

System-level Environmental Performance: Sustainability Wedges for Aviation

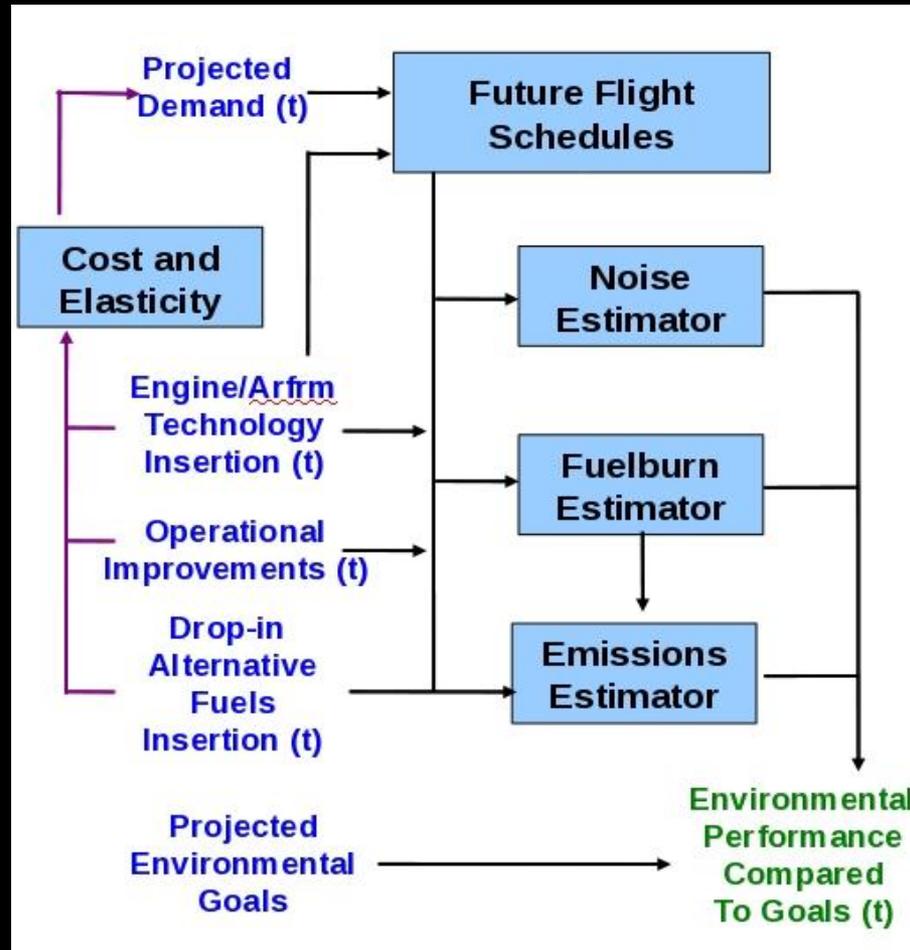
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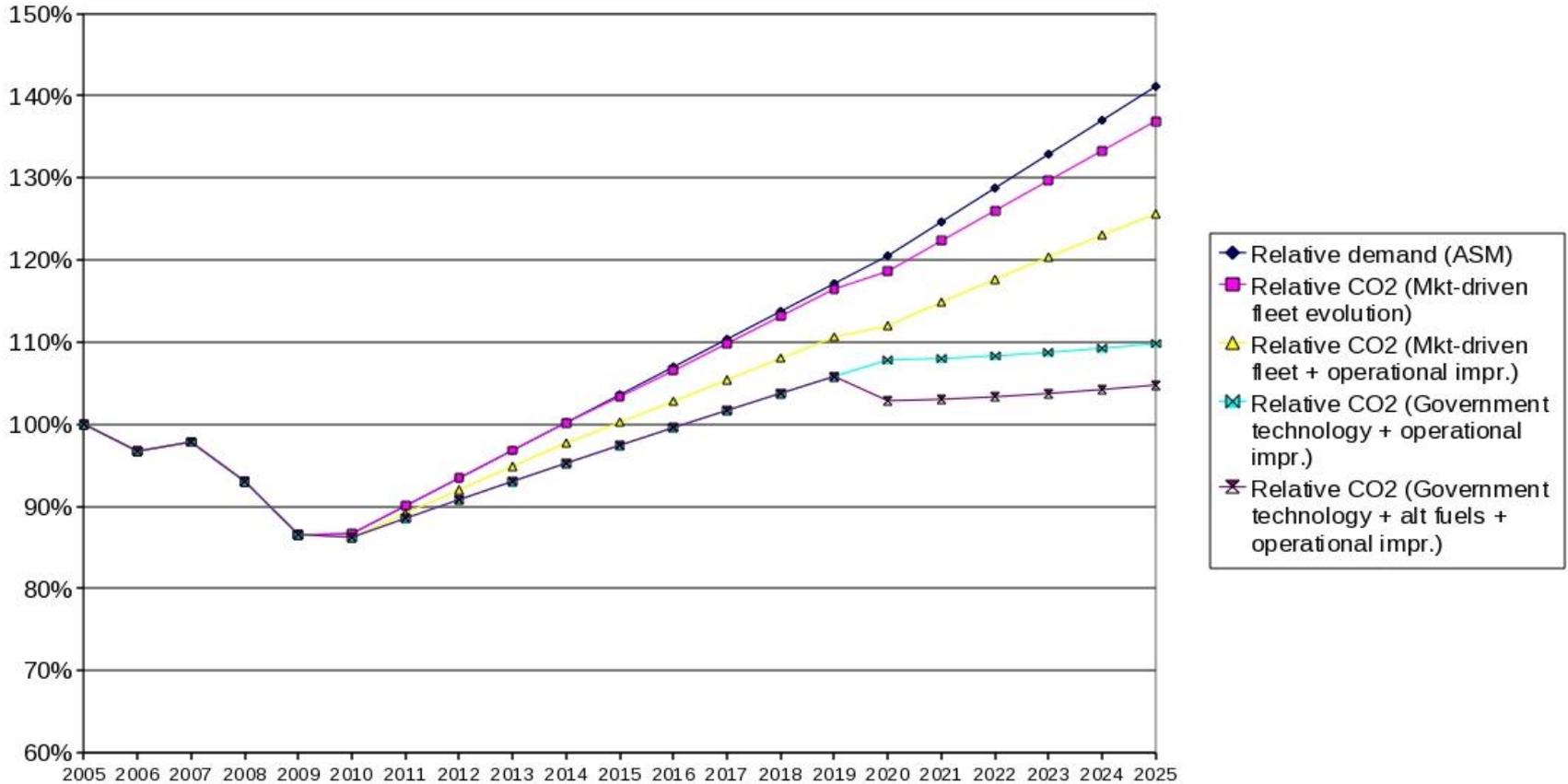
KEY FACTORS DETERMINING SUSTAINABILITY

- **Trip demand as function of demographics, prices, etc.**
- **Insertion of aircraft/engine technology into the fleet (and schedule)**
- **Insertion of operational improvements into NAS-wide practice**
- **Use of alternative fuels, and insertion into total fuel used**
- **Environmental impacts as influenced by metrics used, population projection, etc.**
- **Level of environmental goals relative to baseline**
- **Policies that influence the above.**

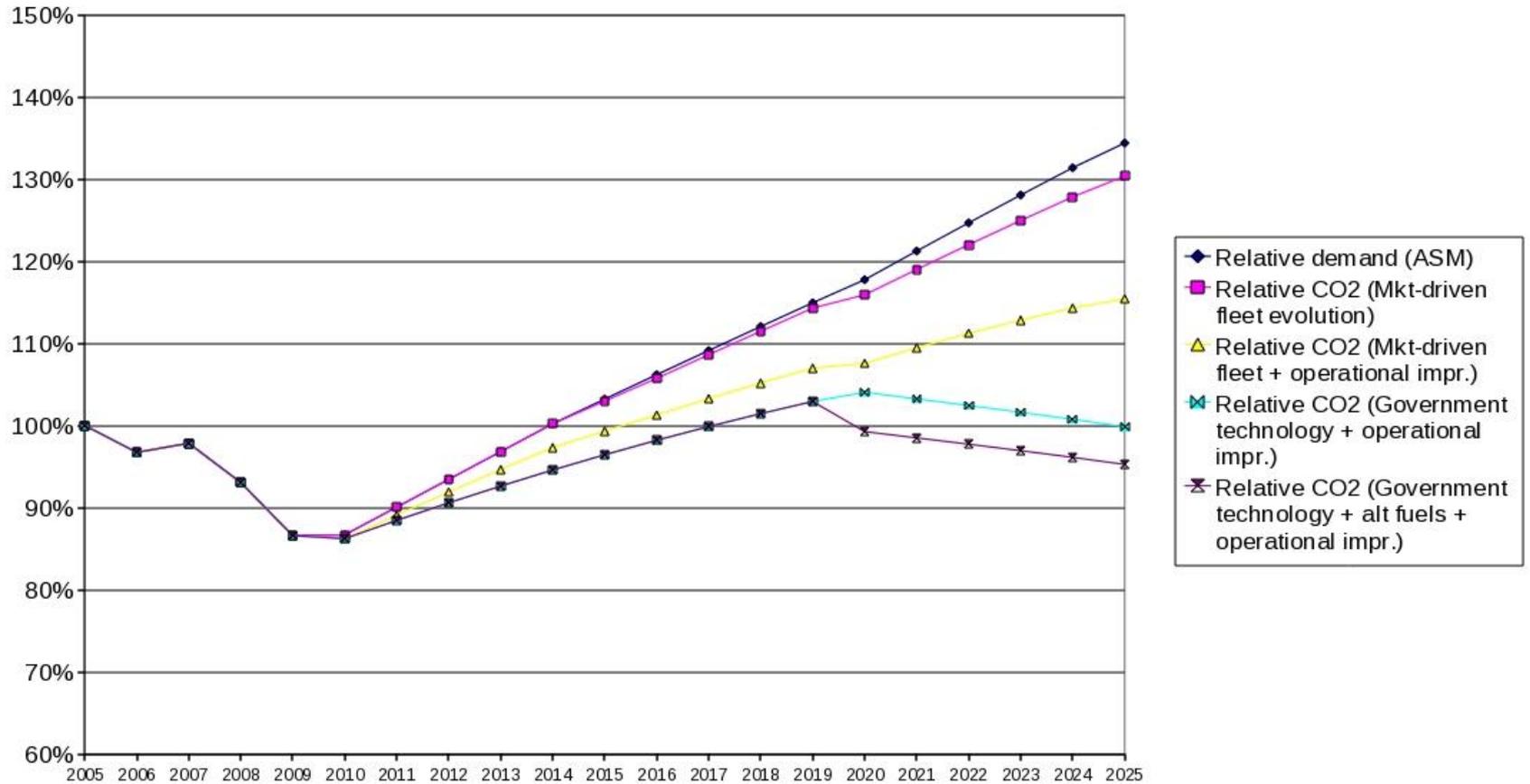
METHODS



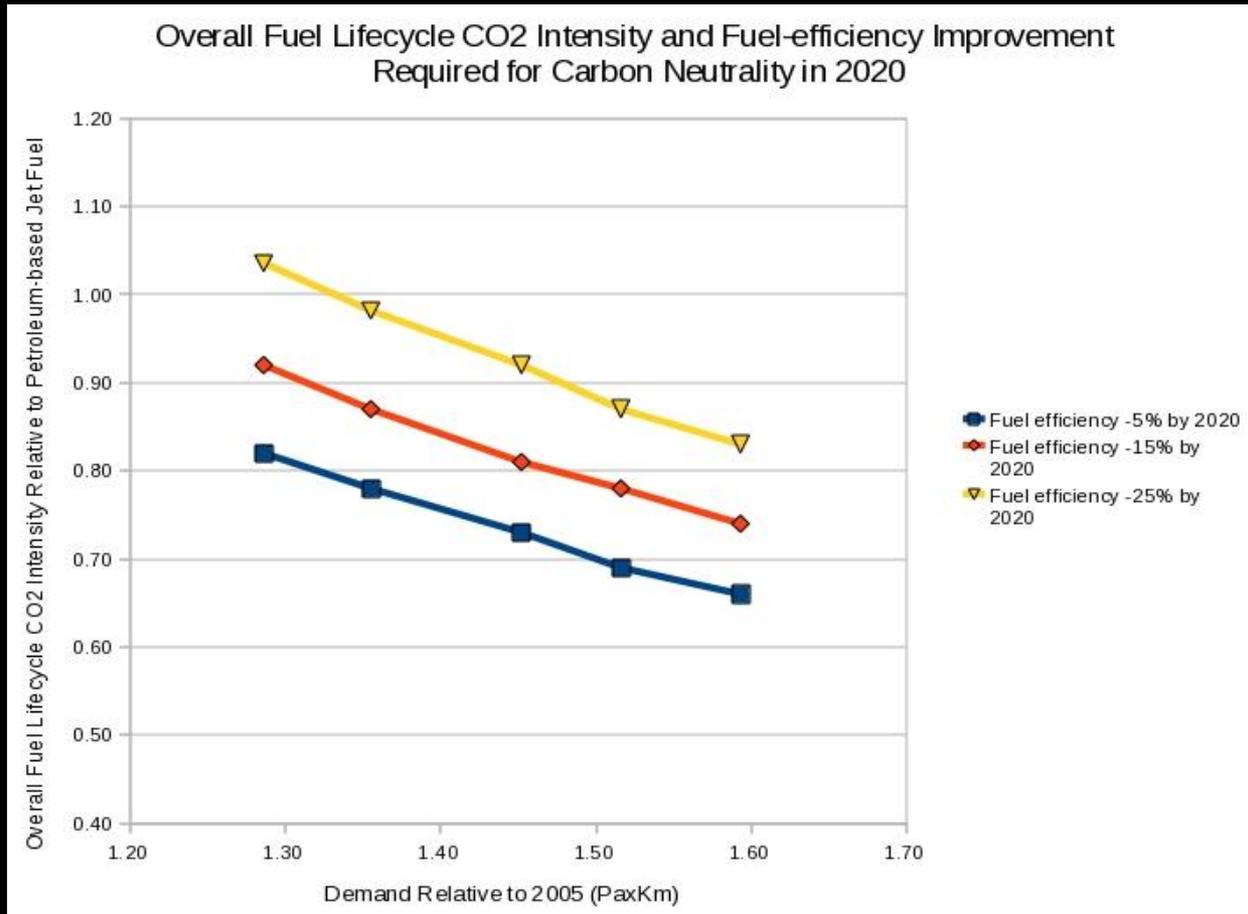
SAMPLE RESULTS: NO DEMAND FEEDBACK



SAMPLE RESULTS: SOME DEMAND FEEDBACK



TRADING ONE SUSTAINABILITY WEDGE FOR ANOTHER



CONCLUSIONS

- **Environmental goals, metrics, and choice of baseline all determine overall sustainability.**
- **Multiple sustainability wedges are needed.**
- **Achieved insertion is critical to meeting sustainability goals.**