



# **IATA FUEL EFFICIENCY CAMPAIGN**

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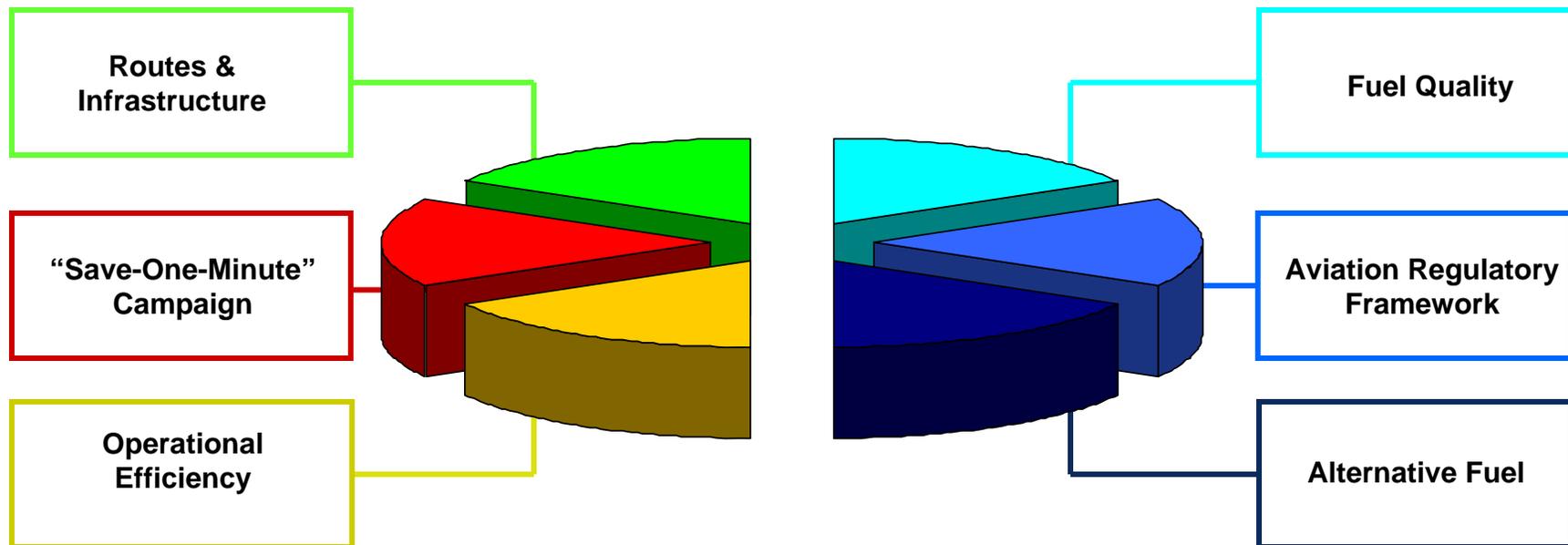
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# IATA Fuel Efficiency Campaign

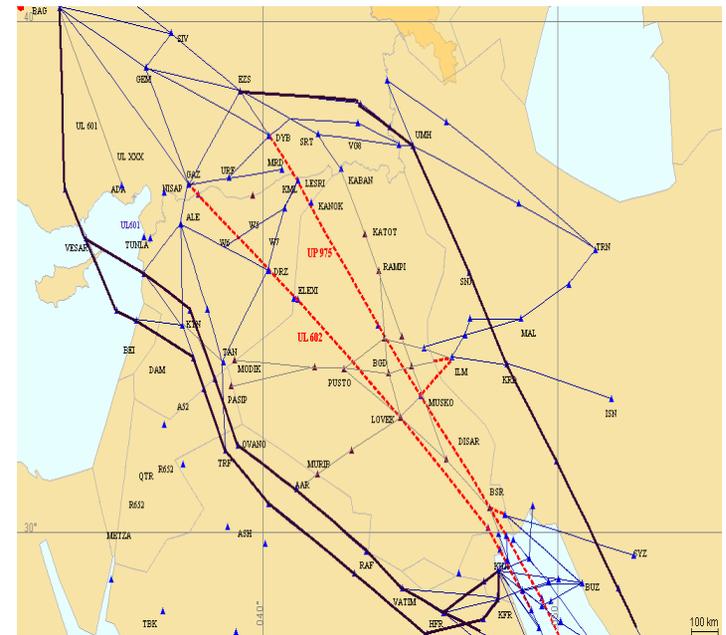
- Jet fuel price driving airline fuel efficiency
  - Increased 5% from 2003 - 2005
  - Industry is on track for 10% improvement 2000 – 2010
  
- IATA industry priority 2006: US\$ 1.5 billion fuel savings
  - 200 infrastructure enhancements = USD 500 million
  - “Save-One-Minute” campaign = USD 300 million
  - Operational Efficiency/Go-Teams = USD 700 million

# Campaign Elements



## Elements I – Route Improvements

- Identify Route Improvement opportunities
- Calculate Improvement Benefits in cooperation with airlines and OEM's
- Liaise with States and Authorities to ensure implementation



## Elements II – Airports

- Analysis of airspace environment
- Identification of improvement opportunities and potentials
- Recommendations for infrastructure enhancements ( e.g RNAV )



## Elements III – “Save one Minute”

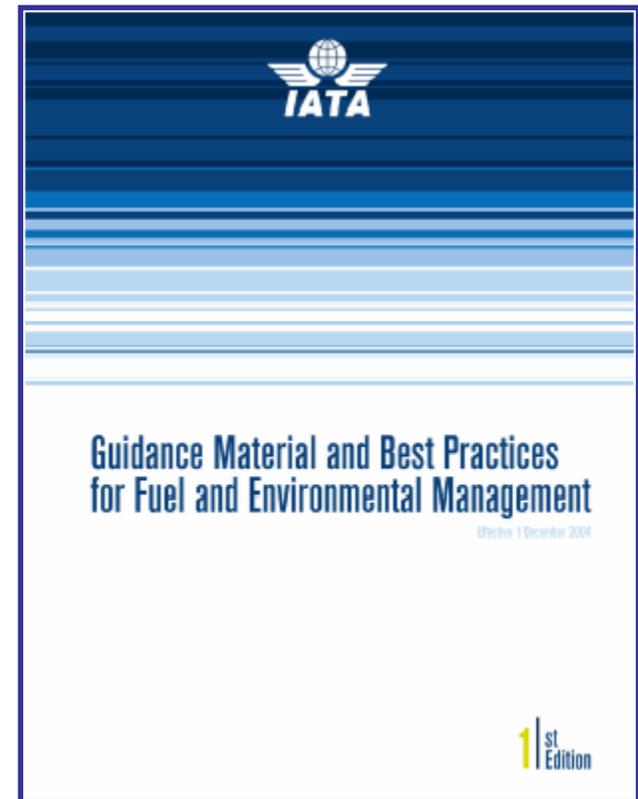
- Raise awareness at Air Navigation Providers
  - Average air transport flight time is 97 minutes
  - 40 million operations per year = USD \$400BN
  - Saving just ONE MINUTE per flight would potentially save over USD \$4BN annually





## Elements IV – IATA “FUEL BOOK”

- Provide airlines with “best practices”
  - Developed by IATA Fuel Conservation experts
  - Second edition under preparation
  - Part of IATA Fuel Conservation Training
  - Fuel Efficiency Benchmark under preparation





# Elements V – “GO - Teams”

- Individual on-site assessments
  - IATA experts from Flight Operations, Dispatch, Engineering & Maintenance
  - Detailed joint analyses of airline procedures and practices
  - Comprehensive recommendation report including potential calculation for each action

FUEL EFFICIENCY CALCULATOR						
Price of fuel		US\$/Gal	US\$/kg			
FUEL PRICE		1.820	0.589			
APU Usage Reduction per cycle	kg/hr	APU hrs	Target Dep	Target Arr	Cycles/yr	APU Burn
0767-300	150.0	2800	15	5	1,200	330,000
APU Optimization (one park only)	kg/hr	Dep/Min	Arr/Min	Cycles/yr	Savings/kg	Savings
0767-300	35.0	15	5	1,200	14,000	\$5,330
APU Usage 10 minute reduction /cycle	kg/hr	Reduc/Min	Cycles/yr	Savings/kg		Frequency
0767-300	150.0	10	1,200	30000	\$17,972	100%
APU Optimization (one park)	Kg/hr	hrs/yr	Savings/kg	Savings\$	Frequency	
0767-300	35.0	2800	91,000	\$54,516	100%	\$54,516
APU ON Board all on ground	Kg/hr					



## GO Team Assessment – Flight Operations

- Review of possible initiatives
  - APU and Air Conditioning Pack management
  - Fuel additives (Pilots, Dispatch)
  - Pilot technique
  - Mission management (Tactical Cost Index)
  - Low Noise Low Drag approaches (decelerated)
  - Optimal flap settings
  - Idle reverse on landing
  - Engine out taxi
  - Training / fuel conservation awareness
  - Crew proficiency monitoring



## GO Team Assessment – Flight Dispatch

- ↗ Flight planning system
  - ↗ Optimization method (Min cost, Min Time, Min fuel)
  - ↗ En-route Navigation Charges
  - ↗ Dynamic Use of Cost Index
- ↗ Re-dispatch technique
  - ↗ Reduce fuel and increase payload.
- ↗ Alternate airport selection
- ↗ Reserve fuel policy
- ↗ Zero Fuel Weight Accuracy
  - ↗ It is very inefficient to load fuel for non-existent payload.



## GO Team Assessment – E & M

- Aircraft performance monitoring
  - Application of modern communication ( Datalink)
  - Criteria for “underperformance” / alert levels
  
- Regular review with Flight Operations
- Maintenance program
- Engine overhaul planning
- Structural alignment (flaps , doors)
- Training on fuel conservation
- “Cross – divisional “ cost benefit analysis

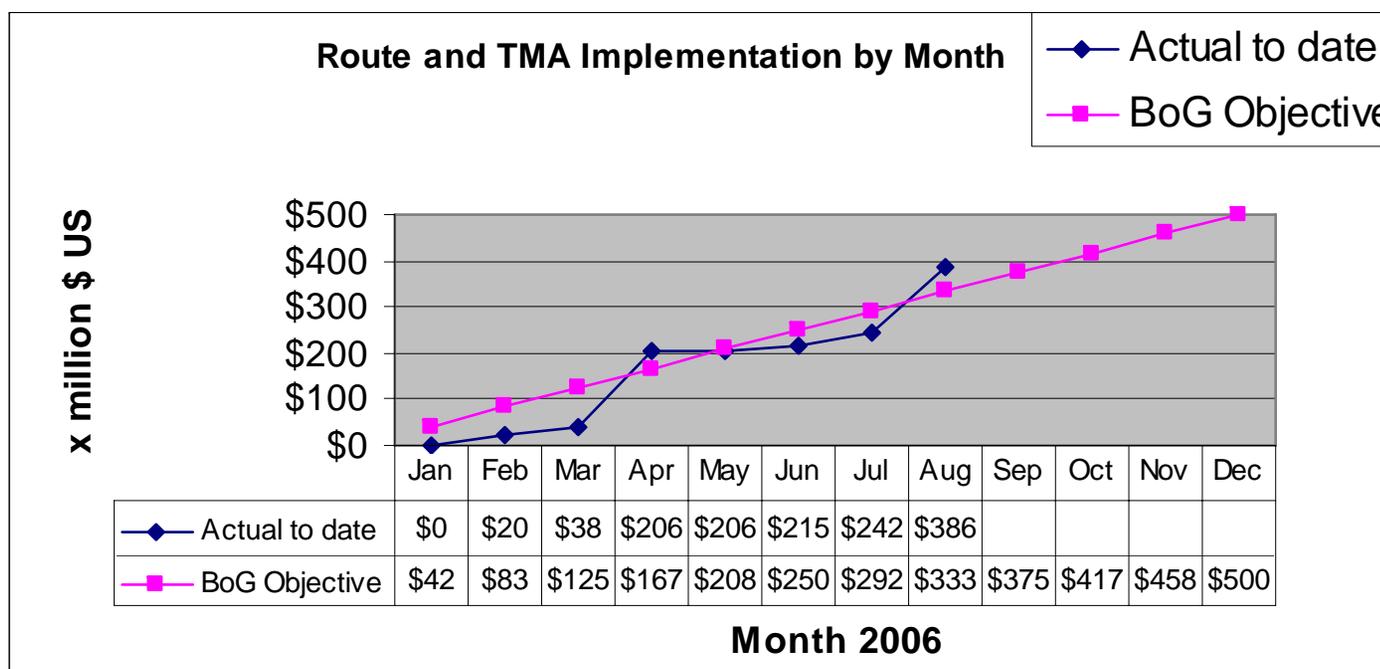
## Implementation support

- Individual consultancy services
- Establish individual conservation program
- Implement GO-Team recommendations
- Support introduction of associated enhancements to organization and processes



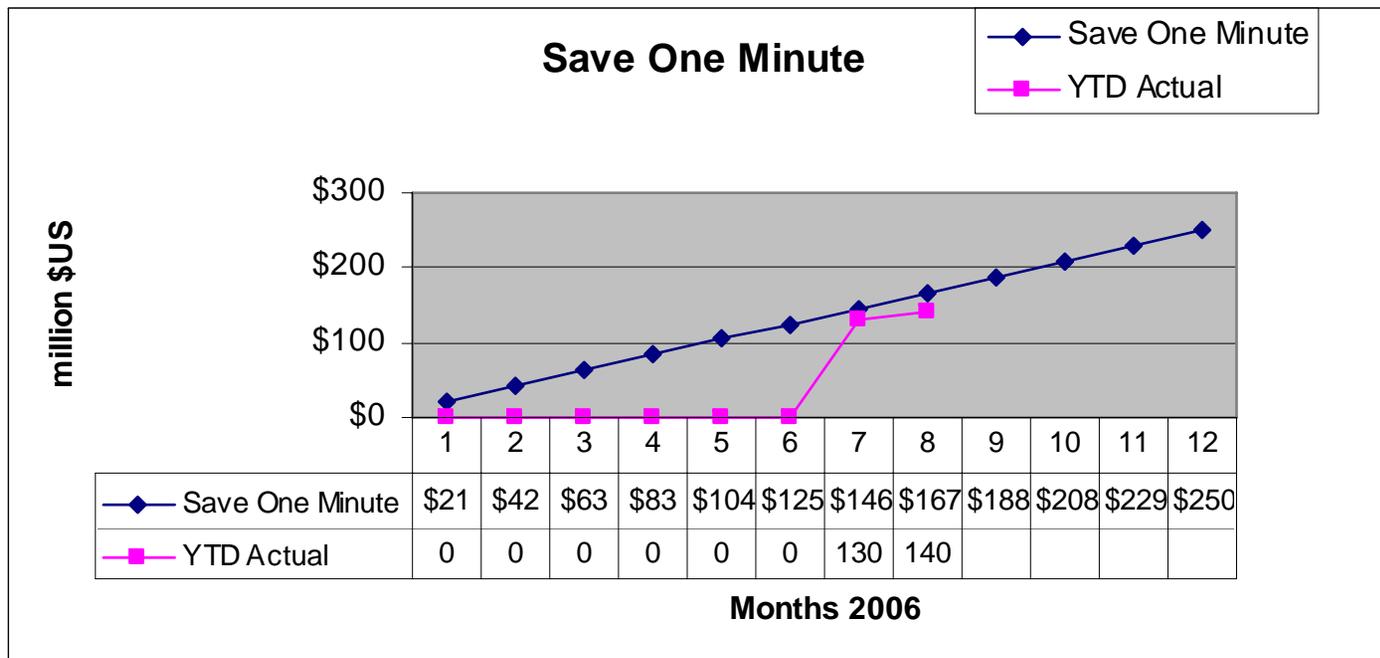


# Route and Infrastructure Improvements





# “Save-One-Minute” Campaign

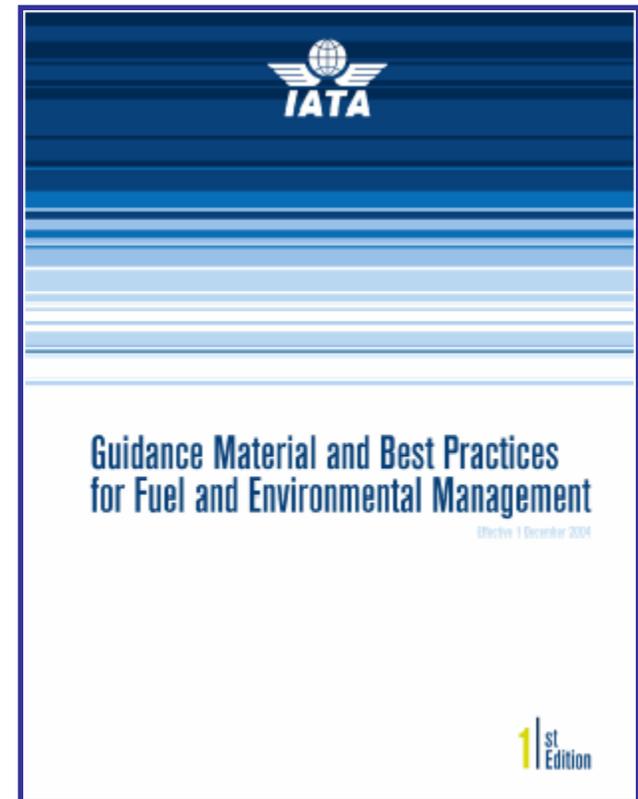




# Operational Efficiency

## The IATA “Fuel Book”

- Provides airlines with “best practices”
- Developed by IATA fuel conservation experts
- 2nd edition in preparation, reflecting experience from Go -Team visits
- Integrated with IATA fuel conservation training





# Operational Efficiency – Go Teams

## IATA FUEL ACTION CAMPAIGN - ACCUMULATIVE SAVINGS

CUMULATIVE 2005	IDENTIFIED SAVINGS \$ US M	% OF FUEL BUDGET
Americas	108.5	9.1%
Europe	41.2	8.8%
Africa - MEA	21.3	8.2%
Asia Pacific	0	0.0%
<b>CUMULATIVE 2006</b>		
Americas	67.5	5.8%
Europe	80.7	3.6%
Africa - MEA	51.1	6.6%
Asia Pacific	251.2	4.5%
<b>TOTAL 2006</b>	<b>450.5</b>	<b>5.1%</b>
<b>CUMULATIVE 2005-2006</b>		
Americas	176	7.4%
Europe	121.9	6.2%
Africa - MEA	72.4	7.4%
Asia Pacific	251.2	4.8%
<b>TOTAL 2005-2006</b>	<b>621.5</b>	<b>6.5%</b>



# IATA Fuel Quality Pool

- One global fuel quality standard
- 60+ airlines members
- 2200+ inspected airports
- ~ 400 certified inspectors

**> USD 20 million savings per year**





# Aviation Regulatory Framework

- ICAO Annex 6/JAR OPS and FAR 121 define requirements for a/c operations
- Many of them originally introduced in 1960
- Several changes in process for Annex 6 already
- IATA ' s initiative now focuses on Fuel Management

**Airline savings expected from less restrictive regulations reflecting modern aircraft capabilities**



## Alternative Fuel

- Jet Fuel still most efficient fuel
- Hydrogen may be an option in very long term
- Synthetic Fuel (CTL) more promising
- 50% blend already approved; approval for 100% in 2007 ?
- Need mix with Bio fuel to lower Co<sub>2</sub>

**Emissions reduction more likely than cost savings**