

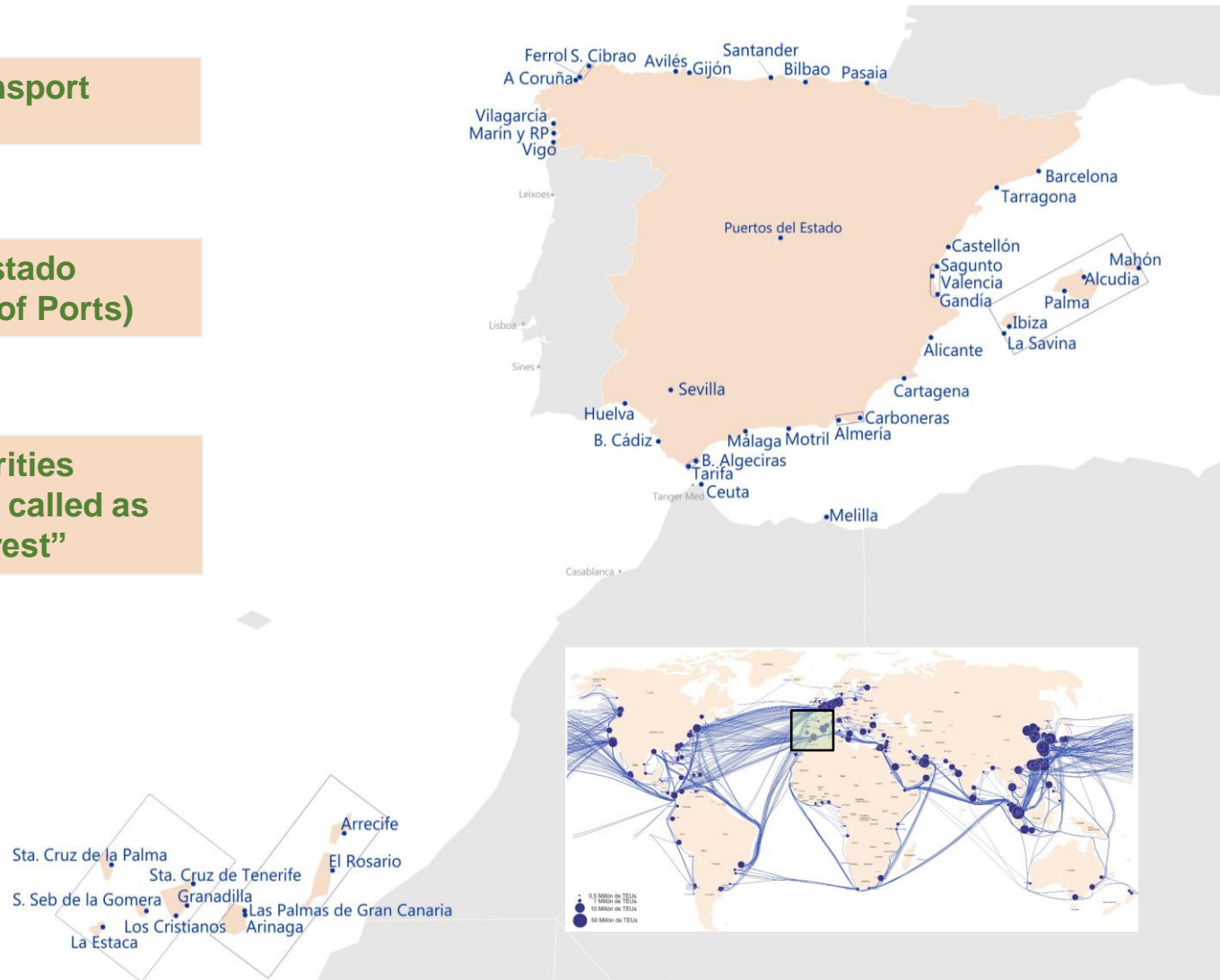
ENCOURAGING ECONOMIC GROWTH BY LEADING THE ROLE IN ENVIRONMENT PROTECTION

Mar Chao

Operations Director, Puertos del Estado



PUERTOS DEL ESTADO: WHO ARE WE?



Boundary conditions



Everyday bigger vessels



Concentration of shipping lines



Vertical integration



Digitalization



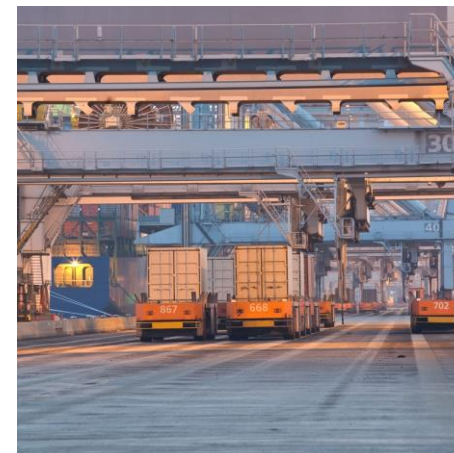
Global Climate emergency



COVID-19 effect



Blank sailings, ...



Maersk Triple-E to be world's largest and most efficient ship

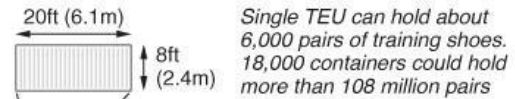
Maersk's *Triple-E* is a new class of fuel-efficient container ships, designed for lower speeds and CO2 emissions. The Danish carrier's giant vessels break the current record for container ship capacity and are expected to be the world's largest ships in service

MAERSK TRIPLE-E CLASS – SPECIFICATIONS

Length	400 metres
Beam (breadth)	59 metres
Deadweight	165,000 tonnes
Maximum speed	23 knots (43 km/h)
Crew	19 (normal), 34 (maximum)
Cost	\$190 million each (20 ships ordered)

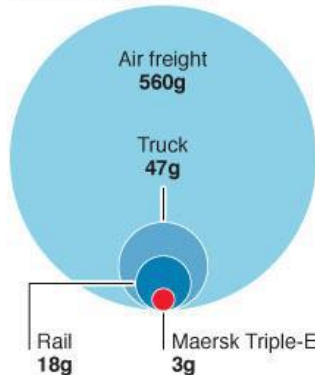
Twenty-foot Equivalent Unit (TEU)

Standard unit for describing ship's cargo capacity. Triple-E can carry 18,000 TEU containers

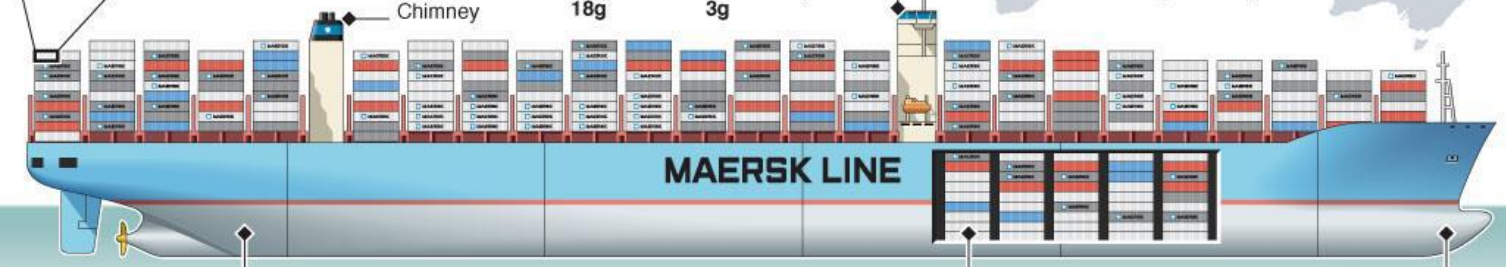


GREENER TRANSPORT

Grams of CO2 to transport 1 tonne of goods 1km



EXPECTED ROUTE

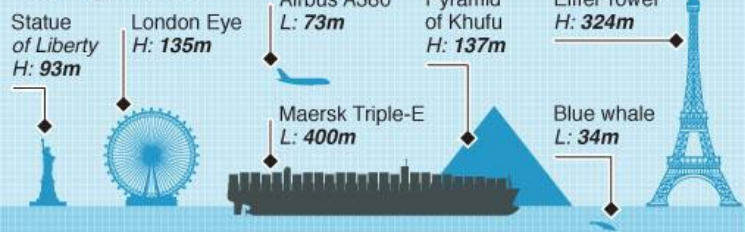


Propulsion: Twin 32MW (43,000hp) diesel engines drive two propellers at lower design speed than traditional container vessels – reducing fuel consumption by 37% and CO2 emissions per container by 50%*

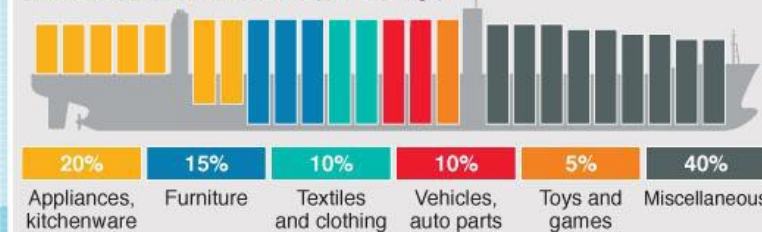
Interior: Extra space created by U-shaped hull. New vessels will have 16% greater capacity (equal to 2,500 containers) than current largest container ship, *Emma Maersk*

Bulbous bow for greater fuel efficiency

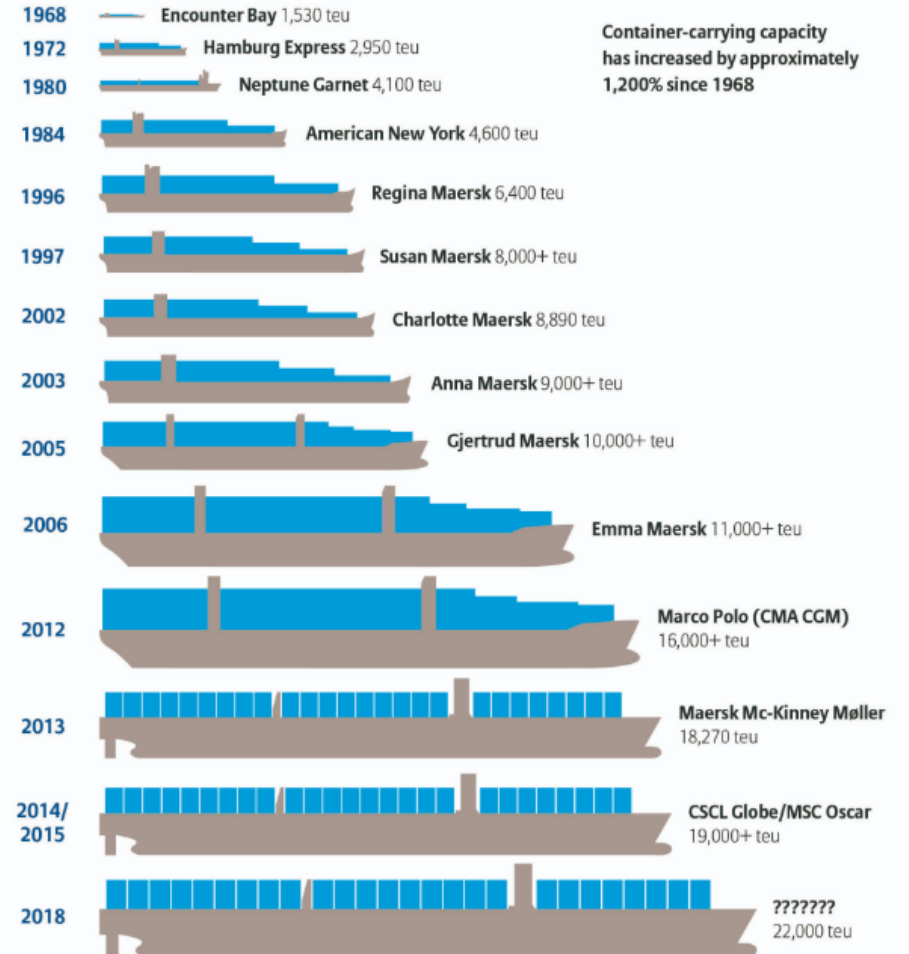
HOW IT COMPARES



IMPORTS FROM CHINA TO EU (Maersk cargo)



50 years of Container Ship Growth



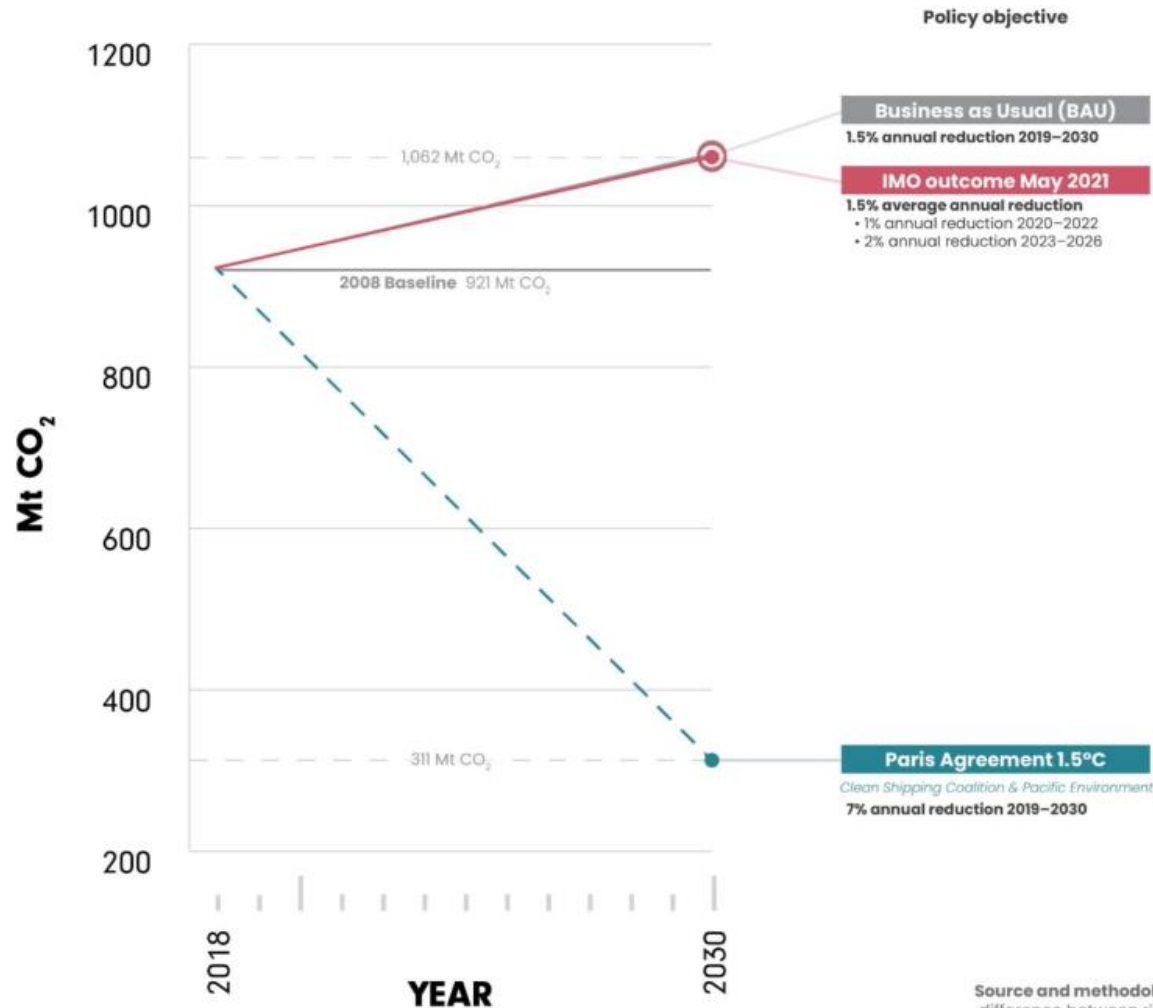
Container-carrying capacity has increased by approximately 1,200% since 1968

Graphic: Allianz Global Corporate & Specialty. Approximate ship capacity data: Container-transportation.com

T&E: IMO emissions target falls short of needed reductions

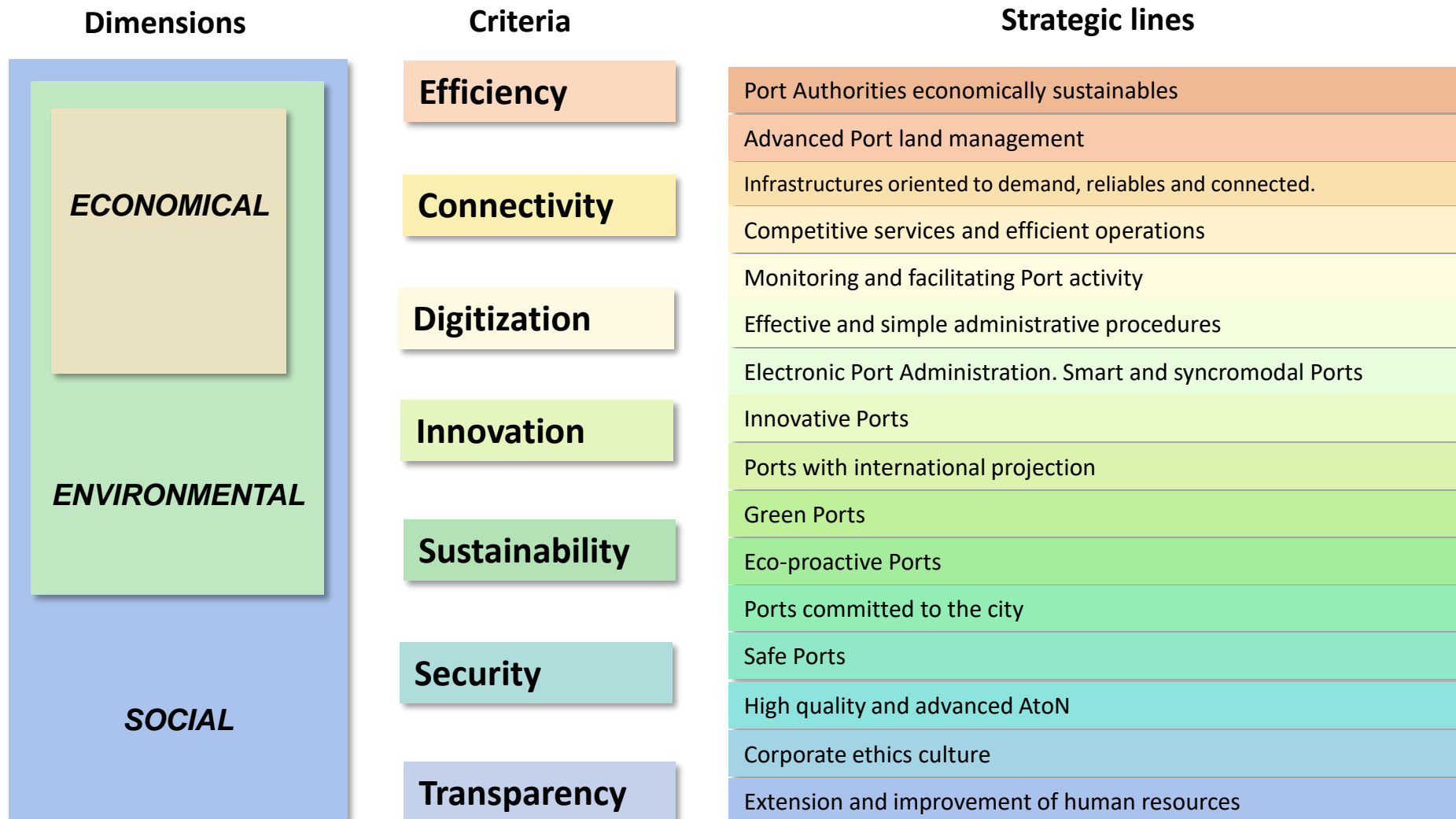


INTERNATIONAL SHIPPING EMISSIONS TRAJECTORIES 2018-2030



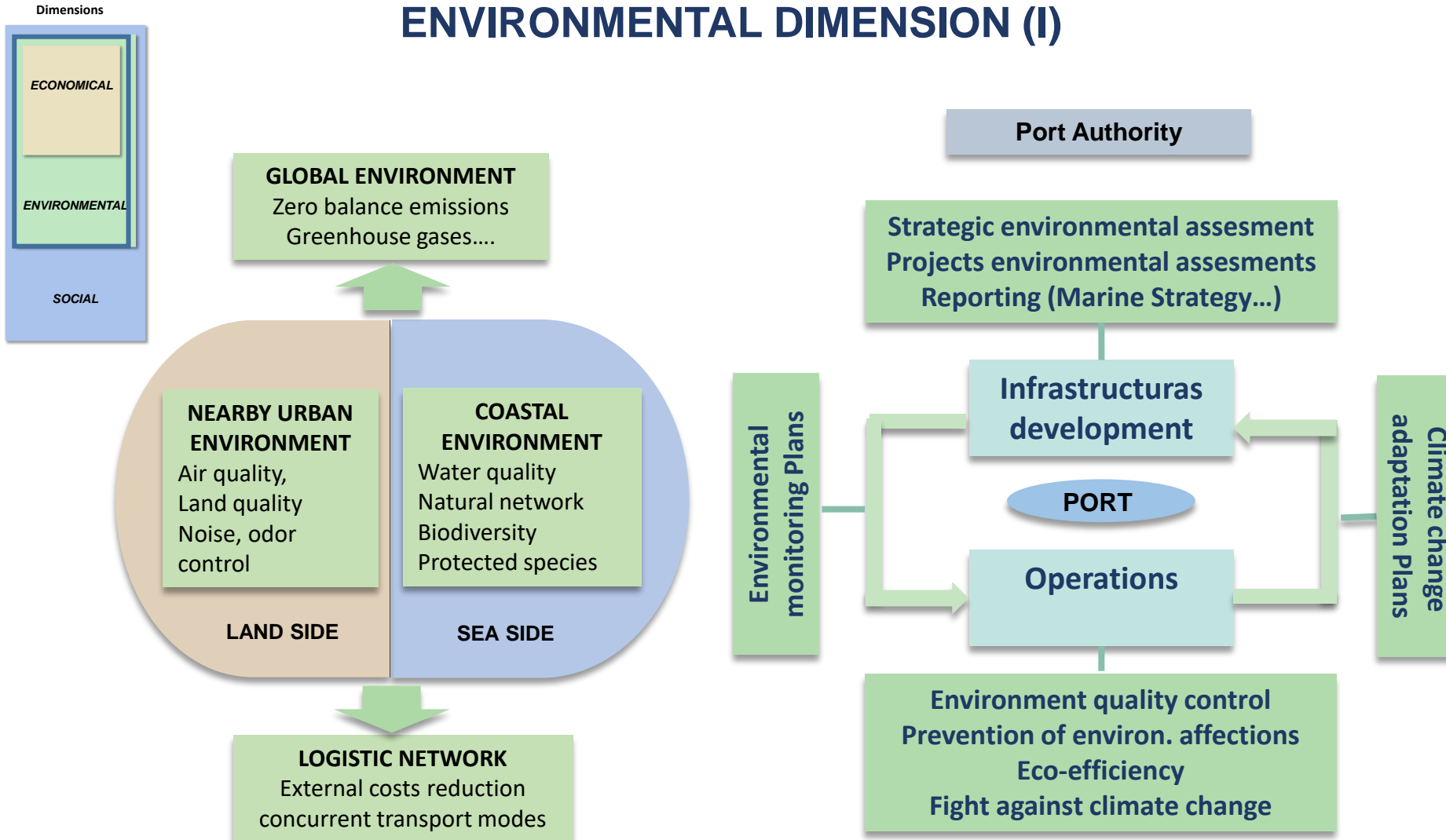
NGOs have suggested this will allow shipping's current emissions of 1bn tonnes a year of CO₂ to keep rising – by as much as 16% by 2030.

STRATEGIC FRAMEWORK. SPANISH PORT SYSTEM



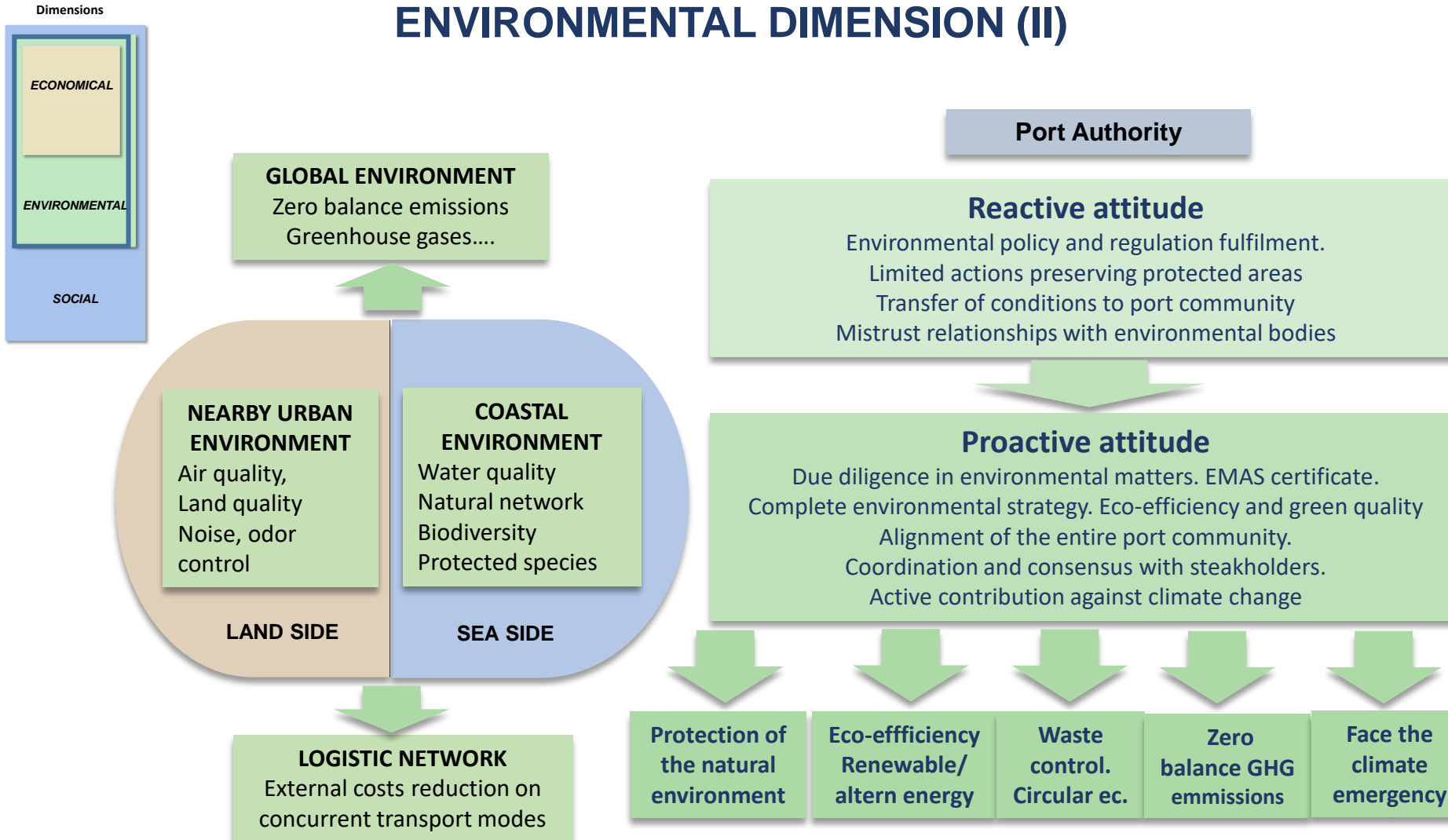
STRATEGIC FRAMEWORK. SPANISH PORT SYSTEM

ENVIRONMENTAL DIMENSION (I)



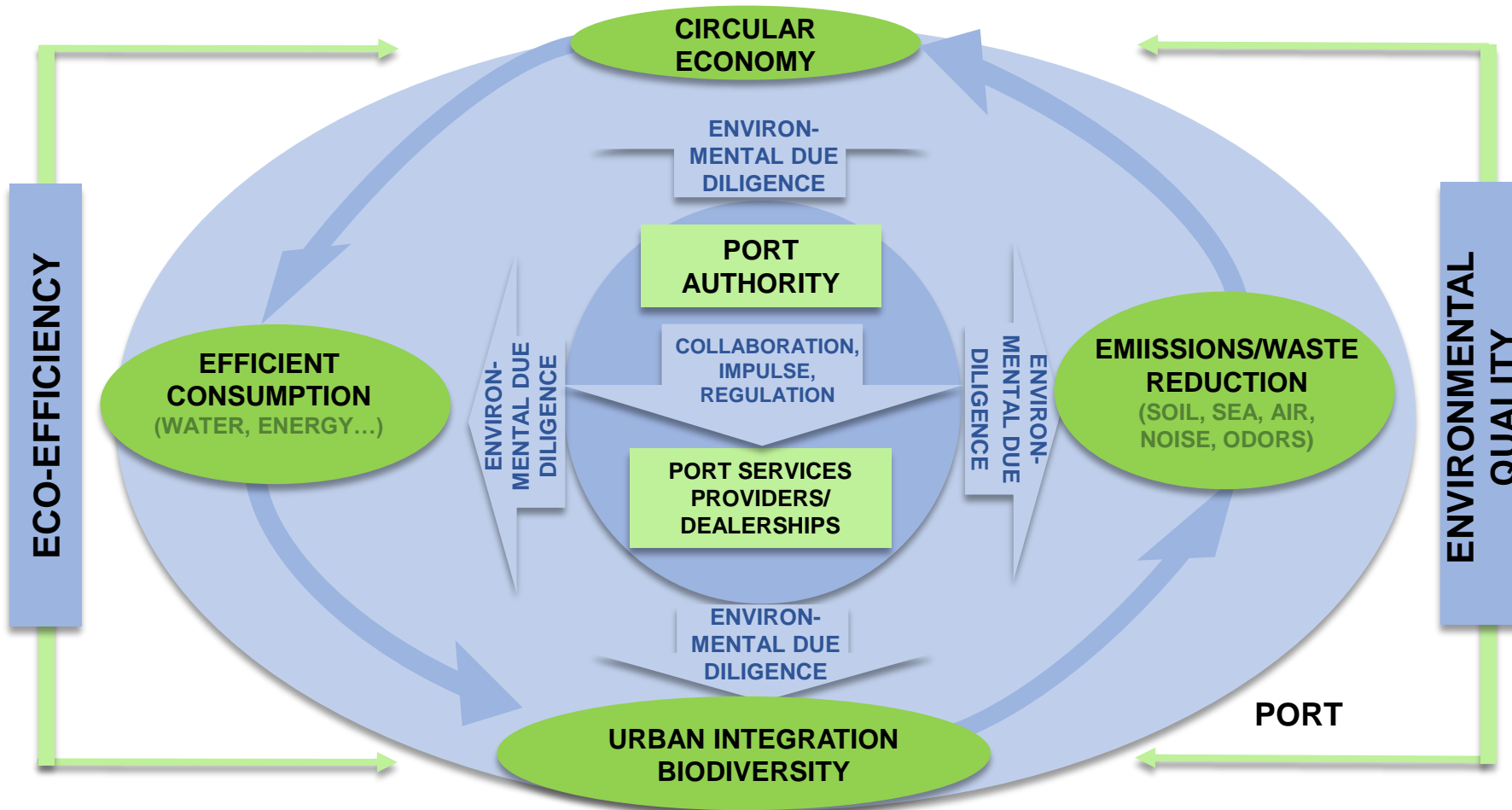
STRATEGIC FRAMEWORK. SPANISH PORT SYSTEM

ENVIRONMENTAL DIMENSION (II)



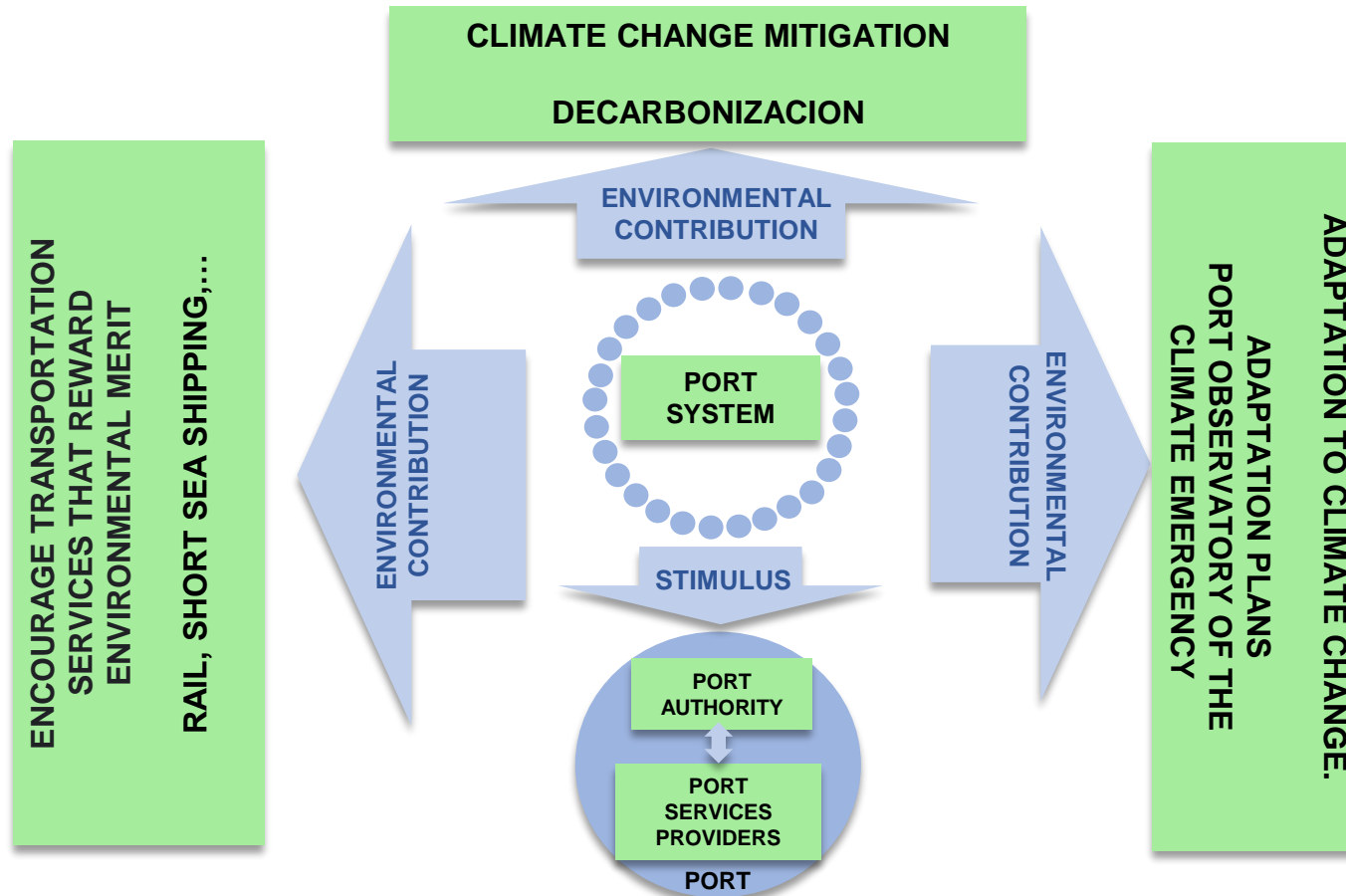
STRATEGIC FRAMEWORK. SPANISH PORT SYSTEM

Strategic line 10: Green Ports



STRATEGIC FRAMEWORK. SPANISH PORT SYSTEM

Strategic line 11: Eco-proactive ports



STRATEGIC FRAMEWORK. SPANISH PORT SYSTEM



Strategic line 11: Eco-proactive ports

EU REGULATION. GREEN DEAL

PORTS SIDE

DIRECTIVE 2014/94 DEPLOYMENT ON ALTERNATIVE FUELS INFRASTRUCTURES

- Transposition 2016
- National policy frameworks since 2016
- Goals (LNG, electricity...)

MARITIME SIDE

DIRECTIVES 1999/32/EC - 2012/33 REGARDING SULPHUR CONTENT OF MARINE FUELS

- SOx limits outside S/ECA:
- As from Jun 2014: 3,5% m/m
 - As from Jan 2020: 0,5% m/m

FIT FOR 55 PACKAGE

NEW REGULATION FOR ALTERNATIVE FUELS INFRASTRUCTURES AND REPEALING 2014/94

- On going
- National policy frameworks reviewed
- New goals

FUEL EU MARITIME INITIATIVE

EU EMISSIONS TRADE SYSTEM (ETS) REGULATION FOR MARITIME TRANSPORT

STRATEGIC FRAMEWORK. SPANISH PORT SYSTEM

Eco-proactive ports AN EXAMPLE: CORE LNGas hive

CORE LNGas hive

1st PHASE: LAUNCHING
2014-20
(33 M€ / 50% CEF-TEN-T)
Studies, pilots, guidelines,
training...

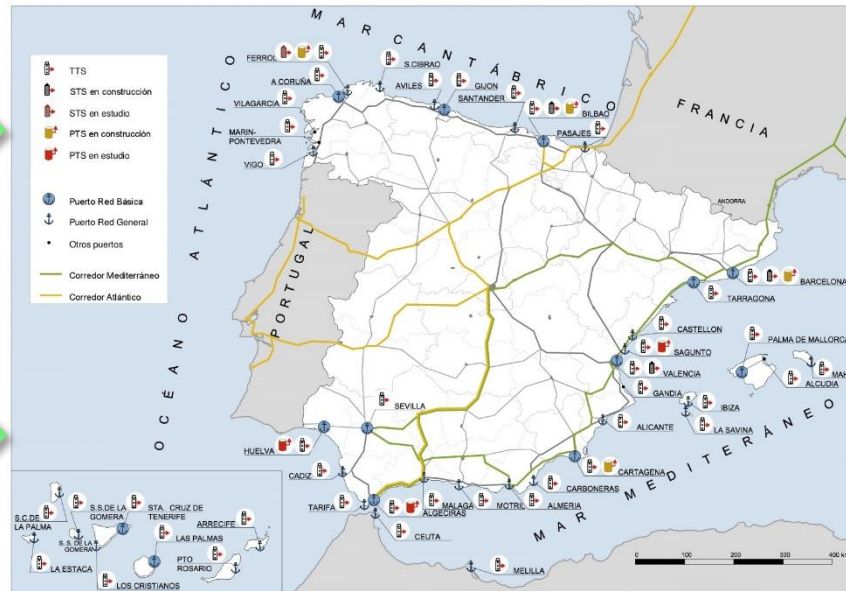
2nd PHASE: DEPLOYMENT
2019-30
(>300 M€ / 20% CEF-TEN-T)
- Vessels
- Port facilities



Truck-To-Ship (STC)



Ship-To-Ship (STS)



Container-To Ship (CTS)



Pipeline-To-Ship (PTS)

SC Tenerife: Anaga Basin

1 connection fast-ferries LV
2 connections ferries LV



1 connection ferries HV
1 connection fast-ferries LV

Paraires Dock
Palma de Mallorca:

4 pilotos

Las Palmas: Fishing Dock

32 connections LV



New-vh berth: 1 connection HV
Pasajes



OPS MASTERPLAN

<http://poweratberth.eu/?lang=es>

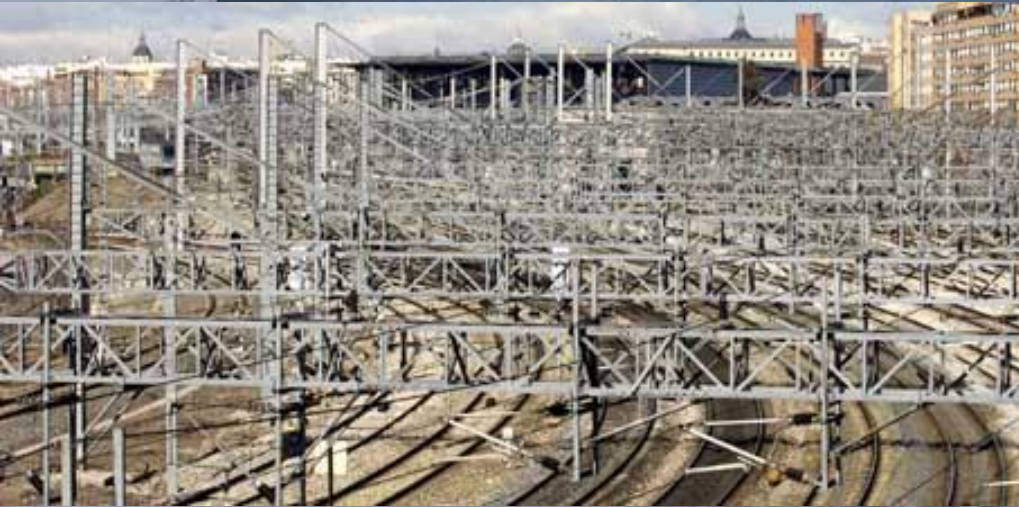




OPS BENEFITS

1. Avoid impacts of noise and vibration to population settled in the vicinity of berth/port
2. Remove local pollution affecting health and quality of life of said population
3. Cut down of CO2 emissions therefore contributing to decarbonization of economy
4. (tbc) Become driver for facilitating other alternative fuels like hydrogen, methanol and ammonia
5. (expected) Bring electric power close to the waterfront where other activities take place with same need of clean energy like electric cars and buses

New challenges! End to end vision



Puertos del Estado



We have to look far away quayside....

Our clients...

<https://dcsa.org/>

At DCSA, we envisage a digitally interconnected container shipping industry in which customers have a choice of seamless, easy-to-use services that provide the flexibility to meet their business and sustainability goals.

DCSA's mission is to shape the digital future of container shipping by being the industry's collective voice, working towards alignment and standardisation. By setting frameworks for effective, universally adoptable solutions and innovating, we can enable transparent, reliable, easy to use, secure and environmentally friendly container transportation services. DCSA's open source standards, free for everyone to use, are developed based on input from DCSA member carriers, industry stakeholders and technology experts from other industries.



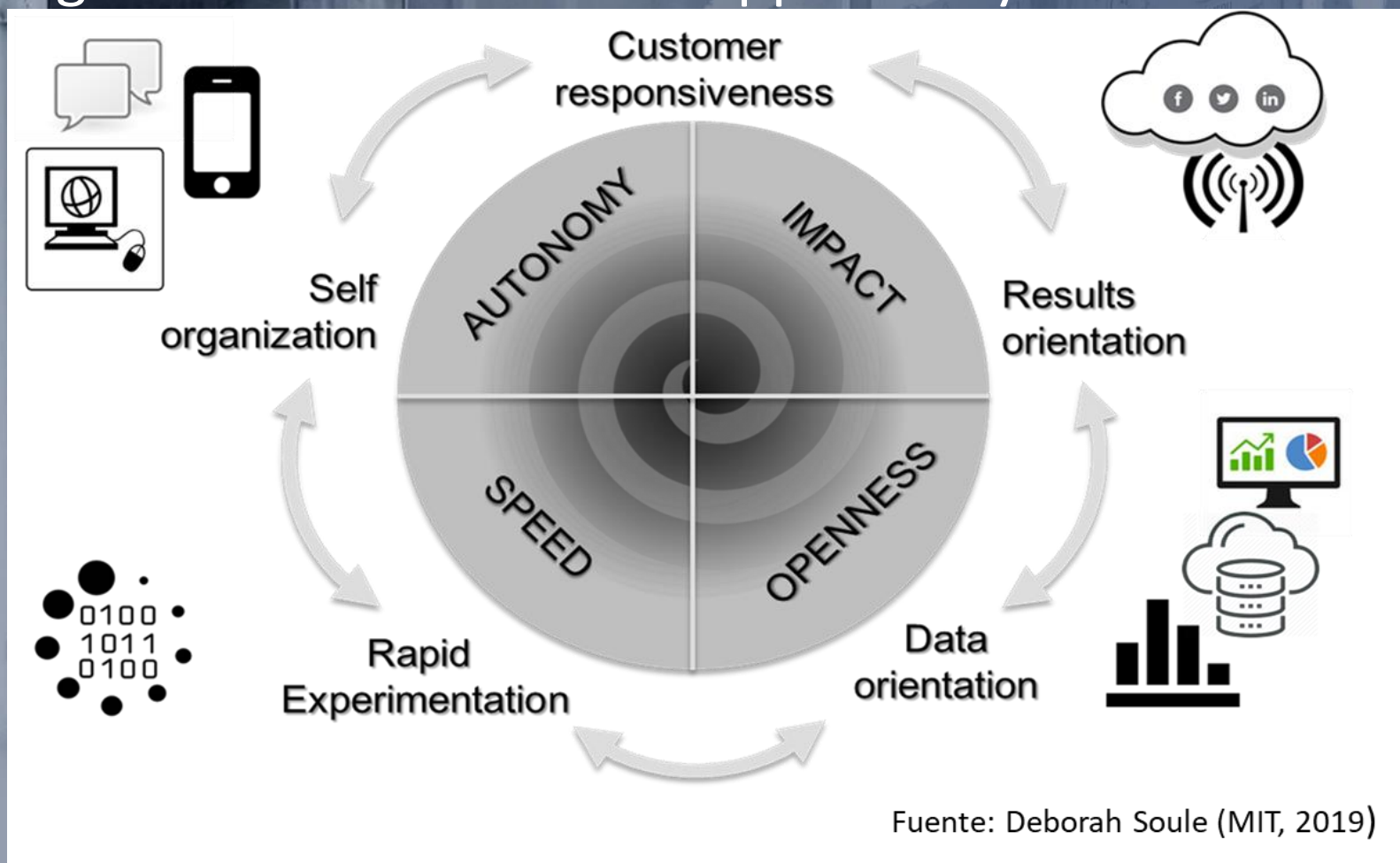
GOBIERNO
DE ESPAÑA

MINISTERIO
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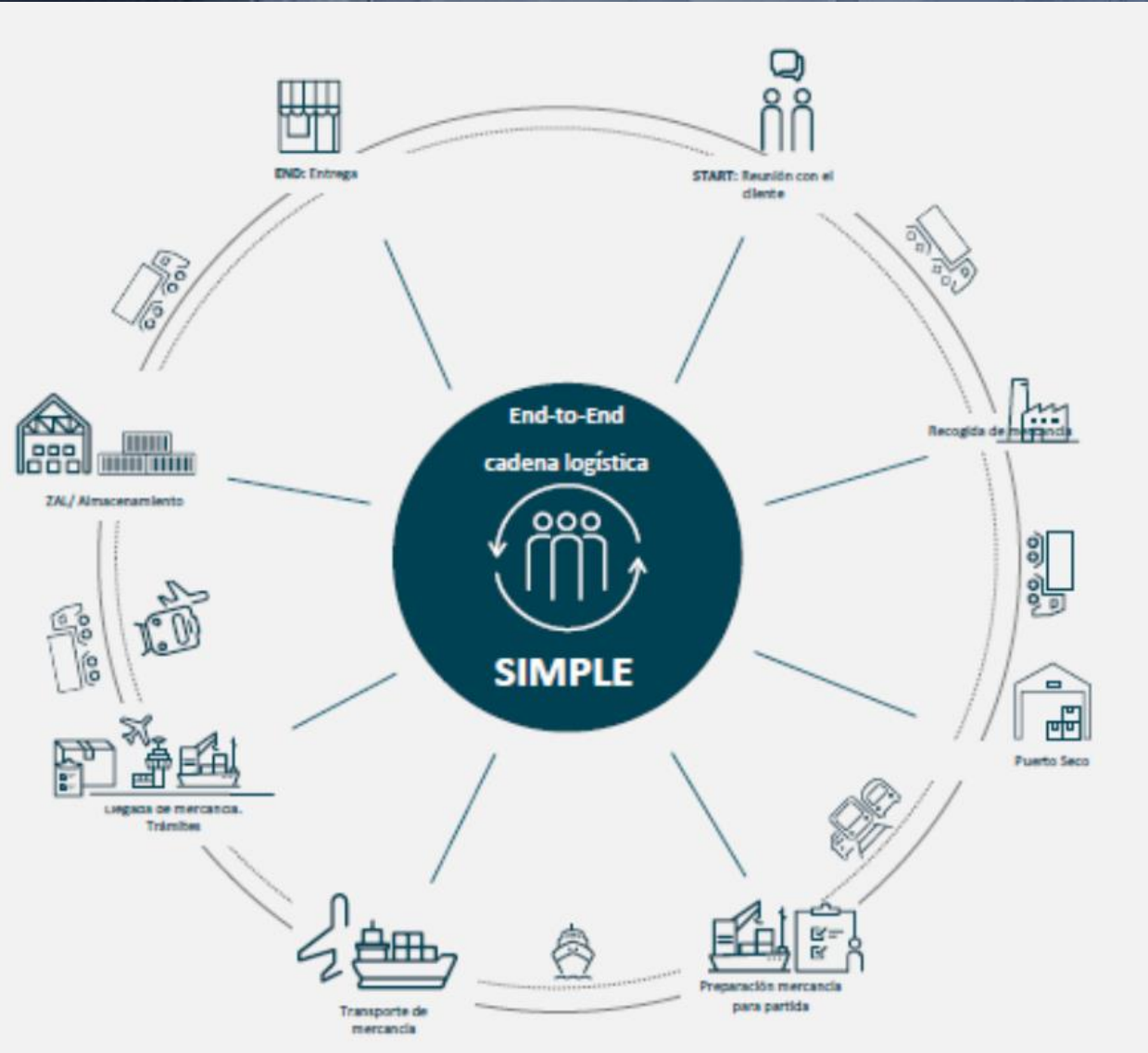
Puertos del Estado



Digital transformation: an opportunity



SIMPLE (SIMplification of Processes for a Logistic Enhancement)



 <p>GOBIERNO DE ESPAÑA</p>	<p>MINISTERIO DE TRANSPORTES, MOVILIDAD Y AGENDA URBANA</p>
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Puertos del Estado



MANY THANKS!

Mar Chao

Operations Director, Puertos del Estado

