ICAO ENVIRONMENT

NO COUNTRY LEFT BEHIND

APAC Office Webinar for the 10th Anniversary of the ICAO State Action Plan (SAP) Initiative on CO2 Emissions Reduction

STATES' ACTION PLANS ON CO2 EMISSIONS REDUCTION ACTIVITIES by DGCA , India

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INDIA'S AVIATION FACT SHEET

- Aviation is among the fastest-growing sectors of the economy

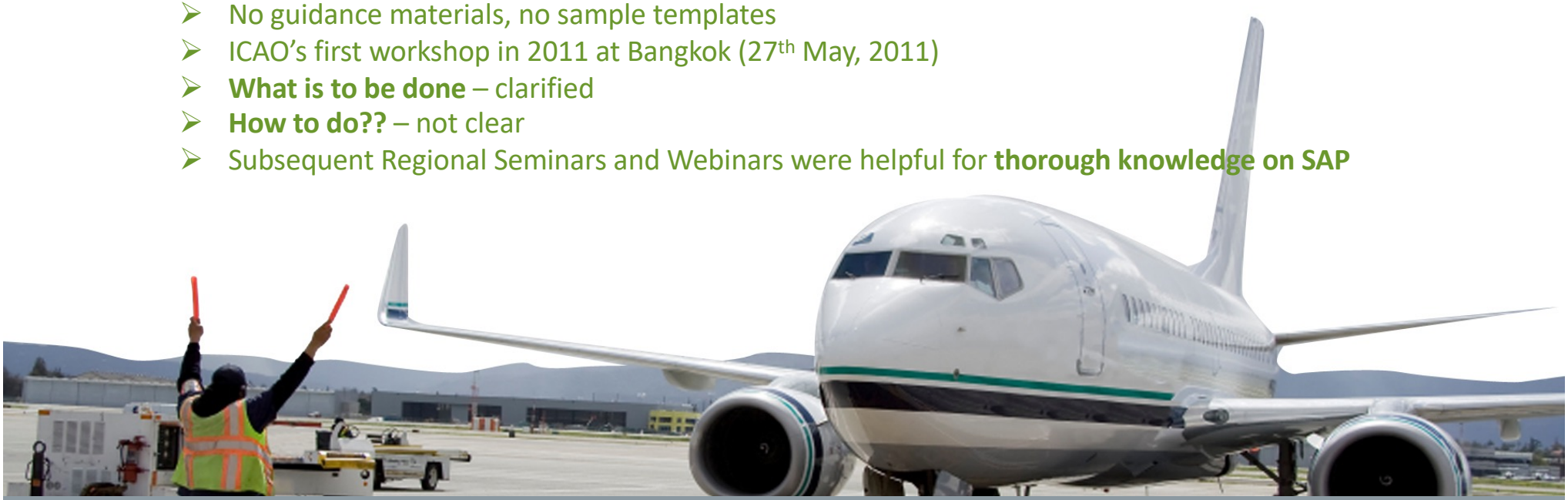
- India is on track to become the world's third-largest aviation market shortly, up from eighth today
  - **PAX movements in 2019:** 143,736,256
  - **Aircraft movements:** 1,058,920
  - **No of Scheduled Airlines:** 17
  - **No of Operational Airports:**153

STATE ACTION PLAN? – INDIAN PERSPECTIVE

- State Action Plan – A roadmap to identify and implement measures that helps in addressing and reducing the GHG emissions from aviation sector without adversely affecting its growth
- State Action Plan – An important tool to achieve inclusive and sustainable growth of the sector
- Identify all emissions sources associated with aviation activities
- Identify stakeholders and discuss the objective
- Explore economical and feasible measures that helps in reducing emissions
- Identify the measures and their implementation procedures
- Implement the measures with stakeholders
- Estimate the emissions savings

CHALLENGES – INITIAL STATE ACTION PLAN

- First version of State Action Plan – September, 2015
- Little and limited knowledge
- No sharing of knowledge - States were doing for the first time
- No guidance materials, no sample templates
- ICAO's first workshop in 2011 at Bangkok (27th May, 2011)
- **What is to be done** – clarified
- **How to do??** – not clear
- Subsequent Regional Seminars and Webinars were helpful for **thorough knowledge on SAP**



HIGHLIGHTS – UPDATED STATE ACTION PLAN

- Properly conceptualized and conceived
- Active participations by stakeholders – airline operators, airport operators, Air Navigation Service Providers, etc
- Information about green initiatives were collected from stakeholders
- Baseline was established and emissions was projected with & without any actions
- Feasible measures have been identified
- Holistic approach has been adopted to draft
- Final editing is in progress and will be submitted shortly

HIGHLIGHTS –STATE ACTION PLAN

- Sustainable Aviation fuels
- Solar Energy for Airport/Carbon Neutral Airport
- Airport Carbon Accreditation Program
- Alternative Taxing Solutions
- EU – South Asia Aviation Partnership Program (EU – SA APP)
- International Air Transport Association (IATA)
- Clean Skies for Tomorrow – World Economic Forum (WEF)

SUSTAINABLE AVIATION FUELS

- Biofuel produced from Jatropha seeds by Indian Institute of Petroleum (IIP) – blended in ratio of 1:4 (SAF:ATF)
- Used in one engine of Bombardier Q 400 aircraft for 01 hour flight from Dehradun to Delhi in August, 2018
- Engine performance was satisfactory and parameters were within limits
- Bureau of Indian Standard (BSI) – issued Indian Standard for Bio-jet ATF IS:17081 in January 2019
- Scaling up of production is under active consideration

FIRST DEMONSTRATION FLIGHT – SAF

SOLAR ENERGY FOR AIRPORT





SOLAR POWER UTILIZATION AT AIRPORTS

SERIAL NO.	NAME OF AIRPORT	CURRENT LEVEL
1.	IG INTERNATIONAL AIRPORT DELHI	7.84 MW
2.	CS INTERNATIONAL AIRPORT MUMBAI	3.8 MW
3.	K INTERNATIONAL AIRPORT BENGALURU	6.8 MW
4.	RG INTERNATIONAL AIRPORT HYDERABAD	5 MW
5.	COHIN INTERNATIONAL AIRPORT COCHIN	40 MW
6.	AAI owned Airports – Kolkata (17 MWp) , Chennai (12 MWp), Chandigarh, Jaipur, Trichy, Varanasi, Tirupati, Vijaywada, Ahmedabad, Calicut, Trivandrum, Bhopal, Indore, Puducherry, Dibrugarh.	Installed – 44 MW Under progress – 16 MW Target – 80 MW

ALTERNATIVE TAXING SOLUTIONS

- Use of Alternative taxiing solutions provide substantial savings in terms of fuel and emissions
- At an airport where taxiing time is quite long, taxiing of aircraft with main engines inoperative has shown substantial savings of fuel and emissions
- This has became possible by using TaxiBot at IGI Airport which is a pilot-controlled semi-robotic vehicle and it tows the aircraft close to the take-off point without aircraft running its main engines
- The aircraft/taxibot combination is steered by the pilot from the cockpit
- From environmental point of view, taxibot provides significant reduction in fuel consumption and associated CO_2 emissions at the time of taxiing
- Taxibot is an all-wheel drive and steering vehicle which is available in two versions depending on the size of the aircraft to be towed for both narrow and wide body aircraft.

ALTERNATIVE TAXING SOLUTIONS

AIRPORT CARBON ACCREDITATION PROGRAM

SERIAL NO.	NAME OF AIRPORT	CURRENT LEVEL
1.	IGI AIRPORT DELHI	Level- 4+
2.	CSI AIRPORT MUMBAI	Level- 3+
3.	KPGI AIRPORT BENGALURU	Level- 3+
4.	RGI AIRPORT HYDERABAD	Level- 3+
5.	KOLKATA, BHUBANESWAR, VARANASI, TRIVANDRU	Level- 2
6.	CHENNAI	Level- 1

WORKING WITH INTERNATIONAL ORGANIZATIONS

- South Asia Aviation Partnership Program – A program towards CORSIA implementation – Funded by EU and organized by EASA
- National Regulation on CORSIA in 2018
- CORSIA implemented from 1st January, 2019 with approved EMPs
- Empaneled Two Verification Bodies (accredited by NABCB)
- Timely submission of 2019 data
- Regular interaction with aeroplane operators
- Help Desk for all CORSIA related queries – set up by EASA
- IATA jointly with DGCA had organized two seminars on CORSIA (2018 & 2019)

- DGCA has also participated in launching of Clean Skies for Tomorrow – Scaling Sustainable Aviation Fuel in India
- A project launched by World Economic Forum in March, 2021
- The project aims to carry 100 million domestic air passengers using sustainable fuel in India by 2030
- The project deals with production of sustainable aviation fuels through ASTM approved pathways

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THANK YOU