



Blue Economy - Wave 70

(Series on "Blue Economy" By Capt. Gajanan Karanjikar)



Capt. Gajanan Karanjikar, Blue Economy Social Activist & Multi Modal Logistics Expert

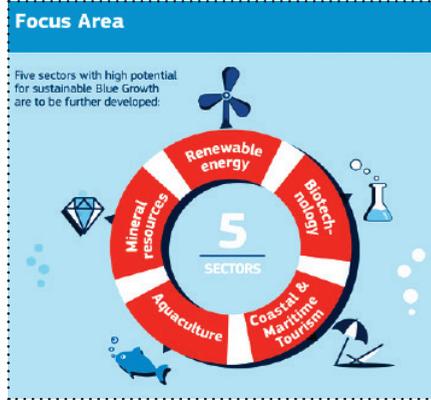
Blue Economy and Ocean Energy ... (cont..)

Wave energy:

Wave energy has not yet seen a convergence in technology. Almost 10 different types of wave energy technologies are simultaneously being pursued. This is partly based on the fact that wave energy is not yet as mature as tidal stream energy.

We think that for these technologies, public intervention is needed to bring down the costs and having scale advantages. Revenue and capital support through de-risking and innovative finance mechanisms will be crucial. Also, the permitting issue is a very important one to solve. International collaboration and involvement of multiple stakeholders can be key to advance the technologies and deployment.

But we have witnessed some good progress. For example, a few years ago,



tidal turbines had a capacity of only 100 kilowatts (KW), now they go for 1.5 MW. We think that in the next three to five years, 3.5 extra gigawatts (GW) of installed capacity may be added to the present level.

This is an important step forward for the sector because we are now moving from megawatts to gigawatts of installed capacity. And we think that 10 GW of ocean energy deployment worldwide will be possible by 2030.

Wave Energy:

Ocean wave energy (as distinct from internal waves or tsunamis) is energy that has been transferred from the wind to the ocean. As the wind blows over the ocean, air-sea interaction transfers some of the wind energy to the water, forming waves, which store this energy as potential energy (in the mass of water displaced from the mean sea level) and kinetic energy (in the motion of water particles). The size and period of the resulting waves depend on the amount of transferred energy, which is



Wave energy can potentially add 40,000 MW of capacity, and ocean thermal energy conversion (OTEC) is estimated to be 180,000 MW

a function of the wind speed, the length of time the wind blows (order of days) and the length of ocean over which the wind blows (fetch). Waves are very efficient at transferring energy, and can travel long distances over the ocean surface beyond the storm area and are then classed as swells (Barber and Ursell, 1948; Lighthill, 1978).

- Wave energy is generated by the movement of a device either floating on the surface of the ocean or moored to the ocean floor.
- Many different techniques for converting wave energy to electric power have been studied.
- Wave conversion devices that

float on the surface have joints hinged together that bend with the waves.

- This kinetic energy pumps fluid through turbines and creates electric power.
- Stationary wave energy conversion devices use pressure fluctuations produced in long tubes from the waves swelling up and down.
- This bobbing motion drives a turbine when critical pressure is reached. Other stationary platforms capture water from waves on their platforms.
- This water is allowed to runoff through narrow pipes that flow through a typical hydraulic turbine.

Yet another bonanza for Gujarat cruise service from Surat to Union territory of Diu

NEW DELHI
Sagar Sandesh News Bureau

In an yet another bonanza for Gujarat, the Port and Shipping Ministry has introduced bi weekly cruise service from Hazira in Surat to the union territory of Diu. The cruise will run two round trips a week and the sailing time will be around 14 hours

One side voyage time of the cruise service is approximately 13 to 14 hours. Cruise has the capacity of 300 passengers and has 16 cabins. This cruise will sail two round trips in a week. The Cruise has Gaming Lounge, VIP Lounge, Entertainment on Deck and other modern

amenities. One side journey will cost Rs.900+taxes(per head).

In November,2020, Prime Minister Shri Narendra Modi inaugurated 'Hazira-Ghogha' RoPAX service and within four months, One lakh passengers and thousands of vehicles utilised the ferry service to save journey time and the cost to travel from Hazira (Surat) to Ghogha (Bhavanagar). The success of the ferry service has opened the gates for many more routes of water transportation in Gujarat Mr Mansukh Mandaviya.

Mr. Mandaviya expressed optimism about the development of ferry, RoRo and ROPAX services between South Gujarat and Saurashtra region of Gujarat and said that water transportation

is the new future of transportation with state-of-the-art ferry terminals and modern facilities in the cruise services.

A mammoth cruise terminal at Mumbai port constructed by the ministry

The ministry has constructed a mammoth cruise terminal at Mumbai port and had made it a starting point for cruise liners visiting the country. Cruise terminals have also come up at Goa and Cochin to tap the global cruise tourism. A token terminal is also put in Chennai for the entire east coast.

The shipping Minister reiterated that Indian coastline has a huge potential for the



Shipping Minister flagged off the Cruise service from Hazira Port of Surat to Diu on March 31st via video conferencing.

cruise tourism industry and 6 International cruise terminals are being planned on both the west coast (Mumbai,Goa,Kochi) and east coast (Visakhapattanam, Kolkata, Chennai) of India. The potential however will remain only on paper and ministers keep talking about it

Today we have 450 cruise calls in the country despite the COVID-19 pandemic

There were 139 cruise calls at the Indian Ports during UPA regime but today we have 450 cruise calls in the country despite the COVID-19 pandemic. There has been a steady growth in the number of tourists traveling by Cruise Services since 2014. The number before 2014 was one lakh and the number of tourists in 2019-20 was 4.5 lakhs', said Mr Mandaviya.