



Case Study: Optimizing Arrival Fuel

Mike Irrgang
Sr. Aviation Consultant
Professional Services
Boeing

Rafael Suarez
Sr. Vice President
Flight Operations
AeroMéxico

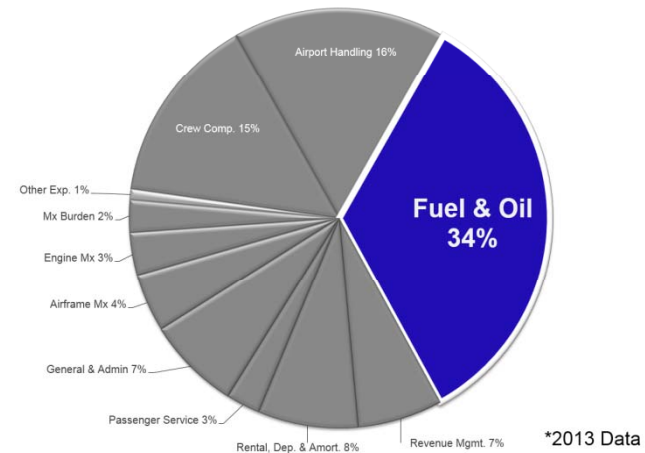
Your greatest cost is also your most volatile cost

In 2013, fuel accounted for **34%** of operating costs (U.S. carriers)

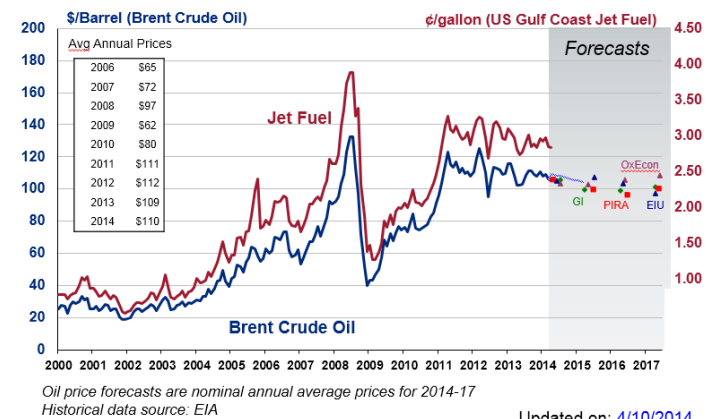
Oil prices expected to return to be **elevated**

*Fuel efficiency **opportunities** can be found in many areas of operation*

Total Operating Costs Distribution
U.S. Major Carriers*

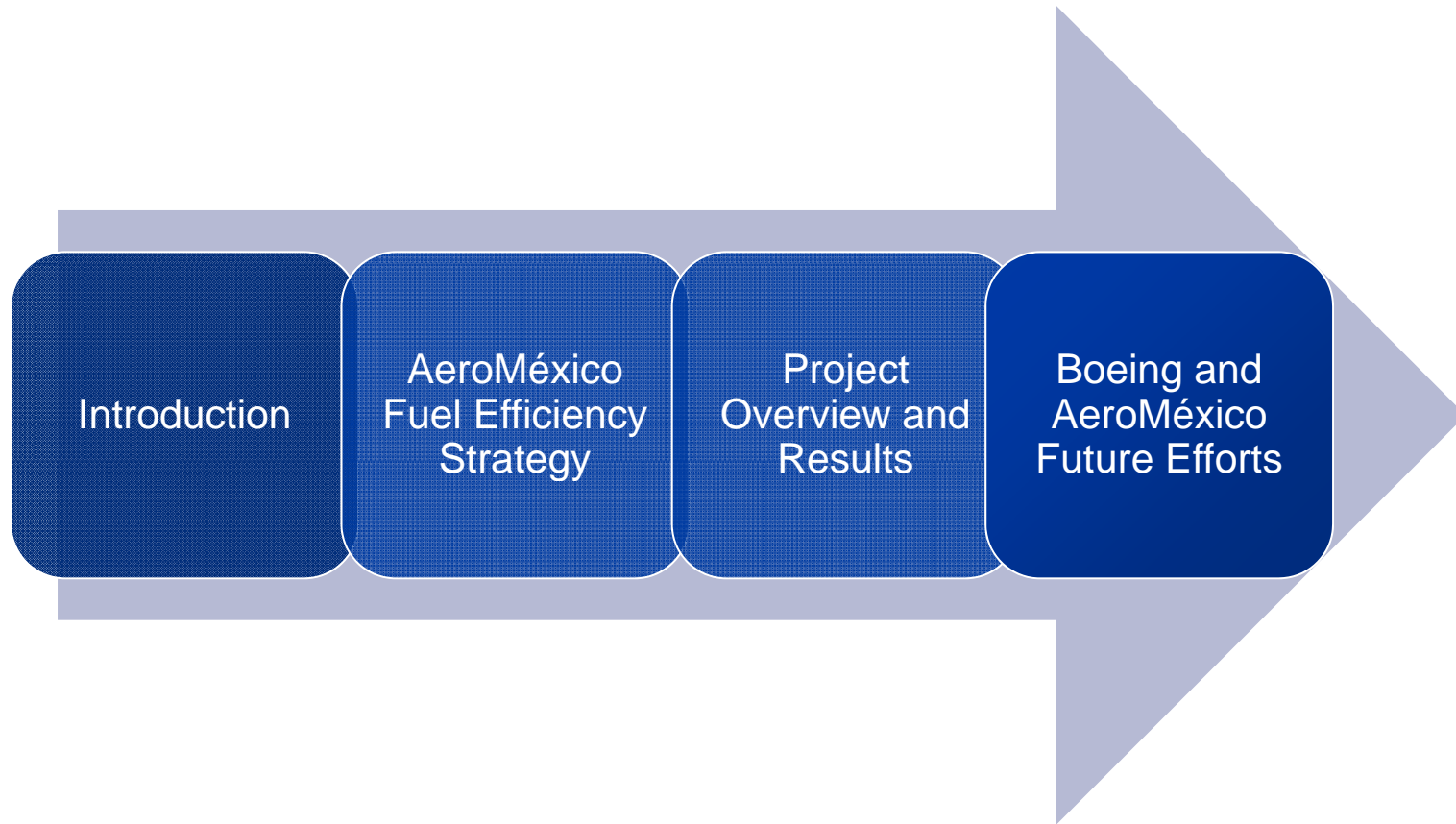


Oil and jet fuel prices



Updated on: 4/10/2014

Overview



Introduction to AeroMéxico

Mexico City hub and Monterrey sub hub

Adding **6** destinations to network in 2015

2 Airlines: AeroMéxico and AM Connect

Operating **124** aircraft

Boeing fleet:

787, 777, 767, Next-Generation 737

Embraer fleet:

E145, E170, E175, E190

80 destinations in

20 countries in

3 continents

630+ daily flights

19 consecutive profitable quarters

17+ million pax in 2014, representing
11% growth YoY

10% ASK growth expected in 2015



Fuel Efficiency Program

Long Term Commitment



Team Work



Internal Communications Program

Capitán Aeroméxico

Muchas gracias...porque con tu apoyo en la aplicación de diversas iniciativas en el 2010, Aeroméxico dejó de emitir cerca de 10,000 toneladas de CO2 al medio ambiente.



Partnership with manufacturer



LA LÍNEA QUE NOS UNE



2014-2015 Initiatives

Scimitar winglets on Next-Generation 737

Single engine taxi-out Next-Generation 737

Economic tankering

Pilot extra fuel requests

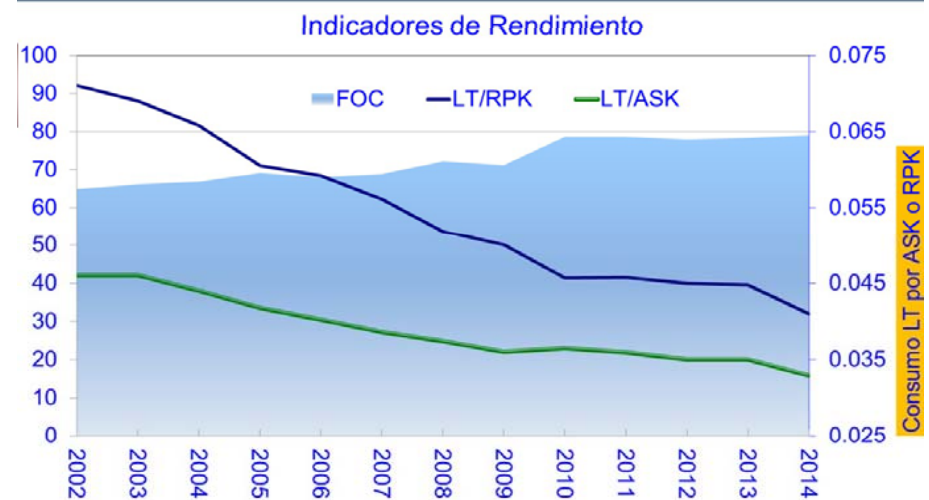
Flight planning system – JetPlanner

Arrival fuel project – Boeing

2014 All-fleets Target
1% = 13M Liters
= US\$9.8M



2014 All-fleets Actual
1.05% = 13.7M Liters
= US\$10.2M

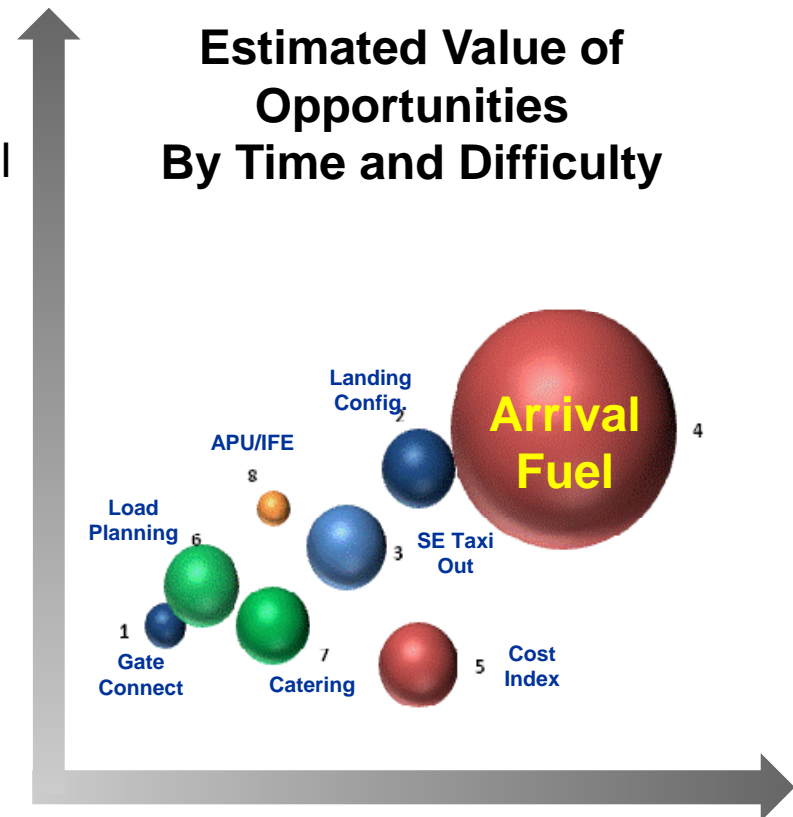


LA LÍNEA QUE NOS UNE



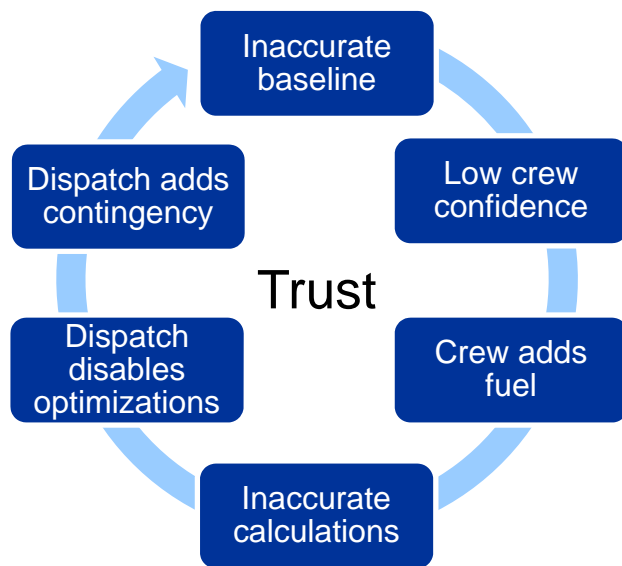
Project Background

- Fuel Efficiency Assessment (April '13)
 - Identified 8 opportunities worth approximately \$16M/year at \$3.20/gal (2013 price)
 - Arrival fuel identified as largest opportunity
- Next-Generation 737 Arrival Fuel Project (Feb '14)
 - 2013 baseline: 1:45 hr flt time (4,200 kg)
 - Reg. req'mnt: 0:45 hr flt time (1,800 kg)
 - Target efficiency: 1:00 hr flt time (2,400 kg)



Root Causes and Approach

Arrival Fuel: Root Causes



Our approach

1. Focus on good weather days
2. Develop statistical arrival fuel policy
3. Enhance with use of enroute alternates
4. Provide training and data to pilots and dispatchers
5. Measure, monitor and manage results

Change management through teamwork
to build trust

Statistical review 137,000 flights

Changed 30 of 44
destination alternates to
close paper alternates

Selection of enroute
operational alternates for
102 routes

New procedures in SOP
- Approved by ICAO Mexico,
DGAC, pilot union ASPA

Internal Communications
- Bulletins, videos, posters, chats,
training, jumpseat rides

Efficiencia y seguridad para
nuestros 737

¿Por qué Harlingen, Texas
como alterno para Monterrey?

- Por qué casi nunca lo vas a usar
Por qué tienes alternos en tu ruta.
- El último alterno de la ruta es donde
se debe ir, en la mayoría de los
casos que necesites desviarte**.

El nuevo concepto de alternos de la
ruta está detallado en la FOA. En
casi todos los vuelos que requieran
desviarse, es mejor alertar en
alterno en ruta – más seguro y
menos costoso – que seguir volando
hasta el destino. El alterno de
destino es un alterno de seguridad
– por ejemplo, si está Bloqueado o
cerrada la pista del destino.

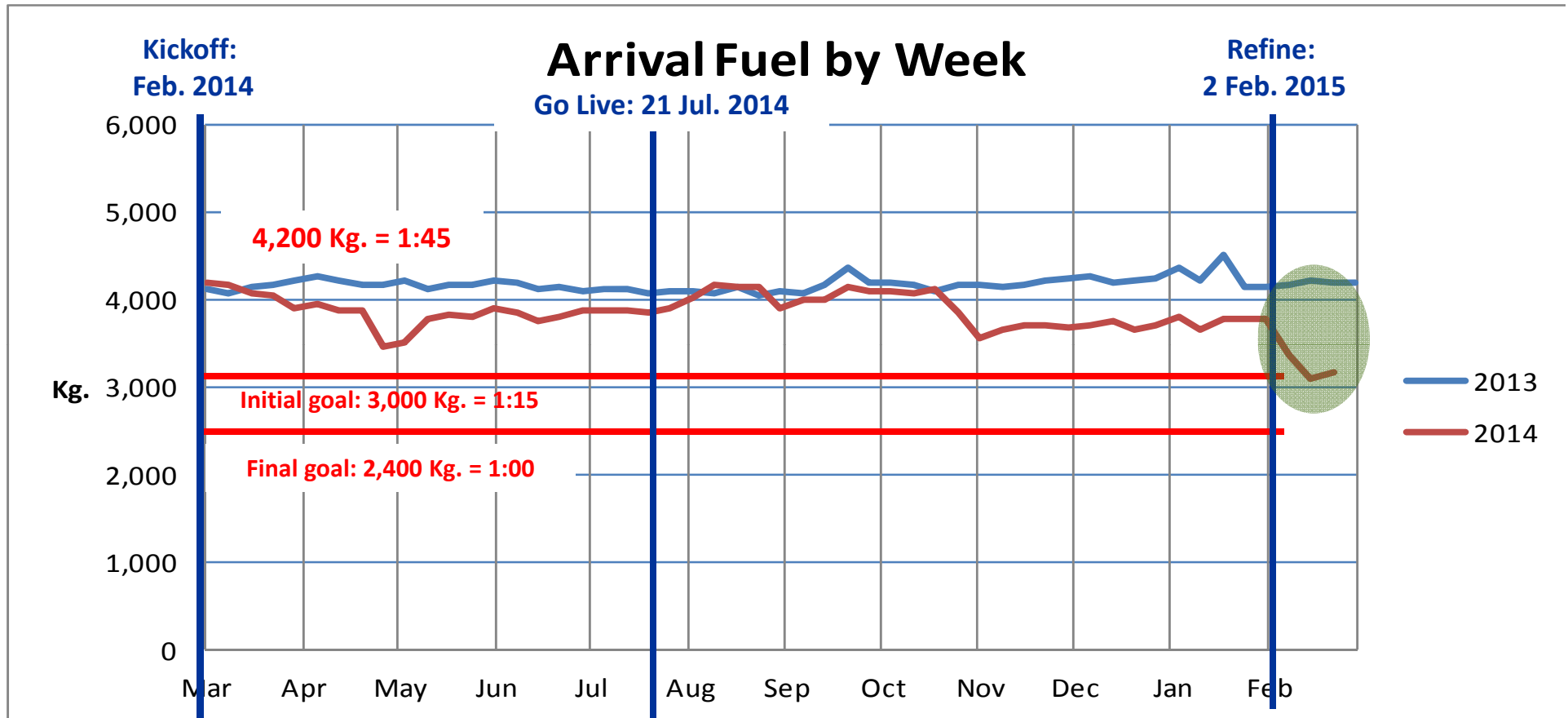
** Las estadísticas indican que tenemos únicamente 1 desvío cada 309
vuelos – menos que el promedio de la industria.

Si tienes dudas o comentarios, por favor escríbenos un email (en español) a:
Mike Irigang (mikeir@azmex.com)
Cap. Hugo Tamborini (htamborini@azmex.com)
Arturo Morales (amoral@azmex.com)
José Quezada (jquezada@azmex.com)

Para mayor información consulta la FOA-22/14 (Flight Operational Alert)

LA LÍNEA QUE NOS UNE

“A major cultural change in AeroMéxico Flight Operations in less than a year!”
– quote from Management Pilots



737 average reduction of 1,000 kg in arrival fuel
1.5% reduction in consumption rate (\$7M / year projected savings)

Fuel Efficiency Future at AeroMéxico

Target
1% = 13M Liters
= \$9.8M



Actual
1.05% = 13.7M Liters =
\$10.2M



**2015 all-fleets
target
1.3% = 20M Liters**



Increase 737 arrival fuel savings to 2%

Continue arrival fuel reduction on Embraer fleet

Trial Boeing Wind Updates on 777s

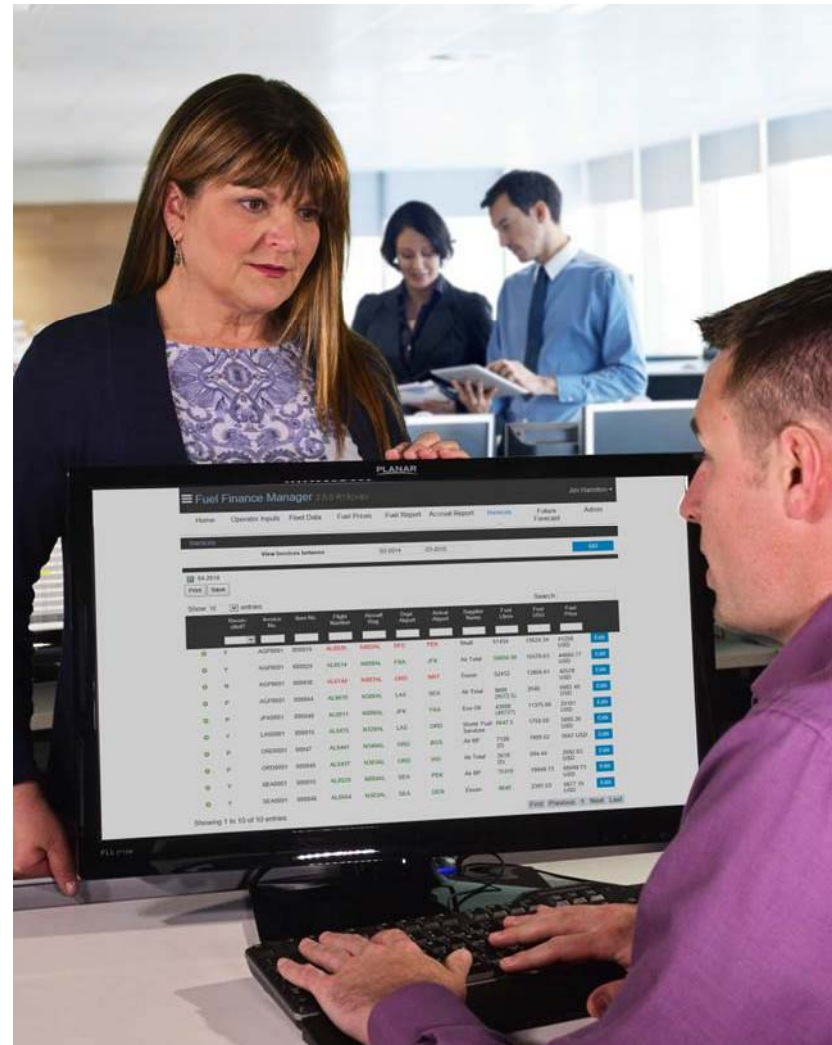
Single-engine taxi-out on wide bodies

Implement Boeing Fuel Dashboard

Fuel Efficiency Future at Boeing

- Fuel Efficiency Solutions suite
 - Fuel Dashboard
 - Emissions Reporter
 - Fuel Finance Manager
 - Fuel Optimizer
 - Flight Deck Fuel Advisor
 - Consulting

Attend Aircraft IT Webinar





Questions?