



**ICAO AVIATION AND SUSTAINABLE  
ALTERNATIVE FUELS  
WORKSHOP**

*ICAO Headquarters, Montréal, Canada*

**18 to 20 October 2011**



# **Flight Plan Towards Sustainable Aviation Biofuels in Mexico**



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## Overview



1. Flight Plan
2. Recent actions
3. Next steps



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## Introduction



It all started with participation in the GIACC deliberative process in 2008-2010.

Mexico has made great efforts to promote the development of a sustainable aviation bio-fuels industry and has finalized a comprehensive exercise called the “**Flight Plan Towards Sustainable Aviation Biofuels in Mexico**”.



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# Flight Plan Towards Sustainable Aviation Bio-fuels in Mexico



- The purpose of the Flight Plan was to identify and analyze the existing and missing elements in the supply chain of aviation bio-fuels
- Involved all interested stakeholders
- Looked to:
  - Focus efforts of civil, governmental, private and research organizations, intent on the production of aviation bio-fuels
  - Analyze the legal framework, raw materials availability, refining facilities, supply processes and economic viability
  - Integrate the talents and knowledge of participating sectors



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# Organizers and Sponsors



- National Council for Science and Technology (CONACyT)
- Center for Strategic Competitive Studies (CEEC)
- Roundtable on Sustainable Biofuels (RSB)
- The Boeing Company
- Aeropuertos y Servicios Auxiliares (ASA)



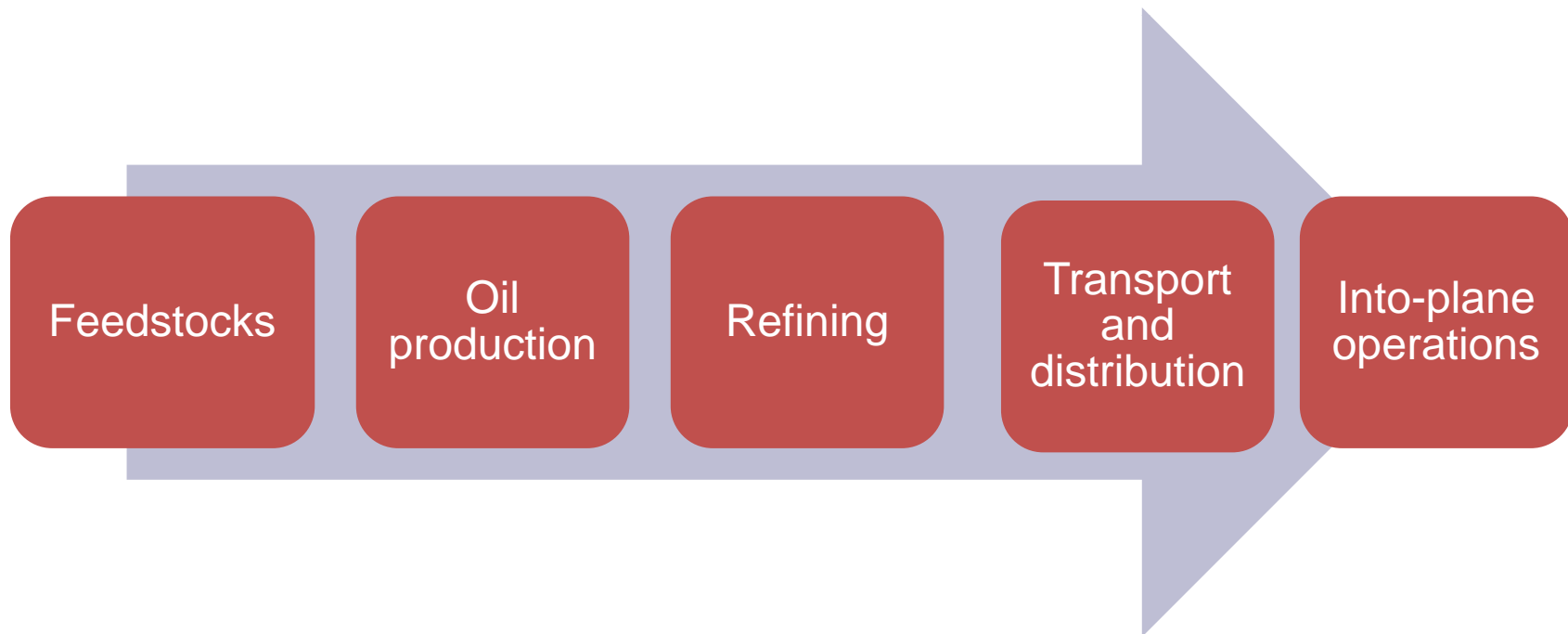
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# Focus on the supply chain



- Identify the key elements of the supply chain:

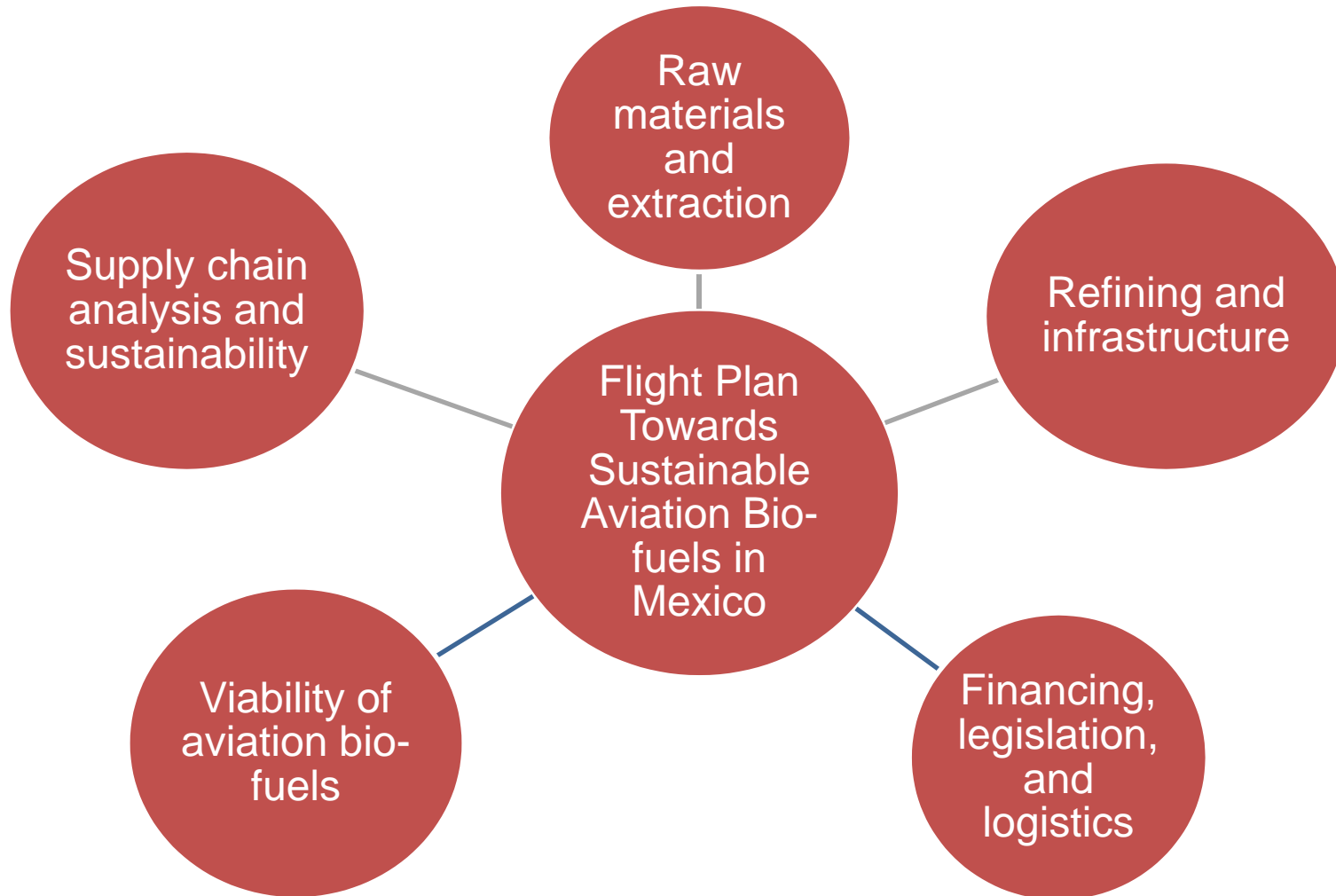




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# Flight Plan Structure





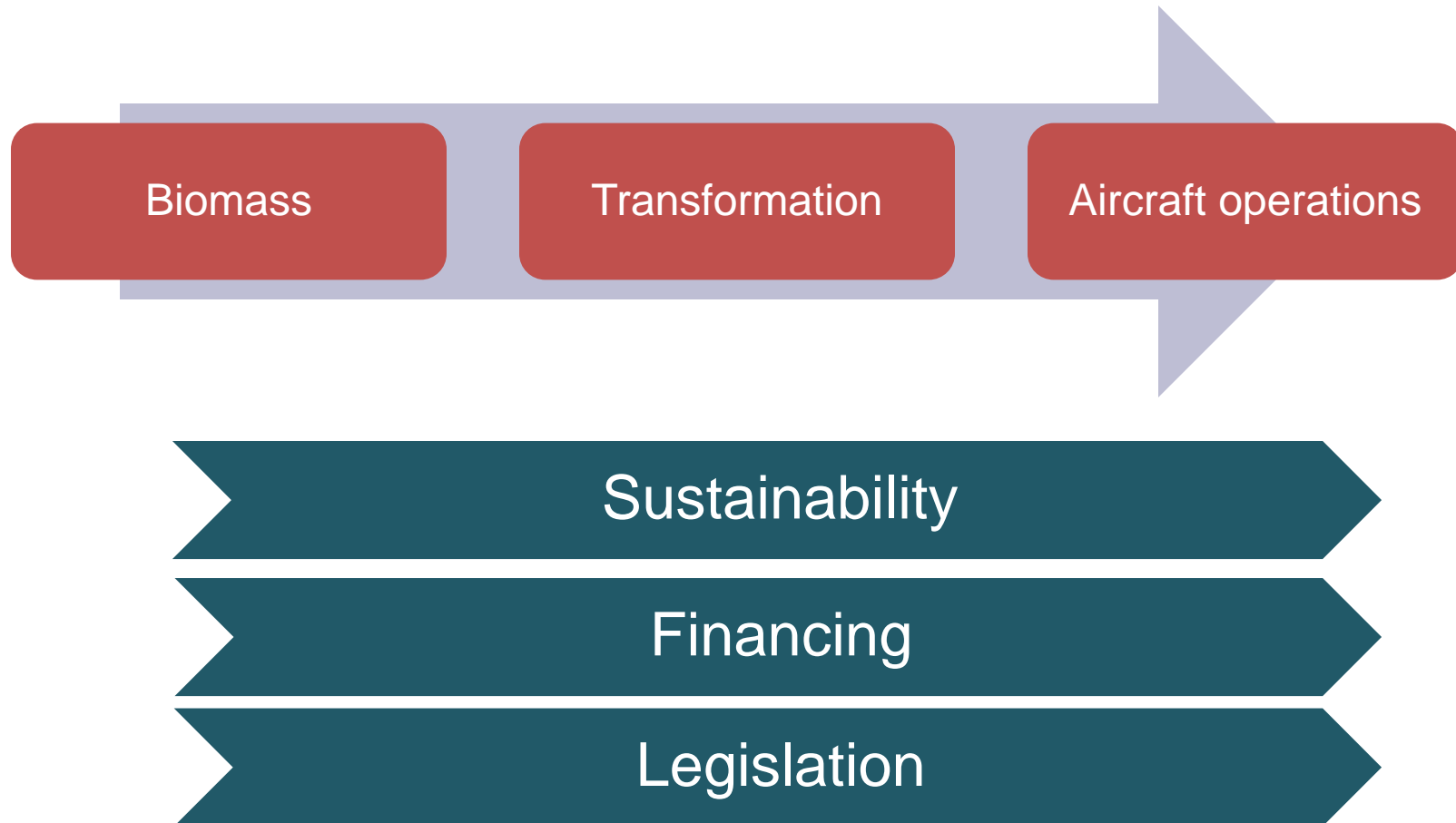
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# Supply Chain



- A more general view...







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# Flight Plan





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# Recent Actions



## Bio-fuel Flights:

- On April 1<sup>st</sup> 2011, the first demonstration flight was made with a 27% Mexican *Jatropha curcas* based bio-SPK and 73% Jet A-1 blend.
- July 21<sup>st</sup> 2011, first commercial flights in America with a 27% Jatropha Bio-SPK and 73% Jet A-1 blend
- August 1<sup>st</sup> 2011, first commercial transatlantic flight worldwide, with a 25 % Jatropha Bio-SPK and 75% Jet A-1 blend
- October 3<sup>rd</sup> 2011, supplier of a 25 % Camelina Bio-SPK and 75% Jet A-1 blend for Iberia's Green Flight



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## Aeromexico's Green Flights Program



- 52 Flights, one per week
- México City to San Jose de Costa Rica
- 1,260 liters of blend provided for each flight
- Blend made out of 25% Camelina Bio-SPK and 75 % Jet A-1
- Started on September 27<sup>th</sup> 2011





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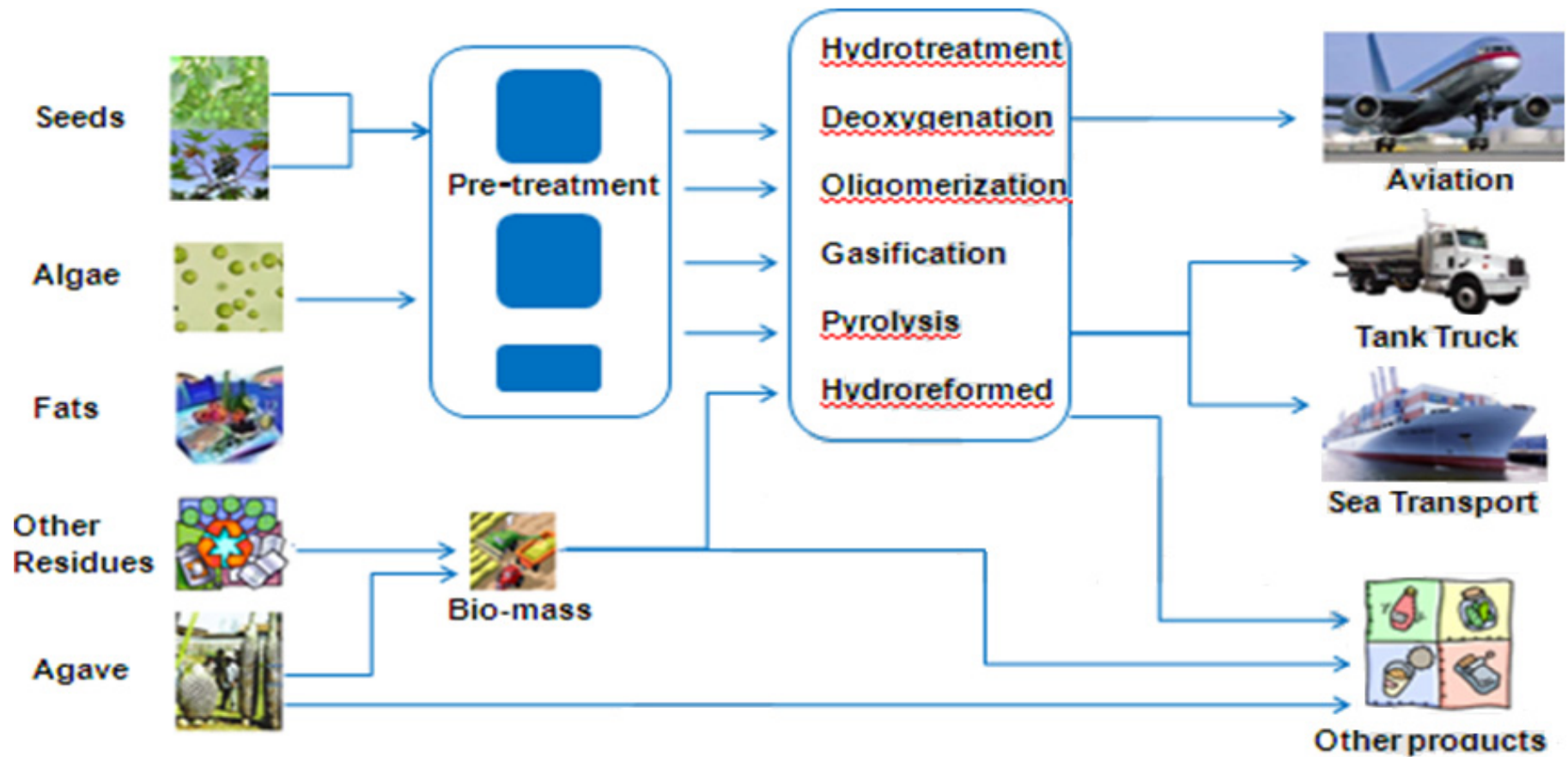
# Flights



# Next steps → Many routes



Raw material → Oil Extraction → Refining → Transport and logistic → Distribution





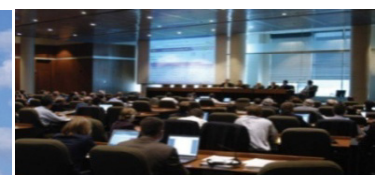
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# Conclusions



- The path forward is full of challenges
- The availability of suitable sustainable feedstocks is the most important bottle neck in the supply chain
- To succeed, it is mandatory to achieve a competitive price compared to fossil fuels







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# Conclusions



- The legal framework in Mexico poses significant challenges
- **Sustainability** is a KEY element for the viability of alternative aviation fuels
- Mexico has favorable climate and geographical conditions for the development of this industry





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# Thank you!

