Presentation on Aviation Environmental Systems (AES)

By

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At English Marina Hotel - Mombasa
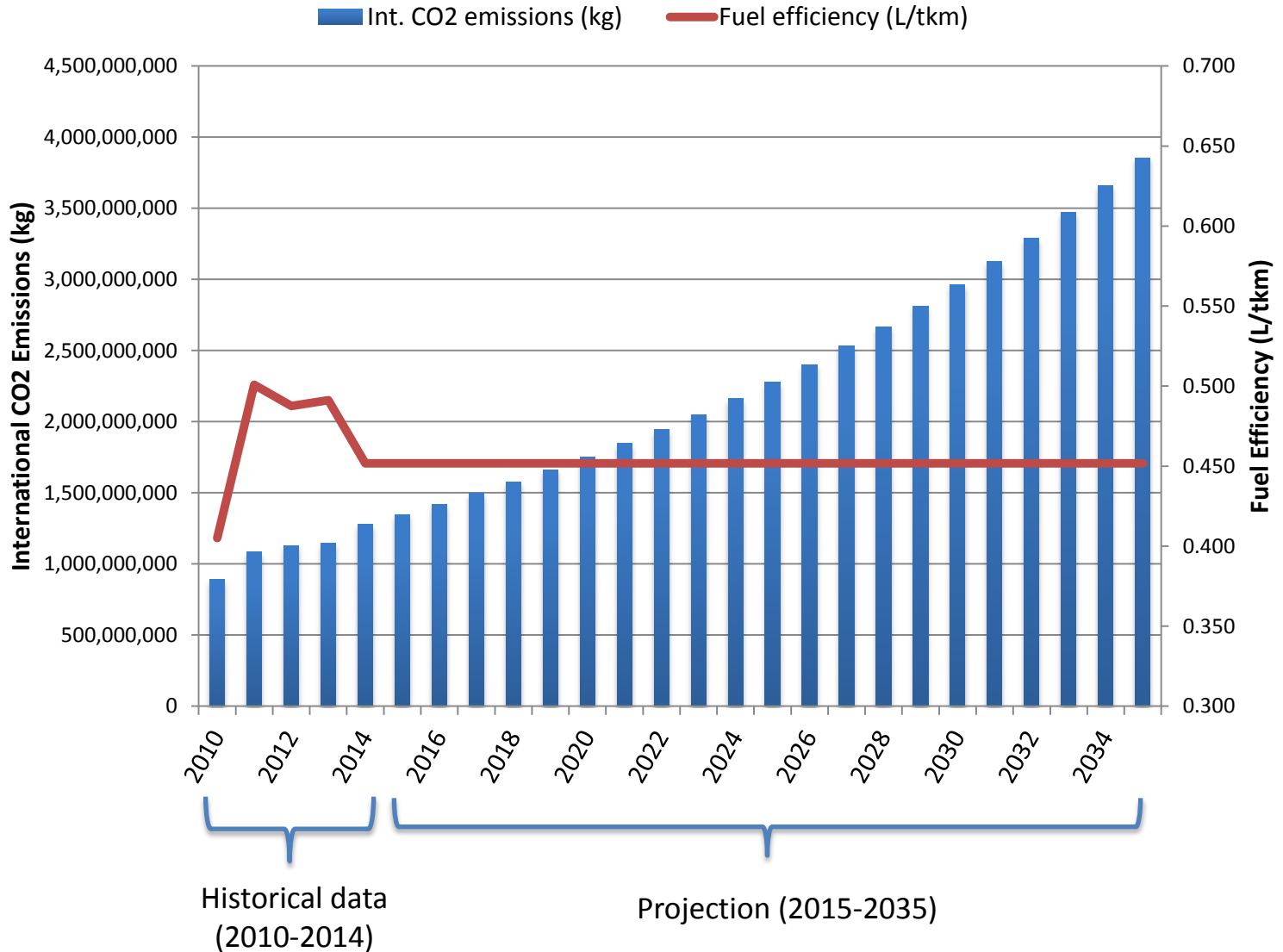
12th December 2018

1. Baseline Data
2. Data Collection
3. Use of the Aviation Environmental System (AES)
   - Data collection
   - Submission of monthly reports to ICAO

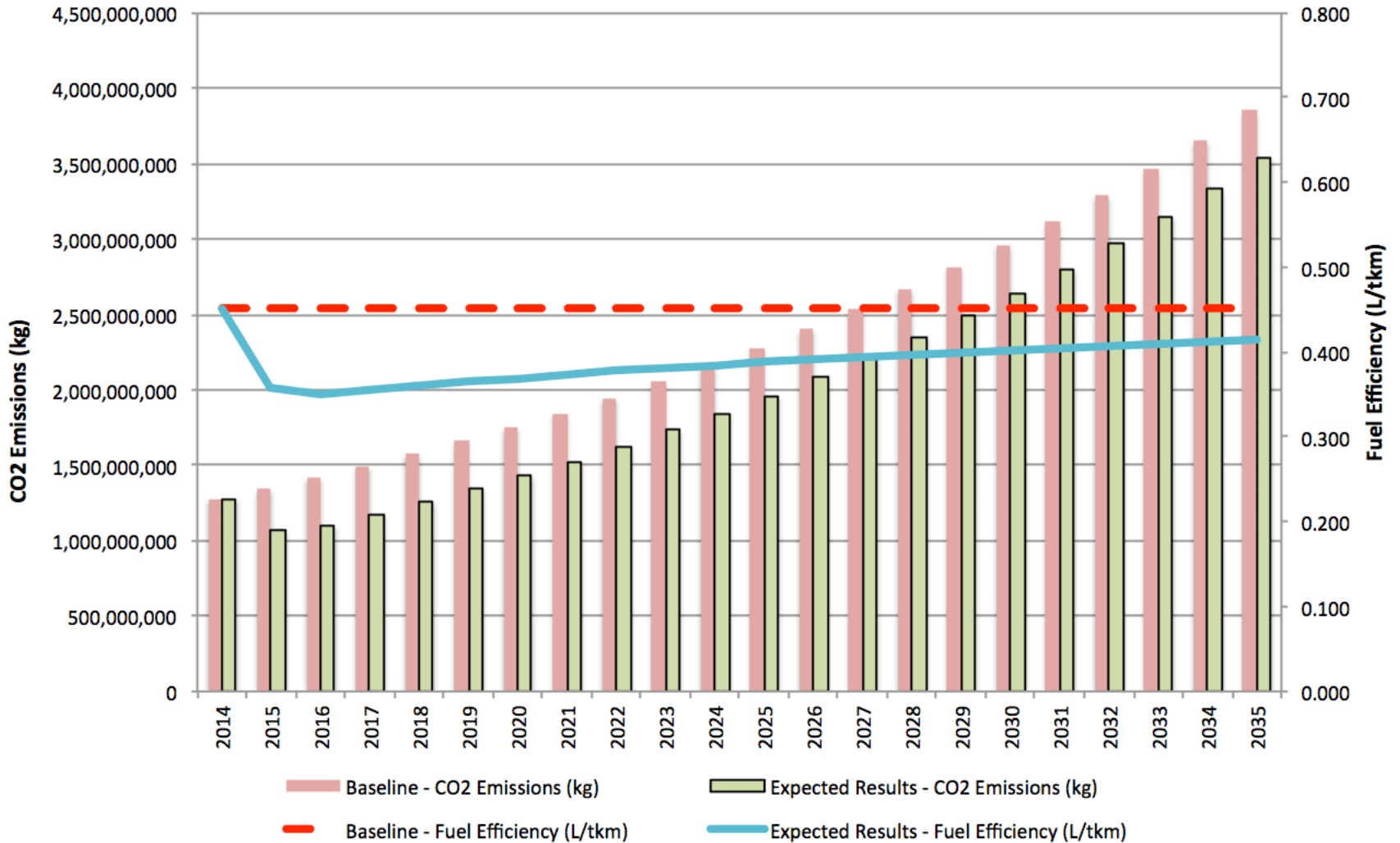4. Benefits of AES
5. Challenge in Data Collection

- Historical data on traffic and fuel consumption collected from Kenya Airways
  → 5 historical years collected (2010-2014)

Year	Fuel Burn (in tonnes)	RTK (tkm)	Fuel efficiency (in litre sper RTK)
2010	281,092	867,615,649	0.404977849
2011	343,546	857,415,984	0.500845124
2012	356,956	915,134,999	0.487573547
2013	362,144	921,665,778	0.491155376
2014	404,242	1,118,515,206	0.451762914

- Selection of these 5 reference years for the calculation of the baseline, using EBT
- Use of ICAO definition for international flights

Int. CO2 emissions (kg) — Fuel efficiency (L/tkm)

Historical data (2010-2014)

Projection (2015-2035)

➢ On 21st July 2015, KCAA issued an Aeronautical Information Circular (AIC No. 8/15) to require periodic data submission from national airlines through the format Form ENV1.

➢ Kenya Climate Change Act No. 11, 2016 requires state departments , private entities and national government public entity to report on sectoral greenhouse gas emissions for the national inventory and designate a unit with adequate staff and financial resources was signed in law

➢ Currently, Kenya Airways and Astral Aviation are the only national airline submitting data to KCAA to be imported in the AES.

➢ Interface provided by ICAO to consolidate ACARS data and other fuel data and convert it to Form ENV1 for Kenya Airways

➢ However, awareness raising activities have been organized and other national airlines have committed to submit data using Form ENV1.
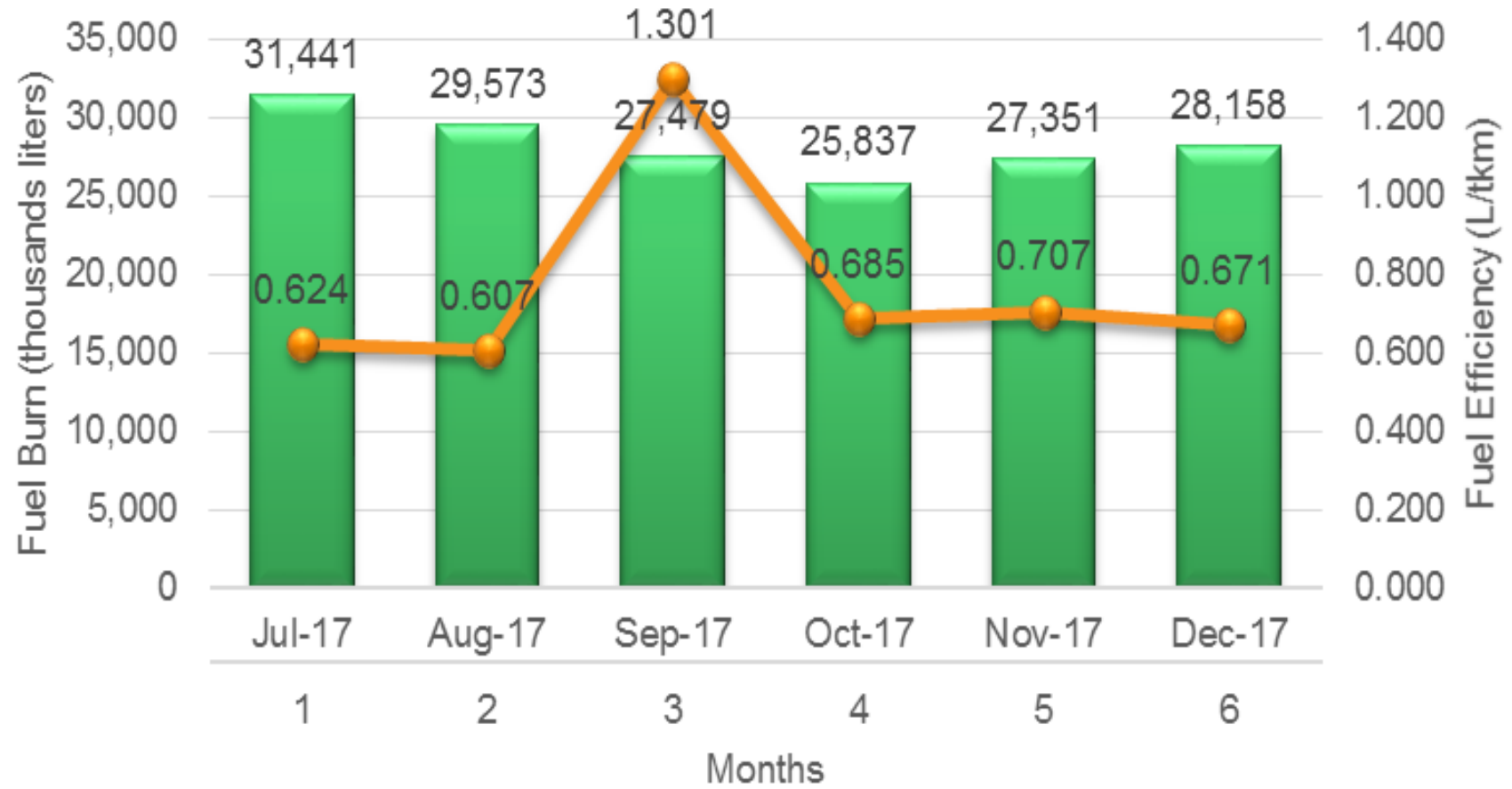
Fuel Burn Trends
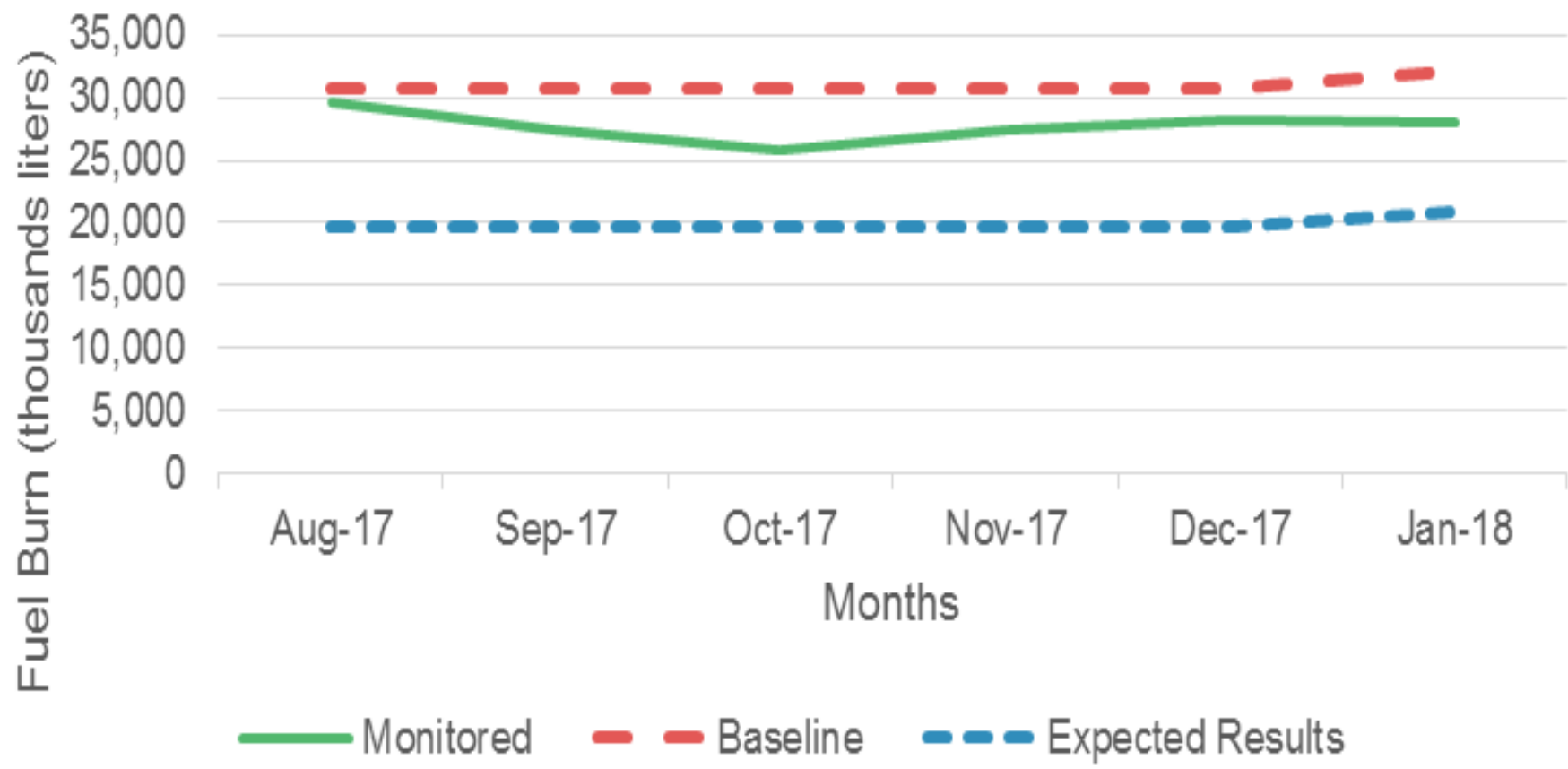
Fuel Burn and Efficiency

Most Fuel Efficient Routes

	Routes*	Flights	Fuel Efficiency (L/tkm)
1	VTBS-ZGGG	29	0.03
2	EGLL-HKJK	30	0.215
3	HKJK-LFPG	30	0.224
4	HKJK-EGLL	30	0.228
5	HKJK-EHAM	29	0.24

* Only routes with at least 2 flights were considered.

Least Fuel Efficient Routes

	Routes*	Flights	Fuel Efficiency (L/tkm)
1	FCBB-FZAA	13	5.894
2	HBBA-HRYR	40	1.743
3	FKYS-FKKD	2	1.565
4	HTZA-HTKJ	25	1.509
5	DBBB-DNMM	4	1.463

* Only routes with at least 2 flights were considered.

➢ Continuous Monitoring of the Emission data Monthly

➢ Form M for 2016 and 2017 submitted to ICAO

➢ Good Stakeholders engagement

➢ Training of the Focal points and Airline on use AES

➢ Manual data entry is prone to error/inaccuracy

➢ Required reports are not ready for small airline due to the manual data capture

➢ ACARS Data is not 100% compatible with the reporting format (ENV1)

➢ High staff turnover from Key Airline that leads to delay in reporting of data

Thank You