



IAPH

International Association
of Ports and Harbors

Clean Marine Fuels working group

Driven to advance the transition towards
clean marine fuels for decarbonisation
and air quality improvement

Content

About the CMF working group

The challenge and the tools we provide

Planning the near future

Who we are, what we do



Empowering ports to facilitate, stimulate and regulate the supply of new clean marine fuels by providing expertise and guidance on safe and efficient bunker operations

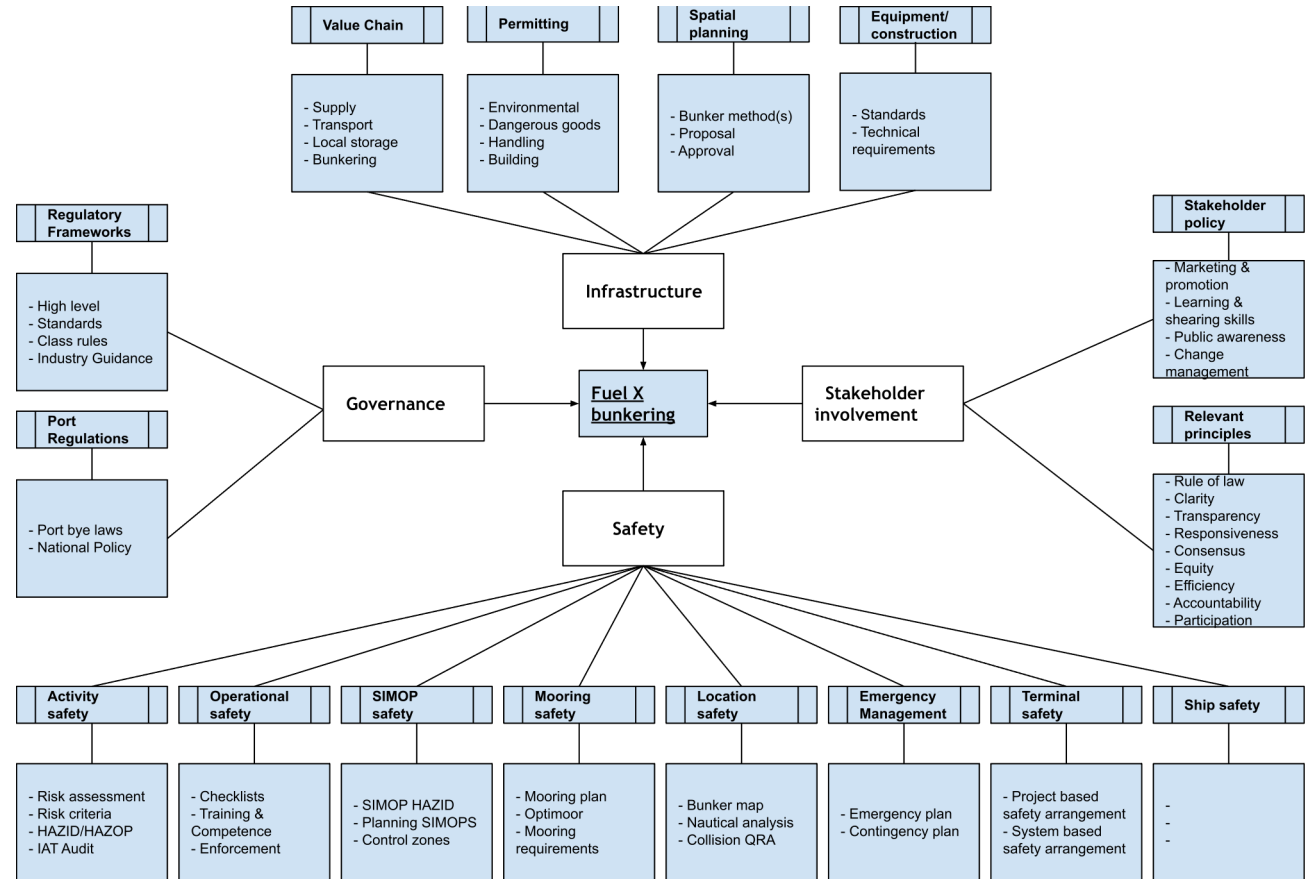
Our goal

By 2030 the safe and efficient supply of new clean marine fuels in ports is to be common practice



The challenge

Ports have challenges in enabling the facilitation of new marine fuels



Source: Port Guidance Tool - draft version 0.6

CMF Support



Practical audit and guidance tools for new, clean marine fuels

An open, data-sharing information platform

Cooperation with other initiatives in the maritime industry

CMF Port Safety Management Framework

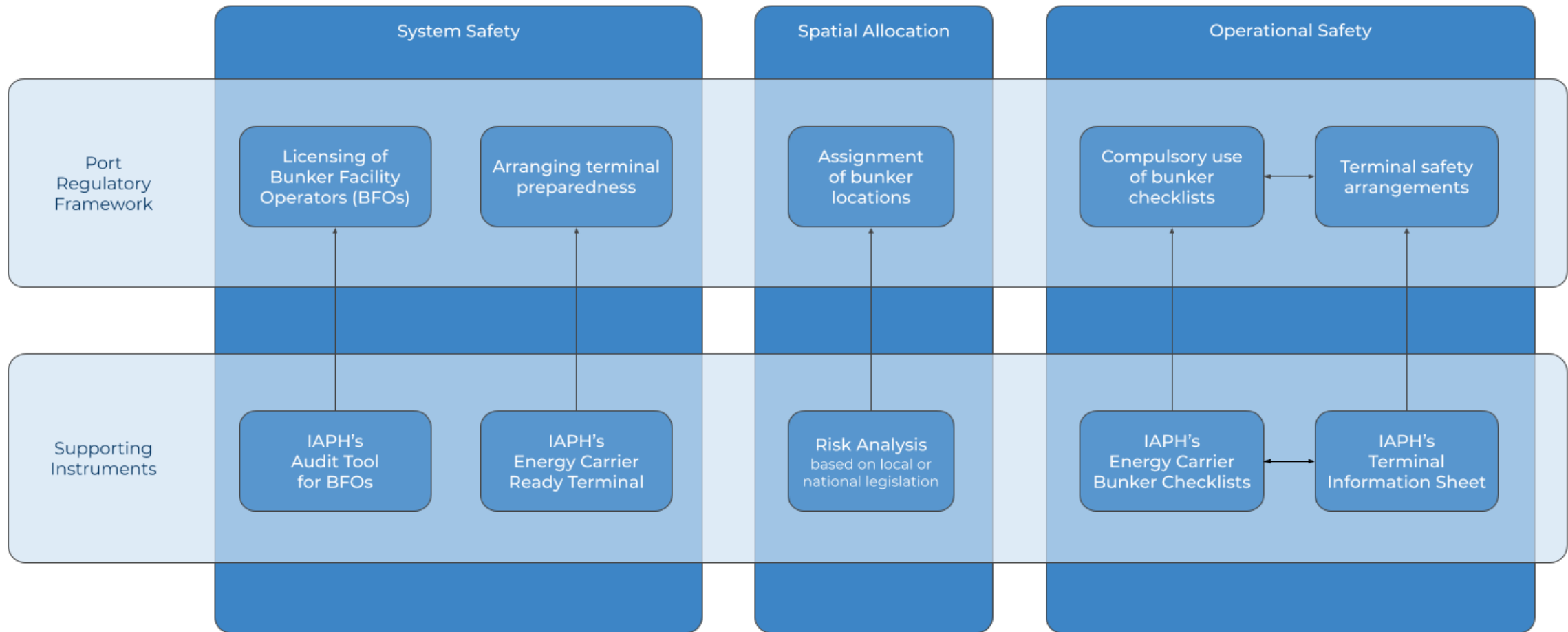
Harmonize system and operational safety for the ship - bunker facility interface

Allocate safe bunker locations

Prepare terminals

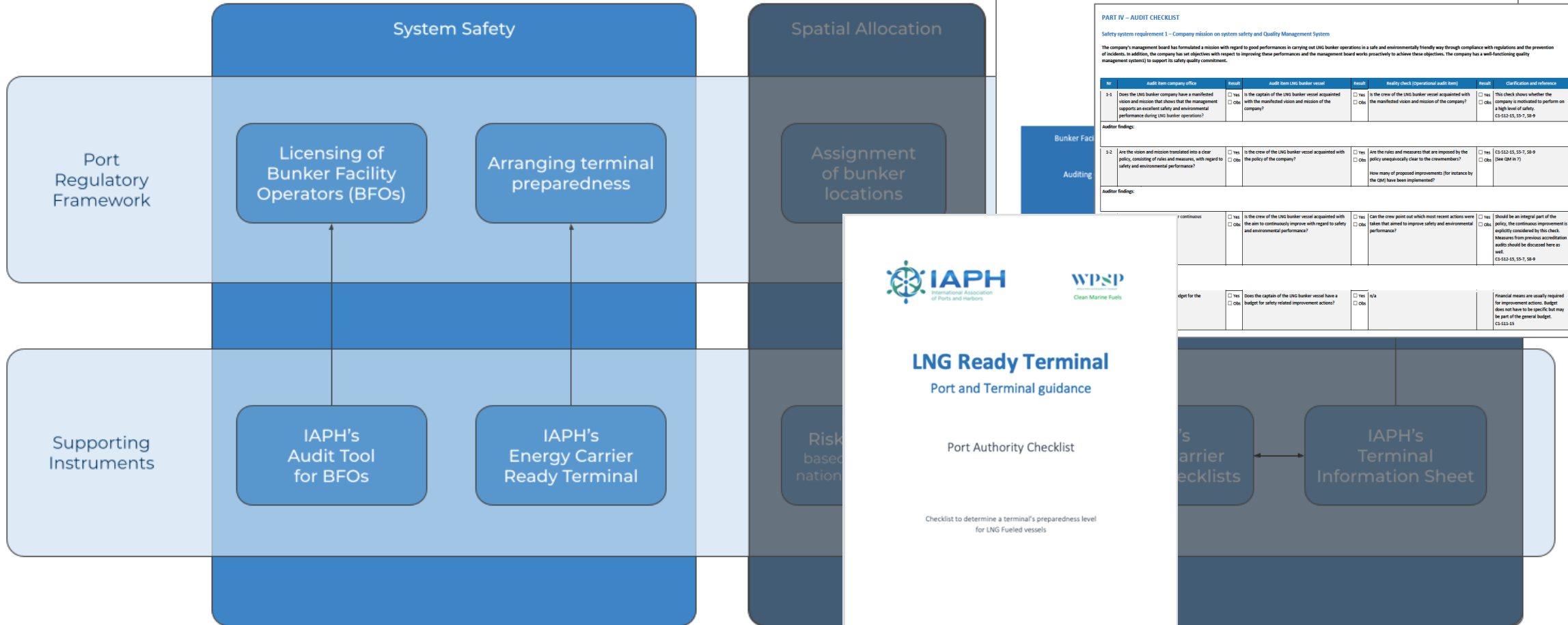


CMF PSM Framework





Port Safety Management on bunker operations for low flash point marine energy carriers

CMF PSM Framework



Port Safety Management on bunker operations for low flash point marine energy carriers


LNG Ready Terminal

Port and Terminal guidance

Port Authority Checklist

Checklist to determine a terminal's preparedness level for LNG Fueled vessels

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IAT-LNG audit checklist

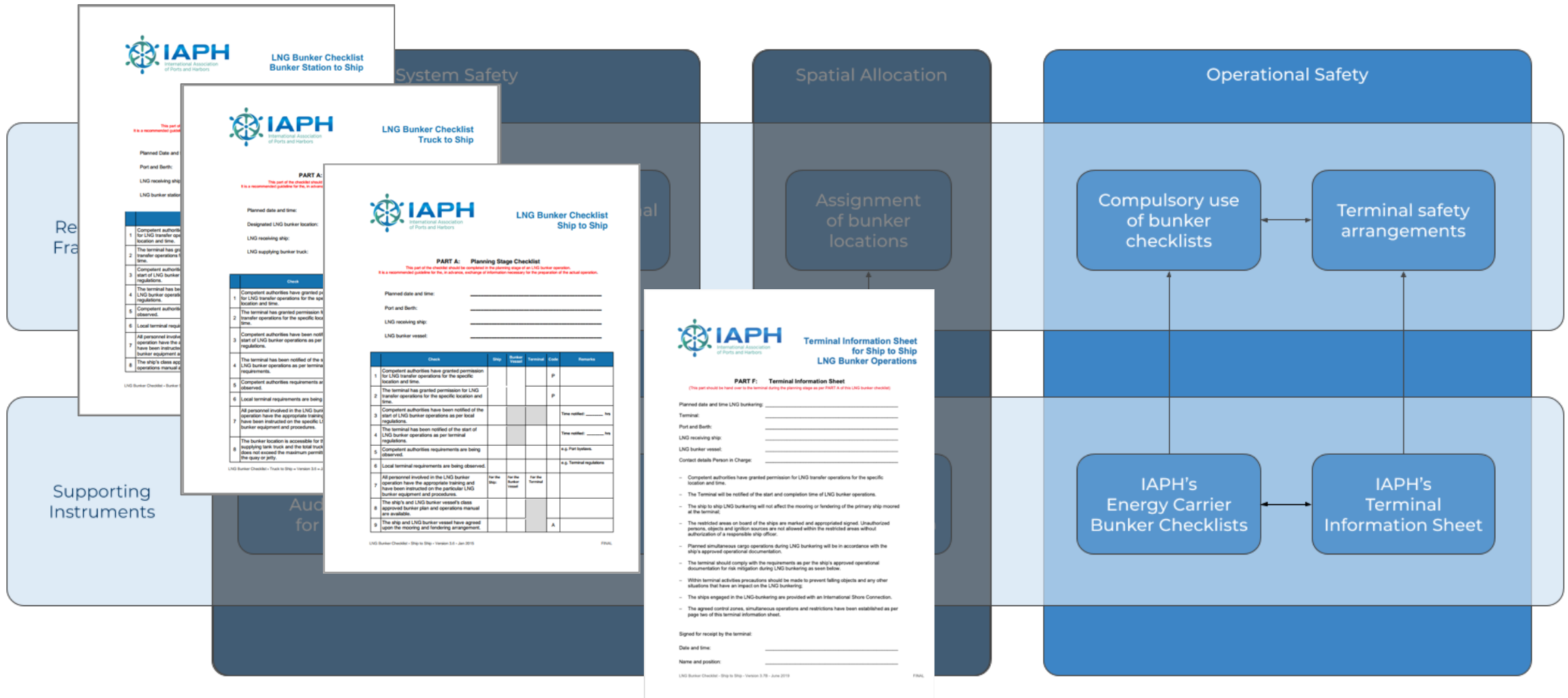
PART IV – AUDIT CHECKLIST

Safety system requirement 1 – Company mission on system safety and Quality Management System

The company's management board has formulated a mission with regard to good performances in carrying out LNG bunker operations in a safe and environmentally friendly way through compliance with regulations and the prevention of incidents. In addition, the company has set objectives with respect to improving these performances and the management board works proactively to achieve these objectives. The company has a well-functioning quality management system(s) to support its safety quality commitment.

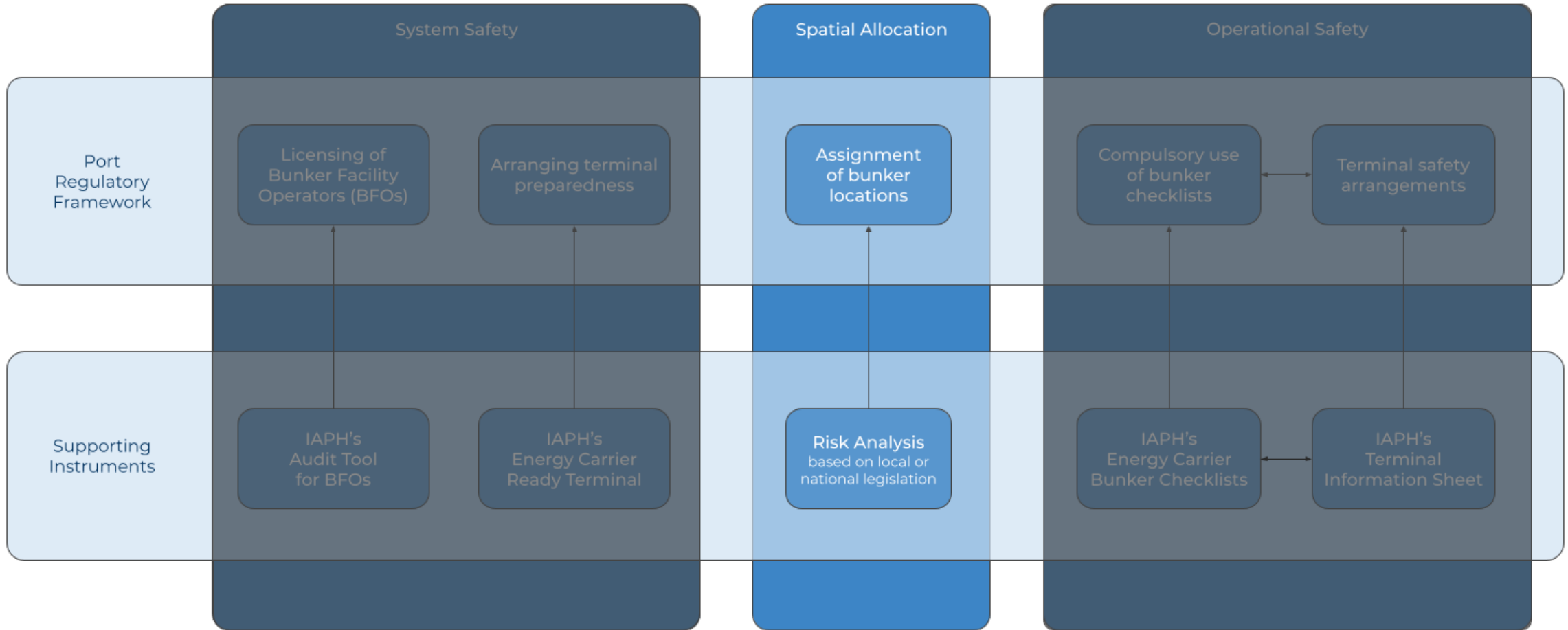
No	Audit item company office	Result	Audit item LNG Bunker vessel	Result	Ready check (Operational audit item)	Result	Clarification and reference
1.1	Does the LNG bunker company have a manifested vision and mission that shows that the management supports an excellent safety and environmental performance during LNG bunker operations?	<input type="checkbox"/> Yes <input type="checkbox"/> Obs	Is the captain of the LNG bunker vessel acquainted with the manifested vision and mission of the company?	<input type="checkbox"/> Yes <input type="checkbox"/> Obs	Is the crew of the LNG bunker vessel acquainted with the manifested vision and mission of the company?	<input type="checkbox"/> Yes <input type="checkbox"/> Obs	This check shows whether the company is motivated to perform on a high level of safety. CS-112-15, SS-7, SS-9
Auditor findings:							
1.2	Are the vision and mission translated into a clear policy, consisting of rules and measures, with regard to safety and environmental performance?	<input type="checkbox"/> Yes <input type="checkbox"/> Obs	Is the crew of the LNG bunker vessel acquainted with the policy of the company?	<input type="checkbox"/> Yes <input type="checkbox"/> Obs	Are the rules and measures that are imposed by the policy unequivocally clear to the crewmembers?	<input type="checkbox"/> Yes <input type="checkbox"/> Obs	CS-112-15, SS-7, SS-9 See QM in 7)
How many of proposed improvements (for instance by the QM) have been implemented?							
Auditor findings:							
		<input type="checkbox"/> continuous <input type="checkbox"/> Obs	Is the crew of the LNG bunker vessel acquainted with the aim to continuously improve with regard to safety and environmental performance?	<input type="checkbox"/> Yes <input type="checkbox"/> Obs	Can the crew point out which most recent actions were taken that aimed to improve safety and environmental performance?	<input type="checkbox"/> Yes <input type="checkbox"/> Obs	Should be an integral part of the policy. The continuous improvement is explicitly considered by this check. Measures from previous accreditation audits should be discussed here as well. CS-112-15, SS-7, SS-9
	Budget for the	<input type="checkbox"/> Yes <input type="checkbox"/> Obs	Does the captain of the LNG bunker vessel have a budget for safety related improvement actions?	<input type="checkbox"/> Yes <input type="checkbox"/> Obs	N/A		Financial means are usually required for improvement actions. Budget does not have to be specific but may be part of the general budget. CS-112-15

CMF PSM Framework



Port Safety Management on bunker operations for low flash point marine energy carriers

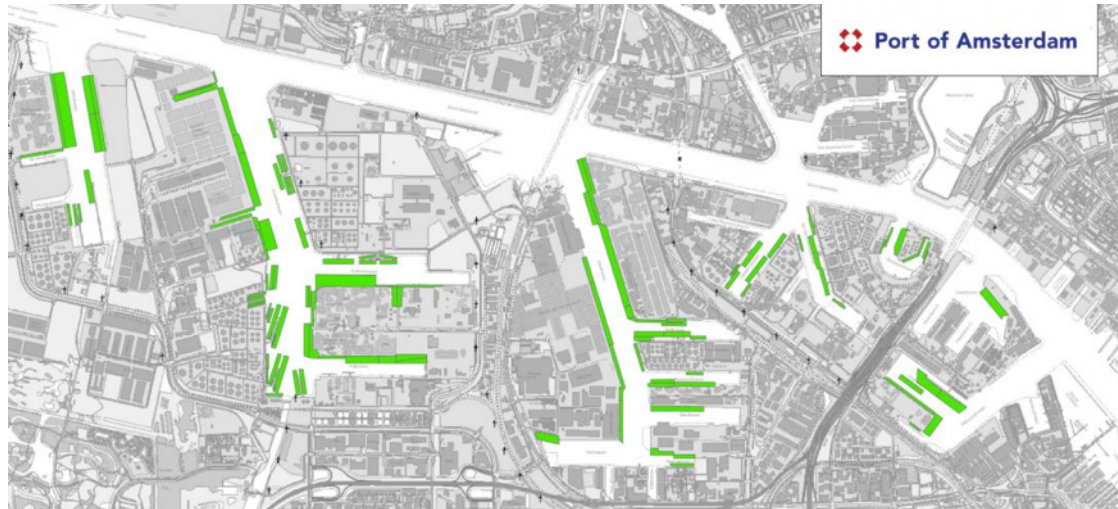
CMF PSM Framework



Port Safety Management on bunker operations for low flash point marine energy carriers

Spatial allocation

External Safety: Risks to the surrounding area when handling fuels (the use, storage, and transport of those fuels)



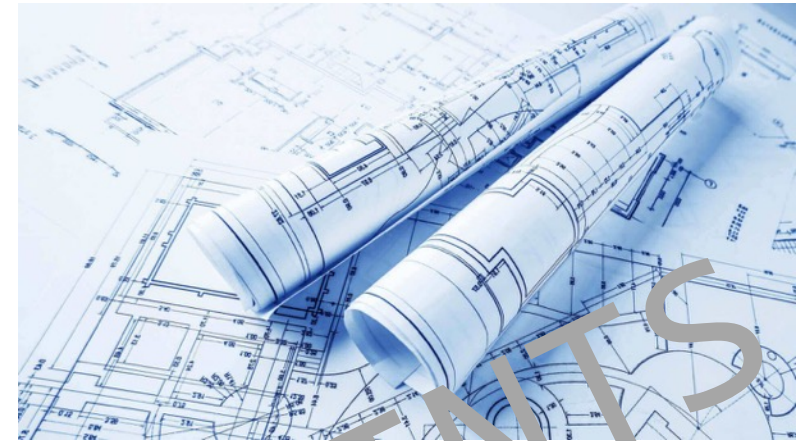
Available tools

SYSTEM SAFETY

Tool	Energy Carrier	Status
LNG BFO Audit Tool	LNG	Completed
LNG Ready Terminal Tool	LNG	Completed

OPERATIONAL SAFETY

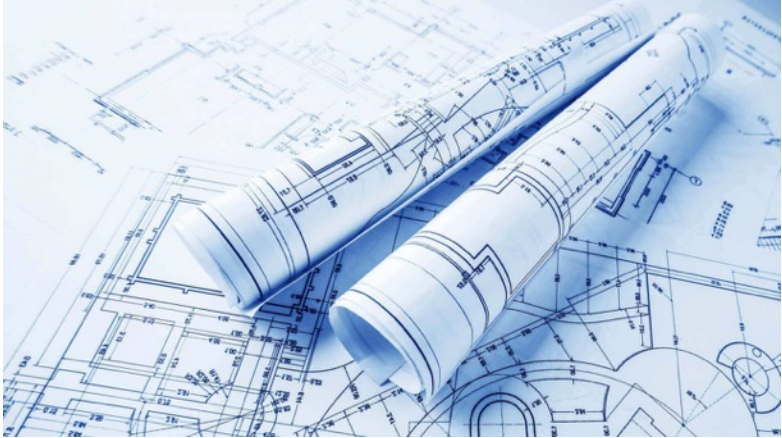
Tool	Energy Carrier	Status
LNG checklist Truck to Ship	LNG	Completed
LNG checklist Ship to Ship	LNG	Completed
LNG checklist Ship to Ship Terminal Information Sheet	LNG	Completed
LNG checklist Bunker Station to Ship	LNG	Completed



In progress and planned

SYSTEM SAFETY

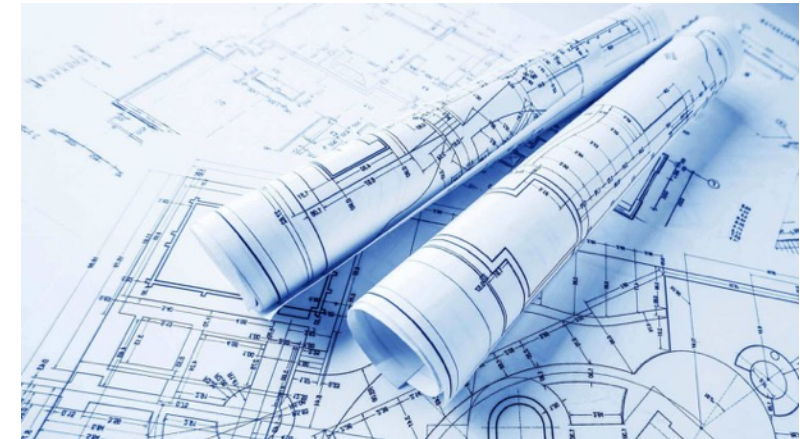
Tool	Energy Carrier	Status
Research on conversion of LNG BFO Audit Tool to a generic BFO Audit Tool for existing and new fuels	All	Started
Port Guidance Tool (Gap Analyses Tool)	All	Started
Research on conversion of LNG Ready Terminal Tool to a generic Fuel Ready Terminal Tool for existing and new fuels	All	Start 2021



In progress and planned

OPERATIONAL SAFETY

Tool	Energy Carrier	Status
Multiple Truck to Ship Cryogen checklist based on ISGOTT 6 format	LNG, LH2	Final draft
Multiple Truck to Ship Flammable and/or toxic liquid checklist based on ISGOTT 6 format	Methanol, other fuels with flashpoint < 55 C	First draft
Shore to Ship containerized energy carriers	Battery packs, Hydrogen racks	2021
Ship to Ship Cryogen checklist based on ISGOTT 6 format	LNG, LH2	Not started
Ship to Ship Flammable and/or toxic liquid checklist based on ISGOTT 6 format	Methanol, Other fuels with flashpoint < 55 C	Not started
Multiple Truck to Ship Ammonia checklist based on ISGOTT 6 format	Ammonia	> 2022
Ship to Ship Ammonia checklist based on ISGOTT 6 format	Ammonia	> 2022



Conclusion, references



Facilitating safe and efficient bunker operations for new marine fuels in ports is challenging

CMF provides tools to face the challenge

Cooperation within the maritime industry is essential

<https://sustainableworldports.org/clean-marine-fuels>
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