

# Special Session

DAY 2:  
WEDNESDAY, 22 MAY  
15:00 – 17:00 (GMT-4)  
Marigold Annex



Global Supply Chain  
**Forum**  
Barbados



# Port Endeavor Game



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# PORT ENDEAVOR

Partners



Antonis Michail, IAPH technical director and WPSP coordinator

Mark Assaf, Chief HRDS -TrainForTrade UNCTAD

Barbados, 22 May 2024

## Agenda of the day



- Introduction to the game and the session
- Port Endeavor game play (1 hour)
- De-briefing and discussion







Founded in 1955, IAPH is the global port alliance, representing today around 180 port regular members and 150 associate members linked to ports in 87 countries. Together, IAPH port members handle more than one third of global maritime traffic and more than 60% of container traffic.

IAPH has a consultative status and represents the interests of world ports at IMO and additional UN agencies such as the ILO, UNCITRAL, UNCTAD (UN Conference on Trade and Development), UNEP (UN Environment Program) and the UN Global Compact.

IAPH works closely with the World Bank, and World Customs Organization, the Global Maritime Forum, and World Economic Forum.

Leading the World Ports Sustainability Program (WPSP)

Key strategic focus areas: Climate and Energy, Data Collaboration, Risk and Resilience



# World Ports Sustainability Program



*Mission : To integrate the 17 UN SDGs in port governance*





# WPSP Database of sustainability projects

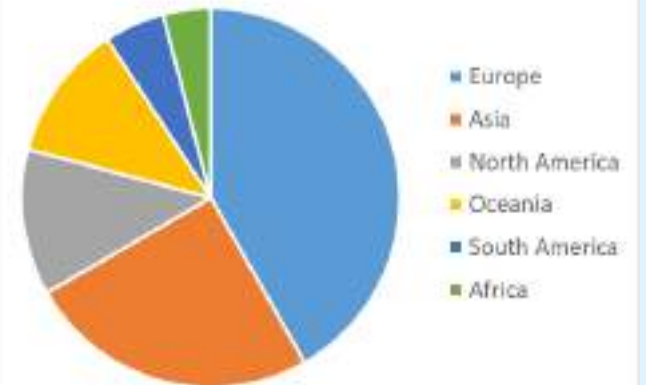


327  
PROJECTS

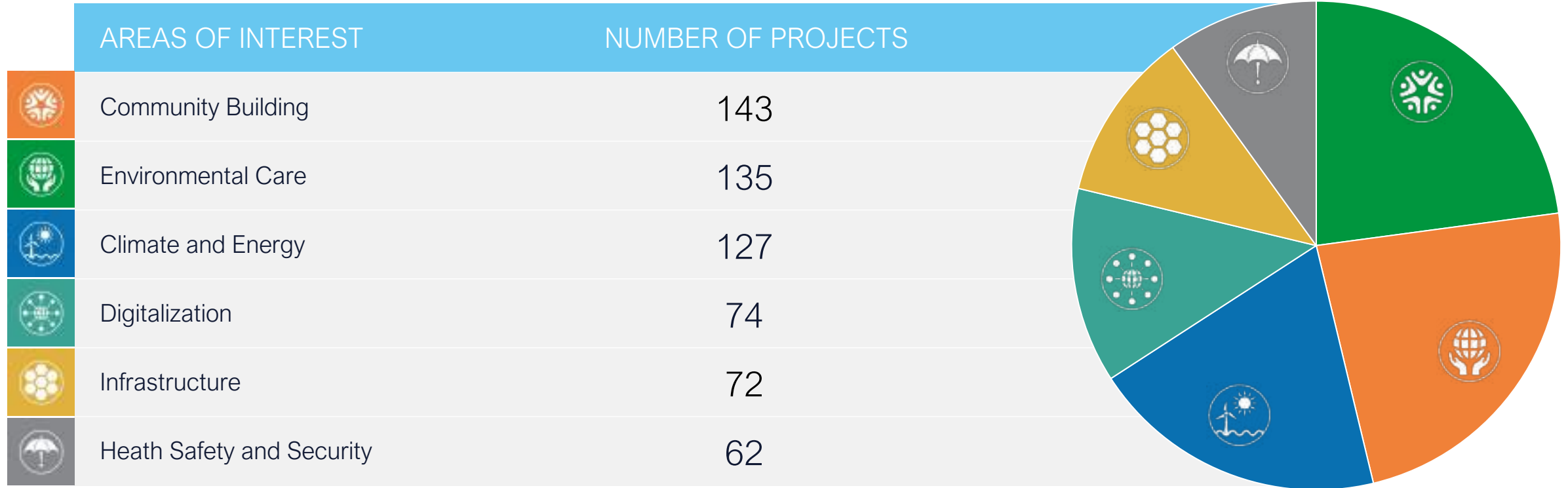
132  
PORTS

58  
COUNTRIES

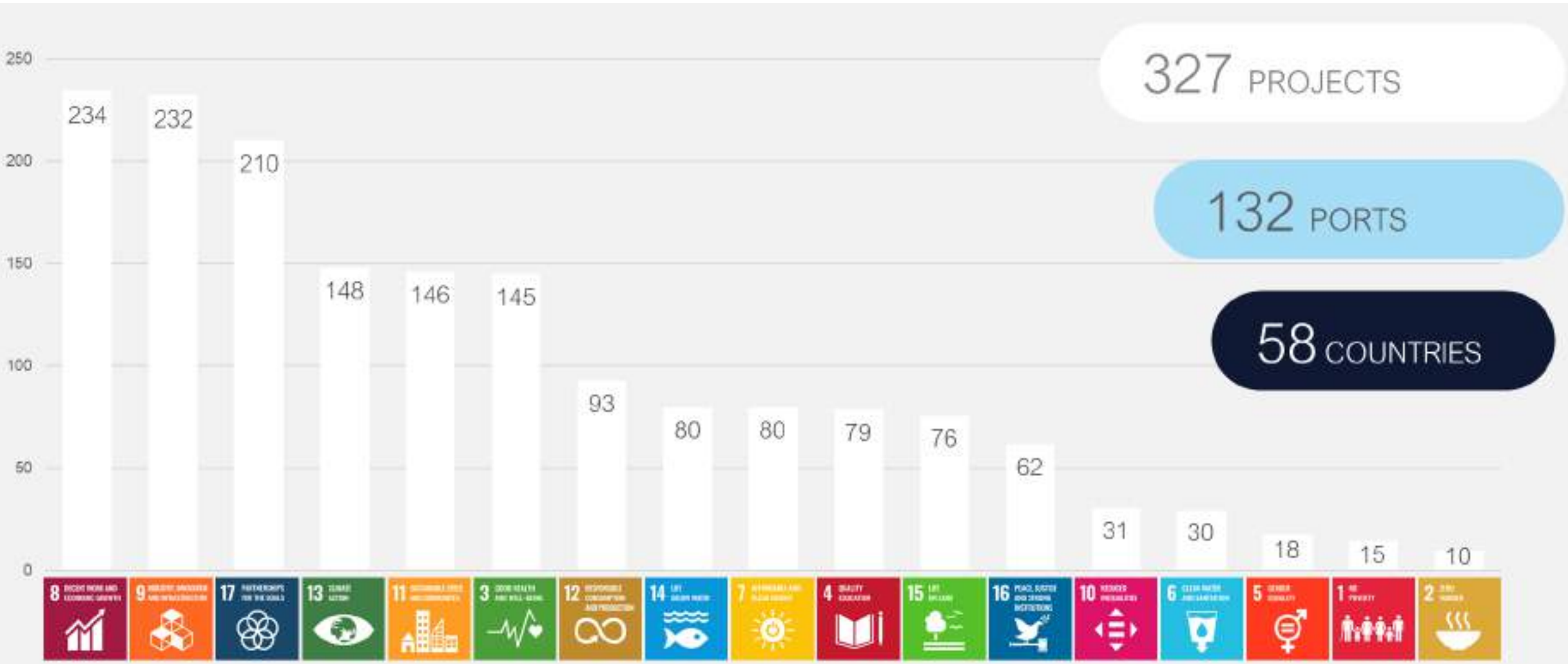
Number of projects per Continent



# WPSP port projects portfolio (327 projects)



# Number of projects per SDG





# IAPH Sustainability Awards



✓ **Call for entries for 2024 – deadline 31 May**

#IAPH2023  
SUSTAINABILITY AWARDS  
WINNERS

**WSPSP** **iaph**

<b>INFRASTRUCTURE</b> 	<b>DIGITALIZATION</b> 
<b>Busan Port Authority</b> Recycling of aggregates for construction	<b>Halifax Port Authority</b> Data Enhancement Framework 2 (DEF2)
<b>CLIMATE AND ENERGY</b> 	<b>COMMUNITY BUILDING</b> 
<b>Port Authority of Santa Cruz de Tenerife</b> Tenerife Port ZERO	<b>Puerto Dock Sud</b> Gender Equality; "Train for Work" program
<b>ENVIRONMENTAL CARE</b> 	<b>HEALTH SAFETY &amp; SECURITY</b> 
<b>Yeosu Gwangyang Port Authority</b> Marine Plastic Collection and Utilization Network	<b>Yeosu Gwangyang Port Authority</b> Keeping port workers healthy

# Joint UNCTAD-IAPH workshop in Geneva 2019



SUSTAINABLE  
DEVELOPMENT  
**GOALS**





# Blueprint of ports' contribution to each of the 17 SDGs

## Application of the 17 UN SDGs in ports

The document displays 17 Sustainable Development Goals (SDGs) with their respective icons and a brief description of how ports contribute to each goal. The goals are arranged in a grid-like fashion, with some icons appearing larger than others. The text is organized into columns corresponding to the SDG icons.



[www.sustainableworldports.org](http://www.sustainableworldports.org)



# Port Endeavor business game on SDGs



### CUT DOWN ON CARBON & GHG EMISSIONS

The city has developed a vision to achieve carbon neutrality. This implies efforts to reduce land-side greenhouse gas (GHG) emissions. The port is a vital part of this project.

However, the seaborne and waterside CO2 emissions from vessels haven't been tackled yet. The port management body is asked to take action and assist in the decarbonization of shipping.

#### SOLUTIONS

<p><b>1</b> Cost: 3 ★</p> <p>You partner up with other ports to provide common incentives for more efficient and less polluting vessels who visit the port, based on the Environmental Ship Index (ESI).</p> 	<p><b>2</b> Cost: 4 ★</p> <p>You work together with shipping companies and national chain stakeholders on port call optimization. That way, you enable just-in-time (JIT) arrival of vessels. As a result you reduce berth waiting time and ultimately reduce gas emissions.</p> 
<p><b>3</b> Cost: 6 ★</p> <p>You work together with border agencies, shipping companies and authorities to ensure the supply and availability of low- and zero-carbon fuels. Meanwhile, you address any legal and infrastructural barriers that might undermine the efficient and safe handling and bunkering of such fuels.</p> 	<p><b>4</b> Cost: 8 ★</p> <p>You stand in the position of Oriskany Power. Supply 100% of the port's energy needs from renewable energy sources in all terminals of the port.</p> 

PORT ENDEAVOR



## Port Endeavor: Official launch in 2021

- Knowledge base concept was created at the joint UNCTAD-IAPH workshop in Geneva HQ in April 2019
- Development of game dynamics and content by IAPH and experts from Port of Antwerp-Bruges
- Real life examples from the WPSP database of 327 projects and best practices from 132 ports from 58 countries
- Available in English, French and Spanish
- Offered in partnership with:



Antwerp & Flanders  
Port Training Centre



**TrainForTrade**  
Strengthening capacities  
for sustainable development

## PORT ENDEAVOR



## MISSION IN THE GAME AND HOW TO ACHIEVE IT

Your mission is to develop your port in the most sustainable way.

This can be achieved by:

- Getting rewarded with the highest number and variety of SDGs based on the solutions you choose to implement
- Number of SDGs: Each rewarded SDG gives you 1 point
- Variety of SDGs: Groups of SDGs can earn you WPSP badges and can help you to achieve your personal endeavors
- The budget offers the means to achieve your mission, but you are not evaluated on how much money you have left at the end of the game
- The team with the highest number of points at the end wins





## PORT ENDEAVOR GAME CONCEPT

- 6 Harbor teams, 6-7 persons per team
- Each team starts with a budget of ¥8
- In each round, teams are asked to respond to a sustainability challenge by selecting one of four available solutions
- Solutions cost money and get rewarded by relevant SDGs. Each SDG = 1 point
- Each port regenerates an income of ¥4 per round



## PORT ENDEAVOR GAME CONCEPT

- This income may increase by an additional A1 per each rewarded economic SDG (7, 8 and 9) in the previous round
- Disruptive events may occur (luck factor) from the 3rd round onwards
- These events have a financial impact that may be reduced if relevant SDGs have been achieved in previous rounds
- Point awards system to decide who wins



### FUEL FIRE ACCIDENT

IMPACT ON YOUR PORT:

The port terminal closed to carry out investigation and cleanup efforts

During ship-to-ship fuelling operations a cryogenic hose has broken loose and releasing liquefied natural gas (LNG). The leakage is estimated at 120 kilograms of LNG.

What is even worse, the fuel leak has caused serious burns to three workers, who are severely injured as a result.

The port is investigating the incident and the Coast Guard is scheduled to meet today with everyone who was involved.

Available Coastal Activities	Operations Impact	Financial Penalty
None	Port terminal closed for 48 hours	★ ★ ★
	Port Terminal closed for 12 hours	★

PORT ENDEAVOR

## COLLECTING POINTS BY ACHIEVING WPSP BADGES





## HOW TO ACHIEVE THE PERSONAL ENDEAVORS

- Each team member is given a role with an associated goal/Endeavor to gain specific SDGs.
- Achieving your Personal Endeavor gets your team 3 points

**CEO**

**YOUR PERSONAL ENDEAVOR:**  
ACHIEVE THE HIGHEST VARIETY OF ECONOMIC OBJECTIVES

You manage the overall strategy. You are in charge of the business's commercial and operational management of the port. The metrics you are focused on for this year's Personal Endeavor are: revenue, cost efficiency, and customer social responsibility.

**PORT ENDEAVOR**

**EMPLOYEE REPRESENTATIVE**

**YOUR PERSONAL ENDEAVOR:**  
ACHIEVE THE HIGHEST VARIETY OF SOCIAL OBJECTIVES

You have direct contact with your employees. It is your job to ensure the interests of the port's employees are taken into account. Focus is on the employee.

**PORT ENDEAVOR**

**BOARD MEMBER**

**YOUR PERSONAL ENDEAVOR:**  
ACHIEVE THE HIGHEST VARIETY OF SUSTAINABLE INFRASTRUCTURE DEVELOPMENT

As a member of the governing body of the port, you determine the long-term strategy. You are responsible for ensuring the port's infrastructure is well equipped for the future.

**PORT ENDEAVOR**

**PUBLIC RELATIONS MANAGER**

**YOUR PERSONAL ENDEAVOR:**  
ACHIEVE THE HIGHEST VARIETY OF SOCIAL OBJECTIVES THAT EMPOWER THE COMMUNITY

You are responsible for creating communication and for ensuring that the port's activities are well understood and that the public is informed.

**PORT ENDEAVOR**

**SUSTAINABILITY MANAGER**

**YOUR PERSONAL ENDEAVOR:**  
ACHIEVE THE HIGHEST VARIETY OF ENVIRONMENTAL OBJECTIVES

You coordinate all of the port's Corporate Social Responsibility (CSR) activities. You are responsible for reducing the environmental impact and optimizing the social impact of the port's commercial and operational activities. Your aim is to do this in an innovative and economically-efficient way.

*In order to do so, guide your harbor team to collect the highest variety of the following SDG-cards.*

**PORT ENDEAVOR**

## ACTIVITY CARDS

- Initial version presented to the teams to decide on response



### BREAK THROUGH THE NOISE

During the last few years, your harbor's port authority has been receiving more and more noise disturbance complaints from residents near the port's cruise terminal, due to running engines. NGOs (non-governmental organizations) and the local community media are asking you to take immediate action.

#### SOLUTIONS

<p><b>1</b> Cost: 3 ★</p> <p>You implement a monitoring and reporting system for cruise vessels noise. Based on this, you provide incentives to quieter vessels and you let noisy vessels berth as far as possible from the residential area.</p>	<p><b>2</b> Cost: 6 ★</p> <p>You invest in the provision of Onshore Power Supply (OPS) in the cruise terminal. That way, vessels turn off their engines while at berth.</p>
<p><b>3</b> Cost: 4 ★</p> <p>You plant trees and install noise barriers towards the residential areas. In addition, you provide sound insulation to exposed houses near the cruise terminal.</p>	<p><b>4</b> Cost: 8 ★</p> <p>You relocate the cruise terminal further away from the residential area.</p>

THE SOLUTIONS MIGHT CONTRIBUTE TO ONE OR MORE OF THE FOLLOWING SDG'S:



PORT ENDEAVOR

## ACTIVITY CARDS

- Version with SDGs attributed to each response option (only presented after the team's decision)



















### BREAK THROUGH THE NOISE

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**PORT ENDEAVOR**

### SOLUTIONS

<p><b>1</b> Cost: 3 ★</p> <p>You implement a monitoring and reporting system for cruise vessels noise. Based on this, you provide incentives to quieter vessels and you let noisy vessels berth as far as possible from the residential area.</p> <div style="display: flex; justify-content: space-around;">   </div>	<p><b>2</b> Cost: 6 ★</p> <p>You invest in the provision of Onshore Power Supply (OPS) in the cruise terminal. That way, vessels turn off their engines while at berth.</p> <div style="display: grid; grid-template-columns: repeat(3, 1fr); gap: 5px;">       </div>
<p><b>3</b> Cost: 4 ★</p> <p>You plant trees and install noise barriers towards the residential areas. In addition, you provide sound insulation to exposed houses near the cruise terminal.</p> <div style="display: flex; justify-content: space-around;">   </div>	<p><b>4</b> Cost: 8 ★</p> <p>You relocate the cruise terminal further away from the residential area.</p> <div style="display: grid; grid-template-columns: repeat(3, 1fr); gap: 5px;">       </div>



## What we would like from you:

- Be active and engaged
- Be competitive - try to win
- Learn in the process while addressing real port challenges
- Give us your feedback and suggestions at the end
- And the most important, enjoy the game !



# REGISTRATION

## USING **QR** CODES

LET'S PLAY!





# DEBRIEFING / **EVALUATION OF THE SESSION**

Real life cases at play


## CLEAR THE AIR

Excessive concentration levels of pollutants such as Nitrogen Oxides (NOx), Sulphur Oxides (SOx) and Particulate Matter (PM) are regularly being recorded in the city center. The city council is formulating a clean air strategy and asks the port to contribute by taking immediate action to reduce emissions from its operations and improve air quality.

### SOLUTIONS

**1** Cost: 2 ★

You install a network of air quality monitoring stations in selected locations in the port area. That way, you can identify the main pollution sources, assess the impact of port emissions on local air pollution and provide an informed response. You communicate the results of the monitoring program through a publicly-accessible online portal.



**2** Cost: 5 ★

You invest in a state-of-the-art zero emissions port authority fleet and vehicles to reduce the port's footprint. That way, you set a good example for all stakeholders in the port community. In addition, you provide incentives for employees to use public transport for commuting to work.




**3** Cost: 3 ★

You partner up with other ports to incentivise more efficient and less polluting vessels visiting the port, based on the Environmental Ship Index (ESI).



**4** Cost: 8 ★

You work together with the city council and the national energy provider to urgently stop operations of the coal energy plant inside the port's industrial area. You replace it with renewable energy production.



**PORT ENDEAVOR**





Real life cases at play

## BE ON THE SAFE SIDE

Three port employees recently got injured in an accident during cargo handling operations. Local media are now openly questioning health and safety provisions at the port. The port management investigates how to improve the situation.

### SOLUTIONS

<p><b>1</b> Cost: 3 ★</p> <p>You improve existing health and safety training programs for all port employees in line with industry best practice and launch an information campaign on health and safety.</p> 	<p><b>2</b> Cost: 5 ★</p> <p>You update the port's inventory of safety equipment, with the best available technologies and conduct frequent emergency drills and simulation exercises involving all relevant stakeholders.</p> 
<p><b>3</b> Cost: 5 ★</p> <p>You introduce an online emergency notification and reporting system, accessible to all port stakeholders and relevant authorities. That way the port is able to respond quickly to emergency situations.</p> 	<p><b>4</b> Cost: 3 ★</p> <p>You team up with the dockers' union, terminal operators and main shipping lines in the port to jointly implement concrete operational measures to enhance safety during cargo handling operations.</p> 

**PORT ENDEAVOR**





Real life cases at play

### CUT DOWN ON CARBON & GHG EMISSIONS

The city has developed a vision to achieve carbon neutrality. This implies efforts to reduce landside greenhouse gas (GHG) emissions. The port is a vital part of this project.

However, the seaborne and waterside CO2 emissions from vessels haven't been tackled yet. The port management body is asked to take action and assist in the decarbonization of shipping.

**PORT ENDEAVOR**

### SOLUTIONS

**1** Cost: 3 ★

You partner up with other ports to offer incentives for more efficient and less polluting vessels visiting the port, based on the Environmental Ship Index (ESI).



**2** Cost: 4 ★

You work together with shipping companies and nautical chain stakeholders on port call optimization. That way, you enable just-in-time (JIT) arrival of vessels. As a result you reduce berth waiting time and ultimately reduce gas emissions.



**3** Cost: 6 ★

You work together with bunker suppliers, shipping companies and authorities to ensure the supply and availability of low- and zero-carbon fuels. Meanwhile, you address any legal and operational barriers that might undermine the efficient and safe handling and bunkering of such fuels.



**4** Cost: 8 ★

You invest in the gradual provision of Onshore Power Supply (DPS) from renewable energy sources in all terminals of the port.





**International Taskforce**



**Port Call Optimization**

**Port of Amsterdam – Ensuring Safe Distances for Alternative Fuel Bunker Operations**

**Mauritius Ports Authority – Feasibility Study for Onshore Power Supply**



Real life cases at play

## CLEAN UP YOUR ACT

The port has recently signed up for the Port Clean Up Action Day. In line with this commitment, the port is required to take action towards a clean and waste-free port. A meeting is called to decide what actions should be taken.

### SOLUTIONS

**1** Cost: 4 ★

You set up a network of segregated garbage bins, around the port area and the docks. You also ensure frequent and regular waste collection and clean-up of the port area. In addition, you appoint a specialized clean-up vessel to efficiently collect floating debris from the port waters and ensure the proper processing of all collected waste.

**2** Cost: 3 ★

You organize an annual, week-long "Clean Port Festival." At the festival, the port community discusses ways to reduce waste, re-use and recycle materials. The festival also features activities like clean-up actions in the nearby beaches and nature reserves, educational seminars, workshops and a trade fair with products from recycled materials.

**3** Cost: 2 ★

You establish a "Fishing For Litter"-program which financially rewards local fishermen for collecting marine litter (e.g. fishing nets, plastics) and delivering it to the port. This improves social cohesion and supports fishermen's incomes.

**4** Cost: 6 ★

You partner up with relevant companies and local authorities to establish a port recycling center. The recycling center will collect and process all the solid waste streams from both the port industrial area and the visiting vessels. It will actively seek innovative ways to re-use the collected waste streams demonstrating and promoting circularity.

PORT ENDEAVOR





Real life cases at play

## GET THE BEST OF BOTH GENDERS

The employee population in your port is overwhelmingly male. A balance between the number of men and women in the workplace at management, board and supervisory board level has been proven as being more productive. Your port is taking specific measures to address the current unbalance.

### SOLUTIONS

<p><b>1</b> Cost: 2 ★</p> <p>You establish a quota that entails at minimum one third of the executive board and the supervisory board members to be of the opposite sex. You target these changes to be made over the next two years.</p> 	<p><b>2</b> Cost: 4 ★</p> <p>You actively strive to have a 50/50 gender balance at management level in all departments. You implement measures to ensure gender-equal selection procedures, equal pay for women and men. You also introduce family-friendly policies to enable a good work-life balance for both women and men.</p> 
<p><b>3</b> Cost: 3 ★</p> <p>You target the increase of the number of women enrolling to obtain port operations-related qualifications (e.g. controllers of automatic cranes, operators for ship-to-shore cranes, supply chain experts). You do so in collaboration with dedicated training and educational institutes. You award scholarships and support lower academic subscription fees for women.</p> 	<p><b>4</b> Cost: 1 ★</p> <p>You create female ambassador roles in the public relations, HR and sustainability departments.</p> 

**PORT ENDEAVOR**





Real life cases at play

## PURIFY THE RIVER

Stormwater runoff from a chemical company in your port has led to strong pollution of the nearby river. Downstream of the river, local communities use the river's water for household purposes. Children are getting sick.

### SOLUTIONS

**1** Cost: 3 ★

You secure locations where free clean water can be collected by the local communities and you run a respective information campaign.



**2** Cost: 2 ★

You implement a monitoring system in the river to monitor the water quality near the local communities. When critical values of pollution are exceeded, an alarm goes off so residents are alerted.



**3** Cost: 6 ★

You contract a local NGO to apply phytoremediation in the river. This is a method to treat chemically polluted water by using plants to absorb, degrade or immobilize pollutants in the water.



**4** Cost: 6 ★

You co-invest with the chemical company to completely redevelop its site, with sufficient provisions for drainage.



**PORT ENDEAVOR**





Real life cases at play

## DEVELOP THE RURAL AREA

Your public port is located in the richest part of the country, situated in the coastal area. There is a big gap with the poorer, rural hinterland. The government is asking the port's management to tackle this issue.

### SOLUTIONS

**1** Cost: 7 ★

You acquire an outdated and poorly run dry port in the rural area, in which you invest heavily as a container freight station to stimulate economic development. The new infrastructure allows for more efficient and safer operations.



**2** Cost: 3 ★

You set up a hiring policy to hire more employees from the rural area. This way, they can earn money to support their families in the rural area. You pay extra attention to hiring female employees.



**3** Cost: 3 ★

As part of the port's CSR policy, you decide to build several community kitchens in the rural area.



**4** Cost: 5 ★

You set up a development programme in the rural area, including loans for local farmers to set up their own farming business.



**PORT ENDEAVOR**





Real life cases at play

## KEEP THE WATER RUNNING

A recent drought in the region is calling for action by all parties to review and take measures to control their water consumption to ensure adequate freshwater reserves. The port, as a prime water consumer, needs to act.

### SOLUTIONS

**1** Cost: 3 ★

You collect rainwater to be used for cleaning purposes, watering green areas and industrial uses (e.g. cooling of pipes)




**2** Cost: 3 ★

You start a comprehensive information campaign for port employees on water use in the port area and you install water saving technologies for watering green areas, port cleaning and in sanitary facilities.




**3** Cost: 4 ★

You thoroughly investigate the water piping system for potential leakages, and you install water flow monitoring devices in selected parts of the network to identify consumption by different parties/uses. You then inform the different stakeholders and ask them to take measures to reduce their consumption.





**4** Cost: 5 ★

Under a public-private partnership, you co-invest in a medium scale desalination plant to cover for all the water needs of the port area and nearby villages.






**PORT ENDEAVOR**





## PORT ENDEAVOR YOUR EXPERIENCE AND FEEDBACK

- Discussion
- Your experience
- Your suggestions



# PORT ENDEAVOR

***THANK YOU FOR YOUR ACTIVE PARTICIPATION!***



Antonis Michail, IAPH technical director and  
WPSP coordinator

Mark Assaf, Chief HRDS -TrainForTrade  
UNCTAD

Barbados, 22 May 2024