



**IDB**

**support to biofuels**



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- IDB experience in supporting biofuels

# Inter-American Development Bank - IDB

- **Oldest regional development bank (1959):** 48 member countries - 26 borrowers (with >50% votes in the Board); offices in all borrowing countries; finances both private and public sector projects, with or without sovereign guarantees. The IDB Group encompasses 3 institutions: the Inter-American Development Bank, the Inter-American Investment Corporation – IIC and the Multilateral Investment Fund - MIF.
- **Main source for LAC\* regional financing** (1961-2011)
  - ✓ Approved loans/guarantees since its creation: US\$ 212 billion
  - ✓ Overall leveraged investments (project costs): US\$ 450 billion
  - ✓ Non-reimbursable technical cooperation (grants): US\$ 5 billion
- **Loans/guarantees to Energy Sector** (1961-2011): US\$ 29 billion
  - ✓ Main item in Bank's pipeline with 14% of total Bank loans/guarantees



## Available support instruments at IDB

- **Loans and guarantees:**  
**(US\$ 12 billion / yr for all sectors)**
- **Non-reimbursable technical cooperation (TCs):**  
**(US\$ 800 million / yr for all sectors)**
  - Trust funds established by donors and managed by the Bank (HSET/DOE, JSF/JPO Japan, EC, Spain, UK, Netherlands, France, Austria, Switzerland, etc), including operations from the Multi-lateral Investment Fund (MIF), Infrafund and from the Global Environment Facility – GEF
- **More than a Bank:** seeking sustainable economical development of LAC countries



# Why should IDB support biofuels?

- **As a development institution the Bank has a mandate to support investment programs in LAC that:**
  - ✓ **Contributes in a relevant way to sustainable social and economical development of its Member Countries**
  - ✓ **Reduce poverty and create jobs**
  - ✓ **Provides longer-term environmental benefits and mitigate climate change**
  - ✓ **Promotes sustainable rural development**
  - ✓ **Improve competitiveness, foster capacity-building, technology development and innovation**
  - ✓ **Optimize use of human and natural resources of its Member Countries**
  - ✓ **Stimulate public-private partnerships, among others**



## **IDB Scorecard for Sustainable Biofuels**

- Objective: the primary objective of the Scorecard is to provide a tool to think through the complex issues associated with biofuels from the field to the tank, thereby encouraging higher levels of sustainability in such projects.
- Scope: the Scorecard addresses environmental and social sustainability issues specific to biofuels projects. However, many other factors that are not in the scope of the Scorecard should be taken into account, notably the factors that are included in the IDB's Policy Environment and Safeguards Compliance Policy, and the presence of national regulatory framework for biofuels.
- Users: the Scorecard has been designed specifically for the private sector at the project level, but could be used more broadly as a conceptual tool to outline criteria that should be assessed in biofuels development.



**General**

Yield (liters oil/ ethanol per hectare)
above 6000
above 4500
between 1500 and 4500
below 1500

Yield (GJ per hectare per year)
above 100
between 50 and 100
below 50

**Cultivation**

Former land use
No land area (algae and waste)
Degraded land
Under-utilized land or husbandry
Marginal land
Displaced cultivation or husbandry
Rainforest, primary forest
Peat land
Wetland
Ecological sensitive/protected area - Biological corridors

Crop Lifecycle
Replant greater than 3 years
Replant every year, no-till
Replant every year, low till
Replant, 1-3 years
Replant every year

Crop rotation/Crop mix
Nitrogen fixing crops used in rotation
Inter-cropping
No crop rotation

[www.iadb.org/biofuelsscorecard](http://www.iadb.org/biofuelsscorecard)

Water requirements
No irrigation required

Agrochemicals/Soil inputs
Organic prod. no agrochemicals

Harvesting
Manual harvesting w/o field burning

# Lessons learned about financing biofuels

- » In addition to financing the private sector to build the biofuels production infrastructure, it is also necessary to support the public sector (Energy and Agriculture Ministries) in order for the countries make informed decisions about the preparation and implementation of their sustainable biofuels programs.
- » The decision to be made is not in favor or against biofuels, but between sustainable and not sustainable biofuels.
- » When produced in a sustainable way, biofuels provide:
  - Economic alternative to gasoline and diesel fuel,
  - Reduction of emissions of pollutants and greenhouse gases
  - Job creation
  - Rural poverty reduction



**Inter-American Development Bank – IDB**

## Press Release

July 23, 2008

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## **IDB lends \$269 million for three Brazilian ethanol plants**

The Inter-American Development Bank will lend \$269 million for three new ethanol plants in south-central Brazil, in the **largest biofuel investment ever made by a development bank**. The Board of the Bank unanimously approved the financing today. The three plants are being developed by Companhia Nacional de Açúcar e Alcool (CNAA), a joint venture formed by Brazilian sugar producer **Santelisa** Vale, U.S. private equity firms and **Global Foods**, a holding company registered in the Netherlands Antilles.

The **three new plants** are being built in the states of **Minas Gerais and Goiás**, far from the Amazon or any protected areas. Instead of purchasing land outright, CNAA will lease it from owners of medium to small-sized plots who decide they can earn a better return from sugar cane than they can from low-intensity pasture—the area's predominant land use at present.

The new plants will use **mechanized harvesting** for more than 90 percent of their acreage, and they will provide some 4500 high-quality permanent jobs. The plants will produce up to **420 million liters of ethanol** for the domestic market each year, and will generate their own electricity by burning bagasse (**56 MW each**).





**Inter-American Development Bank – IDB**

## **News Releases**



**December 15, 2009**

# **Peru Biofuel project to receive US\$25 million from the IDB**

**Combined ethanol refinery, sugar plantation and electricity plant will generate 500 permanent jobs for local communities in the Department of Piura, Peru.**

An initiative of Maple Energy Plc, an energy company that has focused solely on [Peru](#) since 1994, listed on the London Stock Exchange's Alternative Investment Market and on the Lima Stock Exchange. The project is known as Maple Etanol, requires **a total investment of \$245.5 million** and will receive assistance from Netherlands development agency SNV, with extensive experience in developing inclusive businesses.

The project includes construction of a **130 million liters per year** sugarcane ethanol destilery. It includes 7,800 hectares of sugarcane on a 14,000-hectare property that Maple Energy purchased from the government of Piura and private individuals. The land comprises desert and/or arid areas that Maple Etanol will convert into highly productive land,

Mechanization, along with the use of efficient drip irrigation, will enable Maple Etanol to achieve yields of up to 153 tons of sugarcane per hectare. The project will also include **a 37MW cogeneration plant** selling excess electricity to Peru's interconnected power system. In addition to the \$25 million from the IDB, Maple Etanol will receive cofinancing from other multilateral agencies and a private commercial bank. The Andean Development Corporation (CAF) will finance \$65 million, the Entrepreneurial Development Bank of the Netherlands (FMO) will finance \$25 million and Interbank \$25 million. The IDB loan will **have a term of 12.5 years with a 2.5-year grace period.**

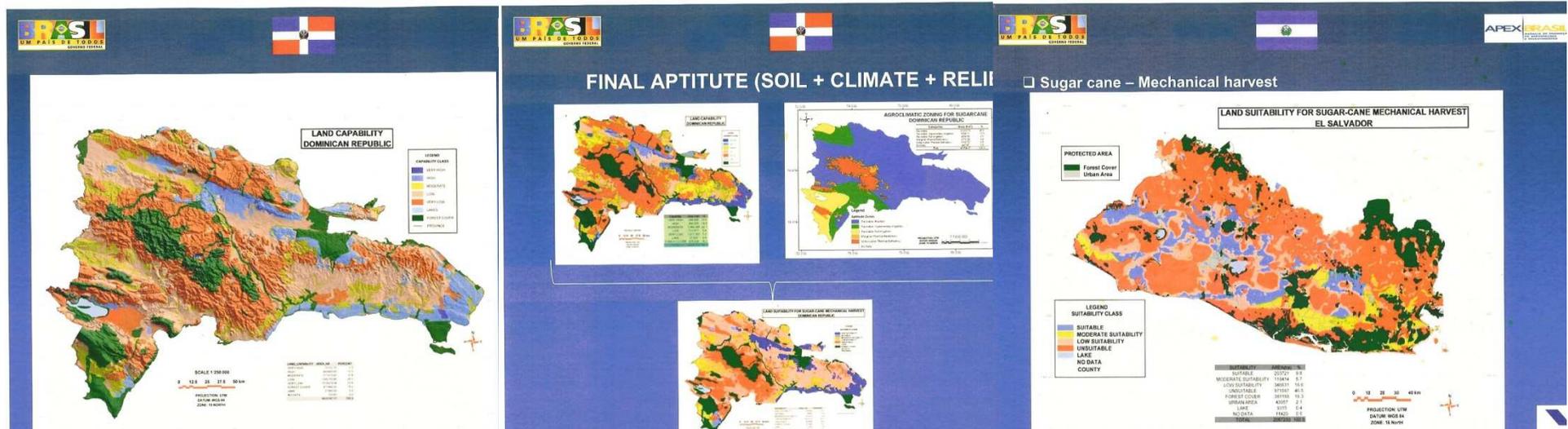


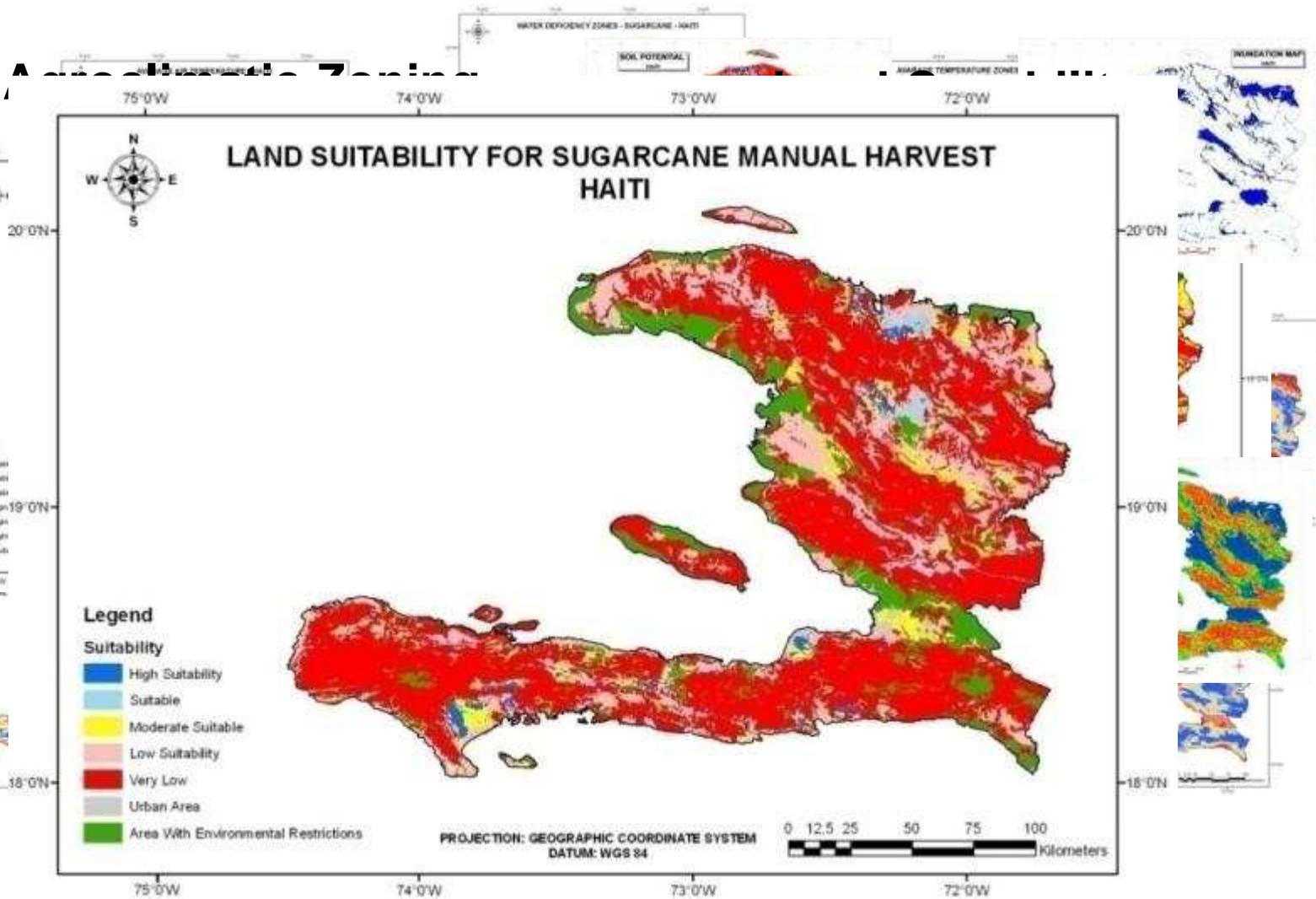
# Support to BR-US MOU on biofuels

**Technical assistance (US\$1,500,000 SECCI funds) to implement studies and evaluations to support National Biofuels Programs in:**



- **El Salvador (APEX-funded)**
- **Dominican Republic - DR (APEX-funded)**
- **Haiti, Guatemala and Honduras (IDB)**
- **DR Phase II required to evaluate specific projects (IDB-funded)**





## On-going activities in Haiti and DR

**Haiti:** Phase II approved Aug 2010 **with US\$429,000 from IDB and US\$150,000 from OAS**, covering policies/strategies and regulatory framework for bioenergy production/utilization; definition of bioenergy pilot projects; feasibility of feedstock supply and crop substitution; biomass-powered electricity generation and cogeneration; social and environmental impacts evaluation; analysis of crop invasiveness potential and other environmental risks/impacts.

**DR:** Phase II approved Sept 2011 **with US\$750,000**, covering different aspects of ethanol production of Phase II of FGV activities in support of the US-BR biofuels MOU.



## Completed activities in Guatemala, Honduras and El Salvador

**Guatemala:** Technical Assistance (US\$408,000) covering technical support, regulatory issues, capacity building and information dissemination on ethanol and biodiesel; **cofinanced (US\$50,000)** of the FGV activities in support of US-BR biofuels MOU. 100% disbursed by Dec 2011.

**Honduras:** Technical Assistance (US\$750,000 + US\$150,000) covering technical support, pilot projects, regulatory issues, capacity building and information dissemination on ethanol and biodiesel; **cofinanced (US\$60,000)** of the FGV activities in support of US-BR biofuels MOU; 100% disbursed by Dec 2012 (\$340k cancelled).

**El Salvador:** Technical Assistance (US\$750,000) covering technical support, regulatory issues, capacity building and information dissemination on ethanol and biodiesel; includes operation of the biodiesel pilot plant funded by Colombia under the Mesoamerica Project and the Mesoamerica Biofuels Network; 100% disbursed by Dec 2011.



# Case of Brazil

## (“renovAção” Program for requalification of sugarcane cutters)

A US\$500k SECCI Technical Assistance Operation for UNICA (Sugar Cane Industry Association) the major sugar and ethanol organization in Brazil with 119 sugar mills, responsible for aprox. 60% of the ethanol and sugar produced in Brazil:

- Full harvesting mechanization is expected by 2014 for all major sugar cane areas with <12% slope, and by 2017 in all other areas.
- Project target is requalify 7,000 workers/year: 3,000 through professional training for the sector and 4,000 for other sectors.

## Case of Chile

A US\$ 1 million SECCI Technical Assistance for a **2nd generation biofuel** feasibility study, employing wood residues:

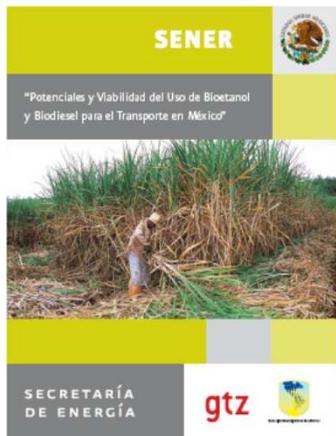
- Executed by ForEnergy S.A., a public-private partnership of ENAP Refinerías S.A. and Consorcio Maderero S.A. that with support from a local R&D institution put together the Biocomsa Consortium.
- The SECCI grant together with funds from the Government of Chile will help ForEnergy build a pilot plant to produce hydrogen and steam from wood and other biomass sources through a gasification process.
- In a second phase, hydrogen will be converted to biofuels through a Fischer-Tropsch process and ForEnergy will analyze investments and O&M costs to determine the scale-up of the pilot plant.



# Case of Mexico

**A technical assistance project\* to SENER funded by HSET/USDOE and GTZ to evaluate the feasibility of the production, distribution and utilization of ethanol and biodiesel as fuel for transportation:**

- **Technical, economical, social and environmental issues were reviewed to calculate the impacts from the introduction of biofuels under alternative scenarios for market penetration & oil prices**
- **Several technologies were evaluated for the production from different raw material and the utilization of biofuels – fixed and variable blends, hydrated ethanol, flex fuel vehicles, ETBE; increased cogeneration**

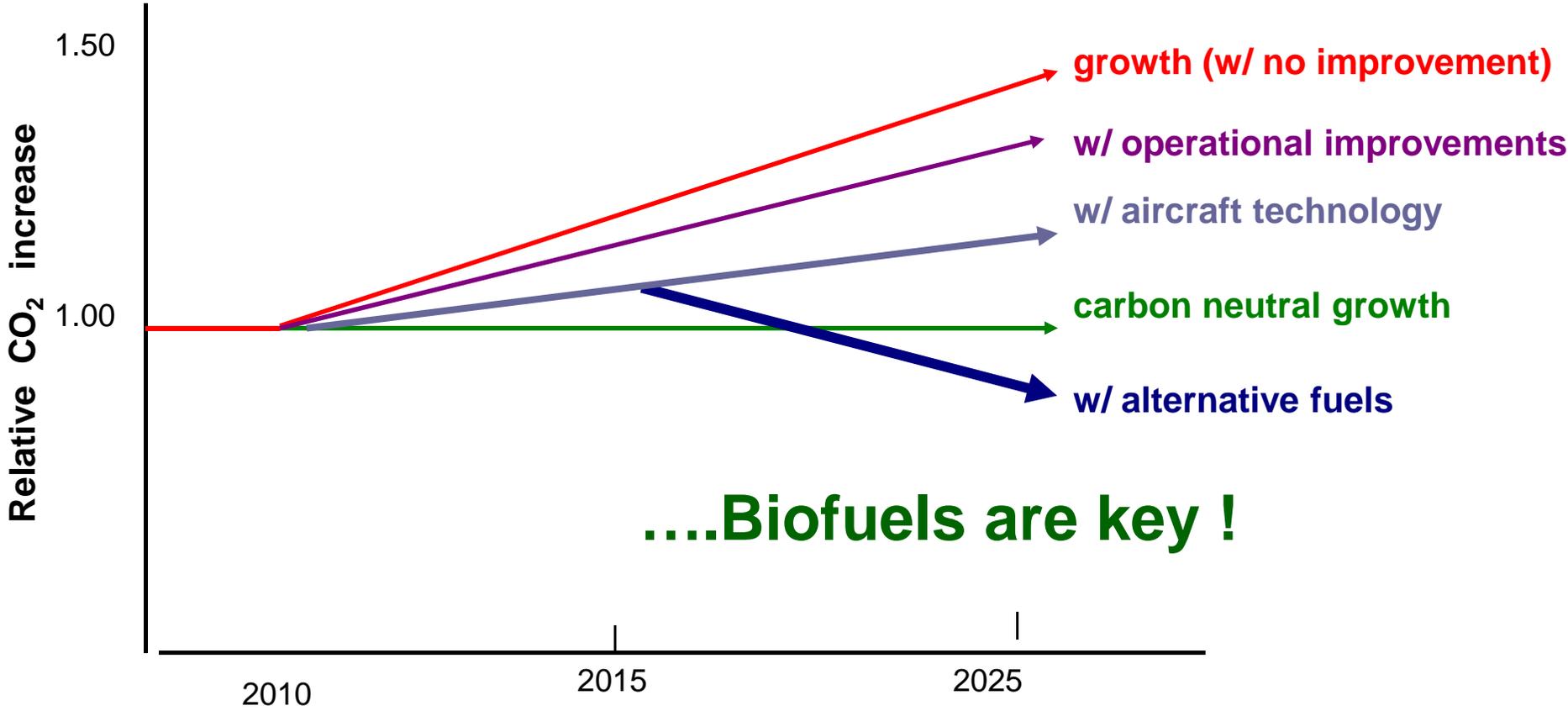


- **Some of the results: US\$160 million would be required for replacing MTBE/TAME in major cities, without the need of expansion of sugarcane plantation; replacing 10% of gasoline nationwide requires add'l 800,000 ha (twice the current sugarcane area), US\$2 billion in 45 new distilleries and 400,000 new jobs; sugarcane most competitive solution**

[http://www.energia.gob.mx/webSener/res/169/Biocombustibles\\_en\\_Mexico\\_Estudio\\_Completo.pdf](http://www.energia.gob.mx/webSener/res/169/Biocombustibles_en_Mexico_Estudio_Completo.pdf)



# Aviation committed to carbon-neutral growth



....Biofuels are key !

ASTM D7566 approved in Sept 2009



# IDB Initiative for Sustainable Aviation Biofuels

- Aviation biofuels will be an important driver of sustainable socioeconomic development in LAC
- Life cycle assessment of the production of biofuel from sugar cane, co-financed with Boeing and Embraer: results presented at Rio +20 (> 82% carbon reduction)



# Sustainable Aviation Biofuels

## Espaço das Ideias Circulantes, Humanidade 2012

### Life Cycle Carbon Emission and Sustainability Analysis

**Andre Nassar**  
ICONE

Rio de Janeiro  
18 June 2012

[www.iconebrasil.org.br](http://www.iconebrasil.org.br)



**Benchmark of cane-derived renewable jet fuel against major sustainability standards**

Report

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Sponsors:

July 20th, 2012



# IDB Initiative for Sustainable Aviation Biofuels

- Support demonstration flights with GOL and Azul during for Rio +20 using different feed stocks.



RIO+20  
Conferência das Nações Unidas  
sobre Desenvolvimento Sustentável



# IDB Initiative for Sustainable Aviation Biofuels

- Feasibility study of the first pilot plant for production of biojet for ASA of Mexico



Aeropuertos y  
Servicios  
Auxiliares



Uop

A Honeywell Company



# IDB Initiative for Sustainable Aviation Biofuels

- Study on Camelina in Argentina: feasibility of cultivation in marginal areas in south of the country, includes analysis of economic, social and environmental issues.
- Brazil Action Plan for 2014 FIFA World Cup and Rio 2016 Olympics: to reduce/offset carbon footprint of international and domestic flights through use of biojet and operational improvements.



 **CBPPM**  
**II Congresso Brasileiro de Pesquisa em Pinhão-mansô**  
"Pinhão-mansô: focando em soluções sustentáveis para produção de biocombustíveis"  
29 a 30 de novembro de 2011- Centro de Eventos e Treinamentos da CNTC, Brasília-DF

Patrocinador Prata  Oficial  Apoio

Promoção e realização



**CAAFI General Meeting 2011**

November 30 – December 1, 2011  
Georgetown University Hotel and Conference Center, Washington, DC  
[www.caafimeeting.com](http://www.caafimeeting.com)



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**THANK YOU**

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