Table 33. Future New Aircraft Technology Improvement List

Proposed Technology	Introduction Year	Jet Fuel Price Necessary For Cost-Effectiveness (2002 dollars per gallon)	Seat-Miles per Gallon Gain Over 1990 (percent)
Engines			
Ultra-high Bypass	2008	$0.67	10
Propfan	2000	$1.64	23
Thermodynamics	2010	$1.47	30
Aerodynamics			
Hybrid Laminar Flow	2020	$1.84	15
Advanced Aerodynamics	2000	$2.05	18
Other			
Weight Reducing Materials	2000	-	15

Source: Greene, D.L., *Energy Efficiency Improvement Potential of Commercial Aircraft to 2010*, ORNL-6622, 6/1990., and from data tables in the Air Transportation Energy Use Model (ATEM),