



ICAO ENVIRONMENT

NO COUNTRY LEFT BEHIND

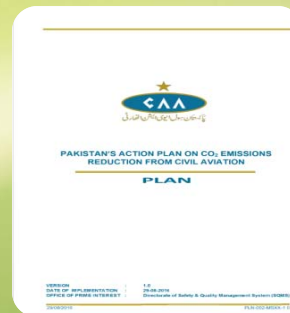


APAC Office Webinar for the 10th Anniversary of the ICAO State Action Plan (SAP) Initiative on CO₂ Emissions Reduction

10 Years of SAP

Concept to Implementation

Backsights, Foresights & Insights



22 April 2021



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**PAKISTAN CIVIL AVIATION AUTHORITY COMMENDS ICAO'S
EFFORTS IN COMBATING ENVIRONMENTAL DEGRADATION**

and

**BOLSTERS ITS FULL SUPPORT IN STATE ACTION PLAN INITIATIVES
FOR GREEN AVIATION**



Nisar Ul Haq Asadi
Asstt. Director for Safety & Standards



22 April 2021



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STATE ACTION PLAN

10 Years of SAP
Concept to Implementation
Backsights, Foresights & Insights



22 April 2021

PCAA's SAP- BACKSIGHTS , FORESIGHTS & INSIGHTS

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AGENDA POINTS

SALIENT FEATURES OF PCAA'S STATE ACTION PLAN- **BACKSIGHTS**

CHALLENGES AND OPPORTUNITIES - **FORESIGHTS**

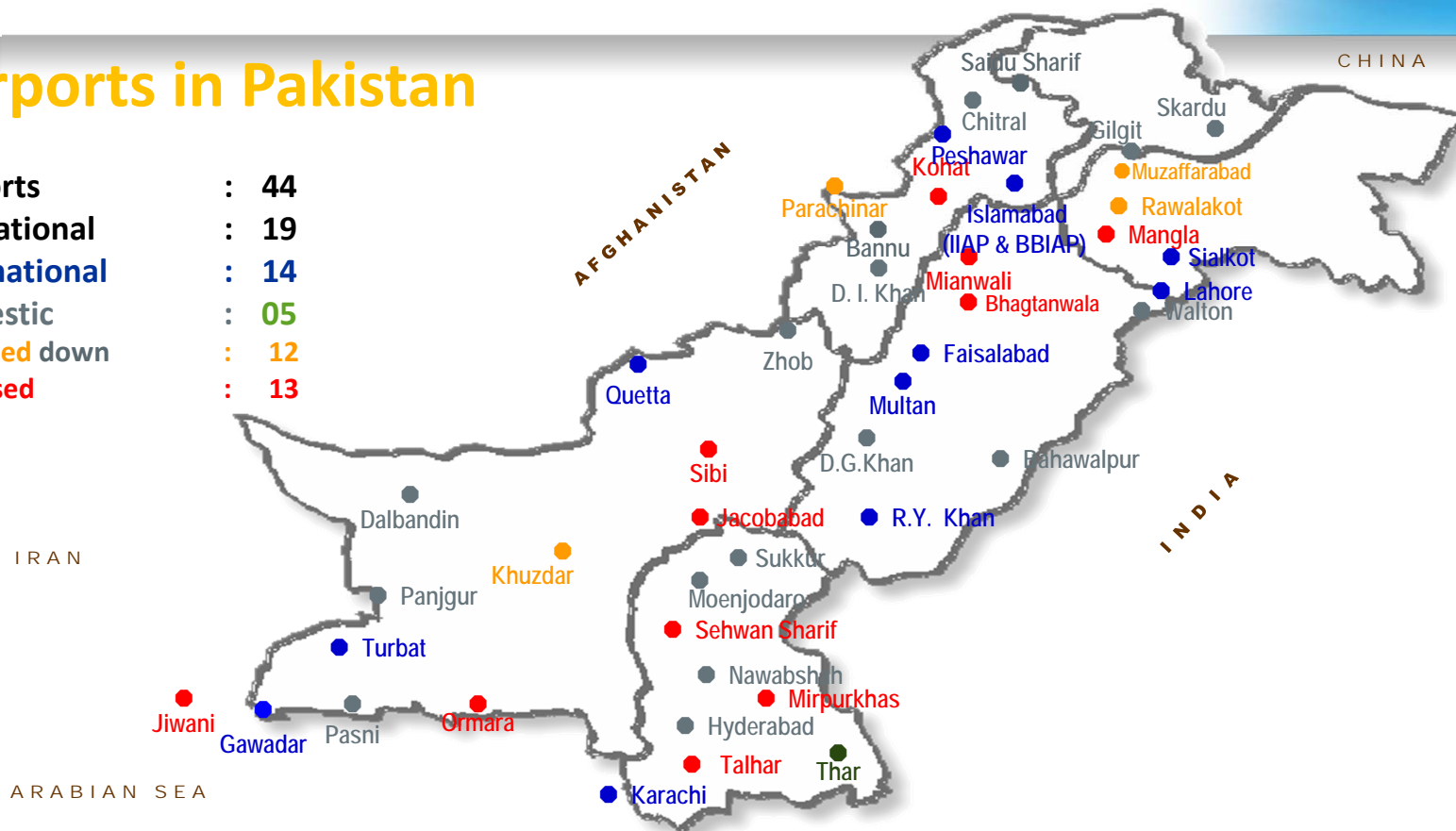
LESSON LEARNT / FUTURISTIC PREVIEW - **INSIGHTS**

NOTE OF THANKS / QUESTIONS AND ANSWERS



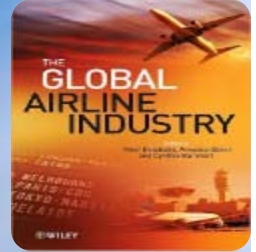
Civil Airports in Pakistan

Total Airports	: 44
Total Operational	: 19
International	: 14
Domestic	: 05
Scaled down	: 12
Closed	: 13





NATIONAL AVIATION AT GLANCE



PCAA IS PRIME REGULATOR OF AVIATION ACTIVITIES IN PAKISTAN & FULLY COMPLIANT TO ICAO's SARPs

NATIONAL AVIATION IS PASSING THROUGH A TURBULANT PATCH

**335,000 Million
tonnes of
Cargo-2019**



44 Airports

**153,000 million
scheduled
commercial
flights-2019**



**4 Domestic Airlines
22 Int'l Carriers**



19 Million Pax -2019

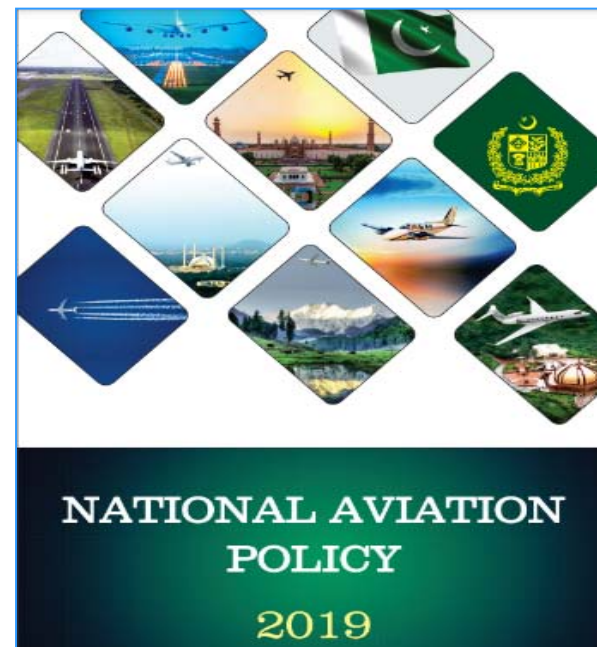




NATIONAL AVIATION POLICY-CH07

Green Aviation & Environmental Protection - A Commitment

- *“PCAA shall regulate the Aviation Sector to minimize adverse impact of aviation-related CO₂ and other harmful emissions and noise pollution”.*
- *“ICAO guidelines shall be followed to develop a roadmap for tackling issues of CO₂ emissions”.*





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STATE ACTION PLAN

SALIENT FEATURES BACK SIGHTS



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PCAA's SAP- BACKSIGHTS , FORESIGHTS & INSIGHTS

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IMPROVEMENT THROUGH STANDARDIZATION

CERTIFIED

ISO : 9001-2015
QUALITY MANAGEMENT SYSTEMS

CERTIFIED

ISO 14001
Environmental Management

CERTIFIED

OHSAS 18001
Health & safety management

afaq
 AFNOR CERTIFICATION

Certificat
 Certificate

N° 2016/73808.2

AFNOR Certification certifies that the management system implemented by:
AFNOR Certification certifie que le système de management mis en place par :

**AIR TRAFFIC SERVICES
 PAKISTAN CAA**

for the following activities:
pour les activités suivantes :

**PROVISION OF AIR TRAFFIC SERVICES; OPERATIONS & MANAGEMENT, FLIGHT PROCEDURE
 DESIGN SERVICES, AERONAUTICAL INFORMATION SERVICES AND COMMUNICATION
 OPERATIONS.**

has been assessed and found to meet the requirements of:
a été évalué et jugé conforme aux exigences requises par :

ISO 9001 : 2015

and is developed on the following locations:
et est déployé sur les sites suivants :

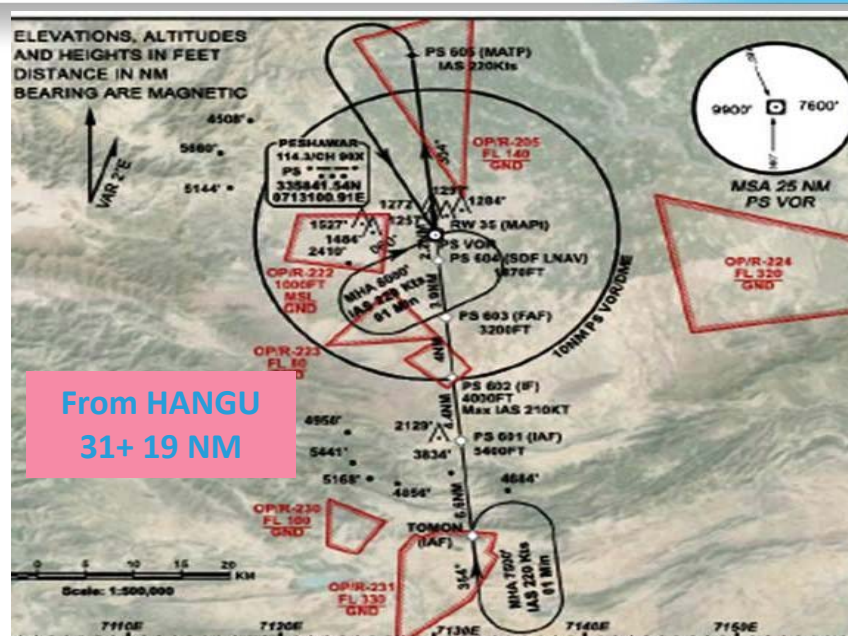
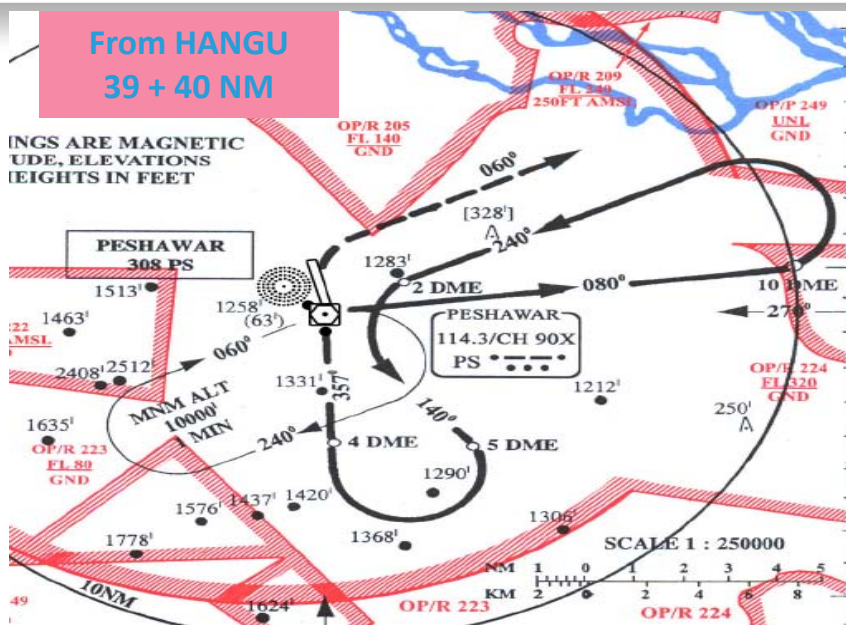
Operations Directorate, HQCAA, PAKISTAN
 Area Control Centre, KARACHI, PAKISTAN
 Area Control Centre, LAHORE, PAKISTAN
 Approach Control Office, ISLAMABAD, PAKISTAN

This certificate is valid from (year/month/day)
Ce certificat est valable à compter du (année/mois/jour)

2018-09-19 until
jusqu'au 2019-12-27

Franck LEBEUGLE
 Managing Director of AFNOR Certification
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PBN Implementation at BKIAP Peshawar - Improvement

**Saving
Saved
Emissions reduction**

**400 Kgs. fuel (B77)
29 NM
1250 Kgs. CO₂ Avoided**



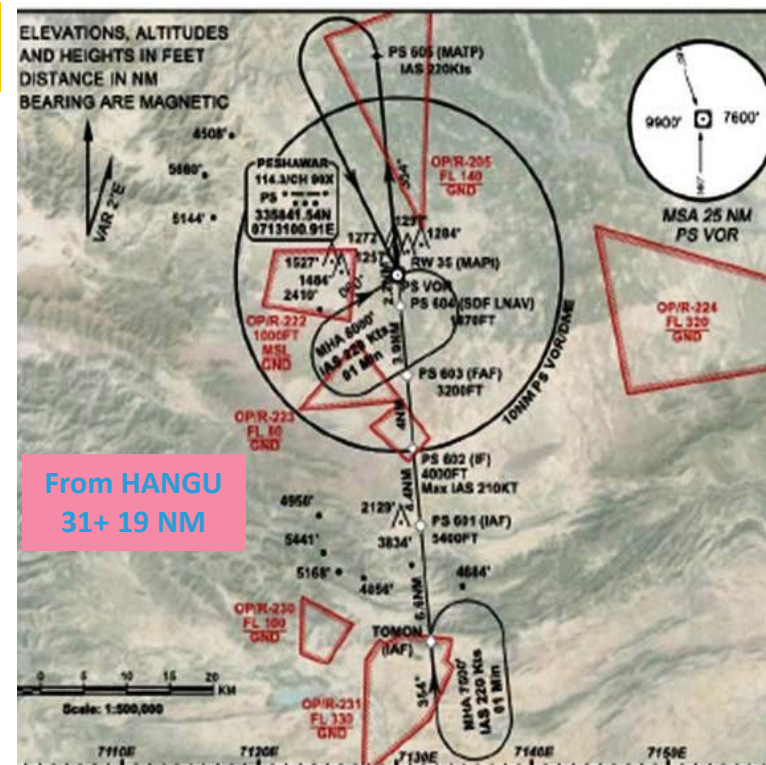
PERFORMANCE BASED NAVIGATION (PBN)

SAP 2016: PCAA committed Implementation of PBN across national skylines

Performance Based Navigation (PBN) is a change from aircraft navigating/flying using ground based navigation aids to using satellite based navigation systems on the flight deck that compute the aircraft's position.

- Efficiency improvements by using routes and approaches that minimize fuel burn.

Similar type of Approaches have been designed at all major airports... 99% Implementation Achieved





GROUND OPERATIONS

Ground operations cover major area of operational improvement

At major airports ground operations are the key in saving the time and ultimately Savings the Fuel consumption.

There are sizable improvements at the airside to optimize the time to cater better operational services.

The new Rapid Exit Taxiways are being constructed to SAVE the R/W Occupancy TIME of aircraft.

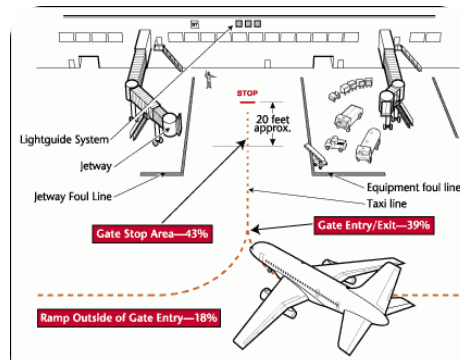
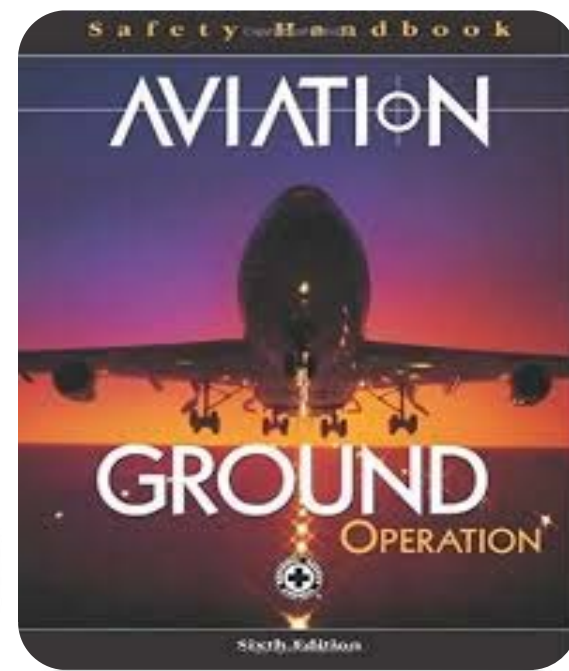


Figure 1—Ramp Operations Areas, and Percentage of Incident Locations in Data Set





CORSIA IMPLEMENTATION

CORSIA Implementation shall be major Breakthrough

- **Approx 01 Million Ton + CO₂** emissions, on Int'l routes, by our international carriers is big challenge to tackle in coming decade.
- Thanks to CORSIA, PCAA has learnt futuristic lessons in CO₂ measuring and offsetting thereof.





SUSTAINABLE AVIATION FUEL- SAF

PCAA aspires to be harbinger for adaptation of SAF in national aviation

PCAA has conducted a successful webinar on 7th Dec, 2020 by creating an unison amongst all stakeholders for introducing SAF as *Fuel of Future...*

OBJECTIVES:

- To create a platform for knowing this unique niche i.e. Sustainable Aviation Fuel (SAF) - Leading towards Sustainable Aviation.
- To create industry wide awareness on this nature's gift i.e. Bio-fuel to combat environmental degradation.
- To explore potential avenues in adapting Sustainable Aviation Fuel in futuristic prospects

CAA WEBINAR NEW HORIZON FOR GREEN FUTURE
Fuel of Future - Bio Fuel
A HARBINGER OF NEW ERA OF AVIATION ENERGY NEEDS

As envisioned by PCAA's Top Management to commemorate 38th Anniversary of Pakistan Civil Aviation Authority on high notes Directorate of SQMS is hosting an International Webinar on

Sustainable Aviation Fuel (SAF)
7th Dec, 2020, 11:00-12:00hrs (PST)
Worthy Air Vice Marshal Jamal Arshad
(Additional Director General CAA)
will chair the webinar

The webinar is an endeavor by
Safety & Quality Management System Directorate
"To create a platform for knowing the unique niche of Sustainable Aviation Fuel (SAF) - Leading towards Sustainable Aviation".
"To create industry wide awareness on this nature's gift i.e. Bio-fuel to combat environmental degradation"

PAKISTAN CIVIL AVIATION AUTHORITY
HQCAA, JINNAH TERMINAL COMPLEX, KARACHI



ORG. WIDE MASSIVE PLANTATION

GO- GREEN PCAA In Line with Nationwide Clean Green Movement

- Plants and vegetation are natural filters of air; so as to combat deforestation, Govt. of Pakistan has launched nation-wide *Clean Green Pakistan Movement*.
- PCAA, following the suits planted thousands of trees in the airports vicinity.



Plantation at MIAP



ENVIRONMENTAL- FRIENDLY INITIATIVES

Healthy habits for strong civic sense.

- PCAA has imposed restrictions on usage of Plastic bags.
- The initiative has induced the awareness amongst Pax and stakeholders to **Reduce , Reuse and Recycle.**





ENVIRONMENTAL- FRIENDLY INITIATIVES

Installation of LED Lights

- Replacement of traditional illuminious/ fluorescent lights with modern LED Lights. IIAP is fully functional on LEDs.
- PTB of JIAP has been fully illuminated with LED lights thus curtailing the energy cost by **50%** and replacement on other airports is in progress.



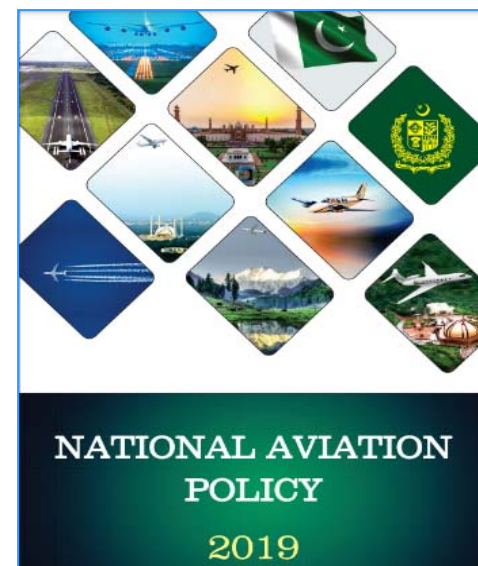
JIAP Lounge with LEDs



UNBURDENING THE ENERGY RESOURCES

Harnessing Renewable Sources of Energy

- PCAA has committed in its National Aviation Policy-2019 that***Solar, wind power and rainwater to be harnessed for airports to cater for at least 5% of the requirement.***





WWF PAK– PCAA is Platinum Sponsor

PCAA always a forerunner in supporting the environmental protection initiatives in the country

- PCAA is amongst platinum sponsor of WWF in Pakistan
- WWF- Pakistan shakes hand with PCAA in all Conservation projects at airports.





First Version	MAJOR TARGETS	SCOPE	ACHIEVEMENTS/ PROGRESS
SAP Aug: 2016	Implementation of Performance Based Navigation (PBN)	Across all Aerodromes	99 %
	Implementation of ISO 14001 ENVIRON. MGMT. SYSTEM	All Major Airports/ Fields	90 % <i>Other Medium sized Airports are also being prepared for Certification</i>
	Harnessing Renewable source of energy	Specific/ conducive Areas	Renewable Energy Program has been initiated
	Massive org. Wide Plantation	Organization wide	Org. Wide moment to neutralized CO2 emissions
	Implementation of CORISA	Organization wide	Successfully completed the CORSIA Central Registry emission data incorporation– Planning for next phase of CORSIA
	Various Soft-core Measures i. SAF webinar ii. Ban on Plastic Bag at airports iii. Commemoration of Earth Day-	Organization wide	Continuous awareness on Env. Issues



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STATE ACTION PLAN

CHALLENGES & OPPORTUNITIES FORESIGHTS



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PCAA's SAP- BACKSIGHTS , FORESIGHTS & INSIGHTS

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QUANTIFICATION OF OBJECTIVES / ACCOMPLISHMENTS

Data Sciences has emerged as most decisive genre of knowledge- so we think an integrated data management would give an impulse for better monitoring and evaluation.



“If you cannot measure it, you cannot improve it.”

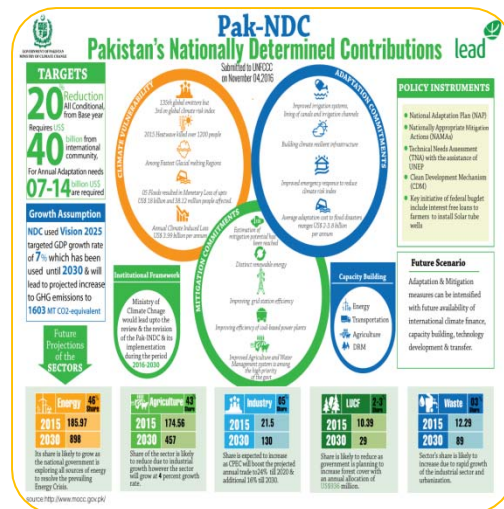


- W. Edward Demings



ROBUST STAKEHOLDER MANAGEMENT

WE do think it's time to develop more robust SAP to accommodate all the areas of Environmental Protection , Regulations, Compliances and most importantly ways and means to achieve them.













LEED CERTIFICATION

LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN

- It is estimated that Airports fall under top five energy consumption hub in any cosmopolitan.
- Certification like Leadership in Energy & Environmental Design (LEED) would be a instrumental in optimum utilization of energy.



 <p>Innovation</p> <p>Introduction of novel features and procedures</p>	 <p>Indoor Environmental Quality</p> <p>Use of natural light and efficient air conditioning</p>	 <p>Materials and Resources</p> <p>Responsible construction waste management and sustainable sourcing of materials</p>	
 <p>Location and Transportation</p> <p>Land protection and access to public transportation and green vehicles</p>	 <p>Sustainable Sites</p> <p>Sufficient green open space and light pollution reduction</p>	 <p>Energy and Atmosphere</p> <p>Optimizing sustainable energy production and metering</p>	 <p>Water Efficiency</p> <p>Indoor and outdoor water reduction</p>

Source: www.usgbc.org



ACQUISITION OF NEW STANDARDS/ CERTIFICATIONS

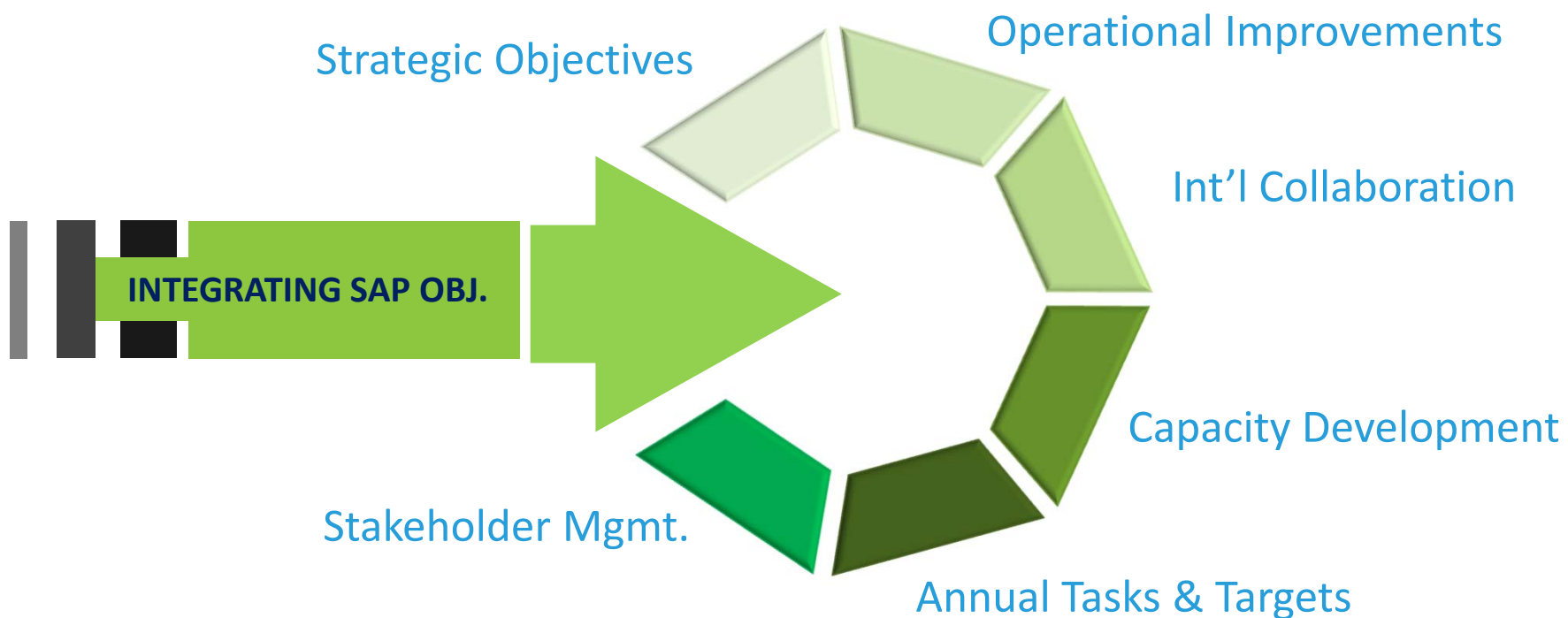
LEED Certification and ACA certification

- PCAA has experienced that acquisition of ISO standards has eased down the compliances especially when it comes to Regulatory Compliances. So we envisioned to extent the scope to other specific standard i.e. Energy Mgmt. System
- We also foresee that Airport Carbon Accreditation Program can help us in maintaining a status of Environmentally-responsible organization.



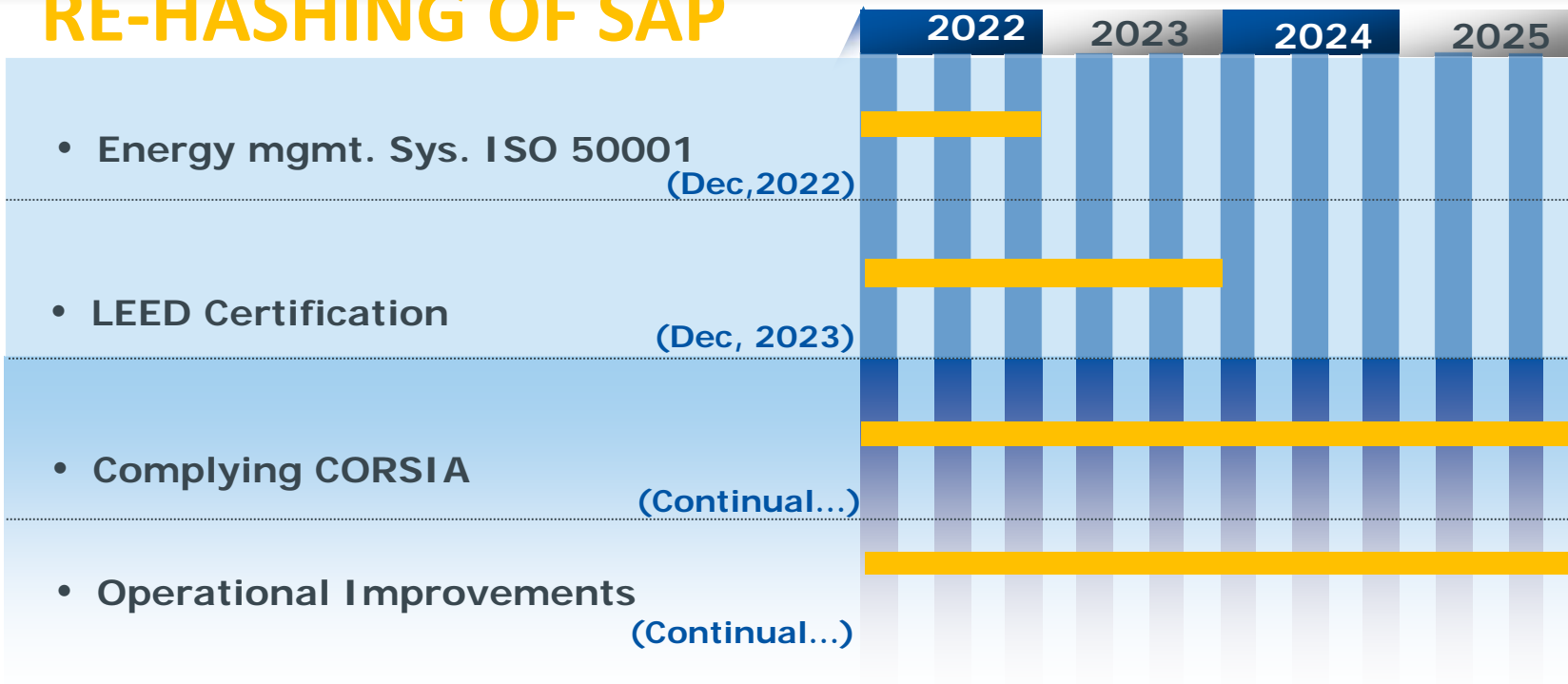


Integrating SAP Goals with Org's Strategic Goals





RE-HASHING OF SAP





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STATE ACTION PLAN INSIGHTS

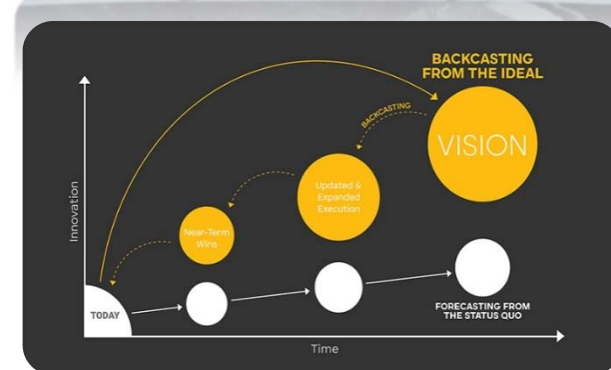




FUTURE CASTING : PEEPING INTO FUTURE

PCAA – Basic premise/ Formidable area

- YES.. The single most formidable aspect is to... *How to cast the Future while remaining in highly Volatile, Uncertain, Complex & Ambiguous world.*
- So, the basic takeaway is to make SAP highly futuristic by accommodating all Political, Economical, Social, Technological, Environmental and Legal (PESTEL) aspects.





I N S I G H T S



Well-devised SAP

Execution of SAP

Analysis of SAP

Deducing results of SAP

GIVE NUMERICAL VALUE TO OBJECTIVES for BETTER UPHOLDING OF EVALUATION



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LEAVING A SAFER EARTH FOR COMING GENERATIONS





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Central American
and Caribbean
[NACC] Office
Mexico City

South American
[SAM] Office
Lima

ICAO
Headquarters
Montréal

Western and
Central African
[WACAF] Office
Dakar

European and
North Atlantic
[EUR/NAT] Office
Paris

Middle East
[MID] Office
Cairo

Eastern and
Southern African
[ESAF] Office
Nairobi

Asia and Pacific
[APAC] Sub-office
Beijing

Asia and Pacific
[APAC] Office
Bangkok

QUESTIONS/ FEEDBACK/ COMMENTS

THANK YOU