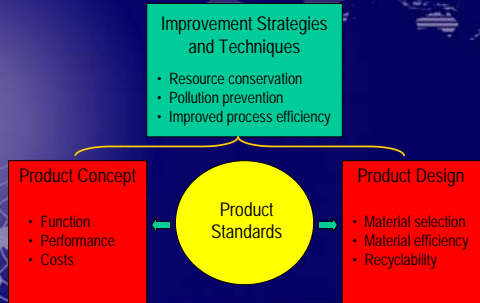


# Quality and Environmental Management Standards: ISO 9001 and 14001

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## Relationship between Product Standards and Environmental Improvement Strategies



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## Key Steps in ISO 14001 and 9001

ISO 14001	ISO 9001
Defining environmental policy	Defining quality policy
Planning	Quality planning
Implementation and operation	Implementation and operation
Checking and corrective action	Control, inspection and corrective action
Management review	Management review

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## Planning Phase

### ISO 14001:

- *Ascertaining environmental aspects*
- *Legal and other requirements*
- *Objectives and targets*
- *Designing an environmental management programme*

### ISO 9001:

- *Defining key target quality elements*
- *Fixing quality benchmarks*
- *Developing a quality management programme*

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## Implementation and Operation Phase

### ISO 14001:

- *Structure and responsibilities*
- *Training, awareness and competence*
- *Communication*
- *Environmental management system documentation*
- *Document control*
- *Operational control*
- *Emergency preparedness and response*

### ISO 9001:

- *Organization*
- *Training*
- *Document and data control*
- *Quality system procedures*
- *Contract review*
- *Design control*
- *Purchasing control*
- *Process control*
- *Handling, storage, packaging, preservation and delivery control*
- *Servicing*
- *Product identification and traceability*

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## Checking and Corrective Action Phase

### ISO 14001:

- *Monitoring and measurement*
- *Non-conformance and corrective or preventive action*
- *Records*
- *Environmental management system audit*

### ISO 9001:

- *Inspection and testing*
- *Control of inspection, measuring and test equipment*
- *Control of non-conforming products*
- *Corrective or preventive action*
- *Control of quality records*
- *Internal quality audits*

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## Key Values of ISO 9001 and 14001

They are a framework that inspires and channels the creativity of all staff of a company or organization, making them active agents of change for promoting environmental protection, resource conservation, improved efficiency and product quality.

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## How quickly can ISO 9001 or 14001 be introduced?

### Depends on several factors:

1. The status and level of sophistication of its existing management system.
2. The degree of environmental or quality challenge the company faces.
3. The amount and quality of resources the company has access to, both internally and externally.
4. State of preparedness
5. Knowledge, skill and ability of staff
6. The expectations stakeholders have in relation to EMS or QMS.
7. The current status of compliance with legal requirements.
8. The level of verification required by the company to meet market requirements or expectations of stakeholders.

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## Company Example

Over three years, Philippine Recyclers Inc. (PRI), a battery recycling company, systematically improved its environmental performance and invested some \$80,000 (not counting capital equipment) in achieving ISO 14001 certification in 2001. The environmental improvements resulted in net economic benefits through significant savings in resource use and environmental management costs.

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## Profile of the Sample Company

- Lead-acid battery recycler
- Production capacity of 36,000 MT/year
- Operations consist of –
  - ✓ Raw materials preparation
    - ✓ Battery breaking
    - ✓ De-sulfurization
  - ✓ Smelting
    - ✓ Reverberatory Furnace
    - ✓ Blast Furnace
  - ✓ Refining and Alloying
  - ✓ Plastic by-product processing
  - ✓ Waste water treatment
  - ✓ Waste materials segregation, recovery and disposal
- Employs 143 regular workers and about 100 contractual or temporary workers
- Maintains a network of about 300 scrap battery collection centers nationwide

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## Why was the Sample Company Interested in EMS?

- Environmental issues were traced to inadequate management system design and implementation.
- Previous successes of sister companies in ISO 9000 implementation.
- ISO 14001 presented a convenient model for an environmental mgmt. system.
- Third party audits provided objective and credible evidence of compliance.

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## Minimum Requirements at Sample Company

The Company must have:

- A sound understanding of its environmental aspects and impacts
- An environmental policy stating the intention and principles of the organization in relation to its overall environmental performance
- Objectives and targets which define broad environmental goals and more detailed performance requirements.
- An environmental management program for the objectives and targets
- Appropriate control procedures for the activities related to significant aspects.
- Internal audits of the EMS
- Long-term goal for environmental performance/protection of the environment (continual improvement)

The EMS must be:

- Fully designed and documented even where full implementation is incomplete
- Implemented to the extent that:
  - All staff are aware of the company's significant environmental aspects, environmental programs and initiatives.
  - All key relevant staff are trained on the requirements of EMS
  - Performance monitoring/measurement are underway
  - Internal EMS audit and management review are conducted

• Able to demonstrate management commitment to comply with relevant legislation/regulation.

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## What Effort did ISO 14001 require at Sample Company

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- Three years of preparation time.
- Review of corporate vision, mission and values.
- Major equipment and facilities upgrading.
- Organizational unit for administrative maintenance of the system.
- Review, and when necessary, overhaul of policies, procedures and work instructions.
- Estimated cost, from project launch to certification, excluding capital input, was \$ 80,000.

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## Required Effort in Detail

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ISO 14001 Implementation Program Statistics	
<b>COMMITTEES</b>	
- Number formed	6
- Number of members	22
- Number of meetings	108
- Number of man-hours of meetings	36,500
<b>ENVIRONMENTAL ISSUES</b>	
- Number of aspects	624
- Number of significant aspects	81
- Number of objectives and targets	20
- Number of legal requirements	163
<b>TRAINING</b>	
- Number of training sessions	69
- Number of employees trained	163
- Number of suppliers / contractors trained	134
- Number of man-hours	9,900
<b>DOCUMENTATION</b>	
- Number of procedures	640
- Number of forms	414
- Number of manuals per set	20
- Number of manuals in distribution	16
- Number of pages per document set	2,572
<b>INTERNAL AUDITS AND RESULTS</b>	
- Number of internal environmental auditors	17
- Number of audits conducted since July 1998	32
- Number of NCRs/RCAs raised since July 1998	385
- Number of Management Review systems	

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## Tangible Benefits of ISO 14001 Implementation at Sample Company

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- Regulatory compliance – 100%
- Resource utilization –
  - Fuel consumption – 17 % reduction
  - Power consumption – 21 % reduction
- Waste generation –
  - Slag generation – 19 % reduction
- Environmental cost – 20 % reduction
- Improved Financial ( ROA, EVA, TOR) performance

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## Intangible Benefits of ISO 14001 Implementation at Sample Company

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- Enhanced employee confidence, sense of pride and morale.
- Improved public image and community relations.
- Improved positive perception of regulators and local government units.
- Improved image with environmental NGOs and governmental regulators (allowed PRI to launch a novel scrap battery collection project called " Bantay Baterya " ( Guard the Batteries ) with the government's Dept. of Environment and Natural Resources and the ABS-CBN multi-media network's "Bantay Kalikasan " ( Guard the Batteries ), one of the most influential environmental NGOs in the Phil.)
- PRI is now the preferred battery recycler of the local semi-conductor and telecom industry.

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QUALITY PRODUCTS AND SERVICES...

CONTINUOUS IMPROVEMENT...

ENVIRONMENTAL RESPONSIBILITY...



PRI

Thank you and good day  
to everybody.

