Sustainable Aviation Biofuels – China Implications

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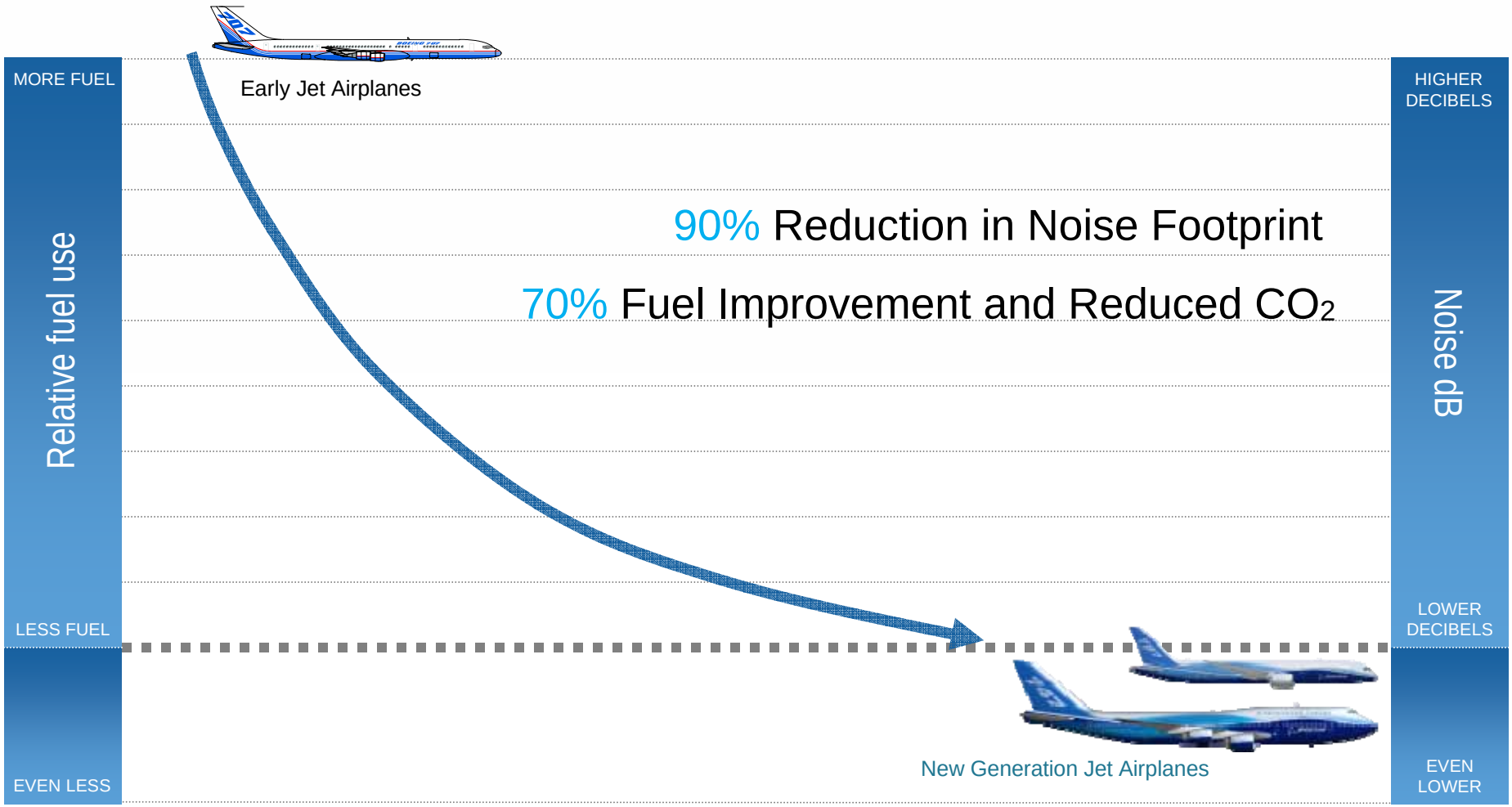
Global Strategy Summit

Session Five – Environmental Challenges for the Civil Aviation Industry

September 15, 2009

Building on a strong track record



Noise footprint based on 85 dBa.

Boeing is committed to the environment

"Protecting our planet's environment and finding new ways to harness diverse energy resources continues to be a priority for Boeing. And we are demonstrating our commitment through action."

Jim McNerney
Chairman, President & CEO
The Boeing Company

Our plan and commitments

Relentlessly pursue manufacturing and life cycle improvements

100%

100% of Boeing major manufacturing sites will maintain ISO 14001 certification.

Improve performance of worldwide fleet operations

25%

Focus on 25% efficiency improvements in worldwide fleet fuel use and CO_2 emissions by 2020.

Deliver progressive new products and services

15%

Improve CO_2 emissions and fuel efficiency by at least 15%

Pioneer new technology

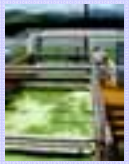
75%

Devote more than 75% of R&D toward benefiting environmental performance

Sustainable Aviation Biofuels – China Implications

Enabling the industry to achieve market viability of sustainable biofuels for commercial aviation – by 2015

Fuels Approval



Feedstock Viability

Commercial Production

Airport Infrastructure

Aviation-Prioritized Sustainable Biofuels

- Following four successful biofuel flight tests, the evaluation report on Bio-SPK released by Boeing in June 2009 provides the foundation of biofuel certification.
- Chinese jetfuel certification community led by Sinopec actively participating in ASTM certification efforts.

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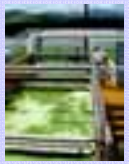

Feedstock Viability

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Aviation-Prioritized Sustainable Biofuels

- Large amount of marginal land in China (SFA: 75 million mu of marginal land planted by 2020).
- On-going R&D on long-term feedstock options (algae, etc.).
- Potential risk: financial incentive and pricing support may be needed.

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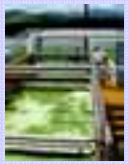

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Aviation-Prioritized Sustainable Biofuels

- Mature processing technology available, but not yet in commercial use.
- With current refining technologies, minimum economic scale is around 200,000 tonne/year.
- Challenge - Business case of bio-jet vs bio-diesel for value chain.

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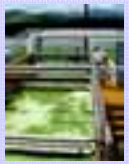

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Aviation-Prioritized Sustainable Biofuels

- Current biofuel is a “drop-in” replacement in existing distribution infrastructure and aircraft equipment.
- In China, majority of fuel distribution infrastructure is owned and operated by CNAF, a state-owned company, resulting in ease of distribution.

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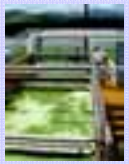

Feedstock Viability

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Aviation-Prioritized Sustainable Biofuels

- Unlike ground transportation, aircraft must rely upon liquid fuel in foreseeable future.
- Aviation is a highly visible industry – exemplary achievement recognized and rewarded.
- Governmental and financial support essential to launch.


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