


# TEST Step by Step - PLAN

	Step	Purpose
 <b>P</b> <b>L</b> <b>A</b> <b>N</b>	<b>1.1. Initial screening</b>	<b>Initial screening: go/no-go for TEST</b>
	1.2 Scoping and Policy	Top management commitment to RECP and scope of the work
	1.3 TEST team	Plan, organize and train internal company team (as well as external team, if created).
	1.4 Identifying total cost of NPO and priority flows	Starting the diagnosis: Identify the non-product output (NPO) costs and volumes at company system boundary.
	1.5 Setting up focus areas	Continuing the diagnosis: identify focus areas at the level of production steps (e.g. cost centres).
	1.6 Revealing sources and causes of inefficiency	Concluding the diagnosis: identify sources and reveal root causes of inefficiency and pollution within focus areas.
	1.7 Option generation and feasibility analysis	Broadening the scope of possible improvement solutions and techno-economic analysis of a set of optimized feasible measures
	1.8 Action plan	Plan of actions for implementing and monitoring validated measures.



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# 1.1 Initial Screening

*Is there a potential for resource efficiency in the company?*



UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION



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# RATIONALE

The Initial Screening (IS) is a preliminary screening to define situation in a specific company within two major areas:

- 1) POTENTIAL FOR IMPROVEMENT - if the introduction of resource efficiency and integrated environmental management techniques will pay back in a company (**the business case**).
- 1) COMPANY COMMITTMENT – if company is ready to cooperate and to allocate needed resources for implementation of RECP and if there is a good prospect for integration of RECP in the company operation (**readiness to engage**).

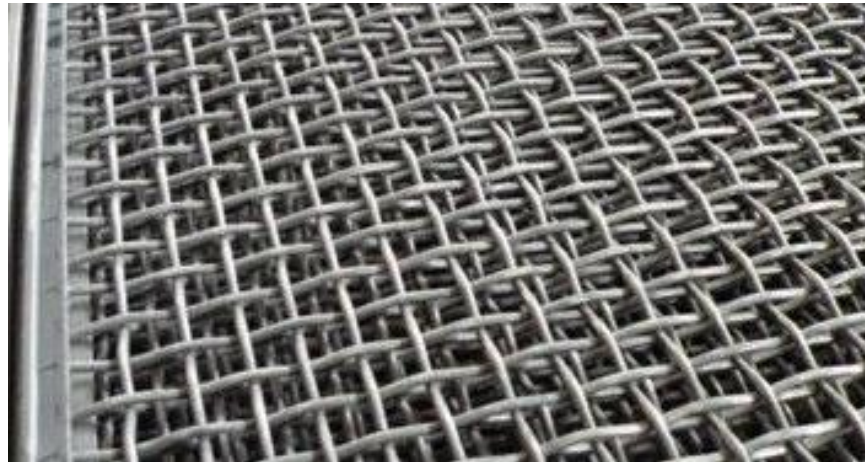


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## The Initial Screening is also a tool for:

- **marketing** TEST to companies and raise commitment of management toward resource efficiency
- **selecting** the most promising companies for participating in a TEST demonstration project



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# Other desired outputs of Initial Screening

- Contact with the enterprise established together with



- Areas for possible improvement at the level of processes and on the other levels of the management pyramid (strategy, system,...)
- Understanding of the drivers for implementation of TEST
- Understand actual position of the company and its financial viability
- Evaluation of project risks including enterprise withdrawal
- Learning process within the enterprise started

# PROCESS OF CONDUCTING AN INITIAL SCREENING



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# Overview of Step 1.1

Publicly available  
company information

Company data on  
products, production  
processes, major inputs,  
pollution problems and  
systems

Industry sector  
benchmarks

Introductory desk survey  
Management interview

Walk through the  
production facility

Fill in the Initial Screening  
template

Meeting with top  
management

Top management  
priorities  
Key process inefficiencies  
and immediate areas of  
high potential for resource  
efficiency

Top management  
commitment

Go/no-go decision for  
starting TEST  
Service agreement signed

Inputs

Activities

Outputs

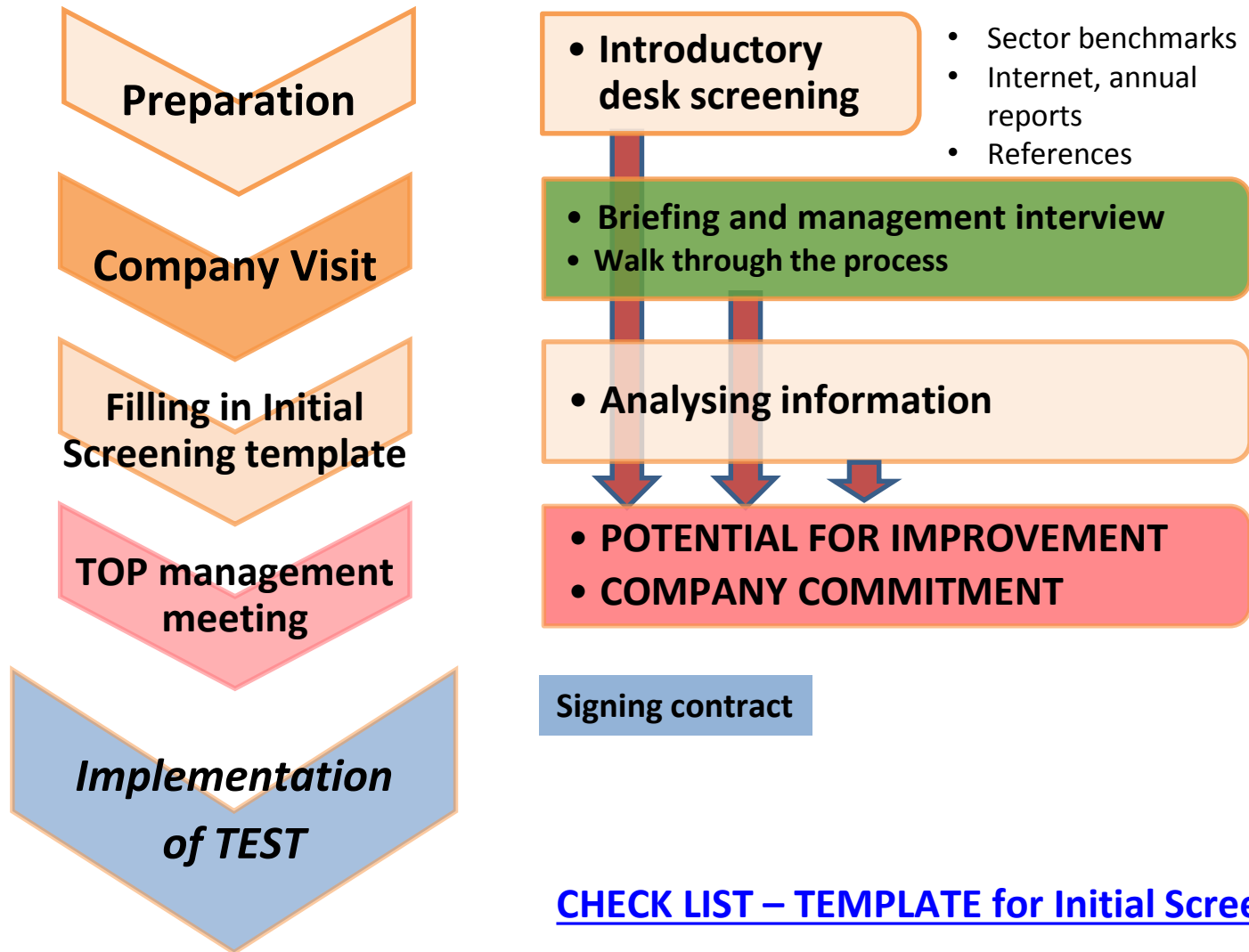


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# Workflow



# Preparation

## Before you contact an enterprise:

- review publicly available information (internet, reports, finance data,...)
- review sector specific information
- review existing incentives schemes for RECP
- review information from peer companies, if available
- prepare company visit based on company specific information.



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# Management Interview

- Speak with enterprise members before and after walk through (there should be a representative of enterprise top management among them)
- Introduce potential benefits of TEST
- Understand major concerns of management, including environmental risks
- For interviews can be utilized questions proposed in the IS Template
- For example for business strategy, vision and plans ask on objectives and targets, relevant stakeholders, expansion or upgrading plans, adoption of new business standards etc.



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# Walk through the process

- State of the art and way of operating technology (good housekeeping, maintenance, ratio of rejected product outputs)
- Resource efficiency (losses of input materials and use of water and energy)
- Waste flows and waste management
- End of pipe technology and its efficiency and maintenance
- Logistics and storage
- Any significant risks for environment, quality and health and safety

Look for immediate improvement measures



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# Where to look for specific data

- **General company data** (product mix, production volumes and capacity, product markets, existing management and information systems)
- **Technology** (processes, utilities types and capacity)
- **Major production inputs and outputs** (raw materials, energy, water, waste, out of specs, returns from clients)
- **Monitoring system** for flows (invoice meters, submeters)
- **Environment related costs & compliance** (waste, wastewater, emissions, penalties)



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# How to estimate potential for improvement ?

- **Expert judgment**

The ability to estimate potential for improvements depends on your experience and on the data collected

- **Benchmarking**

Benchmarking is part of TEST steps 1.4 and 1.5, however, if you already have basic benchmarking data, it is useful to use them already at this initial stage



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# Check waste collection points



**Sometimes there can  
be estimated total  
costs of waste  
by calculating price of  
input materials in a  
waste flow**

# Expert Judgement

In some situations, an expert can make an immediate estimation of possible improvements through actions that usually have a PBP of less than 1 year.



**Example:** For steam leakage, if we have a hole with a size of 5mm, and steam pressure of 10 bars, we lost about 100 kg of steam/hour

(steam leak quantity = (Size hole)<sup>2</sup>\* vapour pressure\*0,4).

If we have the steam cost and hours of production, we can estimate easily the total cost of steam losses and potential savings from fixing the leakage.



# Top Management Meeting

Prepare a presentation with the **Business Case**:

- The current situation: Consumptions, Trends, potential priority areas for improvement (findings of the IS)
- **What is value added of TEST** and what can be achieved (savings, training of staff, **security of supply**, preparedness for ISO etc.) ?
- What is required (commitment, resources, data, cost of service)?
- Next steps (contract, workplan)



Understand  
company problems

Link to them TEST  
benefits



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# Criteria for selection of demonstration companies

- ✓ **Potential for improvement**
- ✓ **Commitment of top management** (co-financing)
- ✓ **Financial viability** (creditworthiness) – important for investing in implementation of Action Plan

**Go - No go decision**



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# Highlights

- A company's readiness to engage in a TEST project is often demonstrated by its **willingness to share data on processes already at the stage of an Initial Screening.**
- Convincing a company to start a TEST project, whether as a subsidized or fully commercial application, relies on the consultant's ability, at this early stage, to **pitch the business case of resource efficiency to top management, showing the added value to the company with an indication of potential economic benefits and practical examples of improvement options, in line with the initial expectations of the company.**
- If a company's involvement in the TEST project is partly or fully subsidized by a national/international program, exploring the creditworthiness of the company will increase the chances of engaging with companies that are able to effectively implement and invest in environmentally sound technology.
- Information on existing grants and funding programmes for resource efficiency investments and environmental compliance are leverage points for top management commitment, and can be presented during the Initial Screening.



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# Linkages with EMS

EMS  
Not in place

An IS provides information for understanding the context in which the company is operating including important issue related to resource efficiency. This contributes to the identification of environmental and energy aspects.

EMS  
In place

An IS provides additional information related to the resource efficiency of the production system, revealing new resource/energy efficiency priorities which can be integrated into an existing environmental or energy management system.

# DISCUSSION

- The challenge for full commercialization of RECP services is to convince top management to pay for improvements that are not defined at the beginning....
- Your experience with getting paid for RECP services from industry?



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# THE BUSINESS CASE AN EXAMPLE



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# Company Background

## Dairy and Food Company in Morocco.

The factory process annually an average of 55,000 tonnes of milk, producing mainly pasteurised and UHT milk, yoghurt, white cheese, butter and cream.



# Current situation

Following the IS production losses were observed and potentials for improvement highlighted:

- Significant amount of milk was wasted in the packing hall and processing area
- Lack of insulation for some hot and cold surfaces
- Low electrical power factor
- Flame colour indicating poorly maintained boilers and lack of control over the combustion process resulting in excessive consumption of fuel
- No metering for water and energy management
- Solid waste stored in open areas constituting fire risk
- Compressed air network leakage
- Oil used for truck maintenance facilities was drained to factory sewers
- Product return from market was drained also to factory sewer (blockage of drain, odours, increase the load of waste water)



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# What can your company gain from TEST?

- Operational cost savings
- Minimized investment for the planned WWTP
- Better access to financing
- Improved relationship with stakeholders
- Preparedness for ISO14001/ISO5001
- Training of company staff
- Access to Best Available Techniques
- Better process control
- Company culture and involvement of company staff boosted



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# Operational cost savings identified within the expert walk through

- **Electrical system and compressed air:** Improving the power factor (CosQ), optimizing lighting and installing variable speed drivers on compressors.
- **Steam systems:** Insulation of hot surfaces (steam pipes, valves), recovery of steam condensate and combustion optimal setting, energy recovery from the boilers steam traps and installation of a conductive meter on the boilers.
- **Good housekeeping:** Maintenance and upgrade of factory drainage, sewers and manholes to eliminate blockage and overflow problems, collection of garage oil for resale, segregation of solid waste generated to be afterwards disposed or sold, collection of return market product and mixing with food for cattle.



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# What is required?

- ✓ Top management commitment
- ✓ Allocate human resources and appoint an internal TEST team
- ✓ Willingness to install submeters if well justified
- ✓ Willingness to implement TEST action plan
- ✓ Data availability and information sharing
- ✓ Co-financing of the technical assistance



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# Next steps

- Make the decision to go ahead
- Sign the contract with the company with specific clauses such:
  - Details of services offered
  - Financial Contribution of company
  - Confidentiality for the company data
  - Clause to minimize withdraw of company (penalties)
- Detailed implementation plan
  - Nominate company TEST team with leader for implementation
  - Work plan with time schedule



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# Thank YOU for your Attention



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