

**SKILLS FRAMEWORK FOR SEA TRANSPORT
TECHNICAL SKILLS AND COMPETENCIES (TSC) REFERENCE DOCUMENT**

TSC Category	Fleet Management					
TSC	Ship Energy Efficiency					
TSC Description	Optimise ships' efficient energy utility while in operation through the formulation and implementation of Ship Energy Efficiency Management Plans (SEEMP)					
TSC Proficiency Description	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
				STP-FMT-4006-1.1	STP-FMT-5006-1.1	
				Manage energy efficiency of ships	Formulate Ship Energy Efficiency Management Plans (SEEMP) for the organisation's ship assets	
Knowledge				<ul style="list-style-type: none"> • Components of Ship Energy Efficiency Management Plans (SEEMP) • Market and regulatory environment of SEEMP • Method of calculating Energy Efficiency Operational Indicator (EEOI) • Recurrent phases of SEEMP - Planning, Implementation, Monitoring, Self-evaluation and improvement • Fuel and fuel converters • Energy efficiency options in: <ul style="list-style-type: none"> ○ Operations - voyage planning and execution, trim, autopilots ○ Main and auxiliary machinery ○ Hydrodynamics - resistance propulsion • Antifouling • Hull and propeller monitoring and maintenance 	<ul style="list-style-type: none"> • Components of Ship Energy Efficiency Management Plans (SEEMP) • Market and regulatory environment of SEEMP • Method of calculating Energy Efficiency Operational Indicator (EEOI) • Recurrent phases of SEEMP - Planning, Implementation, Monitoring, Self-evaluation and improvement • Fuel and fuel converters • Energy efficiency options in: <ul style="list-style-type: none"> ○ Operations - voyage planning and execution, trim, autopilots ○ Main and auxiliary machinery ○ Hydrodynamics - resistance propulsion • Antifouling • Hull and propeller monitoring and maintenance 	

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				<ul style="list-style-type: none"> • Management plans for energy efficiency 	<ul style="list-style-type: none"> • Management plans for energy efficiency • Key performance indicators to monitor ships' energy efficiency • Methods to optimise ship energy management 	
Abilities				<ul style="list-style-type: none"> • Analyse vessel performance in SEEMP implementation • Oversee implementation of SEEMP • Identify areas of improvement in energy efficiency • Implement energy saving measures for ship operations • Plan ship logistics to ensure optimum use of energy in operations 	<ul style="list-style-type: none"> • Develop SEEMP implementation plans for the fleet • Monitor ships' key performance indicators • Review shipboard activities to optimise energy management 	