Sustainable Development of Aviation Industry - A Case Study of Cochin International Airport Limited:

Abstract:

The study agenda developed is focused on aviation sustainability in its broadest sense, but the innovative solution offered by Cochin International Airport for reducing energy crisis issue in more detail. Green airports are gradually becoming an essential all around the country due to various reasons like a booming traffic, pressure to reduce carbon emissions and for financial and sustainable imperatives. Despite the current economic climate, there are good prospects for air transport growth in the medium term (20-30 years), but environmental issues associated with that growth threaten the longer term sustainability of the industry. At a global level, the fact that aviation climate, change emissions are increasing, and that aircraft will remain a legacy user of carbon fuels and producer of greenhouse gas emissions. At a local level, the environmental costs associated with airport growth like noise and community disturbance, local air quality, habitat destruction and energy usage make it increasingly difficult to secure additional capacity. Aviation is measured as one of the major sources of environmental troubles and a prominent cause of sustainability. In order to solve these problems, sustainable aviation strategy is formed aiming to offer innovative solutions to the challenges facing the aviation industry.

Introduction:

Over the past 50 years, aviation has had a major authority upon national and global socio-economic development, patterns of trade, tourism, migration and political alliances. Air transport plays a significant role in the current globalized world, it being one of the primary means of movement of freight and passengers from one angle of the world to the other. India is amid the top five fastest growing countries for plane passengers. In 2015-2016, Indian airports had a total of 223.6 million passenger‘s almost 55 million international passengers and 169 million domestic ones. Its growth, therefore, in terms of passengers is one of the fastest in the world with an estimated to reach 367 million passengers by 2034, according to a report by International Air Transport Association (IATA).

Green airports are gradually becoming an essential all around the country due to various reasons like a booming traffic, pressure to reduce carbon emissions and for financial and sustainable imperatives. In India, the airports are either managed by Airports Authority of India (AAI) or are managed under Public Private Partnership (PPP).

Cochin International Airport Limited (CIAL) is the first Greenfield airport setup in the Public Private Partnership (PPP) model in civil aviation infrastructure sector in India. This is the initial international airfield in India to be built with only a marginal (26%) State and Central Government stake in a public-private partnership (PPP) venture with an outlay of Rs.300 crores. CIAL is the natural outcome of the liberalisation process initiated by the Government of India and the enthusiasm and support the forward to emerge as a key contributor in the state‘s renewable power production sector and company received approval from the state government to set up eight small hydroelectric power stations across the state with a total capacity of 42.61 MW.The company has also paying concern on implements _canal-top power projects‘ across the state, introducing sun tracking planetary panels,which can adjust positions in accordance with the sun‘s movement, as an alternative to the existing stationary solar panels under the name of its subsidiary company CIAL Infrastructures

Limited. Thus, CIAL is looking forward to emerging as a key contributor in the state‘s renewable power production sector.

CIAL is also aiming at modification of production methods where a solar component could be added to every new project. Stimulated by the success of the above plants, CIAL decided to set up a larger scale 12MWp solar PV plant, installed by the Germany based M/s Bosch Ltd, an area of about 45 acres near the International Cargo complex as part of its green initiatives. The plant is equipped with a supervisory control and data acquisition system (SCADA), through which remote monitoring is carried out. Important solar components are manufactured by leading companies like Renesola and ABB India with a capacity of 265 Wp and 1 MW making the total output around 60,000 units.During the day time CIAL operate without the grid of KSEB and only in night it buy back the power from KSEB.One of the important impact is that all the operations in the airport are conducted with the help of solar which technically make the airport absolutely power neutral.

Environmental Impact:

One of the significant green impacts is thatsolar plant will produce 18 million units of power from sun, annually and in future, this green power project will evade carbon dioxide emissions from thermal based power plants by more than 3 lakh metric tonnes, which is correspondent to planting million. Another foremost impact is that the CIAL is looking forward to emerge as a key contributor in the state‘s renewable power production sector and company received approval from the state government to set up eight small hydroelectric power stations across the state with a total capacity of 42.61 MW .The company has also paying concern on implements _canal-top power projects‘ across the state, introducing sun tracking planetary panels, which can adjust positions in accordance with the sun‘s movement, as an alternative to the existing stationary solar panels under the name of its subsidiary company CIAL Infrastructures Limited. Thus, CIAL is looking forward to emerging as a key contributor in the state‘s renewable power production sector.

Conclusion:

Cochin International Airport Ltd (CIAL), which set a model for the rest of the world by becoming the first 'Green Airport,' by tapping solar power to meet its energy requirements and CIAL Infra spent around Rs.7 crores on this unit. This sustainable approach is a must for an airport that consumes around 48,000 units of power a day under the present climatic conditions of Kerala. Now, CIAL will rarely necessitate using energy from the grid, resulting in a saving of Rs. 7-8 lakh per month. This innovative approach is also clearly an answer to the challenges of the near future.In terms of passenger movement and travel business, CIAL maintaining the status-quo of being the fourth in terms of international passengers and seventh in terms of total passengers in the country. The airportwitnessed an overall increase of 15.06 per cent in passenger traffic during 2016 2017.Kochi records more than 1200 aircraft movements per week and the Airline services at CIAL went up to 61,463 during 2016 as against 56,196 in 2015. Through this green and sustainable expansion technology, Cochin airport transcend a message to the world.


COCHIN INTERNATIONAL AIRPORT GOES GREEN


Building Applied and Integrated Photovolatic
Solar car park
Land based Photovoltaic
Airport