



IEA-Bioenergy – Bericht aus Task 42 Biorefining

Berichte aus den IEA- Tasks

BMVIT, 12. Dez 2016

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Michael Mandl 10.02.2016

Übersicht



- › Inhaltlicher Querschnitt des Task 42 für das Triennium 2016-18
- › Österreichischer Beitrag zum Arbeitsprogramm
- › Status der Arbeiten
- › Kooperation mit anderen IEA Tasks
- › Ausblick Meetings
- › Administration , Abstimmungen, Offene Punkte

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Management Task 42- Austria



- › Taskmanagement wird durch ein Konsortium durchgeführt



Michael Mandl (NTL)



Horst Steinmüller



Franziska Hesser, Tobias Stern

...das ist auf der IEA Bioenergy Ebene NEU

Scope of Task 42 Work Programme



Task 42 Work Programme has 4 Activity Areas

- › AA1-Biorefinery Systems (coord. AT)
- › AA2-Product Quality (coord. D)
- › AA3-Evolving BioEconomy (coord US)
- › AA4-Communications, Dissemination und Training (coord. NL)

AA1 Biorefinery Systems (AT)



› „Biorefinery DATA Base (Expert) System“ (AT)

- › Entwicklung und Implementierung eines „Datenbank für Bioraffinerien“, welche die Bewertung die durchgeführten Analysen/Bewertungen beinhalten.
- › Einpflegen der bisherigen Ergebnisse und Daten z.B. der vorhandenen Bewertungen (Fact Sheets)
hier gibt es ein Problem, da JR die Annexe des Fact Sheets bisher nicht beigestellt hat.
- › Komplexe / unklare Situation (Eigentum der Daten)
- › Verknüpfung mit der Datenbank Bioenergy 2020+
kommt wahrscheinlich nicht

AA1 Biorefinery Systems (AT)



› „Biorefinery Fact Sheets“ (AT)

- › Fortführung der bisherigen Aktivitäten
Beschreibung zusätzlicher Bioraffinerien gemäß der im Task 42 entwickelten Methodik.
- › Es wird im Konsortium eine eigene Methodik (Tool) entwickelt, das LCA und wirtschaftliche Bewertung abbildet
- › ...wird im Mai 2017 fertig sein
- › ...könnte als „open source Methode“ angeboten werden, um Fallbeispiele zu generieren.

AA1 Biorefinery Systems



- › **„Upgrading industrial infrastructures to integrated Biorefineries (AT)**
- › **Identifizieren von „up-grading“ Strategien für existierende Industriesegmente**
(power plants, biofuel facilities, oil refineries, pulp/paper, food industry)
- › **TEE (technical, economical, environmental assessment)**
- › **Schwerpunkte: pyrolysis and biogas based biorefineries**
- › **Interaktion mit anderen Bioenergy Task**
Task 34- Direct Thermochemical Liquifaction, Task 37- Biogas, Task 38- Climate change effects of biomass and bioenergy systems und Task 39 - Commercializing Liquid Biofuels

AA2 Product Quality



- › **(Inter)national Standardisation/Certification on current/future Biomass Use (coord. D)**
 - › What is a „bio-product“?
 - › Berichte/ Evaluierung laufender nationale u. internationaler Aktivitäten betreffend Standardisierung/ Zertifizierung von *Biobased Products*.
 - › Vorarbeiten des Task 40 „*Monitoring Sustainability Certification of Bioenergy*“

AA3 Evolving BioEconomy



› BioEconomy strategies/drivers (US)

→ Workshop IEA/FAO/OECD mit Industrie, GO & NGO zum Themenkomplex Bioraffinerie (spez. focus: advanced biofuels/bioenergy)

› 15. Mai 2017, Workshop mit IETS

› Advising ExCo on BioEconomy policy (US)

Evaluierung von relevanten politischen Strategien/Rahmenbedingungen

› Waste Management Strategies circular Bioeconomy

Mitarbeit betreffend Bioraffinerien zur Nutzung von Prozessabfällen bestehender Industrien für Bioraffinerien (Joint Task ExCo, coord T36)

› Biorefinery Country Reporting (all)

-> Österreichischen Biorefinery Status Reports (update)

AA4 Communication, Dissemination & Training



› Internationale Ebene

› Themenspezifische Berichte: *Biobased (Fibrous) Material Report, Proteins Report, Biobased Chemicals Report (update)*

› Fortsetzung der *Biorefinery Training Activities*

› Beiträge zu intern. Konferenzen und Workshops

STATUS dazu

› Protein Report ist nun fertig; Online verfügbar auf webpage

› Wahrscheinlich wird Tobias Stern den Biobased (fibrous) Material Report koordinieren

AA4 Communication, Dissemination & Training



› Nationale Ebene

- › Kommunikationsknoten zwischen nationaler und internationaler Ebene im Themenfeld Bioraffinerie
- › Durchführung von 3 nationalen TASK 42 Stakeholder – Vernetzungstreffen

Status

- › Task 42 Netzwerktreffen der nationalen Akteure 22.Sept 2016 in LINZ; beim Treffen waren ca. 30 Akteure dabei.

Task 42 Meetings



› Progress Meetings

- › Irland: Dublin; 18.-19. April 2016
- › Australien: Brisbane und Mackay 15.-18. Nov. 2016
Beiträge zur Bioenergy Australia 2016
Exklusion Mackay (Sugar Industry – Mackay Sugar; 1st gen. Ethanol (Wilmar); 2nd gen. Pilot plant (University Queensland))

Ausblick

- › 15.-18. Mai 2017 Goteborg
- › **Austria: VINNEA; Mitte OKT 2017!!**
Abstimmung mit BMVIT zur Finalisierung des Termins

Fuelling a future for industry

Bio-refiners visit pilot plant

Emily Smith

IF MICHAEL Mendi had fields of sugar cane at his disposal, it wouldn't go into making sugar.

The Austrian environmental engineer was one of a cross-section of biorefining specialists from around the world who visited the Racecourse Mill Pilot Plant on Thursday, after attending the Bioenergy Australia conference in Brisbane.

While most created products from corn, starch and grain-based feedstock, Mr Mendi saw equal potential for creating high-value products like paint, de-greasers and solvents when he looked at Mackay's cane fields.

"I would not go and make plain sugar. I would focus on high value products. So you're not exposed to the fluctuation in the sugar

market," Mr Mendi said.

But he also noted the potential for biorefining was spread across the agricultural sector.

After seeing Brisbane buses were running on natural gas, he suggested "you can exchange that with biogas and you'll have a really sustainable fuel".

Canadian Dr Murray McLaughlin said the biofuels mandate in Canada, which was 10% across the nation and 15% in some provinces, has helped fuel their industry.

However, Owenroe Lemass said in Ireland, the introduction of a biofuels mandate had coincided with an excise duty exemption, driving distributors to import their "greener" fuels from Brazil and Argentina.

"We had a vibrant enough biofuels sector but it's actually kind of closed down overnight, not intentionally,



GLOBAL PERSPECTIVE: Ireland's Owenroe Lemass, Ed de Jong from the Netherlands, Australian Geoff Bell, Canada's Eric Soury, Austrian Michael Mendi and Canada's Murray McLaughlin. PHOTO: EMILY SMITH

but we had an excise duty exemption that was granted to biofuel producers," Mr Lemass said.

"And then we introduced a mandate (so) that fuel distributors were obliged to find (bio)fuel but find it at the lowest cost, so they started buying biofuel from Brazil and biodiesel from Argentina."

While Australia is set to introduce a biofuels mandate at 2% from January 1 next year, Mr Lemass did not believe it would suffer similar side effects.

"I'm not familiar with the situation here but it looks like you have the right conditions for a competitive industry," he said.

Following the success of ethanol production in Canada, Mr McLaughlin said the industry was now geared at creating higher value products from its feedstocks, like chemicals and alcohol.

That was also likely to be the future in Australia. Geoff Bell, chief executive officer of a company called MicroBioGen, is working to

improve the strains of yeast used to create ethanol, to increase yield and lower costs. While the company was Australian-based, it conducted trials overseas.

He said the technology was "basically ready to go", but hoped the costs involved would fall enough in the next few years for companies to bring it back to Australia.

"That's the problem in Australia, someone has to want to buy the fuel and we have to make money out of it," Mr Bell said.

"I think Australia will be a

"I would not go and make plain sugar, I would focus on high value products"

— Michael Mendi

follower in this technology, the risk is very, very high. (But as it gets proven over there you can expect that technology to come back."

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Admin- offene Fragen

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RESEARCH

➤ Zusätzliche Aufgaben

- Wie werden in anderen Task zusätzliche Aufgaben „vergeben“ bzw. organisatorisch abgewickelt?
- Gibt es Parallelitäten/Synergien IETS und IEA Bioenergy zum Thema Biorefinery

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