

# The “ECOPORTS” project approach on the Environmental Management System on Port Areas

## Self Diagnosis Method (SDM)

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## 1) Introduction

The Self Diagnosis Method (**SDM**) is designed to support port managers in their efforts to regularly review the environmental management performance in their port.

This approach is recommended by the European Sea Ports Organisation (**ESPO**) in its Environmental Code of Practice 2003. SDM can be used to establish initial or baseline performance and can then be applied to year by year comparison of the port's environmental improvement. Moreover, it provides an opportunity for the port to compare its response with that of the benchmark performance of the European Port Sector.

The questionnaire concentrates on the response of the Port's Management to Environmental Issues. The main objective is to review the management activities and procedures regarding the environment, and the way in which the port authority is dealing with its significant environmental aspects. The results highlight points requiring attention, as well as confirming existing best practice.

The Self Diagnosis Method has been developed and evaluated in ports throughout Europe as part of the **ECOPORTS** network. The present version represents a phased development of the approach, which is under constant review through feedback from Port Partners.

The Self Diagnosis Methodology (**SDM**) provides:

- A concise and generic approach to an environmental review
- A cost effective procedure for checking progress
- A port specific document, developed **by ports - for ports**
- A first step towards more comprehensive management systems
- A summary of performance

SDM is specifically designed to assist the port manager to:

- Assess the need for environmental management;
- Check compliance with environmental legislation;
- Identify the major activities and associated environmental aspects;
- Compare its environmental management performance against a European benchmark;
- Internally review and report the port's environmental improvement on periodic basis;
- Monitor the environmental management performance, through the **SWOT** analysis (**S**trength / **W**eakness / **O**pportunity / **T**hreat) relative to recognised standards;
- Identify business risk and opportunity;
- Raise awareness of environmental issues throughout the Port Authority and community.

## 2) Structure

Port Profile

Environmental Management and Procedures

- Section M1. Environmental Policy
- Section M2: Management Organisation and Personnel
- Section M3: Environmental Training
- Section M4: Communication
- Section M5: Operational Management
- Section M6: Emergency Planning
- Section M7: Monitoring and Records
- Section M8: Environmental Review and Audit

All sections of SDM contain the same basic types of questions:

- Yes/No questions (Y/N)

<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	= Yes
<input type="checkbox"/>	Y	<input checked="" type="checkbox"/>	N	= No

- Yes/Partial/No questions (Y/P/N)

<input type="checkbox"/>	Y	<input checked="" type="checkbox"/>	P	<input type="checkbox"/>	N	= Partial
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- Yes/Partial/No/Not Applicable questions (Y/P/N/NA)

- Numerical questions (75%, 50%, 25%, 25%)

<input type="checkbox"/>	>75%	<input type="checkbox"/>	>50%	<input type="checkbox"/>	>25%	<input type="checkbox"/>	<25%
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In addition, after each section the Port can add further information to their answers in the blank boxes available for 'Notes'. There is also a glossary of terms at the end of this document where the Port can find definitions about specific vocabulary.

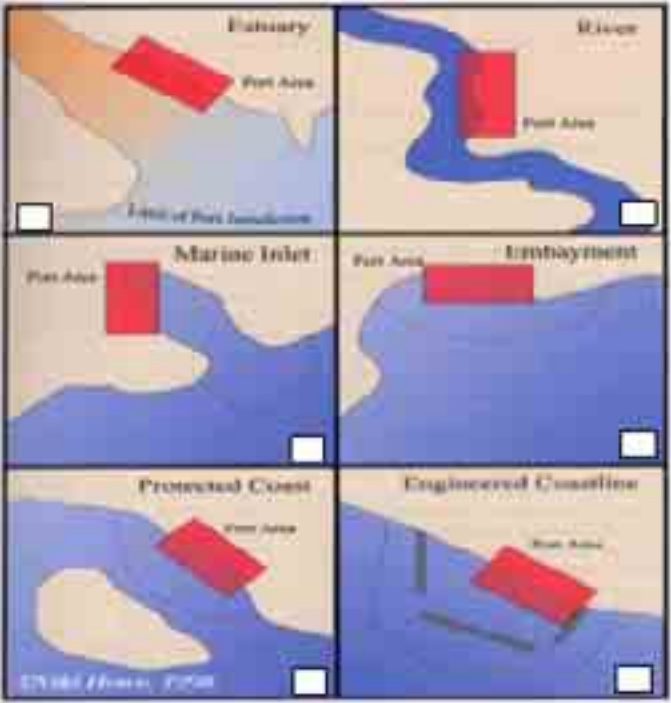
### 3) Port Profile

The first section of SDM is a general overview of the Port's profile, in order to establish its major characteristics, as a summary for the port itself and as a guideline for the independent reviewer. It consists of 6 sections:

1. **Legal Status and Port Operators**, a set of questions about Port's legal position and Port operators. The Port must tick the corresponding answers and specify if there is any further detail concerning the subject asked.
2. **Port Location and the Port Area**, about the geographic setting and the physical characteristics of the Port
3. **Port Business**, about the traffic (of goods, containers, passengers).
4. **Main Commercial Activities and Cargo Handling**, highlighting the main activities of the Port (e.g. storage, chemical industry, ship repair)
5. **Main Cargo**, specifying the kind of cargoes in transit.
6. **Environmental Management**, a set of questions on environmental management followed by a box to introduce other remarks regarding the Port.



## 2. Port Location and Port Area

Please tick the geographic setting of the Port:	Please describe the area of the Port:
	<p>Area of Port's land (km<sup>2</sup> or specify units):</p> <p>Further detail:</p> <p>Port jurisdiction limit onshore (km or specify units):</p> <p>Further detail:</p> <p>Area of Port's navigable water (km<sup>2</sup> or specify units):</p> <p>Further detail:</p> <p>Port jurisdiction limit offshore (nautical miles):</p> <p>Further detail:</p>
<p>Other location:</p>	
<p>Total quayage (m):</p>	<p>Length, largest vessel (m):</p>
<p>Maximum draught (m):</p>	<p>Draught, largest vessel (m):</p>
<p>Tidal range (m):</p>	
<p>Further detail:</p>	

## 4) Environmental policy

Consists of a set of questions about the existence of an Environmental Policy, its contents, scope, objectives and resources allocated to environmental issues

<b>M1.2</b>	<b>Do you have an Environmental Policy*?</b>	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
	Date of Publication (dd/mm/yy) 3/06/03		
	If No, proceed to section M1C		
<b>M1.3</b>	<b>Is the policy?</b>		
M1.3.1	Signed by the Chief Executive / Senior Management	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
M1.3.2	Communicated to all relevant interest groups <sup>1</sup>	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N
M1.3.3	Communicated to all employees <sup>3</sup>	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N
<b>M1.4</b>	<b>Does the policy?</b>		
M1.4.1	Specify objectives (main goals)	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
M1.4.2	Demonstrate commitment to		
	• Publish an environmental annual report	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N
	• Continual improvement*	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
	• Prevention of Pollution	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
	• Train employees on environmental issues*	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N
	• Introduce an Environmental Management System*	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
	• Reduce resource consumption	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
	• Improve environmental standards beyond those required under legislation <sup>2</sup>	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N
	• Encourage improved environmental performance* of Port users (including suppliers)	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N
	Further details / Notes		
	<i>We haven't communicated our policy to all relevant interest groups and to the employees yet because it has been approved very recently, but we will do it as soon as possible.</i>		

## 5) Management Organisation and Personnel

### Section M2: Management Organisation & Personnel

#### M2A: Responsibilities of the Environmental Management Representative

Here the Port must answer questions on responsibilities related to the environment such as the responsibilities of the environmental management representative, environmental responsibilities of key personnel.

+ [ ]			
M2.1	Has a management representative been appointed with responsibility for the Environment <sup>4+?</sup>	<input type="checkbox"/> Y	<input type="checkbox"/> N
	If No proceed to question M2B		
<b>M2.2</b>	<b>Does this representative?</b>		
M2.2.1	Communicate directly with the Board of Directors	<input type="checkbox"/> Y	<input type="checkbox"/> N
M2.2.2	Report to Senior management	<input type="checkbox"/> Y	<input type="checkbox"/> N
<b>M2.3</b>	<b>Is this representative responsible for?</b>		
M2.3.1	Co-ordination of environmental management throughout the Port	<input type="checkbox"/> Y	<input type="checkbox"/> P <input type="checkbox"/> N
M2.3.2	Response to internal and external enquiries	<input type="checkbox"/> Y	<input type="checkbox"/> P <input type="checkbox"/> N
M2.3.3	Ensuring compliance with Environmental Policy*	<input type="checkbox"/> Y	<input type="checkbox"/> P <input type="checkbox"/> N
M2.3.4	Implementation of an Environmental Management System*	<input type="checkbox"/> Y	<input type="checkbox"/> P <input type="checkbox"/> N
M2.3.5	Monitoring* current environmental issues and legislation	<input type="checkbox"/> Y	<input type="checkbox"/> P <input type="checkbox"/> N
<b>M2.4</b>	<b>Are all personnel aware of the responsibilities and authority of this representative?</b>	<input type="checkbox"/> Y	<input type="checkbox"/> P <input type="checkbox"/> N
	Further details / Notes _____		
	_____		
	_____		

## 6) Environmental Training

This section focuses on the existence of environmental training for the Port employees. If it exists it is also important to know the main characteristics of this training (Is it fitted to the employees' activities? Levels of training provided?).

<b>M3.1</b>	<b>Are all Port employees aware of the following?</b>				
M3.1.1	Importance of compliance with environmental policy*	<input type="checkbox"/> Y	<input type="checkbox"/> P	<input type="checkbox"/> N	
M3.1.2	Potential environmental impacts of their work activities	<input type="checkbox"/> Y	<input type="checkbox"/> P	<input type="checkbox"/> N	
M3.1.3	Their responsibility to conform to the environmental policy* and management objectives*	<input type="checkbox"/> Y	<input type="checkbox"/> P	<input type="checkbox"/> N	
M3.1.4	The objectives*, actions and programs carried out by the Port in order to improve its environmental performance*	<input type="checkbox"/> Y	<input type="checkbox"/> P	<input type="checkbox"/> N	
<b>M3.2</b>	<b>Does the Port authority have an environmental training program for its employees?</b>		<input type="checkbox"/> Y	<input type="checkbox"/> N	
	If NO; proceed to section M4				
<b>M3.3</b>	<b>Is the Environmental Training fitted to employees' activities and responsibilities?</b>		<input type="checkbox"/> Y	<input type="checkbox"/> N	
<b>M3.4</b>	<b>What proportion of Port employees receive Environmental Training?</b>	<input type="checkbox"/> >75%	<input type="checkbox"/> >50%	<input type="checkbox"/> >25%	<input type="checkbox"/> <25%
	Further details / Notes _____				
	_____				

## 7) Communication

<b>M4.1</b>	<b>Are there procedures to communicate environmental information internally within the environmental key personnel?</b>	<input type="checkbox"/> Y	<input type="checkbox"/> N
	If No; proceed to section M4B		
<b>M4.2</b>	<b>Which of the following communications tools are used?</b>		
M4.2.1	Oral / <u>informal</u> communication	<input type="checkbox"/> Y	<input type="checkbox"/> N
M4.2.2	Electronic media	<input type="checkbox"/> Y	<input type="checkbox"/> N
M4.2.3	Internal newsletters	<input type="checkbox"/> Y	<input type="checkbox"/> N
M4.2.4	Seminars & briefings	<input type="checkbox"/> Y	<input type="checkbox"/> N
M4.2.5	Staff / Management working groups	<input type="checkbox"/> Y	<input type="checkbox"/> N
M4.2.6	Suggestion boxes	<input type="checkbox"/> Y	<input type="checkbox"/> N
	Further details / Notes _____		

The communication between port personnel and also with third parties is very important. For this reason, this section contains several questions on internal and external communication.

## 8) Operational Management

<b>M5.1</b>	<b>Have management programs* and action plans* been prepared to achieve each objective*?</b>		<input type="checkbox"/> Y	<input type="checkbox"/> N
	If No; proceed to Section <b>M5B</b>			
<b>M5.2</b>	<b>Do the environmental management programs* and action plans* specify the following?</b>			
M5.2.1	Agency / person responsible for the action (Who will do it?)	<input type="checkbox"/> Y	<input type="checkbox"/> P	<input type="checkbox"/> N
M5.2.2	Duration and / or frequency (When and how often will it be done?)	<input type="checkbox"/> Y	<input type="checkbox"/> P	<input type="checkbox"/> N
M5.2.3	Method or standard operating procedure to be used (How will it be done?)	<input type="checkbox"/> Y	<input type="checkbox"/> P	<input type="checkbox"/> N
	Further details / Notes _____ _____			

Consists of a set of questions on environmental management programs, standard operating procedures, environmental management manual and environmental documentation management.

## 9) Emergency Planning

<b>M6.1</b>	<b>Does your Port have an Emergency and Incident Plan?</b>		<input type="checkbox"/> Y	<input type="checkbox"/> N
	If <b>NO</b> ; Proceed to section M7			
<b>M6.2</b>	<b>Does your Emergency* and Incident Plan include the following?</b>			
M6.2.1	Possible environmental consequences of likely incidents	<input type="checkbox"/> Y	<input type="checkbox"/> P	<input type="checkbox"/> N
M6.2.2	Actions to be taken in case of an explosion	<input type="checkbox"/> Y	<input type="checkbox"/> P	<input type="checkbox"/> N
M6.2.3	Actions to be taken in case of a fire	<input type="checkbox"/> Y	<input type="checkbox"/> P	<input type="checkbox"/> N
M6.2.4	Actions to be taken in case of floods / storms	<input type="checkbox"/> Y	<input type="checkbox"/> P	<input type="checkbox"/> N
M6.2.5	Actions to be taken in case of oil / chemical spill on land	<input type="checkbox"/> Y	<input type="checkbox"/> P	<input type="checkbox"/> N
M6.2.6	Actions to be taken in case of oil / chemical spill on navigable water	<input type="checkbox"/> Y	<input type="checkbox"/> P	<input type="checkbox"/> N
M6.2.7	Actions to be taken in case of shipping accident	<input type="checkbox"/> Y	<input type="checkbox"/> P	<input type="checkbox"/> N
M6.2.8	Actions to be taken in case of vandalism / terrorism	<input type="checkbox"/> Y	<input type="checkbox"/> P	<input type="checkbox"/> N

This section is focused on the existence of a Port Emergency Planning and the content of this planning (e.g. actions to be taken in case of explosion, fire, floods).

## 10) Monitoring and Records

<b>M7.1</b>	<b>Are the environmental aspects of Port activities monitored?</b>	<input type="checkbox"/> Y	<input type="checkbox"/> P	<input type="checkbox"/> N	
	If No; Proceed to section <b>M7B</b>				
<b>M7.2</b>	<b>How many monitoring* programs exist in the Port?</b> _____				
<b>M7.3</b>	<b>What proportion of the Ports monitoring* programs include the following items?</b>				
M7.3.1	Selection of the parameter to be monitored	<input type="checkbox"/> ≥75%	<input type="checkbox"/> ≥50%	<input type="checkbox"/> ≥25%	<input type="checkbox"/> <25%
M7.3.2	Design of the sampling program for each parameter	<input type="checkbox"/> ≥75%	<input type="checkbox"/> ≥50%	<input type="checkbox"/> ≥25%	<input type="checkbox"/> <25%
M7.3.3	Specification of standardised data collection methods	<input type="checkbox"/> ≥75%	<input type="checkbox"/> ≥50%	<input type="checkbox"/> ≥25%	<input type="checkbox"/> <25%
M7.3.4	Specification of data format and its storage	<input type="checkbox"/> ≥75%	<input type="checkbox"/> ≥50%	<input type="checkbox"/> ≥25%	<input type="checkbox"/> <25%
M7.3.5	Specification of data analysis method	<input type="checkbox"/> ≥75%	<input type="checkbox"/> ≥50%	<input type="checkbox"/> ≥25%	<input type="checkbox"/> <25%
M7.3.6	Estimation of the cost	<input type="checkbox"/> ≥75%	<input type="checkbox"/> ≥50%	<input type="checkbox"/> ≥25%	<input type="checkbox"/> <25%
M7.3.7	Interpretation of results	<input type="checkbox"/> ≥75%	<input type="checkbox"/> ≥50%	<input type="checkbox"/> ≥25%	<input type="checkbox"/> <25%
M7.3.8	Feedback to management program	<input type="checkbox"/> ≥75%	<input type="checkbox"/> ≥50%	<input type="checkbox"/> ≥25%	<input type="checkbox"/> <25%
	Further details / Notes _____				

Carrying out environmental monitoring and keeping the records is essential to track the Port's Environmental performance. For this reason, a set of questions on monitoring programs are asked.



## 11) Environmental Review and Audit

<b>M8.1</b>	<b>Has an Environmental Audit* been conducted?</b>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N
	Date of latest audit (dd/mm/yy): _____				
	If No; Proceed to section <b>M8B</b>				
<b>M8.2</b>	<b>Did the environmental audit* examine?</b>				
M8.2.1	General management (Corporate)	<input type="checkbox"/>	Y	<input type="checkbox"/>	N
M8.2.2	Compliance (Regulation)	<input type="checkbox"/>	Y	<input type="checkbox"/>	N
M8.2.3	Specific activities	<input type="checkbox"/>	Y	<input type="checkbox"/>	N
M8.2.4	Environmental issues*	<input type="checkbox"/>	Y	<input type="checkbox"/>	N
M8.2.5	Suppliers & Operators	<input type="checkbox"/>	Y	<input type="checkbox"/>	N
M8.2.6	<u>Environmental Management* Standard Accreditation</u>	<input type="checkbox"/>	Y	<input type="checkbox"/>	N

This section covers the issues of environmental review or audits in the Port, and what elements are examined in each case.

**M1D: Objectives and Targets**
**EMS**

No.	Question	PERS	EMAS	ISO	Year
1,14	Have objectives and targets for environmental improvement been defined?				
1,16	Have these objectives been published?				
1,17	Does the port have quantitative objectives?				
1,18	Has the port defined targets for its objectives?				

**M1E: Resources and Budget**

No.	Question	PERS	EMAS	ISO	Year
1.19	<b>Does the Port have a specific budget for Environmental Issues?</b>				
	<b>Does the Port allocate financial resources (budget) to the following?</b>				
1.20.1	Environmental training of employees?				
1.20.2	Impact Minimisation?				
1.20.3	Emergency response and prevention?				
1.20.4	Environmental Monitoring?				
1.20.5	Review and Audit?				

**Gap analysis results** **7%** **3%** **2%**

Immediately you can have the gap analysis with respect to European certification standards as PERS, EMAS and ISO.

	EMS						
PERS	EMAS	ISO	1998	1999	2000	2001	2002
			Red	Cyan	Green	Green	Green
			Red	Cyan	Green	Green	Green
			Red	Cyan	Cyan	Green	Green
			Red	Red	Green	Green	Green
			Red	Red	Green	Green	Green
			Red	Cyan	Green	Green	Green
			Red	Red	Green	Green	Green
			Red	Red	Green	Green	Green

Repeating SDM every year, it is possible to follow the trend of the environmental performances of the Port.

No:	Question	PERS	EMAS	ISO		SWOT
1	<b>Has an Initial Environmental Review been conducted?</b>				NO	O (i)
1.1	<b>Do you have an Environmental Policy?</b>				YES	S
1.31	Is the Policy signed by Chief Executive / Senior Management?				YES	
1.32	Is the Policy communicated to all relevant interest groups?				YES	
1.33	Communicated to all employees*				YES	
1.4	<b>Does the Policy</b>					
1.41	Specify Objectives				YES	
1.421	Publish an Environmental annual report?				NO	O (ii)
1.422	Continual improvement?				NO	
1.423	Train employees on environmental issues?				NO	
1.424	Introduce an Environmental Management System?				NO	
1.425	Reduce resource consumption?				NO	
1.426	Improve environmental standards beyond those required under legislation?				NO	
1.427	Encourage improved environmental performance of Port users (including suppliers)?				NO	
1.5	<b>Does the Environmental Policy refer to the following issues?</b>					
1.401	Implementation of the ESPO Code of Practice?				NO	O (iii)
1.402	Operations carried out in the port?				NO	
1.403	Substances** involved in port operations?				NO	
1.404	Emissions / effluents generated by port activities?				NO	
1.405	Wastes produced in the port?				NO	
1.406	Cargoes loaded / unloaded?				NO	
1.407	Premises and land?				NO	
1.408	Investment and expansion plans?				NO	
1.409	Energy use and energy conservation?				NO	
1.41	Public relations?				NO	

SWOT analysis to highlight the point of **S**trength, **W**eakness, **O**pportunity and **T**hreat of the Port.