

## Final workshop announcement

### Quantifying and managing land use effects of bioenergy

**19-21 September 2011, Campinas, Brazil**

Jointly organized by

**IEA Bioenergy**

Task 38: Greenhouse Gas Balances of Biomass and Bioenergy Systems  
Task 40: Sustainable International Bioenergy Trade - Securing Supply and Demand  
Task 43: Biomass Feedstocks for Energy Markets

Hosted and sponsored by



Brazilian Bioethanol Science  
and Technology Laboratory

Ministry of  
Science and Technology



ABTLuS  
**CNPEM**

## Workshop rationale and aim

In the past decades, the production biomass for energy in agriculture and forestry has increased in many parts of the world. For years to come, further increase in land use for bioenergy will be needed to meet the renewable energy ambitions of many countries, and to reduce fossil fuel use and associated GHG emissions. As many industrialized countries have a limited biomass production potential compared to their prospective demand, it is expected that substantial international bioenergy trade will develop in the coming decades where regions such as Latin America and sub-Saharan Africa will produce feedstocks for both domestic consumption and for export.

Increasing the production and energetic use of biomass has many direct and indirect effects, including land-use related GHG emissions, impacts on biodiversity, and other environmental and social effects. However, while much of the recent years' debate has concerned negative effects, it is important to note that bioenergy expansion can also lead to positive environmental and socio-economic outcomes.

This workshop aims to bring together current state-of-the-art research concerned with assessing land use effects of bioenergy, mitigating negative impacts, and promoting attractive ways forward.

The workshop will address the following themes:

1. Quantifying Land Use and Land Use Change effects of bioenergy
  - Methods for estimating land use and land use change - modeling and other approaches
  - Effects of bioenergy systems on GHG emissions, carbon flows
  - Other effects of bioenergy (soil, water, biodiversity, social)
  - Integrating land use change effects in broader assessment frameworks
2. Responding to Land Use and Land Use Change effects of bioenergy
  - Policy measures, standards and certification
  - Integrated land use strategies

## Workshop setup and field trips

The workshop will be held at the premises of the Brazilian Bioethanol Science and Technology Laboratory (Laboratório Nacional de Ciência e Tecnologia do Bioetanol - CTBE), located at Brazilian Center of Research in Energy and Materials in Campinas, Sao Paulo, Brazil. For more information, see <http://www.bioetanol.org.br/english/index.php>. The city of Campinas can be reached from Sao Paulo Guarulhos International Airport in approximately 1 - 1.5 hours by bus or car.

The workshop features two full days (19-20 September) of presentations, including an evening poster session on Monday, and a full day (21 September) technical field trip. Two field trip options will be provided: one field trip will visit a sugarcane plantation and mill (planning to see the green cane harvesting and other agricultural operations in the morning and the distillery and power generation facilities in the afternoon); the second will visit a Eucalyptus plantation and the associated processing plant.

Draft Program Outline	
Monday 19 September 2011	
8:00	Registration Opens
9:00	Official Opening
	<p><b>Session 1 Plenary: Invited speakers</b> presenting the perspectives of key government, industry and NGO bodies on the significance of land use effects of bioenergy, and approaches being taken to manage impacts and promote bioenergy systems that avoid/mitigate negative effects</p> <p>Preliminary list of speakers:</p> <ul style="list-style-type: none"> <li>• Introduction by André Faaij (Utrecht University, Task 40) and Göran Berndes (Chalmers University, Task 43)</li> <li>• Neil Bird (Joanneum Research, Task 38, presenting results of a joint CIFOR project)</li> <li>• Sarah Bushey (US EPA) (invited)</li> <li>• Representative of the European Commission (invited)</li> <li>• Eduardo Assad (Secretary at the Ministry of Environment) (invited)</li> <li>• Govinda R. Timilsina (World Bank) (confirmed)</li> <li>• Andre Nassar (ICONE) (invited)</li> <li>• David Laborde (IFPRI) (confirmed)</li> <li>• Meritt Cluff (FAO) (invited)</li> <li>• Representative of the EC- Joint Research Centre (invited)</li> </ul>
13:00	Lunch
14:00	<p><b>Contributed papers in two parallel sessions:</b></p> <p><b>Session 2 Quantifying land use effects of bioenergy</b></p> <p><b>Session 2a: Conceptual approaches:</b> Methodology, modeling approaches, estimation techniques</p> <p><b>Session 2b: Practical application:</b> Case study results, demonstration of methods</p> <p>For an overview of accepted oral presentations, see below</p>
17:30	Close Session 2
18:00	<b>Poster session:</b> Drinks and finger food served

Tuesday 20 September 2011	
8:30	<p><b>Contributed papers in two parallel sessions:</b></p> <p><b>Session 2 a/b (continued)</b>  <b>Conceptual approaches and practical application.</b> For an overview of accepted oral presentations, see below</p> <p><b>Session 3 Managing land use effects of bioenergy</b></p> <p><b>3a: Conceptual responses:</b> Policy mechanisms, certification concepts, models for managing trade-offs</p> <p><b>3b: Practical application:</b> examples of policies, standards, certification schemes; assessment of their application; tools for integrated land use planning. For an overview of accepted oral presentations, see below</p>
13:00	Lunch
14:00	<p><b>Session 4 Plenary:</b></p> <p><b>Synthesis presentations by the Task leaders</b> summarising issues addressed in Sessions 2 and 3</p> <p><b>Panel discussion: Can we ensure sustainability through certification?</b></p> <p>Panel members from government, industry and NGOs, including the following speakers:</p> <ul style="list-style-type: none"> <li>• Victoria Junquera (RSB)</li> <li>• Alison Goss Eng (US DOE)</li> <li>• Eduardo Sousa (UNICA) (invited)</li> <li>• More speakers to be announced</li> </ul>
17:30	Close Session 4
19:00	<b>Conference Dinner</b>
Wednesday 21 September 2011	
8:00	<p><b>Field trip</b></p> <p>Option 1: Sugar mill</p> <p>Option 2: Eucalyptus plantation</p>
Approx. 18 :00	<b>Return to Campinas</b>

## List of oral and poster presentations

Below are all presentations that have been accepted by the review committee for an oral presentation in session 2, session 3, as well as the poster presentations. We kindly ask the corresponding authors of all invited presentations to confirm their presentation to Martin Junginger (h.m.junginger@uu.nl) by August 8<sup>th</sup> 2011 at the latest. The final composition of the parallel sessions on Monday afternoon and Tuesday morning will be published on the workshop website and the websites of the tasks mid-August.

### Oral presentations Session 2 a/b

1st Author	Institute	Title
Keith Kline	Oak Ridge National Lab	'Top Ten' steps to improve the quantification of land-use change effects of bioenergy systems
Keith Kline	Oak Ridge National Lab	Moving forward: bioenergy policies to improve land-use and address social concerns
Saori Miyake	School of Geography, Planning and Environmental Management, Univ. of Queensland	Framework for evaluating the environmental consequences of bioenergy-driven land-use changes at local and regional scales
João Luis Nunes Carvalho	Delta CO2	Estimating soil carbon stock changes due to the expansion of sugarcane production in Brazil
Francesco Cherubini	Industrial Ecology Programme, Norwegian University of Science and Technology (NTNU)	What is the contribution to Global Warming of time-distributed biogenic CO2 fluxes ?
Rodrigo Augusto Freitas de Alvarenga	Department of Sustainable Organic Chemistry and Technology, Ghent University, Belgium.	Accounting land as natural resource for energetic and exergetic LCA - a new method
Andre Nassar	Institute for international trade negotiations	The development and use of methodologies to measure direct and indirect land use effects
Serina Ahlgren	Lund University	Combining economic modelling and life cycle assessment – is it possible from a scientific method point of view?
Klaus Peter Zulka	Environment Agency Austria	Approaches to quantify the biodiversity effects of biofuel production
Robert Beach	RTI International	Oil Price Shocks and the U.S. Bioenergy Market: Assessing Demand and Land Use Impacts
Annette Cowie	National Centre for Rural Greenhouse Gas Research, University of New England	Can biochar reduce the pressure on land used for bioenergy
David Muth	Idaho National Laboratory	The Importance of Pre-Conversion Technologies for Coupling Sustainable Bioenergy Land Use to Biomass Trade

Final workshop announcement, as of 21 July 2011

For up to date information, see <http://www.bioetanol.org.br/hotsite/workshop8>

Cheney Shreve	Winrock International	Developing a framework for monitoring biofuel sustainability: Integrating remote sensing and geospatial analysis to quantify impacts of biofuel expansion
Leif Gustavsson	MIUN	Time-dependent climate benefits of using forest residues to substitute fossil fuels
Gbadebo Oladosu	Oak Ridge National Lab	Decomposition Analysis of Empirical Data to Recognize Potential Land-Use Effects of Bioenergy
Rob Bailis	Yale School of Forestry and Environmental Studies	Carbon impacts of direct land use change in semiarid woodlands converted to biofuel plantation in India and Brazil
Gert Sparovek	University of Sao Paulo, Dept. of Soil science	The revision of the Brazilian forest act: increased deforestation or a historic step towards balancing agricultural development and nature conservation?
Elisa Dunkerberg	Institut für ökologische Wirtschaftsforschung (IÖW)	Sugarcane Ethanol production in Malawi: A 'real word' case study on indirect effects
Ryan M. Bright	Industrial Ecology Programme, Energy and Process Engineering, Norwegian University of Science and Technology (NTNU)	Radiative forcing impacts of boreal forest biofuels: A dynamic study for Norway in light of Albedo
Pål Börjesson	Lund University	The climate benefit of Swedish ethanol – present and prospective performance
Eduardo Barretto de Figueiredo	UNESP/Jaboticabal/Depto Ciências Exatas	Mitigation assessment of greenhouse gas due to the conversion of sugarcane areas from burned to green harvest, considering reduced tillage and the crop-rotation
Lorie Hamelin	Univ. Of Southern Denmark	Modelling environmental consequences of direct land use changes from energy crops in a self-sustained and fully renewable energy system in Denmark: Effect of crop types, soil, climate, residues management, initial carbon level and turn over time
Kim Pingoud	VTT Technical Research Centre of Finland	GWP factors and warming payback times as climate indicators of forest biomass use cycles
Barbara Kishchuk	Canadian Forest Service, Natural Resources Canada	Land-use change, soil nutrient trajectories and the sustainability of short rotation woody crop production for bioenergy in Canada
Hector M. Nuñez	University of Illinois Urbana-Champaign.	A prospective analysis of Brazil and U.S. biofuel policies: Impacts on land use, greenhouse gas emissions, and social welfare
Evelyne Thiffault	NRCan	Establishing ecologically sustainable forest biomass supply chains - a case study in the broeal forests in Canada
Michael O'Hare	University of California	Policymaking for refractory uncertainty
Oscar Englund	Chalmers University	Biodiversity considerations in certified biomass production
Fausto Freire or Érica Galdes Castanheira	University of Coimbra	Titile to be announced
Marcelo Valadares Galdos	CTBE	Titile to be announced

Final workshop announcement, as of 21 July 2011  
For up to date information, see <http://www.bioetanol.org.br/hotsite/workshop8>

## Oral presentations Session 3 a/b

1st Author	Institute	Title
Julie Witcover	Institute for Transportation Studies, UC Davis	Market-Mediated Land Use Change and Biofuel Policy Towards An Evaluation of Mitigation Options
Kenneth Hermele	Human Ecology Department, Lund university,	Sustainable Agrofuels, Land Use Change, and Certification Schemes
Jody Endres	Energy Biosciences Institute, The University of Illinois	The Three Pillars to Operationalizing Biofuels Sustainability - Standards in Agricultural and Forest Landscapes
Cinthyia Guerrero	Brandenburgische Technische Universität Cottbus	The Application of the Precautionary Principle to Biofuel Development in the European Union - iLUC
Nicole Kalas	Imperial College London	cLCA of European biodiesel – estimation of key drivers for iLUC and identification of mitigation option
Allen C. McBride	Oak Ridge National Lab	Indicators to support environmental sustainability of bioenergy
Christine Dragisicon	Conservation International	Responsible Cultivation Areas: A Tested Methodology to Mitigate Direct and Indirect Land Use Impacts from Bioenergy Feedstock Production
Jasper van de Staaij	Ecofys Netherlands BV	Developing and field testing a Certification Module for Low Indirect Impact biofuels
Birka Wicke	Utrecht University	Improved modeling and mitigation of land use change related to bioenergy production

## Poster presentations

1st Author	Institute	Title
Catalin Ristea	Forest Resources Department, University of British Columbia	Direct land use impacts of large-scale afforestation projects for bioenergy production: A novel conceptual framework for quantifying the time-dependent dynamics of carbon emissions and removals at landscape level
Gustaf Egnell	SLU, Dept. Of Forest Ecology and management	Realistic expectations on biomass potential in conventional forestry and agriculture - Swedish experiences
Yaw Sasu-Boakye	Chalmers University of Technology	Greenhouse gas emissions and land use change from the substitution of Brazilian soybean with locally produced protein feedstuff in Scandinavian dairy and pig production.
Nicolae Scarlat	Joint Research Centre, EC	Impact of national renewable energy plans (NREAPs) in terms of European land use
Emma Jonson	Chalmers University of Technology	Estimating indirect land use changes of biofuels given increased organic farming in Europe
Andrea Restrepo Ramirez	University of Brasilia	Potential effects of Brazilian biodiesel and palm oil program on socioeconomic insertion of family farming
Georgia Ribeiro Silveira de Sant'Ana	Federal University of Goias	Impacts of sugar cane cultivation on physical-chemical, biochemical and microbiological properties of yellow and red oxisols under different management in the microregion of Quirinopolis, GO, Brazil
Hans Langeveld	Wageningen University	Using multipliers to assess ecological and economic interlinkages between bioenergy and other cropping systems in North America

Final workshop announcement, as of 21 July 2011  
For up to date information, see <http://www.bioetanol.org.br/hotsite/workshop8>

## Registration and payment options

Registration and payment should be made through the following website:

<http://www.bioetanol.org.br/hotsite/workshop8>

**Registrations and payments have to be received on September 15<sup>th</sup> at the very latest.**

## Accommodation

We kindly ask the participants to make their room reservations through the following travel agency, mentioning that you are joining this workshop:

Flytour American Express Business Travel  
**contact: João Marcelo Rossini**  
Tel.: 55 19 3343.4634 / Fax: 55 19 3343.4617  
[joao.cpq@flytour.com.br](mailto:joao.cpq@flytour.com.br)

You can choose between two hotels:

### COMFORT SUITES:

<http://www.atlanticahotels.com.br/atlantica/hoteis/estrutura.asp?Numfuncionalidade=292&NumHotel=24>

Single Rate Standard Apartment: R\$ 185.00<sup>1</sup> + 5% tax with breakfast included  
Double Rate Standard Apartment: R\$ 217.00 + 5% tax with breakfast included

Single Rate Deluxe Apartment: R\$ 220.00 + 5% tax with breakfast included  
Double Rate Deluxe Apartment: R\$ 252.00 + 5% tax with breakfast included

### SOL INN Barão Geraldo: <http://www.hotelariabrasil.com.br/solinnbaraogeraldo/>

Single Rate Executive Apartment: R\$ 194.00 + 5% tax with breakfast included  
Double Rate Executive Apartment: R\$ 226.00 + 5% tax with breakfast included

Single Rate Superior Apartment: R\$ 223.00 + 5% tax with breakfast included  
Double Rate Superior Apartment: R\$ 258.00 + 5% tax with breakfast included

**Prices above are valid only for reservations made until JULY 31<sup>st</sup> 2011 for both hotels.**

Lunch will be provided at the workshop on both days. On Monday evening, finger food will be provided during the poster session, and on Tuesday evening, we offer a workshop dinner. In case you will take other meals at the hotel: The prices vary according to the menu choice, but are typically around R\$ 35- 40 for each meal.

---

<sup>1</sup> The present currency exchange rate is Euro 1.00 = BR\$ 2.32. 1 US\$ = 1.62 BR\$ (variations are usually small).

## Getting to Campinas

Most international participants will arrive in São Paulo at the Guarulhos International Airport (GRU), which offers excellent airline connections for the whole world, at a distance of less than 60 minutes from the inner city. The Airports of São Paulo-Congonhas (CGH) and Campinas-Viracopos (VCP) are also convenient choices depending on flight availability.

### **Infraero Guarulhos: 55 11 2445 2945 (Central Information of the Airport)**

#### **How to change money at the airport**

You have 2 possibilities:

A) Use an electronic cash machine: there are many at the airport (Santander, Bradesco, Itaú....)

B) Use a Money Exchange office

1) Action Cambio – from 05 to 00h

Passengers Terminal 1 – Wing B – phone: 55 11 2445 4458

2) American Express – Foreign Exchange – from 05 to 00h

Passengers Terminal 1 – Wing A – phones: 55 11 2445 3351 2445 3835

3) Confidence Cambio – 24hrs

Passengers Terminal 2 – Wing C – phone; 55 11 2445 3762

4) Safra Bank – 24hrs

Passengers Terminal 1 – Wing B

Passengers Terminal 2 – Wing C – phones: 55 11 2445 3701 – 55 11 2445 2321

#### **How to take the bus to Campinas**

CAPRIOLI BUS (11) 2445-3506 | (11) 2445-3869.

As soon as arriving at the Airport in São Paulo (Aeroporto de Cumbica Guarulhos), you should go to Terminal 2, Wing C. There are 2 terminals, 1 and 2, both of them at walking distance (150m).

At the exit, on your right, at 50m, you will see buses with sign "CAPRIOLI". Before going to the buses, you should go on the left to buy your ticket: you first have car rental offices, then "ONIBUS" ticket offices and finally "CAPRIOLI" ticket office. The price of the bus ticket is **R\$ 37.00 = USD 22.00 (they accept USD or EUR)**.

It takes 1h30 min from SP Airport to Campinas (~120 km). Below you can find the timetable of the bus from Guarulhos airport to Campinas:

**00:30 06:45 08:00 09:00 10:30 AM // 12:00 1:00 2:00 5:30 6:45 8:00 9:30 11:00 PM**

Arriving in Campinas downtown at the Caprioli Bus Terminal "Largo do Pará", take a taxi to Barão Geraldo (the District of Campinas where CTBE and the hotels are located ; the trip should cost around R\$ 30, and must be paid in Brazilian currency.

#### **Getting to CTBE**

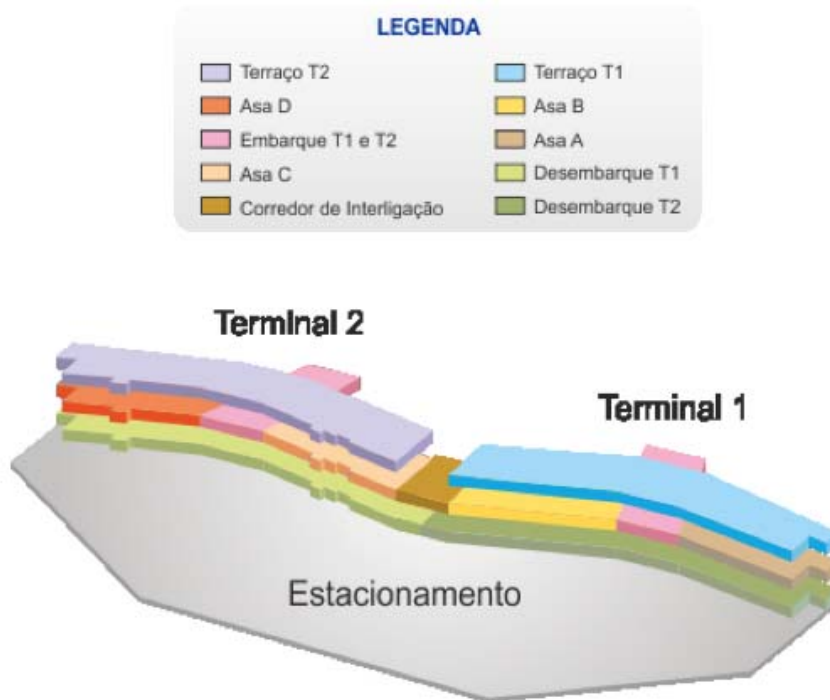
The CTBE is located at: Rua Giuseppe Máximo Scolfaro, 10.000 - Polo de Alta Tecnologia - Campinas – SP, close to the UNICAMP campus, north of the city of Campinas.

Final workshop announcement, as of 21 July 2011

For up to date information, see <http://www.bioetanol.org.br/hotsite/workshop8>

Busses will bring workshop participants from the above hotels to CTBE in the morning, and back in the evening. More detailed information will be included in the final workshop program in mid-August. A general route description on how to reach CTBE is available at: <http://www.bioetanol.org.br/english/interna/index.php?chave=visitors>

## CAPRIOLI – Terminal 2 ASA C (Wing C)



**Estacionamento = Parking Lot**

## Miscellaneous

### Visa Requirements

Passport-holders from countries in West Europe as well as from South America will not need a visa to enter Brazil. For some nationalities the visa has to be applied before arrival at the Brazilian Embassy or Consulate. Useful information is also available at:

<http://www.braziltour.com/dicaturista/dicasPassaporte.html>

### Insurance

Registration fees do not include insurance of any kind. It is strongly recommended that at the time you register for the workshop and book your travel you consider an insurance policy of your choice to protect your interests in relation to cancellations, medical expenses, loss or damage to personal property. The conference organizers cannot take any responsibility for participants failing to arrange their own insurance.

## **About IEA Bioenergy Task 38, Task 40 and Task 43**

IEA Bioenergy Task 38 (Greenhouse Gas Balances of Biomass and Bioenergy Systems) focuses on quantifying the climate change mitigation benefits of bioenergy systems, with the aim of supporting decision makers in selecting mitigation strategies. The task develops and promotes methodology to assess the climate change impacts of bioenergy systems in contrast with fossil fuel systems, using a full life cycle approach. Task 38 undertakes case studies to demonstrate the methodology and assess the GHG balance of actual or proposed bioenergy projects in member countries, and contributes to development of greenhouse gas accounting methodologies for policy measures including renewable energy and emissions trading schemes. For more detailed information on the Task, its output, and on previous events see: [www.ieabioenergy-task38.org/](http://www.ieabioenergy-task38.org/)

IEA Bioenergy Task 40 (Sustainable International Bioenergy trade; securing supply and demand) monitors and analyzes experiences with the rapidly growing international bioenergy trade in solids and liquid biofuels while simultaneously evaluating opportunities and barriers for the development of a sound international market. It contributes to the development of sustainable biomass markets on short and on long term and on different scale levels (from regional to global). The future vision of this task on global biomass trade is that it develops over time into a real "commodity market" which will secure supply and demand in a sustainable way. Task 40 typically organizes 2-3 workshops per year, e.g. on sustainable biomass certification and torrefaction as a pretreatment technology to further enhance international bioenergy trade. For more information on publications and past events, see [www.bioenergytrade.org](http://www.bioenergytrade.org)

IEA Bioenergy Task 43 (Biomass feedstocks for energy markets) seeks to promote sound bioenergy development that is driven by well-informed decisions in business, governments and elsewhere. This will be achieved by providing to relevant actors timely and topical analyses, syntheses and conclusions on all fields related to biomass feedstock, including biomass markets and the socioeconomic and environmental consequences of feedstock production. The Task 43 work programme covers all aspects of feedstock, its markets and environmental as well as socio-economic impacts. It has a global scope and includes commercial, near-commercial and promising production systems in agriculture and forestry. The primary focus is on land use and bioenergy feedstock production systems, including their markets. The Task will be concerned with issues related to the linking of sustainable biomass feedstocks to energy markets, explicitly considering environmental and socioeconomic aspects. For more information see [www.ieabioenergytask43.org](http://www.ieabioenergytask43.org)