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ICAO SEMINAR ON
ALTERNATIVE FUELS 2017
ICAO Headquarters, Montréal, 8-9 February 2017



Indonesia Visions on Policy Challenges for Aviation Sustainable Alternative Fuels

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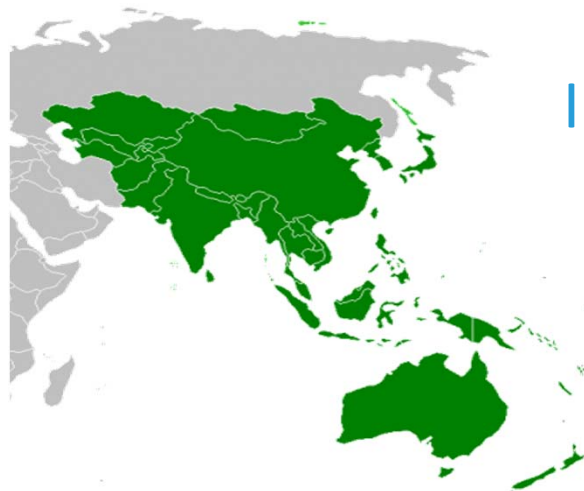


Background



ICAO 39TH ASSEMBLY:

APPROVAL OF THE CARBON
OFFSETTING AND REDUCTION
SCHEME FOR INTERNATIONAL
AVIATION (CORSA)



Indonesia supported
the CORSIA

REGIONAL
COOPERATION

Indonesia has volunteer to
participate in the first
implementation phase (2021)
and to facilitate regional
cooperation as pilot country

CORSIA SARPs
2019

CORSIA Pilot
2021



Background

ICAO Resolution A39-3 ***affirms the preference for the use of aircraft technologies, operational improvements and sustainable alternative fuels*** over Market-Based Measures.

Indonesia considers ICAO climate goals can only be achieved through large-scale deployment of sustainable jet fuels.





Background

Scientific analysis developed by the MIT at CAEP 10 Fuel Production Assessment work showed that to achieve a substantial aviation biofuel market penetration by 2050, an annual capital investment similar to road transportation biofuels would be needed.

Road transport biofuels are developed under strong policy schemes.

More than 70 new refineries would need to be built every year from now to 2050 to achieve about 20% emissions reductions.

Source:



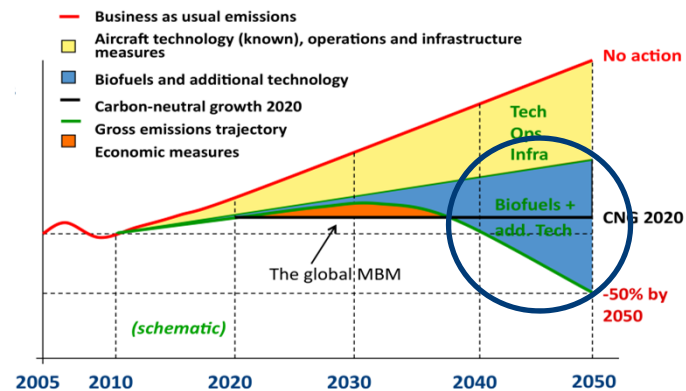
Laboratory for Aviation
and the Environment
Massachusetts Institute of Technology





Policy Challenges

As current global biofuels growth is fully driven by policies focused in road transport, **without similar strong policy drivers for aviation, the ICAO goals would be unachievable.**

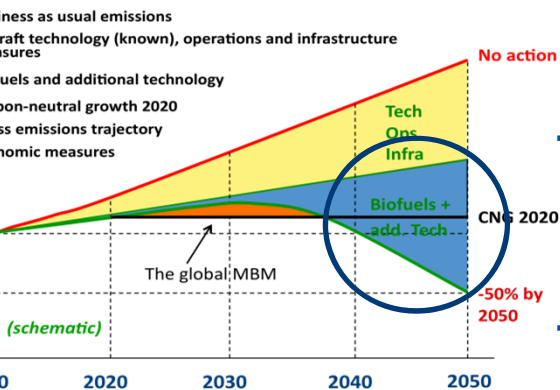


Indonesia considers although ICAO has made important steps to promote SAF, **the current policies are not sufficient to drive its large-scale use** and recommends that **ICAO undertakes a much stronger effort to promote policy action** as done with the market-based mechanism CORSIA.



Policy Challenges

Although significant progress has been achieved in proving the technological feasibility of SAF, the commercial scale-up and availability of supply is still at its very early stages with a very little real contribution towards ICAO's Carbon Neutral Growth aspirational goals.



HOW

- Stronger recommendations to Member States and clearer global goals on its use from ICAO are necessary to promote the use of SAF

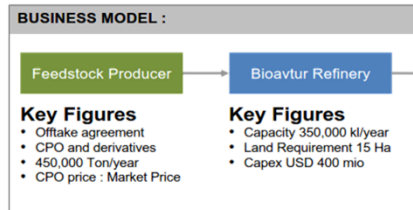
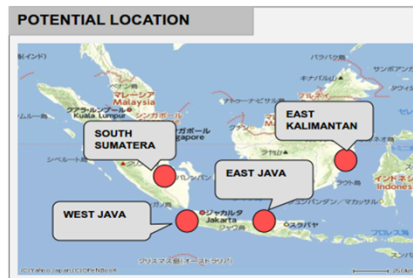


Indonesia Actions

Indonesia included the use of renewable energy on its State Action Plan for reducing emission from International Aviation and issued a National Bio-fuel implementation Road-map.

State Owned Oil Company (Pertamina) was assigned a for investing in Production.

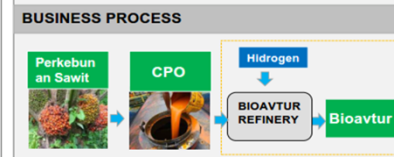
Bioavtur Project



PROJECT PROFILE : Bioethanol Project

• Feedstock	: CPO & PFAD
• Technology	: Hydrogenation + Isomerization
• Total Capex	: USD 400 mio
• Buss Scheme	: Joint-Venture Refinery
• IRR (Oil price 100)	: 14.1%
• Un-disc PBP (100)	: 10.6years
• IRR (premium)	: >10%
• Onstream target	: 2018/2019

CURRENT STATUS : DFS Completed





Indonesia Vision

Lack of **stronger recommendations/goals from ICAO** can make national policies on aviation sustainable fuels difficult to be implemented:

- ✓ Questioned by International Airline Operators
- ✓ No harmonized or compatible policies among countries in the region
- ✓ Difficulties for producers to invest in Bio-jet Production

Sustainability is A PRIORITY for Indonesia, but too stringent Criteria for Sustainability and uncertainty in calculating Life-Cycle emissions values would discourage Bio-jet Production



Indonesia Vision

CORSIA GMBM has a "potential competition" with the deployment of Bio-jet.

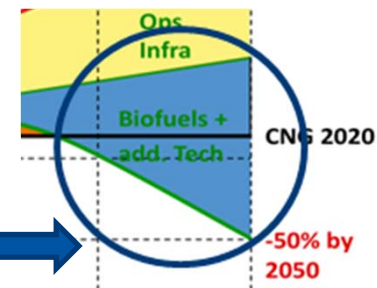
- ✓ If the market price of Eligible Unit (EU) is very low, airlines will only choose carbon offsetting rather than using bio-jet.
- ✓ If airlines are free to opt between using SAF and Offsetting via CORSIA, airlines will tend to choose the easier and less costly.
- ✓ To keep promoting deployment of bio-jet, there should be a limit; how percentage of the emission can be offsetting under CORSIA



Indonesia Vision

CORSIA has been a successful global policy driven by ICAO

Next step can be apply a similar global effort to promote the use of green energy in aviation, establishing aspirational goals of supply for Member States to cover the necessary gap.



The next **ICAO International Conference in Mexico** offers a unique opportunity for ICAO and its States to address the policy challenge.

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THANK YOU