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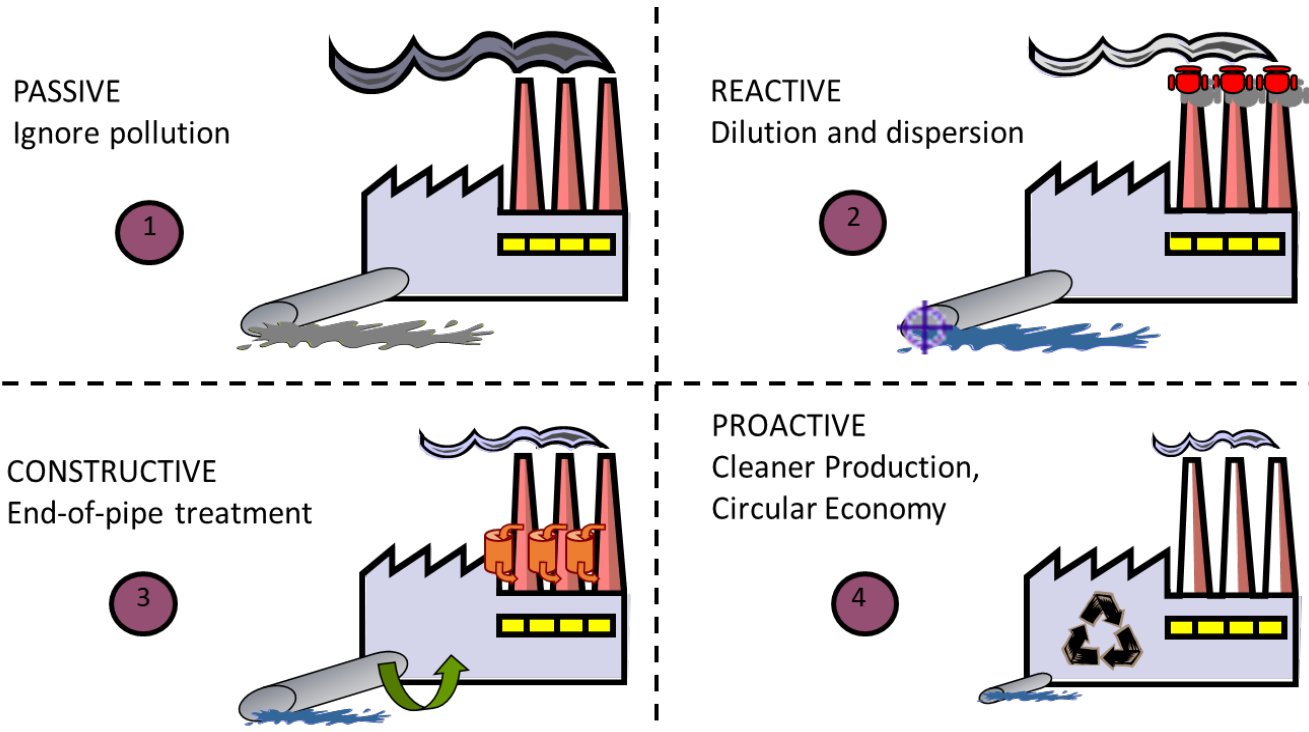
Resource-Efficient & Cleaner Production (RECP)

3rd NEXUS Conference

Green to Grow in Water, Energy, Food, Environment, and Solid
Waste

06/03/2024

Evolution of Pollution Management



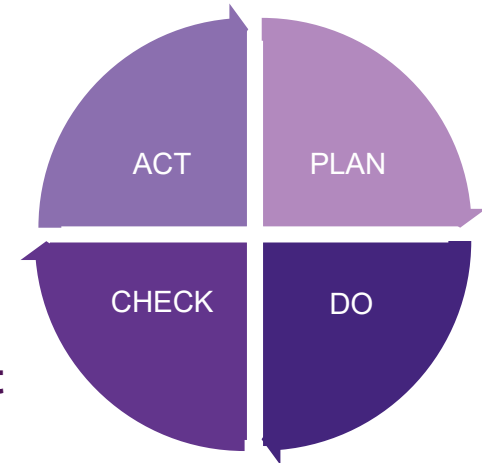
Source: Cleaner Production Techniques – An Overview, Farahan Ahmad, Department of Chemical engineering, University of Engineering and Technology Lahore



Resource-Efficient & Cleaner Production (RECP)

RECP is a preventive, systematic, integrated and continuous improvement approach which minimizes the generation of losses at the sources through **efficient utilization of resources (Natural: Water, Energy & Material, Economic & Technical).**

RECP is highly related to Nexus Approach, which aims at applying coordinated, integrated and cost-effective management of the use of natural resources.



"(RECP is) the continuous application of an integrated environmental strategy to processes, products and services to increase efficiency and reduce risks to humans and the environment". UNEP, 1992

"Industrial resource efficiency means the efficient utilization of technical/economic and natural resources in industrial processes". UNIDO, 2015



RECP Benefits

- Optimize the utilization of resources and minimize the generation of waste and pollution.
- Create the awareness and knowledge in the field of resource efficiency and build the company's capacity on RECP approach.
- Reduce production cost, and accordingly being able to increase competitiveness and market share.
- Increase the efficiency of production and productivity.
- Improve health, safety and morale of employees.
- Assist the company to solve any environment legal non-compliance and reduce the investment for end-of-pipe solutions.
- Improve cost accounting/pricing and monitoring systems in addition to the information and management systems for better tracking of resources utilization.
- Being recognized as green industry that can apply for available national resource efficiency initiatives such as the related financing programs, awards and incentives.



RECP Strategies

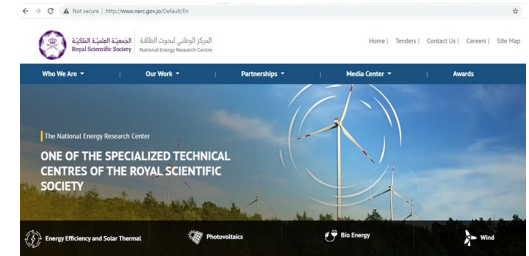
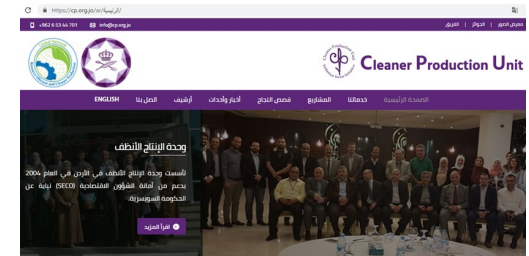


Source: UNIDO



RECP Approaches Implemented by CPU & NERC - RSS

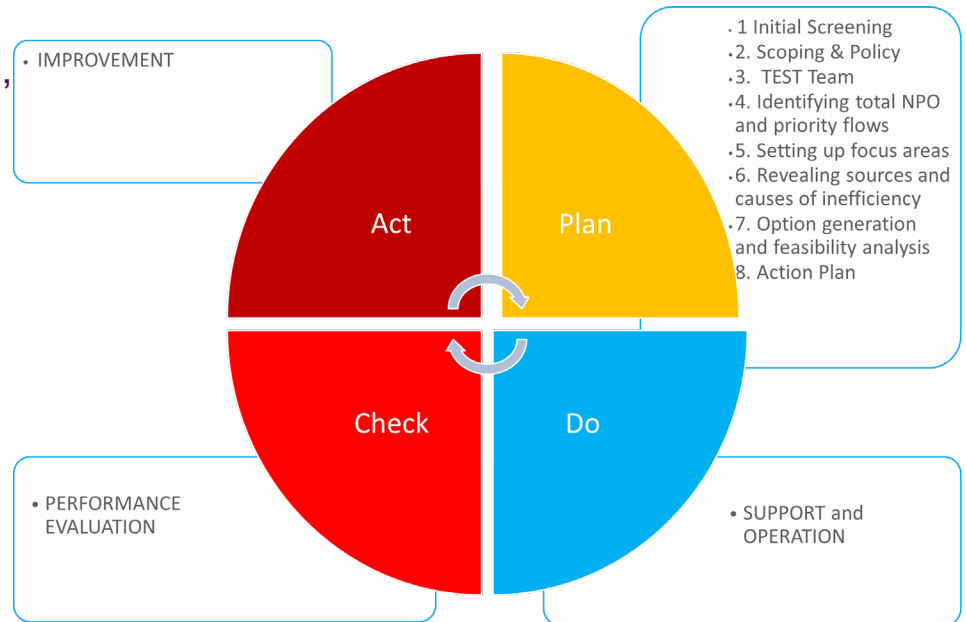
- Cleaner Production (CP) In-Plant Assessment (2004-2014) developed by UNIDO & UNEP
- CP Quick Scan Plus Assessment (2006-present)
- RECP integrated in Environment Auditing (2010-present)
- RECP/Transfer of Environmentally Sound Technology (TEST) developed by UNIDO (2015 – present)
- New RECP service packages by CPU & NERC with the support of GIZ (2022 – present):
 - ✓ RECP self-assessment and technical advice for micro (less than 5 employees) dairies and “fruits & vegetables processing”
 - ✓ RECP Assessment for small (5 - < 20 employees) dairies and “bakeries and Arabic sweets”



RECP/TEST Approach

UNIDO developed RECP/TEST approach goes beyond the traditional “one-stop improvement” or “audit-like” approaches to resource efficiency in the system approach, driving continuous learning and improvement. It builds on:

- The **RECP Assessment** methodology, which includes adoption of new eco-efficient technologies;
- An effective and supportive information system for material and energy flows and related costs based on **Material Flow Cost Accounting (MFCA)** principles;
- The core elements of an **Environmental Management System (EMS)** and an **Energy Management System (EnMS)** to sustain performance.



Source: UNIDO

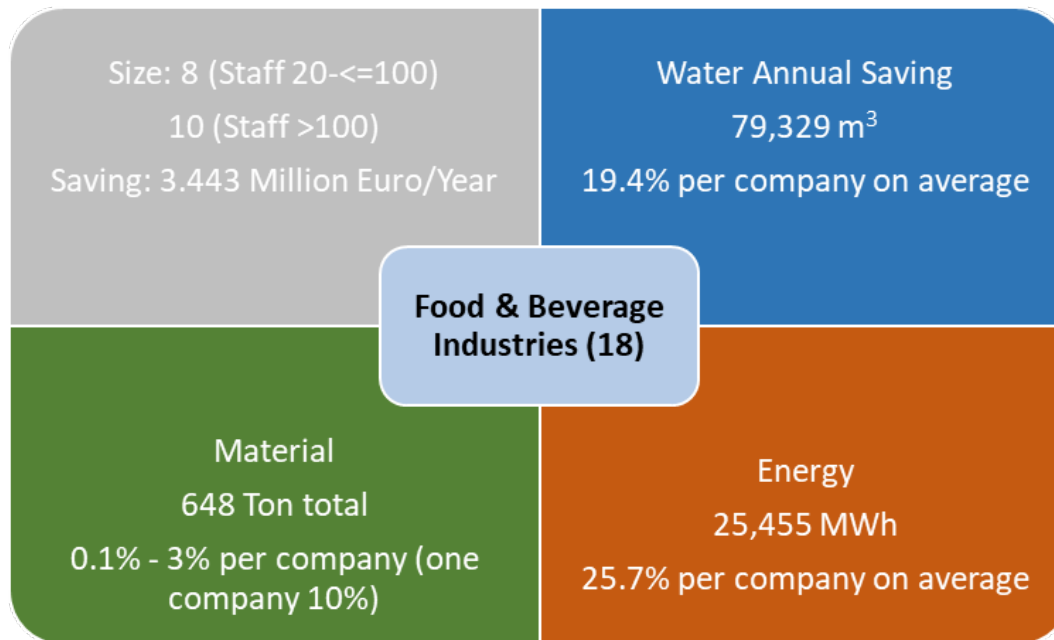


Results of SwitchMed TEST Demonstrations - Jordan (MED TEST II & III) – Food Industries



Funded by the European Union

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New developed RECP Service Packages for food MSEs – GIZ/MSMEs







Implemented by
giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH





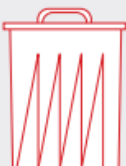
Prepared by
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Reviewed by
STENUM[®]

Economic Gains

	
28.0% Annual Energy Savings	15.7% Annual Water Savings
	
3.0% Annual Material Savings	125,190 JOD/Year; Payback Period = 0.3 Year

Environmental Gains

		
1,180.3 MWh/Year Energy Savings	320.5 ton/Year CO ₂ Reduction	1,530 m³/Year Water Savings
		
85.3 ton/Year Raw Material Savings	37.1 ton/Year Waste Reduction	



“Through the project, I learned to calculate consumption values and costs, so I had better information about the actual revenue of my work, which has encouraged me and invigorated me to continue my work and feel the value of what I do”

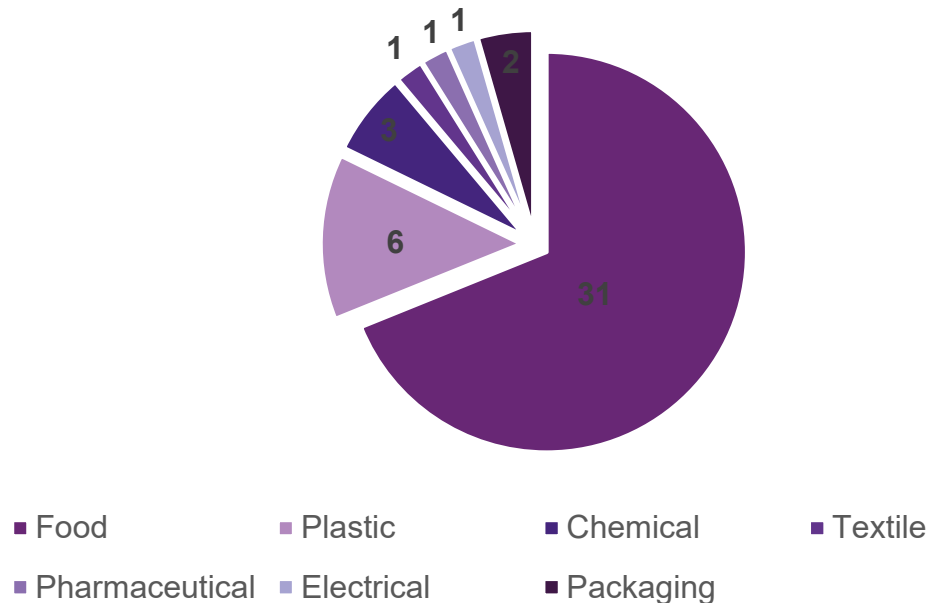
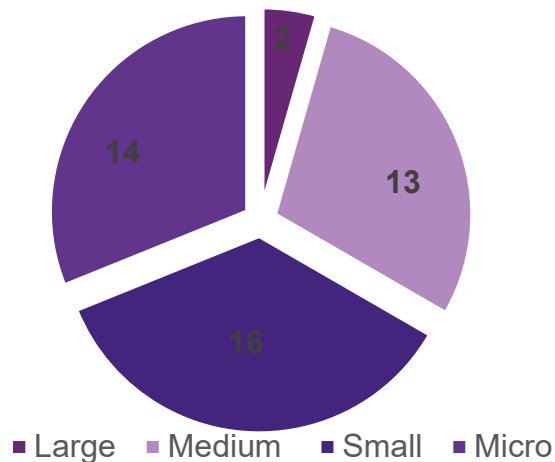
Safa Al-Rabee
 Owner, Olea



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RECP RSS On-going Projects

- Building Resilience through CircularArity (BRCKA) – EU
- Implementation of RECP in 15 Jordanian Industries - MoITS & EU
- Developing National Qualification & Certification Scheme as per the issued Occupational Standards for RECP Assessor - GIZ/GAIN



What is needed to mainstream and scale-up RECP?

- **Demand**: Change the Culture and Behavior toward resource-efficient and environment-friendly production **Awareness Raising & Behavior Change Campaigns, Success Stories, Incentives, Green Factory Award, Green Finance (Technical Assistance & Investments), Certification**
- **Supply**: Qualified and Certified Service Providers (SPs) **Certification by Technical and Vocational Skills Development Commission (TVSDC), RECP Integration in Academy**
- **Eco-system**:
 - ✓ **Effective RECP Supportive Policy Framework,**
 - ✓ **Coordination & Cooperation between different Stakeholders,**
 - ✓ **Institutional set-up and capacity building of key Stakeholders,**
 - ✓ **Information Centre/Platform,**
 - ✓ **Supportive Regulations,**
 - ✓ **Hardware & Software Suppliers,**
 - ✓ **Public-Private Partnership**





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Thank you

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