Lyon and prepared a list of contacts gathered from this poster session presentation for the consortium.

EUBIA participated in the World Biofuels Markets event in Amsterdam in March 2010 in sessions related to biorefineries, aviation and standardization and compiled a list of contacts from this event and presentations.

EUBIA is part of the Dissemination Discussion Group (DDG) hereafter referred to as the DDG of the 4 Biorefinery sister projects which was created following the meeting of the 4 projects at the European Commission on 18th June 2010. The four projects selected under the FP7-Joint biorefinery Call in 2009 were Biocore, Suprabio, EuroBioRef and Star-Colibri. EUBIA has followed the work of the DDG since its creation by contributing to the elaboration of its scope and work plan and meeting the colleagues from the 4 sister projects. Eibhilin Manning (EUBIA) participates in this DDG on behalf of EUBIA.

EUBIA organised a Biorefinery project networking event with the DDG on February 7th in Brussels attended by over 55 participants from industry, academic and policy sector. Franck Dumeignil, UCCS-CNRS & Eurobioref coordinator spoke on behalf of Eurobioref at the event. The event brought together the four Biorefinery projects (Eurobioref, Star Colibri, Biocore & Suprabio) to disseminate first results and overview of the respective projects. The Eurobioref leaflet was disseminated at the event as well as the Summer School Information. A report of the event has been compiled and circulated to all participants on February 15th 2011 see Annex II and presentations are available on www.star-colibri.eu.

2 Dissemination to the Scientific Community (DTI)

DTI is the task leader of task 10.2.3 and is taking care of distributing annual activity reports to scientific communities. The main dissemination activities to the scientific community are carried out by Franck Dumeignil, UCCS-CNRS, EuroBioRef coordinator. Other partners who have contributed to dissemination to the scientific community in year one include PDC-GMBH, CIRCC & EUBIA.

Please find below a table of those selected dissemination activities to the scientific community:

| Type of Dissemination activity | Eurobioref Partner | Details of Dissemination Activity | Date |
|---------------------------------------|---|---|---|
| 1. Press Release | Michele Aresta, CIRCC | La Chimica e l'Industria, official Journal of the Italian Chemical Society, | March 2010 |
| 2. Press Release | Michele Aresta, CIRCC | La Chimica e l'Industria, official Journal of the Italian Chemical Society, | March 2010 |
| 3. Conference - Visual Poster | Axel Gottschalk, PDC / Franck Dumeignil, CNRS-UCCS | EuroBioRef – A New European Bio-Refinery Project / 18th European Biomass Conference and Exhibition, Lyon, (France)/ Subject 4, Subsection 4.4 | 3-7/05/2010 |
| 4. Conference- Visual Poster | Axel Gottschalk, PDC / Franck Dumeignil, CNRS-UCCS, Eibhilin Manning, EUBIA | EuroBioRef – A New European Bio-Refinery Project /RRB6 - the 6th International Conference on Renewable Resources and Biorefineries - taking place in Dusseldorf, Germany on June 7-9, 2010. | 7-9 June/2010 |
| 5. Conference/oral | UCCS-CNRS | Valorisation de la Biomasse : Catalyse & 'Bio-Raffineries', l'Exemple du Concept EuroBioRef / Franck Dumeignil / Réunion 2010 du groupe d'Etude en Catalyse (GeCat), | May 17-20, Porquerolles (France) |
| 6. Invited Keynote | UCCS-CNRS | Franck Dumeignil "On the Role of Catalysis in Integrated Concepts of Biorefineries" (Keynote) | July 11-14, Pune (India) (2010). |
| 7. Invited Conference | UCCS-CNRS | Franck Dumeignil "The Next Generation of Integrated Bio-Refineries: The EuroBioRef Concept" (Invited Conference) | October 19-21, Edinburgh (Scotland, UK) |
| 8. Invited Lecture | UCCS-CNRS | Franck Dumeignil "Integrated Concepts of Biorefineries: The EuroBioRef Model" (Provisionnal title) (Invited lecture) | October 22-23, Garching (Germany) |
| 9. Poster in International Conference | UCCS-CNRS | Régis M. Gauvin, Franck Dumeignil, Axel Gottschalk, Eibhilin Manning, Giuliano Grassi. "Organometallic Catalysis: An Important Technology | July 18-23, Tapei (Taiwan) |
| 10. Invited Lecture | UCCS-CNRS | Franck Dumeignil* "Nouveaux Concepts de Bio-Raffineries : Des Fiançailles entre Biotech et Catalyse Chimique vers un Mariage?" | October 27, Paris (France) (2010). |
| 11. Invited Lecture | UCCS-CNRS | Franck Dumeignil* "Next Generation Biorefineries & Catalysis" (Invited lecture) | October 27, Tervuren (Belgium) |
| 12. Master Course | UCCS-CNRS | Franck Dumeignil 'La catalyse au cœur des bioraffineries du futur' 20h of lecture in the master 'CEE' (Chemistry Energy Environment). 16h by Franck Dumeignil, 4h by | 2010-2011 Lille, France |
| 13. Oral Presentation | UCCS-CNRS | Franck Dumeignil 'EuroBioRef : Expectations Toward Star-Colibri', Meeting of the Star-Colibri Reference Group | 28/10/10, Brussels |
| 14. Invited lecture | UCCS-CNRS | Franck Dumeignil* "Biorefineries & Catalysis" (Invited lecture) Workshop of the State Key Laboratory of Physical | January 9-12, Xiamen (China) |

| | | | |
|--|---|---|--|
| 15. Invited lecture | UCCS-CNRS | Franck Dumeignil* "Catalysis in biorefineries (Invited lecture) Workshop of the State Key Laboratory of Physical | 28/10/10, Brussels |
| 16. Master Course | UCCS-CNRS | Franck Dumeignil 'Impact des carburants Bilan environnemental des différentes filières énergétiques pour les applications mobiles, amélioration des | 2010-2011, Lille |
| 17. Magazine | UCCS-CNRS | Article in the Journal du CNRS, DÉVELOPPEMENT DURABLE Bio-raffineries du futur PAR JEAN-PHILIPPE BRALY | December 2010 |
| 18. Magazine | UCCS-CNRS | Article in the International Journal of CNRS, :SUSTAINABLE DEVELOPMENT Bio-Refineries of the Future BY JEAN-PHILIPPE BRALY | December 2010 |
| 19. Lecture | UCCS-CNRS | Edmond Payen. 'Outline of the EuroBioRef Project'. Les rendez-vous du cd2e; Dynamiser le secteur de l'environnement. 'Financements et Programmes | 19-01-2011 |
| 20. Invited Lecture | Franck DUMEIGNIL UCCS/CNRS | "Outline of the EuroBioRef Project" Biorefinery Networking Event | 7th February Brussels, REH 2011 |
| 21. Lecture at University | Franck DUMEIGNIL UCCS/CNRS | Within the 'Eco-conception : une démarche responsable' course: 'Biomasse, Bioraffineries & Catalyse', Ecole Centrale de Lille, 2nd year students, Villeneuve d'Acsg | 25th January |
| 22. Invited paper, Oral presentation - from Standard set of slides | M. Aresta, A. Dibenedetto UCCS/CNRS | Catalysis for Biomass Conversion, Biotechnological reduction of CO ₂ to methanol in water, St Petersburg- Russia, | October 2010 |
| 23. Invited Keynote - 5 slides from standard set of slide | M. Aresta, A. Dibenedetto UCCS/CNRS | Application of the Biorefinery concept to aquatic biomass", iBIO Congress, Dalian-China | June 28, 2010 |
| 24. Conference Presentation | Axel Gottschalk (PDC) | Eurobioref - A New European Bio-Refinery Project, Bio- raffiniert VI, Oberhausen, Germany, Fraunhofer UMSICHT | 6th, 15.- 16.02.2011, annual event |

In addition one article has been submitted in 2010 for publication in a scientific journal after peer review.

| | | | |
|-------------------------------------|--|---|------|
| 1) Peer Reviewed Journal Article | Angela Dibenedetto, Department of Chemistry and CIRCC, University of Bari, Campus Universitarion | Converting wastes into value added products: from glycerol to glycerol-carbonate, glycidol and epichlorohydrin using environmentally friendly synthetic routes. Tetrahedron London-New York | 2011 |
|-------------------------------------|--|---|------|

3 Dissemination to the Industrial Community (EUBIA)

EUBIA has started in advance of the commencement of this task already in M1. A main dissemination activity to the industrial community was the press release launch distributed by all partners with a particular impact by Arkema, Borregard & Orgachim, industrial partners in the EuroBioRef consortium. In addition, DTI/HTAS, SOABE, EUBIA & UCCS-CNRS distributed it to their contact base including industrial partners. An overview of the impact of the press release on web sites was compiled by EUBIA.

Other Dissemination highlights included the poster presentation at the 18th European Biomass Conference & Exhibition in May 2010 produced by EUBIA; UCCS-CNRS & PDC and reused again by PDC at which was attended by academics and industry. The poster is included in the official conference proceedings of the 18th EBCE and the RB6 conference in June 2010, where PDC-GMBH also presented a poster presentation and the poster is included in the conferences official conference proceedings. UCCS-CNRS has also published general EuroBioRef information to various magazines and online portals with a direct impact on the industrial community. It should be noted that there is some cross over between some activities related to scientific community and industrial community. Please find activities below:

| ype of Dissemination activity | Eurobioref Partner | Details of Dissemination Activity | Date |
|--------------------------------|-----------------------------|---|----------------------------|
| 1. Press Release | Anders Frolander, Borregard | Designer moergendagens bioeffineri / local and national press + research, industry and bio media | March 2nd 2010 |
| 2. Press Release/Web release | UCCS-CNRS | http://www.univ-lille-nord-de-france.fr/recherche-innovation/Actu.html | 01/03/2010 |
| 3. Press Release/Web release | UCCS-CNRS | http://www.ec-lille.fr/1267449776327/0/fiche_actualite/ | 01/03/2010 |
| 4. Press Release/Web release | UCCS-CNRS | http://www.ensc-lille.fr/act341-elaboration-dune-bio-raffinerie.html | 01/03/2010 |
| 5. Press Release/Web release | UCCS-CNRS | http://eurobioref.org/ | 01/03/2010 |
| 6. Web Letter | UCCS-CNRS | La Lettre du CNRS en délégation / Dernière publication sur EuroBioRef - DR18 / Mailing | E-mailed on the 22/01/2010 |
| 7. Article in Magazine | UCCS-CNRS | Optimising the European Bio-Refinery Processes / General presentation of EuroBioref / Projects, British Publishers, January 2010 | January 2010 |
| 8. Article in Magazine | UCCS-CNRS | Vient de paraître - Dernière publication sur EuroBioRef - DR18 CNRS-Hebdo Nord Pas-de-Calais et Picardie édition du 22.01.2010 | January 2010 |
| 9. Press Release/Web release | UCCS-CNRS | http://uccs.univ-lille1.fr/spip.php?article290 | 01/03/2010 |
| 10. Web Letter | UCCS-CNRS | SCF Flash info et SCF Info en ligne 2010, N° 05 1er mars 2010/ 2.1 Nouvelles de France 2.1.1 EuroBioRef / Mailing | 05/03/2010 |
| 11. Press Release | Arkema, Jean Luc Dubois | Arkema partner in EuroBioRef and BIOCORE projects in the transformation of biomass (bio-refining) | March 1st 2010 |
| 12. Article in Magazine | UCCS-CNRS | 10 ans au Service des Chercheurs', J'innove en Nord Pas de Calais - Le Magazine, Number 2 p15, September 2009 | September 2009 |
| 13. Web Communication | UCCS-CNRS | http://www.societechimiquedefrance.fr/fr/eurobioref.html | 05/03/2010 |
| 14. Web release | CERTH | "Designing the Next Generation Bio-Refinery: The EuroBioRef Project"/web release for the launching of the project on CERTH's website: www.certh.gr and www.lignite.gr in both English and Greek | 1st March 2010 |
| 15. Press Release/Web Release | EUBIA | Designing the Next Generation Bio-Refinery: The EuroBioRef Project | March 1st 2010 |
| 16. Press Release/ Web Release | Orgachim | "Designing the Next Generation Bio-Refinery: The EuroBioRef Project - Web Release www.orgachim.bg & www.extrineews.bg | 01/03/2010 |
| 17. Press Release | SOABE | Express de Madagascar | March 2010 |
| 18. Press Release | HTAS/DTI | Design af næste generations bio-raffinaderi: - om EuroBioRef projektet/ Newspaper Press | March 1st 2010 |
| 19. Press Release | Dortmund Unviersity | "EuroBioRef" - ein europäisches Bioraffineriekonzept der Zukunft | March 1st 2010 |

| | | | | |
|-----------------------------------|---|--|-----------------------|------|
| 20. Press Release | Umicore | Ausgestaltung des europäischen BioraffinerieKonzepts der nächsten Generation: EuroBioRef | March 2010 | 1st |
| 21. Press Release | SINTEF | Next Generation biorefinery | March 2010 | 1st |
| 22. Press Release | Faculdade de Engenharia Universidade do Porto | FEUP integra projecto europeu | March 2010 | 1st |
| 23. Magazine Article | Umicore | Speciality Chemicals Magazine March 2010 Vol 30 No 3/ EuroBioRef Project to build biorefinery of the future page 8 | mars-10 | |
| 24. EUBIA March -April Newsletter | EUBIA | EUBIA Projects - EUROBIOREF | April 2010 | 19th |
| 25. Article in Magazine | UCCS-CNRS | Franck Dumeignil, 'DESIGNING THE NEXT GENERATION BIOREFINERIES', Specialty Chemicals Magazine | July 2010 | |
| 26. Radio Interview | UCCS-CNRS | Franck Dumeignil speaks about EuroBioRef on 'Radio Campus', Program 'Lille 1 info | | |
| 27. Magazine | UCCS-CNRS | Article in the Journal du CNRS, DÉVELOPPEMENT DURABLE Bio-raffineries du futur PAR JEAN-PHILIPPE BRALY | December 2010 : | |
| 28. Magazine | UCCS-CNRS | Article in the International Journal of CNRS, December 2010:SUSTAINABLE DEVELOPMENT Bio-Refineries of the Future BY JEAN-PHILIPPE BRALY | December 2010: | |
| 29. Advertisement Banner online | UCCS-CNRS | Eurobioref Project Online Banner | December 2010 | |
| 30. Article in Magazine | Franck DUMEIGNIL UCCS/CNRS | "Bio-Refineries of the Future". 'Sustainable Development', CNRS International Magazine, n°20, p41 Quarterly January 2011. | 28/01/2011 | |
| 31. Article in Magazine | UCCS/CNRS | Biomass', p2, Valbiomag May 2010 | May 2010 | |
| 32. Article in Magazine | Franck DUMEIGNIL UCCS/CNRS | "EU pumps €23m into biorefinery project". Engineering&Technology, Vol 5, Issue 5, p13, 27 March - 23 April 2010. | March-April 2010 | |
| 33. Article in Magazine | Franck DUMEIGNIL UCCS/CNRS | "Des Bioraffineries Zéro Déchet". 'Développement durable', CNRS / Le Journal, n°252-253, p36, Janvier-Février 2011. | January-February 2011 | |
| 34. Magazine Contents page | Franck DUMEIGNIL UCCS/CNRS | EuroBioRef Logo on the contents table of the 'Public Service' magazine | Issues 2010-2013 | |
| 35. Web release | J.Maton/CNRS-UCCS | Public website: http://www.eurobioref.org/ | 1/12/2010 | |

| | | | |
|----------------------------------|-------------------------------|---|------------|
| 36. Leaflet - Regional Promotion | Franck Dumeignil UCCS/CNS | Elaboration d'une Bio-Raffinerie. North of France Regional Council advertisement. Européenne pour un Traitement Durable de la Biomasse. | 20/01/2011 |
| 37. Article in Magazine | Franck DUMEIGNIL UCCS/CNRS | Collaboration Picks Up Speed - Industry and academia pull together harder - Biorefinery Project', Chemical Processing, May 2010, Volume 73, Issue 5, p20-24 | May 2010 |
| 38. Conference Presentation | Axel Gottschalk (PDC) | Umwandlung von Biomasse in kleinen Produktionseinheiten - Anspruch und Zielrichtung des Forschungsvorhabens EuroBioRef, Fachtagung Nachhaltige Biokraftstoffe, EnergieAgentur.NRW | 28/10/2010 |

4 Dissemination to the General Public

This task is due to start in M12 but started in advance. CNRS has given two poster presentations during a public event for the international year of chemistry 2011 and has given a public lecture on EuroBioref in a highschool.

| | | | |
|-----------------------------------|-------------------------------|--|---|
| 1. Poster in Special Public Event | Franck DUMEIGNIL UCCS/CNRS | Public Event on 'Vegetal Chemistry', 'Biomasse et Chimie' International Year of Chemistry, | 27-30 January 2011 |
| 2. Poster in Special Public Event | Franck DUMEIGNIL UCCS/CNRS | Public Event on 'Vegetal Chemistry', 'L'UCCS Leader pour la Création d'une Bioraffinerie', International Year of Chemistry, 27-30 January 2011 | 27-30 January 2011 |
| 3. Lecture in High School | Franck DUMEIGNIL UCCS/CNRS | Dumeignil Franck. "Bioraffinerie du Futur" Année Internationale de la Chimie, 'Les Chimistes s'Invitent au Lycée', Lycée Saint Adrien | 4 th of February, Villeneuve d'Ascq (France) (2011). |

ANNEX II – EuroBioeref Projects Networking Event Report**Biorefinery Project Networking Event
Proceedings
Monday, 7th February 2011
Renewable Energy House, Brussels**

Organized by: John Vos, Supra-bio (Vos@btgworld.com); Jasmiina Laurmaa, Star-Colibri (j.laurmaa@europabio.org); Eibhilin Manning, EuroBioRef (eibhilin.manning@eubia.org) & Aurelie Faure, Biocore (aurelie.faure@paris.inra.fr)



The research leading to the results from Biocore, Eurobioeref, Suprabio & Star-Colibri projects have received funding from the European Union Seventh Framework Programme (FP7/2007-2013).

Preface

Under the FP7-2009-BIOREFINERY call, the European Commission funded 4 projects namely BIOCORE, EUROBIOREF, SUPRA-BIO and STAR-COLIBRI. As the European Commission encourages the biorefinery project to collaborate in various fields, including dissemination, the Dissemination Managers of the four projects decided to jointly organise a Biorefinery Networking Event on Monday 7 February 2011 in Brussels.

The event brought together industry and research partners from European, national and international biorefinery projects and initiatives, as well as policymakers active in the field of the bio-based economy. In total some 52 persons participated, filling the large meeting room at the Renewable Energy House to capacity.



Invited speakers gave a total of 10 presentations (session 1-3), covering a range of biorefinery projects, followed by a discussion panel (session 4) and a networking cocktail. Networking was also made possible during the lunch and coffee break.

The four sessions were organised as follows:

- Session 1: The 4 projects funded under the FP7-2009-BIOREFINERY call
- Session 2: Policy session
- Session 3: Other (inter)national biorefinery projects and initiatives
- Session 4: Discussion panel

The links to the presentations in pdf format are available throughout this document. The workshop report was compiled by John Vos, Suprabio, Jasmiina Laurmaa, Star-Colibri, & Eibhilin Manning, EuroBioRef. Thanks to the IEA Taskforce 42 on Biorefineries for sponsoring the event.

Session 1: The 4 projects funded under the FP7-2009-BIOREFINERY call



Michael O'Donohue (BioCore co-ordinator), Maria Georgiadou (European Commission, DG-RTD), Costa Komodromos (representing SupraBio), and Franck Dumeignil (EuroBioRef co-ordinator)

Introduction

Maria Georgiadou (DG RTD) welcomed the audience to this first networking event, introducing the Joint Call on Biorefineries (FP7-2009-BIOREFINERY call). The joint call gave an EU contribution of 52 million leveraging a budget of 80 million between the contributions from the partners.

Overview of Joint Call projects:



Credits: Franck Dumeignil, EuroBioRef coordinator

Michael O'Donohue (INRA) presented the **BIOCORE** project (<http://www.biocore-europe.org/>). The project's central aim is to assess the industrial feasibility and the sustainability of a biorefinery concept that will allow the conversion of innovative feedstocks (cereal by-products, forestry residues, poplar) into a wide array of products with high added-value, mainly polymers. BIOCORE will demonstrate how 70% of today's polymers can be derived from renewable feedstocks, using new transformation routes such as engineered microbial strains and enzymes, as well as novel chemical catalysts and processes.

BIOCORE is organising a European training course on biorefining in Paris from 28 August to 1 September 2011. More information can be found [here](#).

Download the presentation [here](#).

Franck Dumeignil (University of Lille) presented the **EuroBioRef** project (<http://www.eurobioRef.org/>). In a nutshell, the project aims at developing a new highly integrated and diversified concept, including multiple sustainable feedstocks (non-edible), multiple processes (chemical, biochemical, thermochemical), and multiple commercially viable products (aviation fuels, polymers and chemical intermediates). On top of a strong focus on sustainability in terms of cost and energy efficiency, the project reaches towards a 0-waste biorefinery where waste is injected to side-streams. EuroBioRef will bring research to pilot scale through demonstration activities.

EuroBioRef is organising a Summer school on Utilization of Biomass for the Production of Chemicals or Fuels in Lecce, Italy, from 18 to 24 September 2011. More information is available [here](#).

Download the presentation [here](#).

The **SUPRABIO** (www.suprabio.eu) project was co-presented by **Costa Komodromos** (Oxford University), **Mads Pedersen** (BioGasol ApS) and **Jean-François Jenck** (Algosource Technology). The SUPRABIO project researches, develops and

demonstrates a toolkit of novel processes together with advanced intensification and integration methodologies that can be applied to a range of biorefinery scenarios based on sustainable biomass feedstocks such as oilseeds and algae. SUPRABIO will conduct economic and lifecycle assessment of the resulting gains in energy efficiency and conversion of renewable carbon, in line with an implementation strategy based on a product mix with optimal value. This toolkit will be demonstrated on pilot-scale level.

Download the presentation [here](#).

Johan Elvnert (CEI-BOIS) presented the **Star-COLIBRI** project (www.star-colibri.eu), which aims to promote coordination in the field of biorefineries, bringing stakeholders together, facilitating information exchange and promoting cross-sector integration. Star-COLIBRI gathered a database of research projects around Europe (Biorefinery portal: www.star-colibri.net/wiki) and initiates partnerships between biorefinery projects on different scales to contribute to defragmenting biorefinery research in Europe. Two main policy documents are being produced, a Vision 2030 on Biorefineries along with a Roadmap 2020 for biorefinery research.

Star-COLIBRI is organising a European Expert Forum on Biorefineries in Budapest from 12 to 13 April 2011 in Budapest. More information is available [here](#).

Download the presentation [here](#).

Session 1: key points of Q&A session

- The three large scale Biorefinery collaborative projects predominantly were using a **ligno-cellulosic pathway** and the only project involving a bio-hydrocarbon component was Supra-bio involving algae.
- **The Star-Colibri** coordinator Johan Elvnert also pointed out that the star projects and comet projects so far were publically funded research projects as opposed to the private projects undertaken by companies. A reason for this is it is not easy to get information on the private projects as they have many IPR issues which with non-disclosure clauses **Supra-bio** pointed out that three demonstrations projects on algae will begin in March 2011 which could be potential comet projects for the larger star projects.
- Various comments were made on the preferred processes in a Biorefinery be it **biological or thermochemical**. From the industry perspective they are not in competition as some products are more efficiently produced in biological pathway others through thermochemical.
- **Biocore** were asked who would buy the bio pvc and polymers produced and if there is a market for those biocommodities. Currently, there is not a market price for these products although these products interest end use companies. Those operations to produce bio-polymers must be piloted and costs must decrease for the production of the products.
- A general question was asked what the state of the art **outside the EU on Biorefineries was**, the panel responded that the **US** is specialized in ethanol with a similar approach to EU to diversity reactions and attempt integrations. It was pointed

out they are developing alternative aviation fuels as well with funding from the Department of the DOE.

From the **Biocore** findings taking India for an example all their available land will be use for food production, so Biocore's aim is recycle and reuse the waste feedstock , and would also expect China to tap into their rice, wheat straw waste production. The main challenge in Asia is logistics and Biocore will continue to work on organizing a Biorefinery in this Asian Context. The conversion technologies for this would be expect to come outside Asia.

Session 2: Policy session



Johan Elvnert (Star-Colibri), Andreas Pilzecker (European Commission, DG AGRI)

Biomass in the new Common Agricultural Policy

Andreas Pilzecker, DG AGRI introduced the framework guiding the current policy initiatives of the European Commission namely the EU 2020 strategy for a smart, sustainable and inclusive growth. This strategy puts forward 5 flagship initiatives, thereof two of relevance for the Biorefinery sector

- "Innovation Union" to improve framework conditions and access to finance for research and innovation - it focuses on Innovation Partnerships as new key instruments, includes "Building the bio-economy by 2020" &
- "Resource efficient Europe" to help decouple economic growth from the use of resources. An Innovation Partnership will be launched shortly subject to agreement of the 2012 budget on "Agricultural Productivity & Sustainability."

He laid out various scenarios for the use of biomass as a renewable carbon source in lignin, cellulose and bio-hydrocarbon as our current economy is fossil fuel based and in order to transition to a bioeconomy with peak oil, gas and coal. The bio-hydrocarbons would be put into food productions; lignin and cellulose could be used for high value added fine materials and chemicals and energy production given a lower priority. This would be a cascading use of biomass. He emphasised to use biomass in an optimized way in a zero waste economy by reusing and using biomass in the production of biobased chemicals and materials.

He went on to discuss the opportunities and challenges for the agricultural and forestry sector as a supplier to the bioeconomy. He looked at the BBE Project biomass potentials study and according to the scenarios increase for biomass is set to come from dedicated energy crops in agriculture. There is still uncertainty as to how much the sector can

contribute. He added that as we move towards a bioeconomy it will be more decentralized, less globalized and agricultural will need to reduce use of non-renewable resources, to increase resource efficiency, and to adapt to and to mitigate climate change by embarking on a bio-based agricultural production.

Next, he provided a preview of what the new Common Agricultural Policy will look like 'Reforming the CAP'. Legislative texts are due in June 2011 and in last November a general communication was published which references the bioeconomy as fostering green growth through innovation in agriculture. For the new CAP, there will be a no direct subsidies linked to specific crops under the first pillar and the new CAP will avoid managing markets. There will be a greener first pillar of the CAP and a 2nd pillar focusing on rural development and innovation. Within this he addressed the Rural Development policy as key in developing a biobased economy, there are instruments to support infrastructure for processing of agricultural and forestry, advisory services to disseminate knowledge of the bioeconomy and encourages cooperation between farmers and industry to innovate.

He concluded with the next steps for the Commission in developing a Knowledge-base bio Economy policy, a Communication entitled "European Strategy and Action plan towards a sustainable bioeconomy by 2020" will be published in November 2011, with an impact assessment for the action plan. A public consultation for this is expected to start February-March 2011 as well as expert consultations on a biobased economy being carried out with the Commission within the various Directorates as well as with external stakeholders. This work is being led by DG RTD within the Commission.

Download the presentation [here](#).

Session 3: Other (inter)national biorefinery projects and initiatives

In Session 3 other biorefinery projects and initiatives were covered, including AFORE, BE-BASIC, LIGNOCELLULOSE BIORAFFINERIE, IEA Task 42 Biorefineries and FUTUROL.



Jean-Luc Dubois (Arkema), Anna Suurnäkki (AFORE)

Anna Suurnäkki (VTT) presented the **AFORE project**. AFORE (www.eu-afore.fi) is driven by the forestry industry who has identified chemicals, polymers and energy from wood and forest process side streams as potential means to promote future revenues and increase profitability. Key figures: call FP7-NMP-2008-LARGE-2, duration 4 years (Sept 2009 - Oct 2013), consortium of 19 partners from 10 countries (incl. Norway, Switzerland, USA). The project consortium includes 11 research institutes & universities and 8 companies (incl. forest industries, process technology developers and end product users).

The AFORE objective is to generate sustainable, flexible and techno-economically feasible forest biorefinery concepts, following two approaches:

- A: Research focus on the side streams of a conventional kraft pulp mill
- B: Research focus on a completely novel wood biorefinery concept

Scientific goals include: (a) To develop *adaptable, techno-economically and environmentally viable mild and selective separation and fractionation technologies*, (b) To develop *novel matrix opening and pulping methods* for future wood biorefinery processes, (c) To *upgrade the primary products*, (d) To *demonstrate* the feasibility of the promising separation and fractionation technologies, (e) To *assess the market potential for new primary products* and (f) To *develop and evaluate economically feasible business concepts*.

There are 8 Work Packages, one of which is dedicated to Profitability and Sustainability. Extractives have the highest value per unit, but quantities and markets are relatively small and 90% of the total added value will come from the side products lignin, hydroxy acids and (to some extent) hemicellulose-derived Xylan or glucomannan. AFORE's dissemination activities include 2 workshops to be held in March 2011 in Stockholm and in October 2011 in Bucharest. In the field of training AFORE looks for collaboration with other European actors.

Download the presentation [here](#).

Luuk van der Wielen presented the **BE-BASIC** project. BE-Basic (www.be-basic.org) is a public-private partnership of 24 companies, universities and institutes, which develop new bio-based concepts for the chemical and materials industry, the energy-sector as well as for monitoring, controlling and improving the environment and quality of life. BE-Basic links industry environmental responsibility and scientific quality in areas such as second generation (2G) carbon-based compounds, nitrogen-based specialties, bioconstruction, recycling of rare resources, synthetic biology, high throughput discovery & metagenomics mining, safety and environmental impact and societal embedding of sustainable biobased economy.

BE-Basic is built on the macro-economic/ecological impact study *Bio-based economy in the Netherlands*. The study showed for all scenario's substantial economic, energy security and ecological returns. Environment and energy security are winners of the 'high tech' scenarios. In these scenarios substantial biomass imports will be needed (realistic NL production ~ 10-15% of imports). Lignocellulosic (2G) technologies are essential for full impacts (>>50%).

As an example in the field of bioconstruction, the speaker showed work carried out on the development and field-testing of *in situ* prepared biocement in an high-speed railway aqueduct.

There are 2 BE-Basic tracks (industry + academia + government participate in each), as follows:

- R&D Programme (budget 120 M€) covering 8 coherent programmes ("Flagships").
- Innovation Programme (budget 100 M€) covering training and extension, the Bioprocess Pilot Facility (BPF), and the BE-BIC business and innovation centre.

The BE-Basic innovation strategy can be illustrated by means of an "innovation funnel", where BE-Basic is now moving on from university scale R&D ("discovery") to pilot plant scale development.

Within BE-Basic, the Bioprocess Pilot Facility (BPF) located in Delft, the Netherlands is to become a centre of expertise and technology open to researchers and students from all over the world. Both its scale and its open nature make it unique. The construction of the BPF is based on an expansion of the existing facility at DSM's strategy site in Delft. The BPF offers room for pre-treatment and mid-scale fermentation, large-scale fermentation and downstream processing as well as future innovation in these areas.

As the Netherlands has insufficient biomass resources of its own, it will have to connect with other initiatives around the world. Under the flag of the society of the Global Biorefineries Research (GBR), BE-Basic will test the systems approach of its comprehensive socio-economic programme, initially with 4-5 partners from around the world.

Download the presentation [here](#).

Jochen Michels presented the German Lignocellulose Feedstock Biorefinery Project, in German LIGNOCELLULOSE BIORAFFINERIE.

The first phase of this project (15 partners) ran from June 2007 until August 2009, and had a budget of 2.6 M€, of which 1.8 M€ was funded by the BMELV Ministry through executing

agency FNR (Fachagentur Nachwachsende Rohstoffe). The project aims to find markets for wood from beech and poplar. These feedstocks are widely available in Germany, do not compete with the German pulp and wood material industries, and it seems possible to use all their main wood constituents (cellulose, hemicellulose, and lignin).

The first project phase targeted (a) Pulping of hard woods, (b) Fractionation and primary refining of the main constituents (c) Subsequent treatment of the raw materials to generate useful platform chemicals in an integrated process and (d) Economic and ecologic assessment.

As tests with extraction did not generate relevant extracts, the extraction step was skipped. The Organosolv pulping process is used to separate biomass into its three constituents (cellulose, hemicellulose, and lignin). Optimized pulping conditions are: wood-to-solvent ratio 1:4, 170-180°C, 2-4 hours residence time, \pm catalyst (H_2SO_4) and ethanol-to-water solvent ratio 50:50. The precipitated sulphur-free lignin fraction could be used directly (without further processing) as a phenol substitute in wood construction boards (up to 30 %). In the economic and ecologic assessment the performance of a plant with a capacity of 400,000 t/yr dry wood was modelled. Overall, the first project phase had provided the scientific and technical basis for engineering of an industrial process, led to the first applications of the sugars and the sulphur-free lignin as platform chemicals, included an economic and ecological assessment of the biorefinery concept based on OrganoSolv-pulping, and yielded the basic conception of a lignocellulose biorefinery pilot-plant.

The second project phase of this project (again with 15 partners) will run for 3 years (May 2010-April 2013), and has a budget of 9.5 M€, of which 8.5 M€ is publicly funded. Phase 2 targets (a) Optimisation of the biorefining process for the complete chemical use of all fractions, (b) Construction of a pilot plant at the Leuna chemical park, (c) Development of routes for bio-based products based on carbohydrates and lignin, by development of added value chains within the project consortium and by distribution of certain fractions to associated partners respectively, and (d) Extended economic and sustainability assessment of the conversion processes of the lignocellulose biorefinery.

The pilot plant (to be operational in mid 2012) will have an input capacity of 315 kg dry wood per week and a planned output of 81 kg of lignin per week. The project offers parties that are interested in using one of the produced biomass fractions to associate.

Download the presentation [here](#).

René van Ree presented an overview of **integrated biorefineries**. In his presentation he covered (1) IEA Bioenergy Agreement Task 42 "Biorefining", (2) the Task's definition of Biorefining, (3) current status & developments of biorefineries, (d) market implementation scenario for biorefineries and (e) some points for discussion.

Within the 12 tasks currently operational under the IEA Bioenergy Agreement, Task 42 Biorefinery (www.IEA-Bioenergy.Task42-Biorefineries.com) deals with raw materials, conversion processes and products in a Full Value Chain approach. The Task was first established in 2007. The current Task has 13 partners and will (1) Assess the worldwide position and potential for biorefineries and (2) Gather new insights for the simultaneous production of food, feed, chemicals, materials, fuels, power and/or heat from biomass in a socially and environmentally acceptable and economically profitable way. The speaker outlined the Task results achieved in 2007-2009 and the detailed Task activities planned for 2010-2012.

Task 42 has set its own biorefining definition. Biorefining is the Sustainable Processing of Biomass into a Spectrum of Marketable Bio-based Products & Bioenergy. In general two basic types of biorefineries (product-driven and energy-driven) can be distinguished. Biorefining as such is not new. New is the *sustainable* processing of biomass in both *biobased products and bioenergy*.

Next, the speaker showed examples of various biorefinery (BR) concepts, based on green waste, whole crop cereals (Zealand plant in Lelystad, the Netherlands), the syngas platform (CHOREN B-t-L beta plant in Freiberg, Germany), forest products, sugar/lignin (Abengoa 2G ethanol plant in Salamance, Spain), Oleochemical, integrated into conventional oil refineries (Linde plant in Leuna plant, Germany), micro-algae and macro-algae/seaweeds as well as the major RTD issues associated with each of these concepts.

Regarding market implementation, in the short term the focus is on *the upgrading of existing industrial infrastructures* to high-efficient biorefinery facilities by i) using process (chain) residues and/or ii) making process modifications for the production of added-value bio-based products and/or bioenergy. In the long term *the development of fully new sustainable biorefinery facilities* for the high-efficient co-production of human food, animal feed, chemicals, materials, fuels, power and/or heat (such as sketched above) is envisaged.

To conclude, the speaker formulated three points for discussion, as follows:

- For a transition to a bio-based economy (...) sustainable biorefining is the only right approach
- Product-driven (rather than energy-driven) biorefineries are the way to go
- New international policy goals on the quality (sustainability) of biomass use are required

Download the presentation [here](#).

Frédéric Martel presented the French **FUTUROL project**. FUTUROL (www.projet-futurol.com) aims at the implementation and validation of a second-generation (2G) ethanol production process, using lignocelluloses from agricultural by-products, coppices, residues or energy crops.

The project budget is 76 M€, allocates as follows: 42% R&D, 38% pilot plant, 16% demo plant and 4% internal costs. Some 30 M€ is funded (roughly fifty-fifty) from grants and loans.

4 Research actors, 4 industrial actors and 3 financial actors collaborate under the leadership of a dedicated company (PROCETHOL 2G). The partnership had 2 years to build the project and will carry out 8 years of R&D, to get from a 180.000 l/yr pilot plant in 2010/11 to a prototype 3.5M l/yr demo plant in 2015/16 and an industrial 180 M l/yr industrial plant not long after (scale-up factors of 20 and 50 respectively). The pilot plant, currently under construction, will have a capacity of 1 tonne of dry matter per day and will be co-located with other existing agro-industries.

FUTUROL research goals include: (1) To build crop systems adapted to energy use, (2) Separation of cellulose / hemicellulose / lignin, (3) Adaptation / improvement of existing enzymes to raw materials and industrial conditions, (4) Optimization of the conversion efficiency of hexoses and valorisation of pentoses, (5) Limiting overall consumption of water, energy and emissions without introducing inhibition in the process and (6) Succeeding thermal and chemical integration and scaling-up.

FUTUROL is in essence a small biorefinery. Whereas in 1G plants DDGS offers added value, in 2G plants all product streams have low values, and they need to be integrated as much as possible. Firstly, the recycling of water and nutrients streams, such as vinasses. Next, the internal use of by-products, such as pentoses, cellulosic glucose and lignin residue to minimize costs. Finally, opening new ways of valorisation through partnership or creation of subsidiary projects on specific topics, using co-products.

Unique features of FUTUROL are: (a) Study of multiple feedstocks at cropscale and pilot scale, (b) investigation of several process and technologies, especially the pre-treatment step, (c) Development and production of tailor-made enzymes, (d) Selection of yeasts, bacteria or fungies to ferment C6 and C5 sugars into ethanol and (e) construction of a pilot plant (and a demo plant) to validate integration.

Download the presentation [here](#).

Session 4: Roundtable discussion



The discussion panel with Dirk Carrez (EuropaBio), Tone Knudsen (Bellona), Kyriakos Maniatis (European Commission, DG-ENER), and Nathalie Devriendt (VITO)

Moderator: Dirk Carrez, STAR-COLIBRI/SusChem

Roundtable Discussants: Kyriakos Maniatis, DG ENER, European Commission; Tone Knudsen, Bellona; Nathalie Devriendt, Vito

Dirk Carrez opened the policy debate with introduction of all the roundtable discussants and giving each discussant an opportunity to offer their main feedback from the event. Nathalie Devriendt, Vito (Flemish Research Institute) highlighted the importance of the integrated approach towards the use of biomass in a Biorefinery throughout the days proceedings. She mentioned in the Flemish region there is a lot of research ongoing on the integrated approach, and what she learned from the event that at EU level the policy-makers are going in the direction of an integrated approach. Tone Knudsen, Bellona introduced the NGO as a 'solutions oriented' NGO especially focusing on climate change solutions. She highlighted again the importance the event gave to 'an integrated approach' not talking about only bioenergy or only bio-products but debating those together. However, she illustrated in policy session how in the European Commission each Directorate looks to promote their interests rather than acting in an integrated way. Biomass she added is different from other Renewable Energy Sources as with biomass always get co-products and energy. As a last introductory comment she added there will not be enough biomass to cover all fossil fuel use of today, but we need to concentrate on also ways to increase more sustainable biomass supply.

Dirk Carrez pointed out that there has been progress into integrated research from feedstock to product at Member States and EU level, in his perspective the EU approach however was still quite fragmented, he asked the questions how could we overcome this and what is the rest of the world's approach. Kyriakos Maniatis, DG ENER, European Commission response

was that indeed at EU level you cannot find a policy for the Biorefinery sector, but they have come out with coordinated calls for demonstration projects that support the development of biorefineries in the FP7 Energy Call. Furthermore, the value chains in the European Bioenergy Industrial Initiative promote bio-products as well as 2nd generation biofuels. He emphasised with this new policy on the European Bioenergy Industrial Initiative (EIBI) will come more discussion on the topic of integrated approach for biomass use. He also added he expected projects to produce bio-products as in the evaluation it must be part of the project for it to be successfully evaluated. Tone Knudsen, Bellona welcomed that the EIBI was not promoting 100% energy projects and pointed out the message is coming through to industry that they need to be more integrated in approach to develop Biorefinery projects.

Nathalie Devriendt, Vito added that the solution must come at EU Level, in the Flemish region they promote a cascading approach to biomass waste streams, however have noted then that there is a free flow of the biomass to export to go abroad for use which they tried to avoid. Tone Knudsen, Bellona said we need to develop a framework for the use of biomass, and the basis and knowledge of that is beginning of a solution. She also added that the sustainability of the sector is vital with an increased demand for biomass and good criteria are essential for that. Biomass will play a role in all 2050 scenario roadmaps that are being developed at EU level. Thus it's clear more research needs to be put into the bio-based sector especially as we begin to see policies being developed on the biobased economy. The biobased economy should effectively replace fossil fuels economy so should use the direct link in those areas replacing fossil fuels to get biobased solutions to move forward. The challenge for 2050 is to reduce our greenhouse gas emissions by 80% and solutions where we draw more CO₂ from than atmosphere than we emit with CCS for example could be a crucial value chain to develop with biomass. Kyriakos Maniatis, DG ENER, emphasised the processes in a biorefinery plant being the biological options for bio-products and thermochemical pathways which destroy biomass recreate from that - Kyriakos Maniatis highlighted there is a place for both.

Dirk Carrez posed the question if the RES Directive for the promotion of renewable sources including biomass puts a handicap on the promotion of bio-products as it focuses on biomass for energy use. Kyriakos Maniatis, DG ENER replied that as can be seen from the national renewable energy action plans more than enough biomass is available to reach the 2020 targets in the EU though that beyond 2020 will need to change how we mobilize biomass and need to pick winners in terms of biomass value chains. With regards biorefineries as seen from the Taskforce 42 presentation that many of the biorefineries are energy driven but the market will promote product driven biorefineries in the future. In the long term he would expect to see materials and chemicals making the profit for the Biorefinery and the biofuels a smaller part in the overall scheme. DG AGRI made a comment that utilizing 'biowaste' and moving towards a 'zero-waste society' should be a focus of EU policy. He emphasised we need technology needed to take exploit biowaste, currently he pointed out in food production there is a 30 per cent waste along the whole chain in terms of calories of food, solutions must be found for that by further developing a biobased economy. Kyriakos Maniatis, DG ENER pointed out that in terms of waste management there is not a current effective source separation of our waste in Member states it will come from educating citizens - most waste nowadays is diverted into incineration instead of landfills. He pointed out there are technical options being developed for exploiting biomass waste streams: one company is developing fiber from waste which they put back into the pulp and paper industry. Nathalie Devriendt added how to maximize the biomass waste streams is to create the market for the products derived. Companies are becoming active in developing biomass waste streams as an example in the Flemish region there is a price on overgrown grass on roads the price, which before would been considered as waste now has a value in biogas production, and predicts a similar evolution in other biomass waste streams.

Tone Knudsen, Bellona emphasised that a biowaste strategy is part of the solution Bellona would support, and finds that one should pay for waste produce so to have the incentive for households but also importantly for farmers who have a price then on their agricultural waste. The floor was then opened for questions, Johan Elvert, Cei-bois commented that regarding biomass availability one still cannot give exact figures as the saturation point is for a lot of the feedstocks, which today we are working with technology developments. He suggested should be using the biomass resources in wood paneling for new buildings which must comply to energy efficiency measures particularly at a time when we are promoting energy efficiency at EU level.

Philippe Schild, DG RTD commented that for many project proposals they want to develop new technology and pathways for feedstocks that should be diverted into biomass waste streams and used with current technology. He also added that Biorefinery concepts being developed for projects at EU level are those focusing on using the bio-products as the economic model works in favour; we have to use the by-products in biorefineries to be economically viable in the long term. He went to address earlier statements in the event on progress in the US that although they may seem to be advancing when it comes to sustainability of biomass the agricultural department looks at criteria in a very different respect that the Department of Energy who are putting forward the policy.

Annex 1: Agenda



Timing: 1:00 pm – 7:00 pm

Venue: Renewable Energy House, Rue d'Arlon 63-65, 1040 Brussels

Final agenda

| Time | Session | Scope |
|--------------|--|---|
| 12:30-13:00 | Registration | Light lunch |
| 13:00 | Welcome | European Commission DG RTD – Maria Georgiadou |
| 13:10-14:25 | Session 1: Biorefinery sister project presentations | <ol style="list-style-type: none"> 1. BIOCORE: Michael O'Donohue, INRA 2. EUROBIOREF: Frank Dumeignil, Lille University 3. SUPRABIO: Costa Komodromos, Oxford University and Mads Pedersen, BioGasol, Jean-François Jenck, Algosource technology 4. STAR-COLIBRI: Johan Elvnert, CEI-BOIS <p>Chairperson: Maria Georgiadou, DG RTD</p> |
| 14:25-14:55 | Session 2: Policy session | <p>DG Agriculture: Andreas Pilzecker – Biomass/ biorefineries in the new CAP</p> <p>Chairperson: Johan Elvnert, (STAR-COLIBRI / CEI-BOIS)</p> |
| 14:55-15:40 | Q&A- coffee break | <p>Q & A followed by</p> <p>Coffee Break</p> |
| 15:40-17:10 | Session 3: Other biorefinery projects and initiatives | <ol style="list-style-type: none"> 1. Finland: AFORE- Added value from chemicals and polymers by new integrated separation, fractionation and upgrading technologies, VTT – Anna Suurnäkki 2. Netherlands: TUD on BE-Basic -Luuk van der Wielen, 3. Germany: DECHEMA (The German Society for Chemical Engineering and Biotechnology) - Dr Jochen Michels “The German Lignocellulose Feedstock Biorefinery Project” 4. IEA Task 42 Biorefineries/EIBI – WUR, René van Ree 5. France: the FUTUROL project – Procéthol 2G -Frédéric Martel <p>Chairperson: Jean-Luc Dubois, Arkema</p> |
| 17:10-18:00 | Session 4: Roundtable Discussions | <ul style="list-style-type: none"> • Kyriakos Maniatis, DG ENER, European Commission • Klaus Neumann, Borregard • Tone Knudsen, Bellona • Nathalie Devriendt, VITO <p>Lead panelist: Dirk Carrez, STAR-COLIBRI / SusChem</p> |
| 18:00 - | Networking | Cocktail Reception |

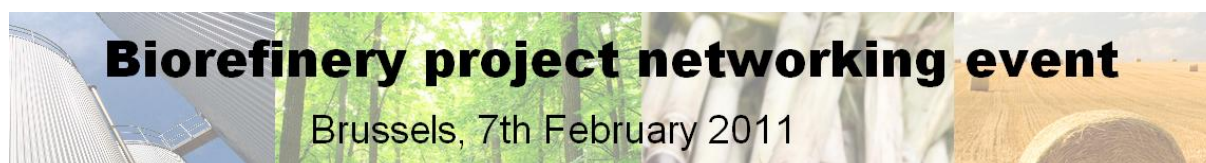


Annex 2: List of participants



| First Name | Last Name | Project/ Position/Directorate | Organisation/Country |
|---------------|------------|----------------------------------|---------------------------------|
| Femi | Akgun | Eurobioref | TÜBİTAK Marmara Research Center |
| Michele | Aresta | Eurobioref | CIRCC |
| Anne-Belinda | Bjerre | Eurobioref | Danish Technology Institute |
| Dirk | Carrez | Star-COLIBRI | Suschem TP/EuropaBio |
| Myrsini | Christou | Eurobioref | CRES |
| Nathalie | Devriendt | Bioenergy Expert | Vito |
| Jean-Luc | Dubois | Eurobioref/Biocore | Arkema |
| Franck | Dumeignil | Eurobioref coordinator | UCCS-CNRS |
| Johan | Elnert | Star-COLIBRI coordinator | CEI-BOIS |
| Rebecca | Farnell | BIOCHEM | KTN Chemistry innovation |
| Aurélie | Faure | BIOCORE | INRA |
| Jens | Fehrmann | Star-COLIBRI | TU Dresden |
| Rickard | Gebart | SUPRABIO | Piteå |
| Maria | Georgiadou | DG RTD | European Commission |
| Hans Ove | Hansen | Eurobioref | Danish Technology Institute |
| Jonas | Helseth | Adviser | Bellona |
| Wolfgang | Hoelderich | Eurobioref | RWTH Aachen |
| Jean-François | Jenck | SUPRABIO | Algosource |
| Abbas | Kazmi | Star-COLIBRI | University of York |
| Jetta | Keranean | Eurobioref | Alma Consulting |
| Hans | Keuken | Eurobioref | Process Design Centre |
| Tone | Knudsen | Deputy Director | Bellona |
| Costa | Komodromos | SUPRABIO | University of Oxford |
| Jasmiina | Laurmaa | Star-COLIBRI | Europabio |
| Kyriakos | Maniatis | DG ENER | European Commission |
| Eibhilin | Manning | Eurobioref | EUBIA |

Annex 2: List of participants (continued)



| First Name | Last Name | Project/ Position/Directorate | Organisation/Country |
|------------|----------------|---|-------------------------------|
| Frédéric | Martel | FUTUROL | Procethol 2G |
| Paolo | Mazzucchelli | Secretary General | EUREC Agency |
| Jochen | Michels | LC-Biorefinery-Project | DECHEMA |
| Martin | O'Connell | SUPRABIO | IMMH |
| Michael | O'Donohue | BIOCORE coordinator | INRA |
| Kyriakos | Panopoulos | Eurobioref | CERTH |
| Mads | Pedersen | SUPRABIO | BioGasol ApS |
| Andreas | Pilzecker | DG AGRI | European Commission |
| Hans | Reith | BIOSYNERGY | ECN |
| Virginie | Rimbert | DG RTD | European Commission |
| Jeanine | Ringman-Beck | Star-COLIBRI | Forest TP |
| Carla | Pereira | Eurobioref | FEUP |
| Philippe | Schild | DG RTD | European Commission |
| Anna | Seretny | Star-COLIBRI | EuropaBio |
| Kosta | Skarvelakis | Eurobioref | Alma Consulting |
| Ioannis V. | Skiadas | SUPRABIO | Aalborg University Copenhagen |
| Kristin | Sternberg | Star-COLIBRI | Biofuels TP |
| Anna | Suurnäkki | AFORE | VTT |
| Marina | Tamagnini | Public Affairs | Novamont |
| Valentina | Tecce | Brussels representative | Intesa Sanpaolo |
| Mustafa | Tolay | Consultant | DETES Energy & Environment |
| Luuk | Van der Wielen | BE-Basic | TU Delft |
| René | Van Ree | IEA Bioenergy Task 42 on Biorefineries | DLO |
| John | Vos | SUPRABIO | BTG |
| Ilknur | Yilmaz | FP7 Energy National Contact Point | TÜBİTAK |

Annex 3: Presentations

Session 1: The 4 projects funded under the FP7-2009-BIOREFINERY call

- Michael O'Donohue - BIOCORE [presentation](#).
- Franck Dumeignil – EuroBioRef [presentation](#).
- Costa Komodromos, Mads Pedersen, Jean-François Jenk – SUPRABIO [presentation](#).
- Johan Elnert – Star-COLIBRI [presentation](#).

Session 2: Policy session

- Andreas Pilzecker- Biomass in the new CAP [presentation](#).

Session 3: Other (inter)national biorefinery projects and initiatives

- Anna Suurnäkki - AFORE [presentation](#).
- Luuk Van der Wielen – BE-Basic [presentation](#).
- Jochen Michels – German Lignocellulosic Biorefinery project [presentation](#).
- René Van Ree – IEA Bioenergy Task 42 on Biorefineries [presentation](#).
- Frédéric Martel - FUTUROL [presentation](#).