LSI Toolbox

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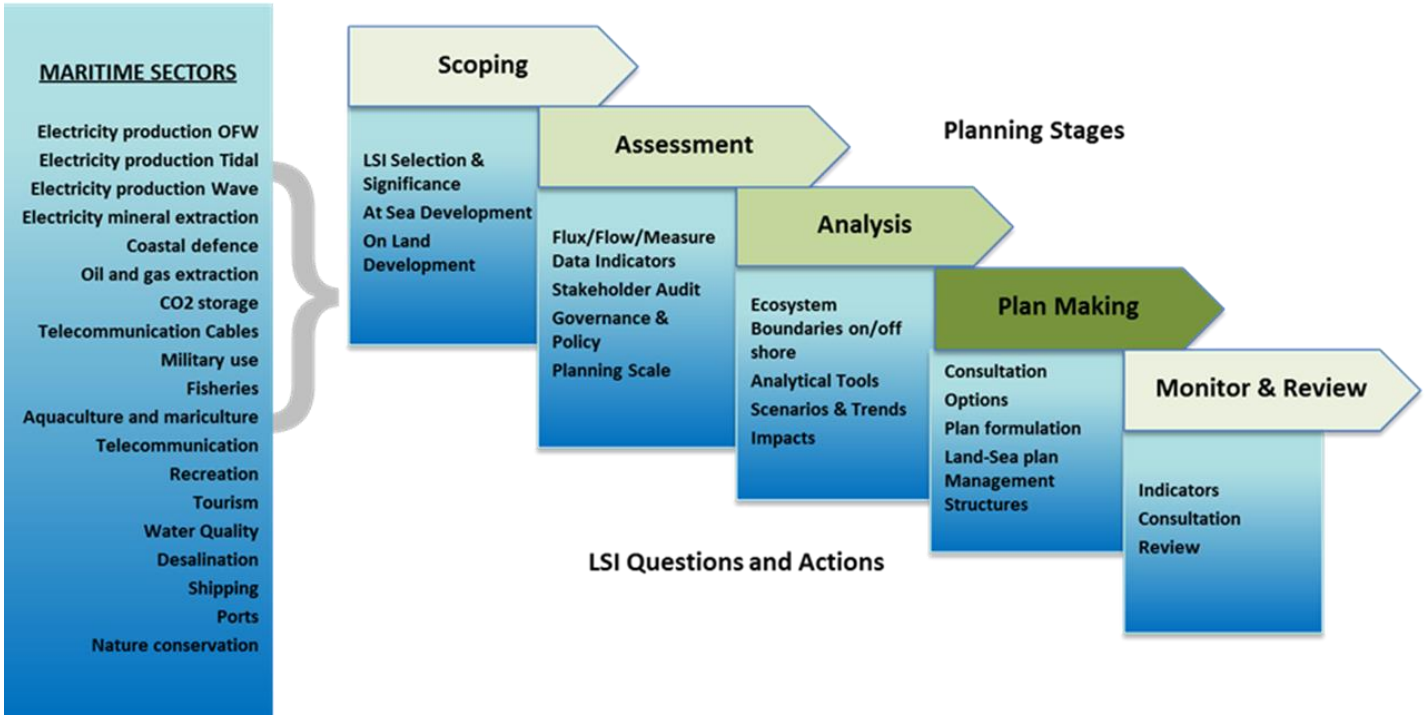
EUROPEAN COMMISSION

DIRECTORATE-GENERAL FOR MARITIME AFFAIRS AND FISHERIES

European MSP Platform

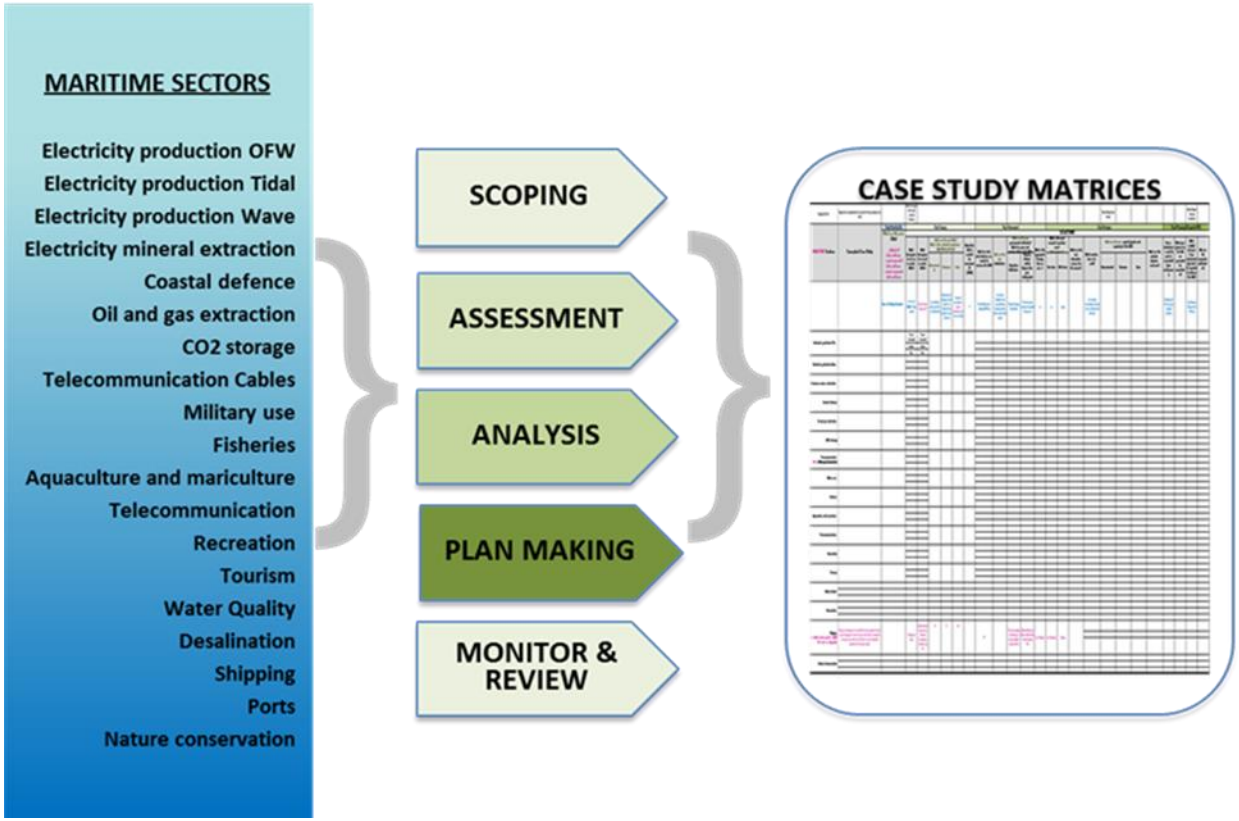
Concept

- Integration of LSI into MSP and associated SEA
- Practical Toolbox for Practitioners on LSI
- Easily applied within any admin. or governance arrangement
- Underpinned by ICM

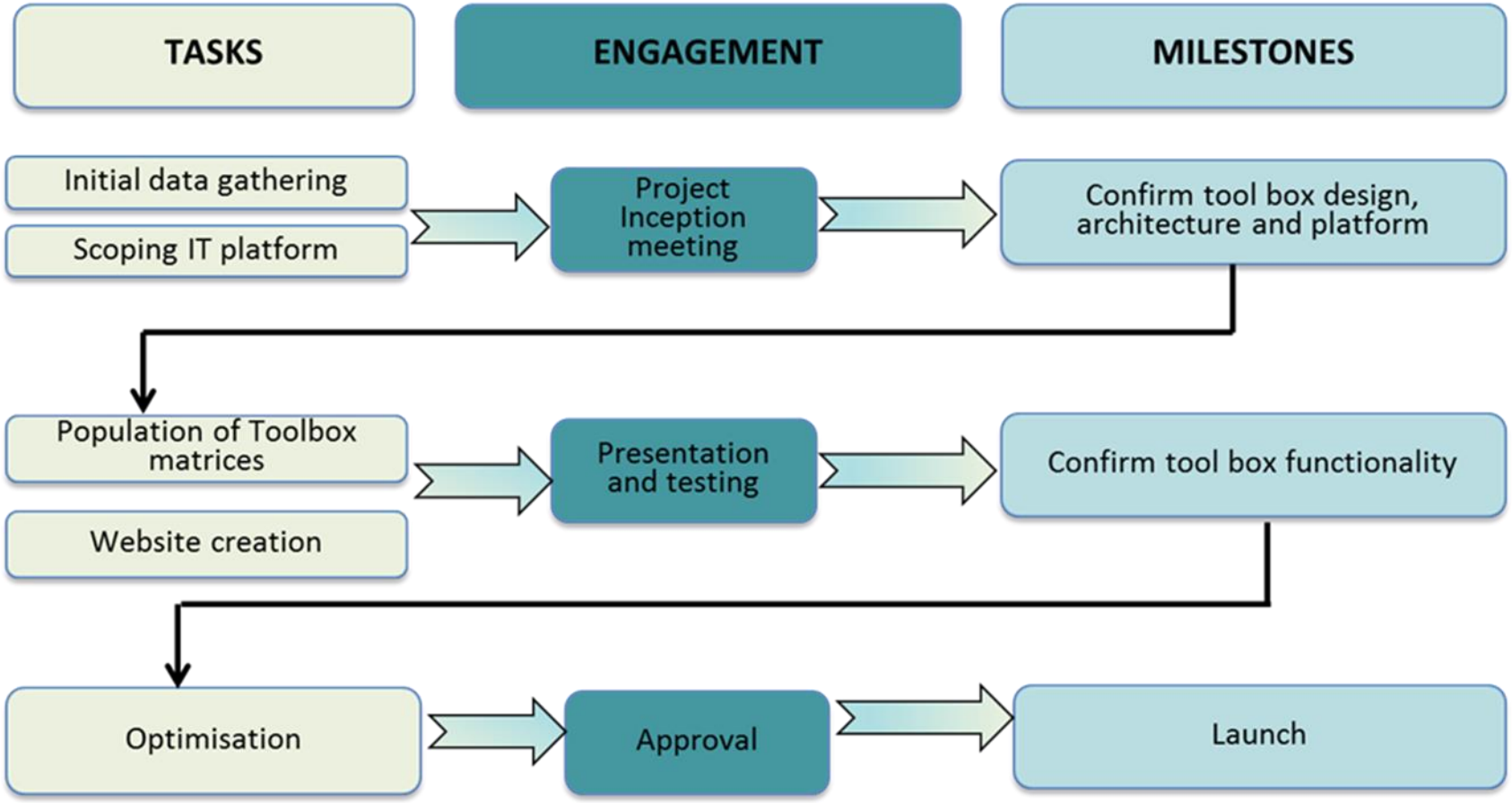


Pathway Through the Toolbox

- A library of real and conceptual case studies
- Search through topics and LSI
- A knowledge sharing platform; application to individual requirements



Project Activities



Example Case Study

MARITIME Sectors	Conceptual Case Study	Step 0: Identify LSIs	Step1: Scoping					
			LSI ACTIONS					
		Key LSIs - physical interactions - environmental interactions - socio-economic interactions	At sea development	On land development	Estimated Significance of LSI			LSI Selection for assessment
					Environmental	Economic	Social	Y/N
Electricity production: offshore wind	1.2 GW in Southern North Sea covering an area of over 400km² with 175 wind turbines. Turbines will be 190m tall and have a rotor diameter of 178m with a maximum blade tip height of 200m. They will have a clearance level of 22m above mean high water springs (MHWS). The project will also involve construction of the world's longest ever offshore wind farm, featuring a high-voltage AC electrical system comprising more than 900km of cables that will transfer generated electricity to the shore and national grid. In addition, the wind farm will include three offshore wind generating stations, two offshore accommodation platforms, up to five HVAC collector substations that will be connected through inter-array cables of 30kV to 70kV, up to two offshore HVDC converter stations, and an offshore HVAC reactive compensation substation. The wind farm is expected to power more than one million UK homes and create 2,000 employment opportunities during the construction phase, as well as 300 additional jobs during its operational phase. (http://www.power-technology.com/projects/hornsea-project-one-north-sea)	**Cable Landfall**	Buried Export Cables	Electricity sub-station	Construction impacts on coastline; interuptions on coastal processes (adverse)			Y
		Grid connection	Interconnectors?	Cable connections to terrestrial grid (overhead or buried)	Constuction impacts of cable laying at sea; terrestrial substations and overhead pylons/lines		(Keeping the lights on...)	Y
		Bird Strikes	175 turbines	Bird roosts, SPAs	Population losses at coastal/terrestrial designated sites (adverse)			Y
		Loss of Fishing Grounds	Loss of circa 500km² fishing grounds	Derelict former fishing ports?	Loss of Seabed (adverse) artificial reefs (beneficial)	Reduction in fish landings; reduced income to local fishing harbour; potential job losses (adverse)	Increased deprivation to peripheral communities, loss of social cohesion	Y

Example Case Study

Step 0: Identify LSIs	Step 2: Assessment					
Key LSIs **- physical interactions** **- environmental interactions** **- socio-economic interactions**	**LSI ACTIONS**					
	Key data and indicators to measure LSI	**Indicator**	**Main Stakeholders ~~Audit~~**	**Main government authorities and policies / legislation**		**Appropriate Planning Scale(s)**
				Regulatory Authorities	**Regional, National and/or Regional Sea policy statements and/or legislation**	
Cable Landfall	beach profiles; bathymetric surveys, sediment budgets;	beach and cliff change	Flood and Coastal Defence Operators; landowners; Local Authorities; National Electricity Providers	Local Authority; Relevant Authority for marine planning and/or licensing	National/ Strategic Marine Plan Sectoral Marine Plan Shoreline management policy	local
Grid connection	Energy transmission rates? (Minimise loss from generation to use)	Extent of grid coverage; capacity for transmission	Electricity generating companies? Offshore developers?	Relevant Authority for marine planning and/or licensing	National/ Strategic Marine Plan Sectoral Marine Plan	National
Bird Strikes	Bird Counts; Bird strike occurances	population numbers	Nature Conservation Agencies; Wildlife Agencies	Nature conservation agencies/Govt Department	SPA/Ramsar designations	National
Loss of Fishing Grounds	Vessel Numbers; fish landings; AIS data;	fish landings	Local Fisheries Committees and representatives; Licensing agencies; nature conservation agencies	Relevant Licensing Department	Terrestrial plans; economic development strategies etc.	local

Example Case Study

Step 0: Identify LSIs	Step 3: Analysis						Step 4: Planning (LSI inputs to MSP)				Step 5: Monitoring
	LSI ACTIONS										
Key LSIs - physical interactions - environmental interactions - socio-economic interactions	Ecosystem scale (international / regional sea / national / regional local)		Information Sources	Analytical Tools	Main Impacts	Potential Mitigation Measures	Consultation Mechanisms	Policy Options	Plan(s) and Policy Instrument(s) to be amended	Responsible Authority/ies	Monitoring Indicators
	On shore	Off shore									
Cable Landfall	Regional	regional	Development proposals	beach trend analysis; seabed mobility; numerical modelling	Good/ bad/ ugly for site features or habitats	What happens if the cables comes ashore in a SAC or SPA? Mitigation measures required?	Expert Working Group; individual meetings with landowners ,Nature conservation interests	As identified in the relevant Marine or Sector Plan	Marine Plan (either National or Sectoral) Policy Statement or ICM: Coastal Concordat		
Grid connection	Regional	Regional / National	Development proposals			buried cables		As identified in the relevant Marine or Sector Plan		As above	
Bird Strikes	international	international	Research undertaken in the UK: - The Crown Estate (Strategic Ornithological Support Services Programme) - Marine Scotland (including Displacement models for foraging seabirds). http://www.gov.scot/Topics/marine/science/MSInteractive/Themes/ceh	Literature Review (Review of flight heights and aviodance rates: www.bto.org/sites/default/files/u28/downloads/Projects/Final_Report_SOSS02_BTOReview.pdf. Collision Risk modelling			Expert working group		Birds Directive		
Loss of Fishing Grounds	local	regional		socio-economic assessment; ecosystem service valuations; trade off analysis			Meetings with fishery groups; community workshops		Local Economic Regeneration Strategy		