



**ICAO AVIATION AND SUSTAINABLE
ALTERNATIVE FUELS
WORKSHOP**

ICAO Headquarters, Montréal, Canada

18 to 20 October 2011

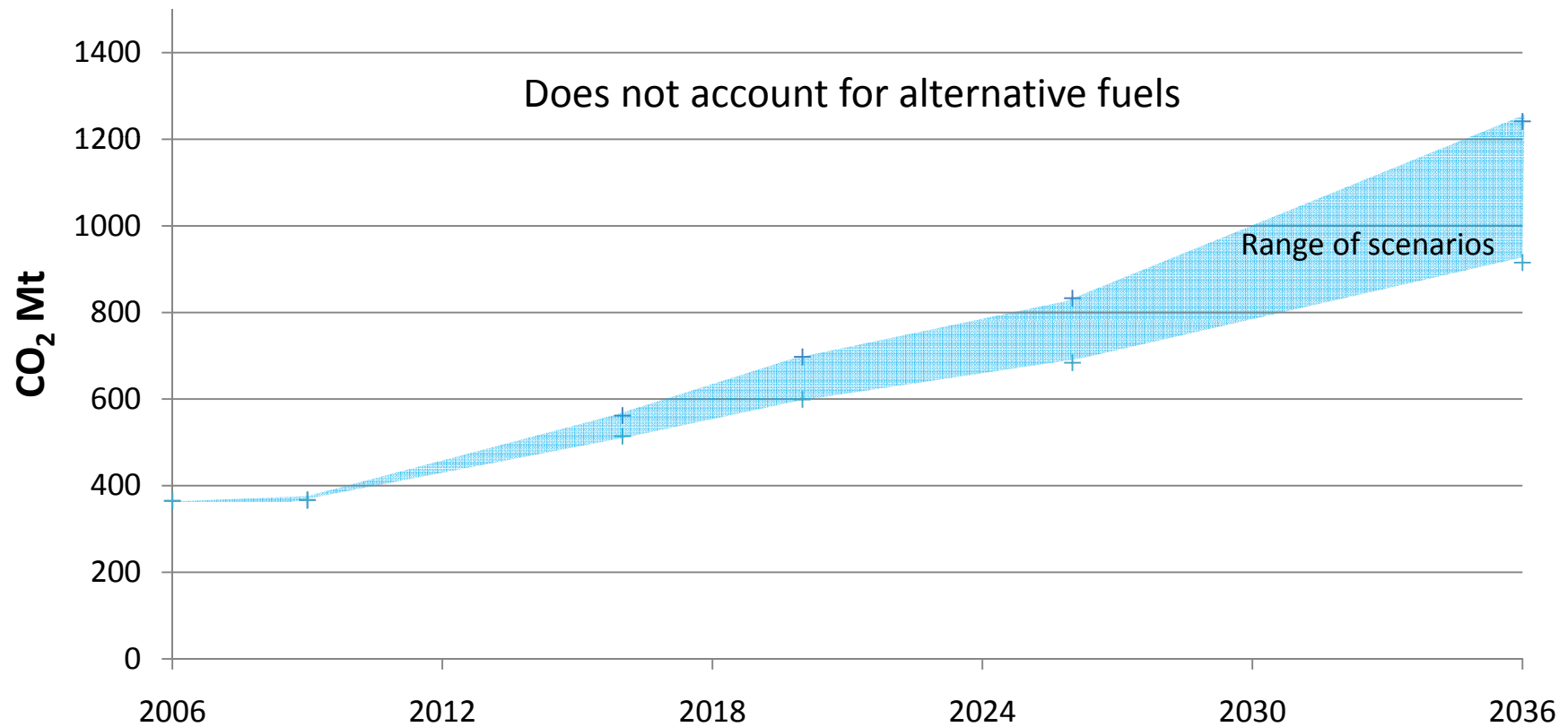
Sustainable Alternative Fuels in the Basket of Measures

Ted Thrasher

ICAO Environment Branch



International Aviation Net CO₂ Emissions





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Key Elements of Assembly Resolution A37-19



Resolution A37-19 adopted by 37th ICAO Assembly in October 2010 builds on ICAO's past achievements, and goes one step further

1. Global aspirational goals for international aviation
 - **2% annual fuel efficiency improvement**
 - **stabilizing its global CO₂ emissions at 2020 levels**
 - further work on feasibility of a long-term global aspirational goal
2. Development of a **global CO₂ certification Standard**
3. Facilitation of developing and deploying sustainable alternative fuels for aviation (this workshop)



Key Elements of Assembly Resolution A37-19



4. Framework for market-based measures including further
 - elaboration of the guiding principles adopted by Assembly
 - exploration of a global scheme

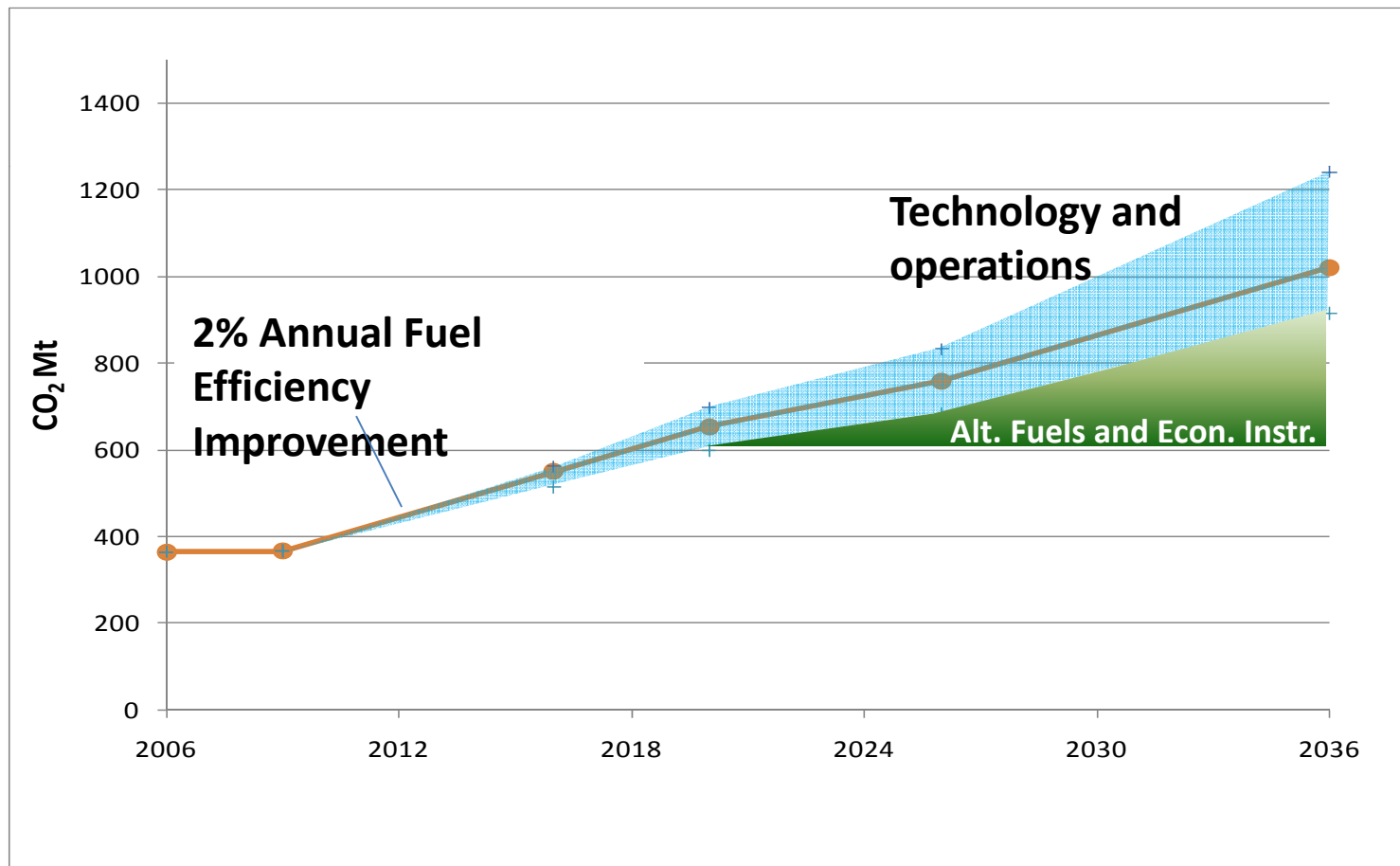
5. *De minimis* provisions
 - States with small contributions to global air traffic are not burdened disproportionately

6. **States' action plans**
 - CO₂ emissions reduction activities
 - assistance needs

7. Concrete steps to assist States to contribute to global efforts



International Aviation Net CO₂ Emissions





About Action Plans



- Submitted by States by June 2012
- Allows ICAO to compile information on achievement of global aspirational goals
- States can showcase:
 - Basket of measures to reduce emissions
 - Information on any specific assistance needs
- Guidance / Training already delivered by ICAO

... Dynamic shift of ICAO from “Standard policy setting” to “implementation mode”



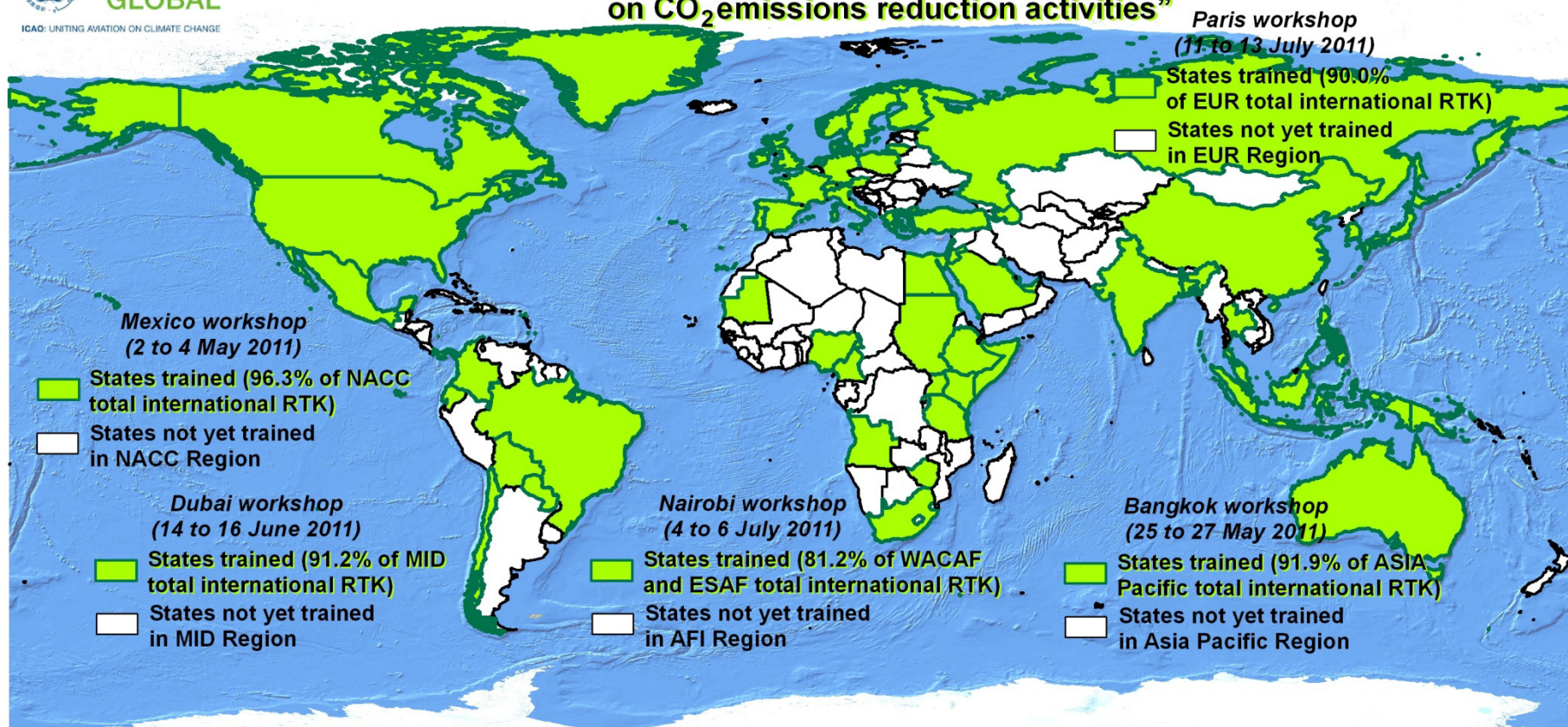
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Regional Hands-on Training Workshops



“ICAO hands-on training workshops for States` Action Plans on CO₂ emissions reduction activities”





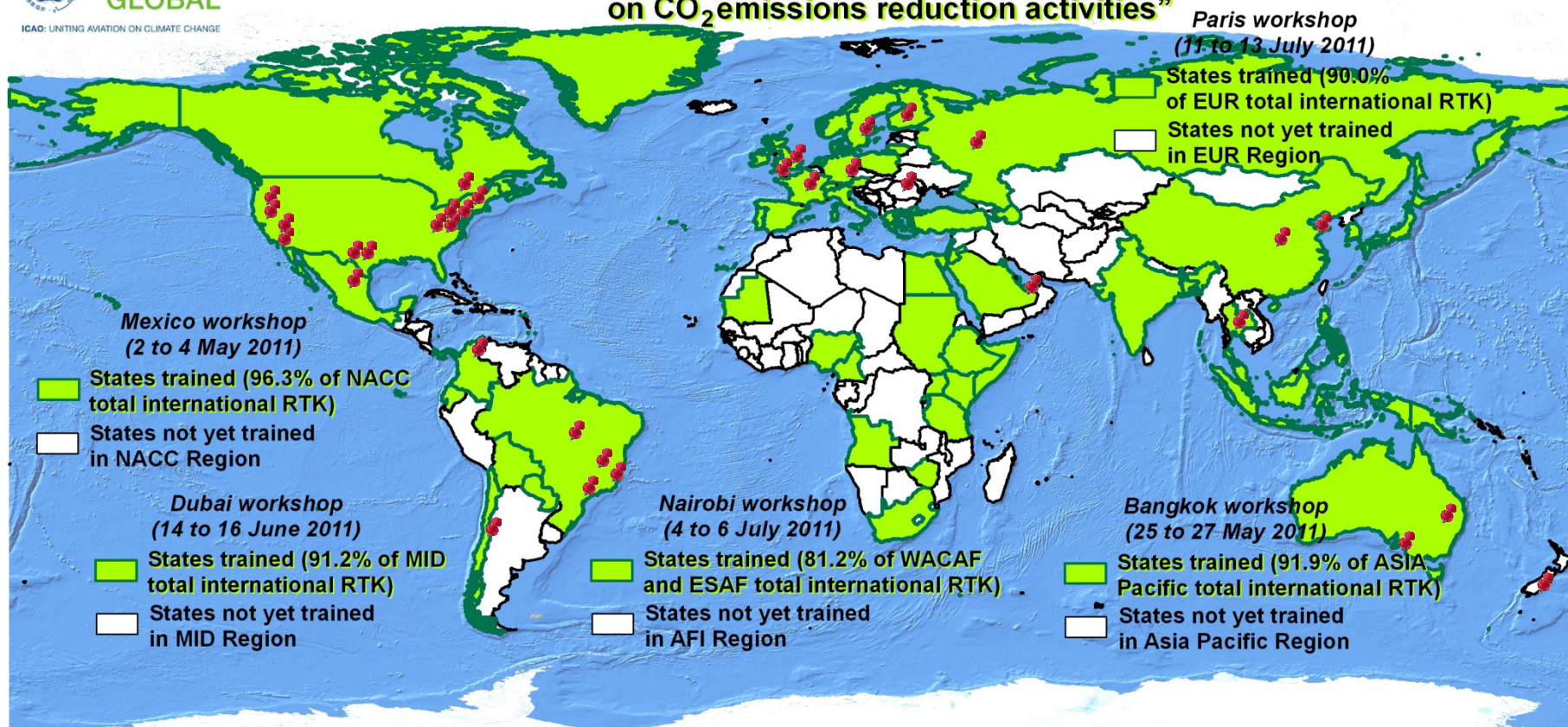
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Notional Implementation Map

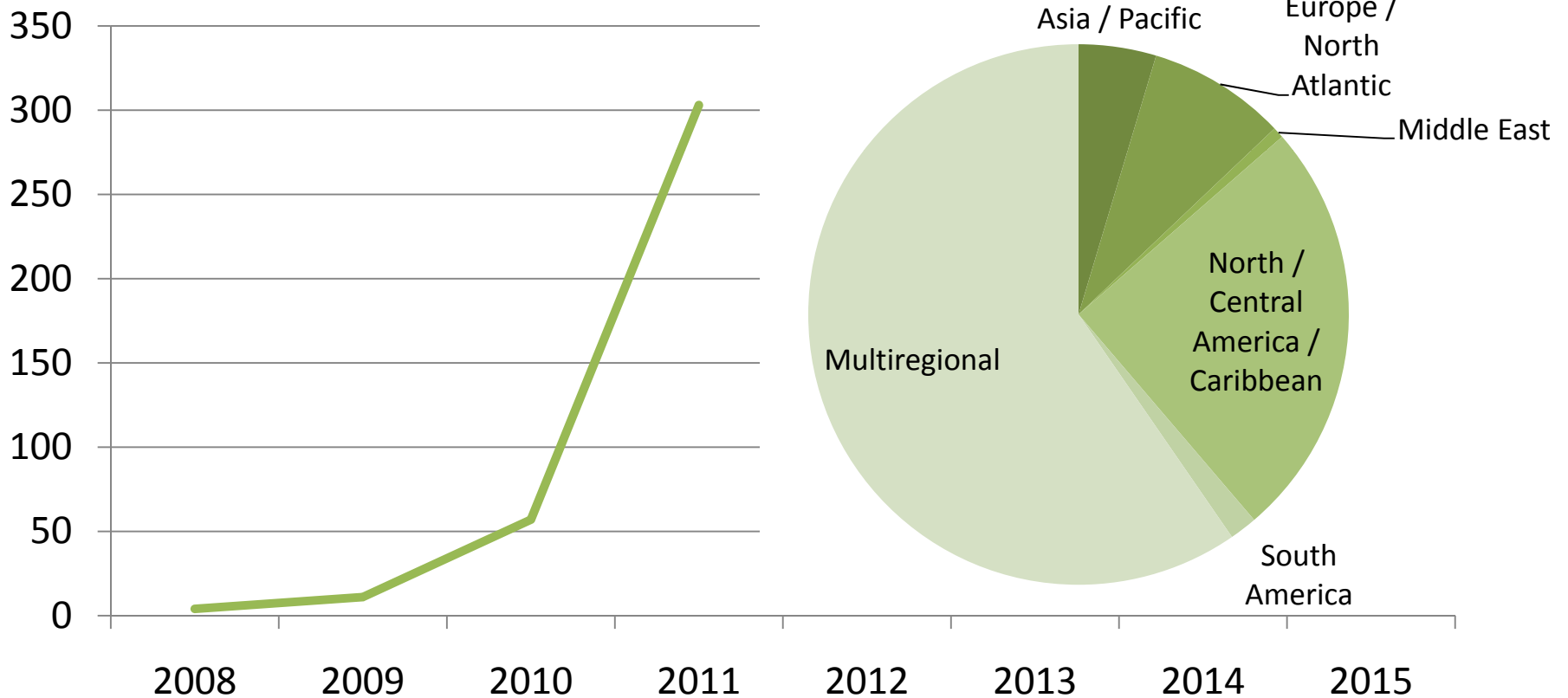


“ICAO hands-on training workshops for States` Action Plans on CO₂ emissions reduction activities”





Number of Alternative Fuels Activities Worldwide



Source: ICAO GFAAF (www.icao.int/altfuels)



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Example: Algae Co-location



- Algae farm co-located with petroleum refinery
- Benefits:
 - Algae growth enabled by CO₂ emissions from refinery
 - Minimum transportation requirements





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Example: Airport Waste to Fuel



- Waste cooking oil to fuel
- Benefits:
 - Leverages oil that would otherwise be disposed of
 - Smaller-scale project, lower cost





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Example: Purchased Bio-Jet



- Sustainably-produced bio-jet fuel is purchased
- Benefits:
 - Simple implementation
 - Contract for fuel similar to conventional fuel purchase





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Importance of SUSTAF 2011



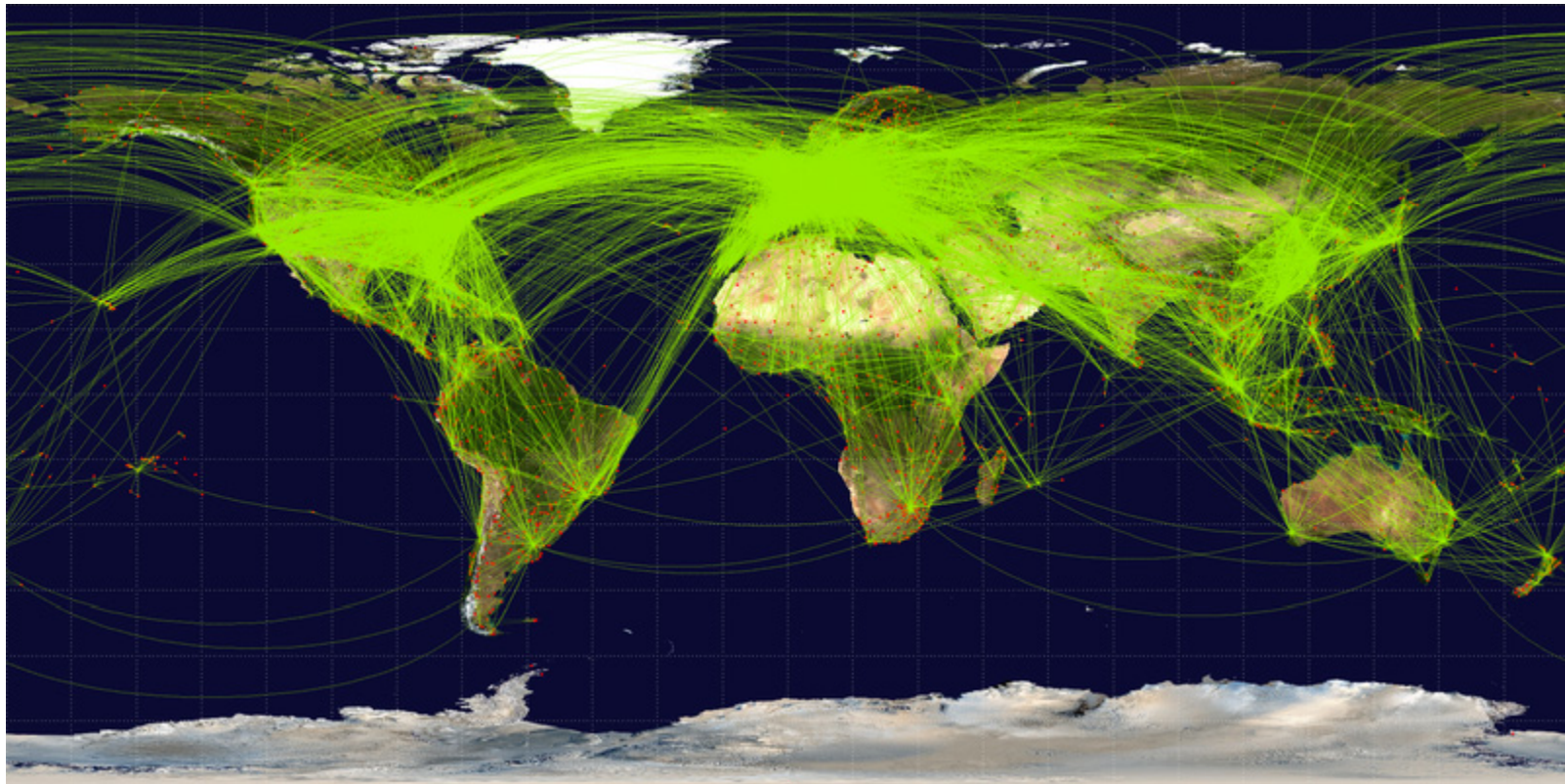
- ICAO needs information on sustainable alternative fuel projects to support action plan development
- Action Plans being developed by States **now**
- All key stakeholders are here to establish connections and share information... so that soon we can start reporting how many flights **are not** flying on alternative fuel



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Our Vision



source: www.norcalblogs.com



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THANK YOU



For more information on our
activities, please visit ICAO's website

<http://www.icao.int/env>

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AVIATION and
CLIMATE CHANGE

