



Shri Narendra Modi
Honorable Prime Minister

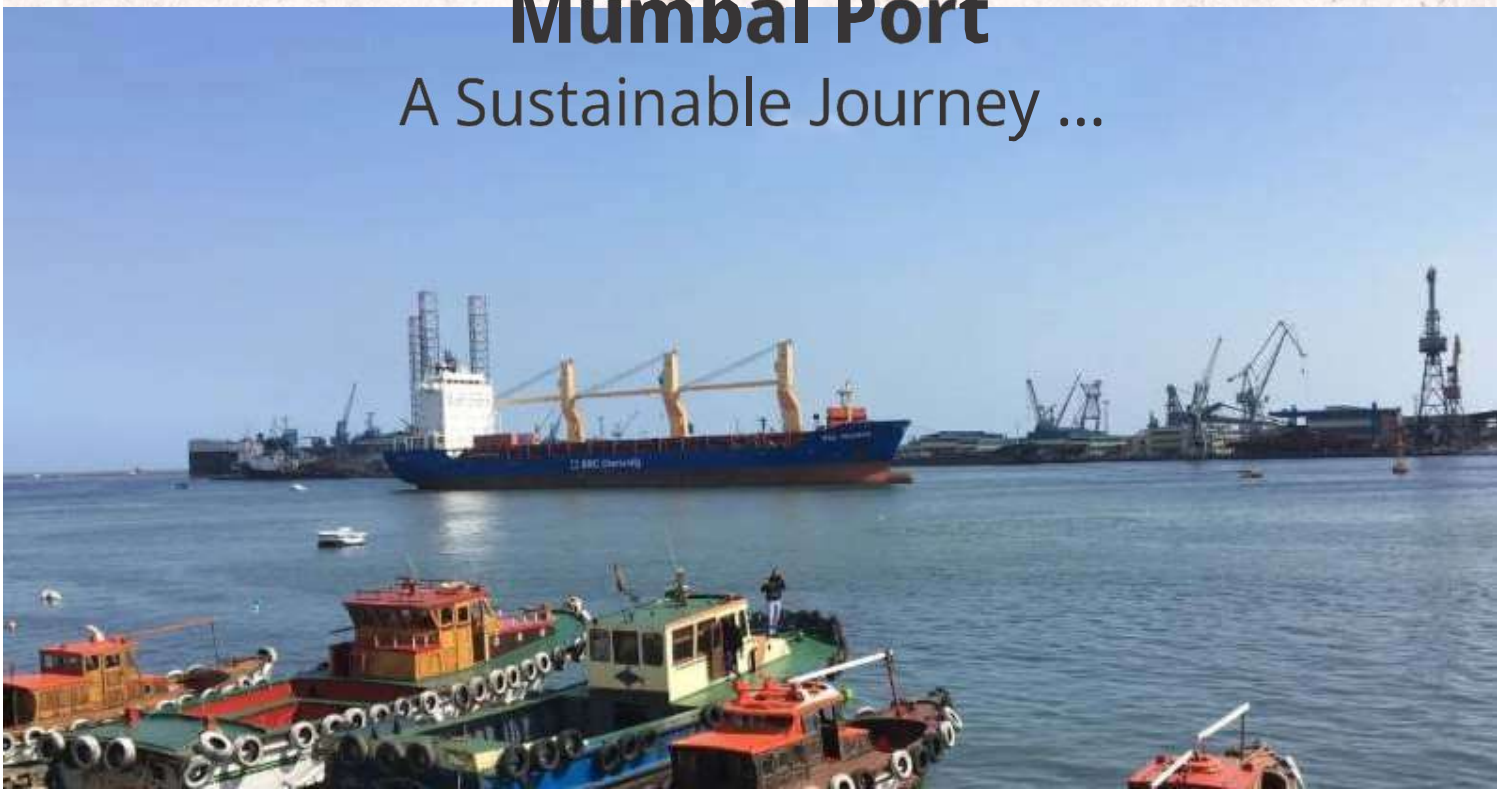


Shri Sarbananda Sonowal
Honorable Union Minister
Ports, Shipping & Waterways



Mumbai Port

A Sustainable Journey ...





Shri Shantanu Thakur
Honorable Minister of State
Ports, Shipping & Waterways



Shri T.K. Ramachandran
Secretary, Ministry of Ports,
Shipping & Waterways



Green Foot Prints of MUMBAI PORT





History of Mumbai Port dates back to 1782 with the idea of connecting 7 islands adjoining Mumbai to develop a **sheltered basin** and create an ample suitable land mass for economical, ecological and social sustenance of the great city of 'Mumbai'. The idea of joining of islands had **inbuilt motive of creation of 'new' and 'more'** for everyone including nature. With the completion of creation of basic infrastructure, in 1873 the Mumbai Port, in form of an organized entity came into existence, and since then it has been following sustainable development policies and practices ensuring financial, social and environmental sustenance.





Rajiv Jalota
Chairperson

Against the backdrop of global efforts to combat climate change and reduce greenhouse gas (GHG) emissions, India made a significant commitment during the 26th meeting of the Conference of Parties (COP26) in Glasgow, Scotland, in 2021, pledging to achieve Net Zero emissions by 2070. According to the United Nations Conference on Trade and Development (UNCTAD), the maritime sector is responsible for about 2.8% of global GHG emissions. The Ministry of Ports, Shipping and Waterways (MoPSW) outlined the Long-Term Low-Carbon Development Strategy, spelling out its various climate action strategies through Maritime India Vision 2030, 'Harit Sagar' Green Port Guidelines, Amrit Kaal vision document 2047. The Mumbai Port Authority (MbPA) has further aligned its efforts with these guidelines and has been contributing to a sustainable blue economy in and around Mumbai.

Mumbai Port has become first major port to quantify its carbon footprint and identify significant carbon contributors, following GHG protocol, and work to assess value chain carbon contributions are underway.

Resource allocation and advanced planning is on to tackle Scope 1 emissions. Action to tackle Scope 2 emission has already been initiated through procurement of Renewable Energy (RE) Power to meet more than 80% of port operations' power demand. A separate study is commissioned to assess Scope 3 emissions. The Port is confident to align its net zero targets along with the national targets set by our Honorable Prime Minister Shri Narendra Modi ji.





Environmental Sustenance

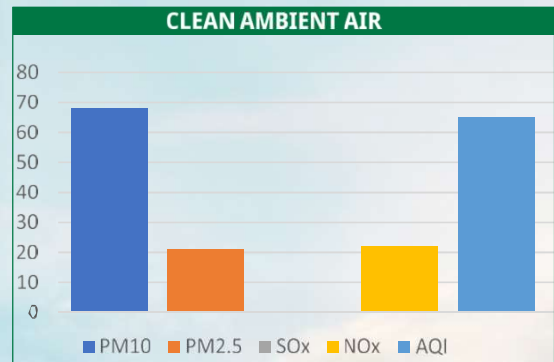
Ports provides place and facilitates loading and unloading of cargo and passengers to and from ships and by itself does not generate air and water effluents. However, during the entire operation of loading, unloading and transportation to hinterland, generation of waste and pollutants can't be ruled out because of fugitive emissions, emissions from transport, emissions from ships, etc. The Mumbai Port has always taken a holistic view of the entire process and adopted the best possible solution of the time. A few important initiatives and current scenario of sustainability are briefly enumerated below.

Strategic Sustainability Initiative

With passage of time, size of city and cargo transport needs of it's hinterland have grown. To reduce pressure on the city traffic, minimize pollution due to transportation of goods through city and maintain harmony with nature, the Mumbai Port decided to reorganize its operations and carved its business to create a separate port infrastructure away from city and across the harbor to handle containerized cargo, which became a separate legal entity in 1989.

Currently Mumbai Port handles liquid bulk, project cargo (breakbulk), LPG, automobiles, steel, foodgrains, etc. at berths and dry bulks at anchorages in a sustainable and environment friendly manner, leading to a healthy environmental quality in and around port bringing succour to the citizens.





Owing to clean operations and its effective monitoring, the Air Quality Index (AQI) of the port area remains fairly good throughout the year

Shore Power

Although air quality parameters are well within desired limits, the Mumbai Port has decided to provide clean alternative power (shore power) to ships at berths, enabling ships to switch off their auxiliary engines and cut down fossil fuel led emissions. This move will further improve air quality of the Port and the city. Shore power provisioning has been phased in following manner:

Phase-I: Shore power to port crafts has been implemented.

Phase -II: Providing shore power to cruise vessels is under implementation pipeline with investment of Rs. 150 crore to feed 270 Mega units per day to cruise vessels.

Phase - III: Between 2028-2030 all tanker handling berths shall be provided with shore power eliminating use of fossil fuels at berth.



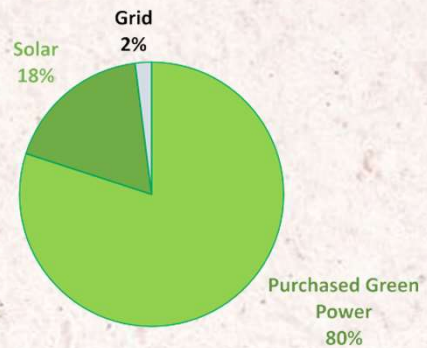
Sustainable Energy



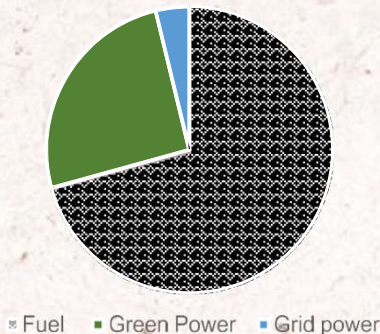
Total operational power requirement of Mumbai port is around 4.8 lakh KWH per month, of which 1.8 lakh KWH is generated through 1.4 MW rooftop solar PV. Balance power is purchased from the power distribution company as Green/RE power.

Mumbai Port is targeting to become surplus renewable power producer and 100% self-produced renewable power user by converting all usable rooftop spaces into solar energy surfaces.

ELECTRICAL ENERGY PROFILE



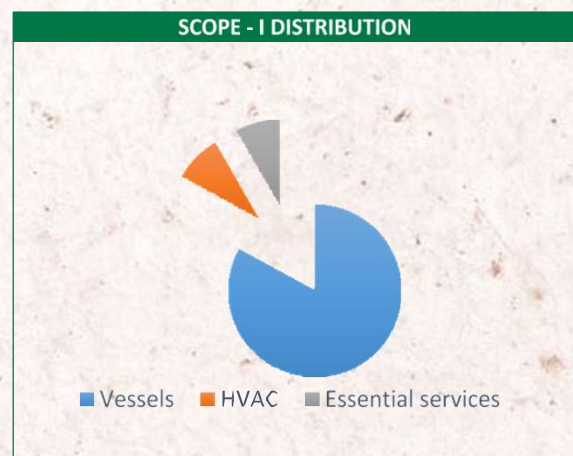
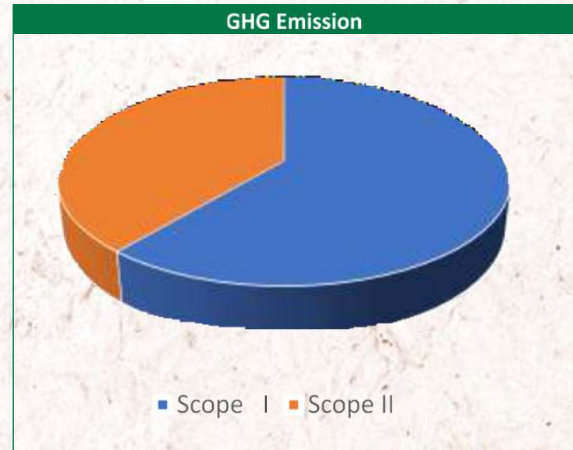
ENERGY MIX



Carbon Neutrality

Mumbai Port has become first major port to quantify its carbon footprint and identify significant carbon contributors and aims to become carbon neutral by 2040. Following initiatives have been taken to attain carbon neutrality, after identifying Scope-I and Scope-II GHG emissions:

- Replacement of conventional tugs by Green Tugs in a phased manner starting from 2027 to 2040.
- Replacement of Diesel-powered Pilot/Mooring launches by Zero emission/Green launches.
- SCOPE-I DISTRIBUTION
- Replacement of conventional high-power lights with Smart LED lighting and energy efficient pumps leading to 70% savings in energy consumption.
- Channelizing the electrification of third-party cargo-handling equipments.
- Green Fuel production, handling, storage, bunkering to facilitate conversion of entire ecosystem to zero emission.
- Attaining self-sufficiency in running the entire port ecosystem on RE-Power.
- Shore power to curb emissions from ships at berths



Carbon Sequestration

Utilizing scientific knowledge about carbon sequestration potential of Bamboo, Mumbai Port Authority started bamboo plantation drive with a target to cover all available and suitable spaces with Bamboo. The corporate entities operating in Mumbai are encouraged to support the drive and initial target of planting more than 1 lakh saplings on 132 identified plots through CSR. Bamboo plantation shall also generate employment and economic opportunities for local inhabitants.



Ecology and Biodiversity

Mumbai port has been able to sustainably coexist and nurture ecologically sensitive habitations of **Pink Flamingoes, mangroves, mudflats etc.**



Eco-Park

To give impetus to the conservation efforts and educate general public about ecological importance of these habitats an Eco-park is proposed to be created utilizing about 10 acre of existing sparse mangrove area within operational boundary of the port.

Initial studies for development and conservation plan have been completed and resource allocation is under process, to make the park unique in having aspects of conservation, nature tourism and mangrove related education and research as its integral components.



Circularity

Mumbai Port Authority relies on Zero Waste Policy and believes that right material at wrong place becomes waste, hence the material in excess or likely to become waste is shifted/transferred to the place where it can be used either directly or converted into its alternatives (recycling).

Commonly encountered materials such as wood, paper, plastics, rubber, oily bilge, oil sludge, slops, paint drums, paint chips, cans, cardboard, unusable electronic and electrical appliances, used batteries, compostable materials, sewage, materials generated during civil construction and demolition activities, are properly collected and recycled. During 2023-24 about 10000 tons of such material and 10000 KL of oil residues has been recycled.

Tunnel Muck (sediment generated during tunneling) generated from Mumbai Coastal Undersea Tunnel project and Ahmedabad–Mumbai Bullet Train project is being utilized for essential reclamation in Mumbai Port areas. Thereby preserving the equivalent edaphic ecosystem from additional damages and eliminating carbon emission for transport of muck to distant places for disposal.



Dredging

To accommodate growing ship size and maintain safe navigational depth, frequent dredging and clearance of the silt is an intrinsic port activity. Maintenance dredging is kept to its minimum by scientific estimation of the depth requirements and ensuring only as much dredging that is needed for safe navigation. Sustainable use of the dredged material is an overall ecosystem conservation approach. To explore possibility of such utilization a pilot research project has been under process in association with the department of Civil Engineering, IIT Bombay.

Diversity, Equality and Inclusion (DEI)

Mumbai Port Authority has always been on the forefront for providing conducive working atmosphere for individuals of different races, ethnicities, religions, abilities, genders, political perspectives and backgrounds. It provides a work environment that respects and values diverse voices and perspectives of different individuals in developing business landscape.

Two employees, representing the lowest hierarchy, are included in the highest management i.e. Mumbai Port Authority Board, ensuring equitable participation by every stakeholder.

The employees constitute 16% of women, 2% of divyangjan, 49% from lesser developed communities.

For harmonious industrial relations, employee unions have been provided with adequate voice and wage negotiations are done in a democratic process every 5 years for staff and 10 years for officers. Men and women employees have equal promotion rights, irrespective of the type of post.

Grievance redressal mechanisms have representations from all groups of employees or user groups.

Berth allotment process is most equitable and transparent and quite unique to Mumbai Port.

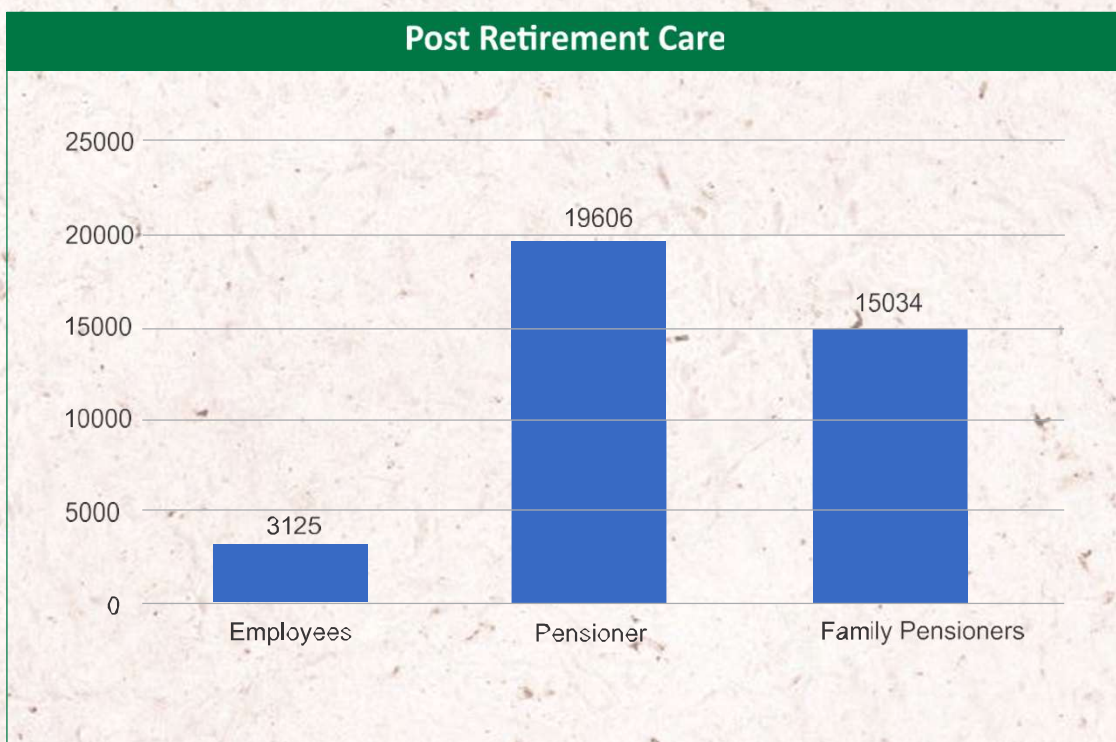




Mumbai Port Authority guarantees social security for its employees and their dependents during the service by providing free comprehensive medical coverage, gratuity, provident fund and other post-retirement benefits including pension to all its employees.

Pension scheme covers retired employees for whole of his/her life followed by family pension, after the death of the pensioner to his/her dependents including spouse, dependent girl child and dependent divyang child for whole of her/his life.

Employees and their dependents get full medical benefits even after retirement.



Community Outreach

Society has been one of the key stakeholders of the Mumbai Port since beginning, however because of operational reasons those who are not directly connected with the port do not get an opportunity to know more about the activities of the Port, shipping and other logistics operations happening inside port boundary. The Mumbai Port has started a programme '**Outside Community Inside**' facilitating citizens in familiarization to the Mumbai port activities. The '*Outside Community Inside*' is observed from 26th November to 1st December every year, facilitating community and port interaction.



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MUMBAI INTERNATIONAL CRUISE TERMINAL



Centre of Excellence on Environmental, Social & Governance (ESG) and Circularity

To give impetus to sustainable initiatives and drive a change, Mumbai Port Authority, on its 150th anniversary, created a **“Centre of Excellence on Environment, Social and Governance (ESG) and Circularity”**. The center shall help maritime organizations in improving their ESG, climatic resilience, adaptation, and circularity performance. The centre has been functioning under Mumbai Port Sustainability Foundation, a Not for Profit entity incorporated under Section 8 of the Companies Act to channelize more concentrated efforts in making a positive change to the ecosystem functioning.

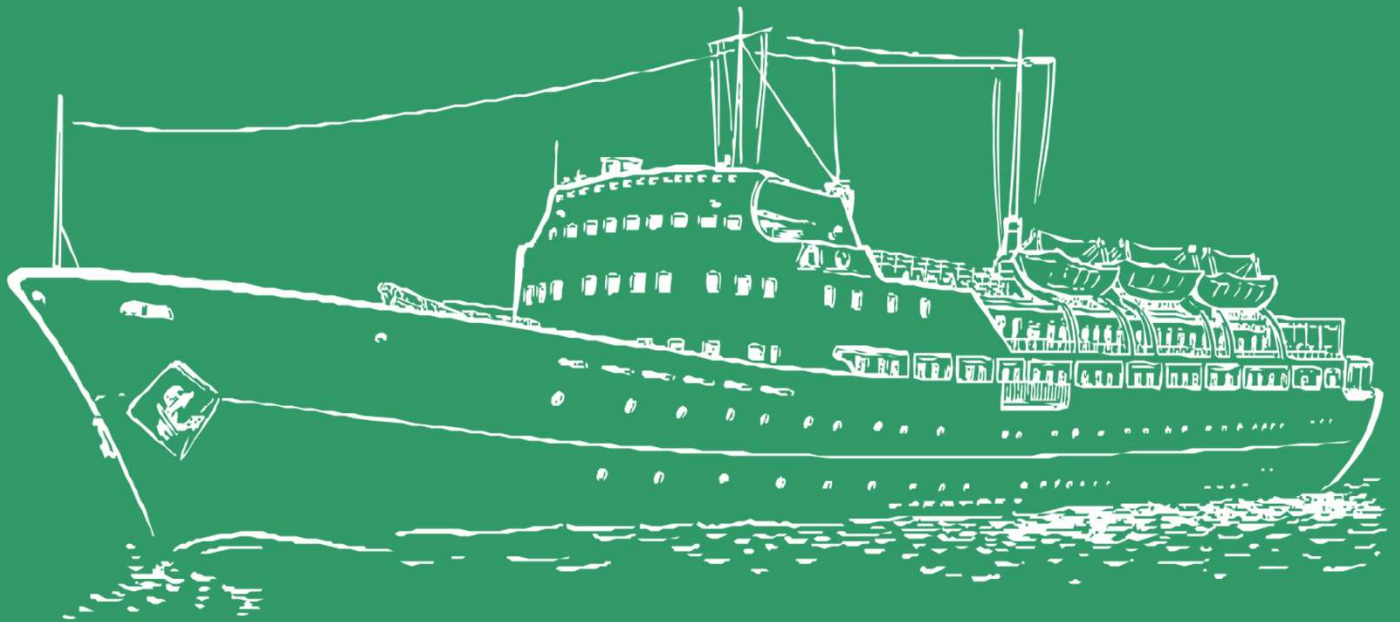
For more details please visit : www.portofsustainability.org
E-mail : mumbaiport@portofsustainability.org



Water Conservation

Mumbai port receive treated water from Brihanmumbai Municipal Corporation (BMC) and distribute for human consumption in households, colonies and offices apart from supplying to ships for on-board human consumptions. The waste water from such supplies pass through drainage /sewerage network maintained by the BMC, except for the Port's Colony at Colaba, where the waste water is treated by Mumbai Port itself through a separate 250 KL per day sewage treatment plant. The treated waste water is re-used in maintenance of Sagar Upwan, a botanical garden owned and maintained by the Mumbai Port.







Mumbai Port Authority

www.mumbaiport.gov.in