Mobilizing SMEs to “Green”: experiences and lessons with Resource Efficient and Cleaner Production

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Resource Efficient and Cleaner Production (RECP)

- Applies preventive environmental techniques and total productivity management practices to increase resource productivity and environmental performance of processes, products and services.
Low Carbon Context

Resource Efficient and Cleaner Production: innovation for low carbon industry

- **DEMATERIALIZING PRODUCTS**: developing new products that require less materials and energy over their lifecycle
- **INCREASING PROCESS EFFICIENCY**: reducing the intensity of use of energy, materials, chemicals, and water
- **MINIMIZING PROCESS EMISSIONS**: adopting clean technologies to minimize the generation of non-energy greenhouse gases
- **SWITCHING TO LOW-CARBON INPUTS**: using renewable and other low-carbon sources of energy and materials
- **CLOSING THE CARBON LOOP**: recovering organic wastes for reuse as feedstock for energy and materials
Resource Efficient and Cleaner Production

RECP is the RECiPe for putting green economy in practice at enterprise level

- ReCiPE with
  - Ingredients ➔ ‘techniques’ or ‘practices’
  - Process ➔ ‘continuous improvement’
  - Outcomes ➔ ‘indicators’
RECP *Techniques*

- Good Housekeeping
- Input Material Change
- Better Process Control
- Equipment Modification

Resource Efficient & Cleaner Production

- Technology Change
- Onsite Reuse & Recycling
- Production of Useful Byproduct
- Product Modification

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RECP Methodology

Systematic root source and cause analysis guides the identification, evaluation and implementation of RECP opportunities.

Van Berkel (1995), Introduction to Cleaner Production Auditing, UNEP Industry and Environment Review
RECP Indicators

- **Resource Efficiency**
  - Productive output per unit of resource consumption
    - Total energy use
    - Total water use
    - Total materials use

- **Pollution Intensity**
  - Waste and emission generation per unit of productive output
    - Air emissions
    - Waste water volume
    - Waste quantity
### FEC Concrete Producer (Moldova)

#### Principal options implemented

<table>
<thead>
<tr>
<th>Description</th>
<th>Investment USD</th>
<th>Cost Saving USD/yr</th>
<th>Economic Benefits</th>
<th>Resource use Benefits</th>
<th>Pollution generated Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub metering of electricity in 5 production Units</td>
<td>1000</td>
<td></td>
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<tr>
<td>Retiring old air compressor, P=75 kW and installing new efficient air compressor with variable speed P=30kW</td>
<td></td>
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<tr>
<td>Replacing 2 electric lifting cranes (P=28kW) with 2 forklifts</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
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<tr>
<td>Switching to efficient light bulbs from 500W to 125W (end of 2011)</td>
<td></td>
<td>532</td>
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</tr>
<tr>
<td>Replacing air compressor for concrete transportation with 2 helical (screw) transporters, P=22kW (end of 2011).</td>
<td></td>
<td>16,000</td>
<td>Reduction of electricity consumption* by 219,000 kWh/year</td>
<td></td>
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</tr>
<tr>
<td>Installation and operation of new production line for concrete rings</td>
<td>N/A</td>
<td>68000</td>
<td>Improved materials use productivity by 7% (6,900 tons)</td>
<td></td>
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</tbody>
</table>
EaP GREEN:
RECP Demonstration Component

- RECP in 6 countries
- Human and Institutional Capacity
- Implementation Dissemination and Replication
- Technology Support
- Experts Training (2 batches)
- Awareness & Advocacy
- National Coordination Mechanism
- Results Monitoring (success stories)
- Demonstrations (2 batches)
- Regional Replication (RECP Clubs (2-3 rounds)
- Technology Gap Assessment (3 batches)
- Pilot Project Support

Food processing, chemical and construction materials sectors

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Messages for Enterprises

• RECP generally makes good business sense
  • Operational costs savings, productivity and quality improvements and reduction of environmental impacts
  – Yet
  • Site specific assessment needed to determine most appropriate solutions
  • Realization of benefits contingent on:
    – Enterpreneurial capacities
    – Policy and regulatory certainty
    – Market expectations and acceptance
    – Real costs for energy, water, waste, waste water and compliance
Challenges for Information

Attention

Interest

Desire

Action

Awareness of potential benefits and availability of technical tools is insufficient to spur interest and desire to implement.
Analyzing the Challenges

1. Limited operational cost savings
2. Low environmental compliance costs
3. Limited market recognition

Limited uptake of RECP by enterprises

- Weak incentives
- High transaction costs

Productivity losses
Environmental degradation

1. Accessibility of advice
2. Applicability of techniques
3. Affordability of solutions

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Towards a Framework

Scaling-Up

- Innovate
- Expand
- Streamline
- Replicate

More companies
More impact per company
Less public effort per company

Mainstreaming

- Corporate Policy
- Management Systems
- Incentives
- Public Disclosure

Public Policy
Public Institutions
Markets
Society

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Policy Message

Stronger incentives

Better enterprises

Smarter solutions

GREEN SMEs
Policy Message: Incentivize

• Make it urgent for SMEs to address their resource, environment and climate issues
  – Set up schemes that recognize and reward good performance
  – Ensure full compliance and set long term goals
  – Use fiscal and pricing instruments that value natural assets
Good Practice Examples: Recognition

EcoMark Thailand engaged ~17000 industries within 3 years of its launch

Between 1998 and 2012 OkoPlan Vienna engaged >1000 enterprises that implemented >11,000 actions, achieving cumulative savings exceeding 120 MEUR 330 kt CO2 and 125kt waste
Policy Message: Ease

• Make it **easier** for SMEs to adapt and adopt green techniques and practices
  – Improve the Accessibility
  – Improve the Applicability
  – Improve the Affordability

• For information, advisory services, techniques and finance
Good Practice Example
RECP Service Providers

- Awareness
- Training
- Assessment
- Policy support
- Technology support

RECP Uptake

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Closing Remarks

• Good opportunities exist for SMEs to green their existing business through RECP
• Greening policies to focus on incentivizing into RECP and easing its adoption
• Good practice examples exist
Thank You

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