



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

Austrian

Development Cooperation

National Cleaner Production Programme in the Republic of Moldova (NCP Moldova)

The NCP Moldova aims at improving the resource productivity and environmental performance of enterprises and other organisations through the application of Resource Efficient and Cleaner Production (RECP) methods, techniques and policies.

NCP Moldova framework

The National Cleaner Production Programme in Moldova (NCP-Moldova) is generously funded by the Government of Austria.

A full scale implementation phase of NCP-Moldova was set up in 2011 as a follow up to preparatory stage, and officially launched in 2012 for promotion and uptake of Resource Efficient and Cleaner Production (RECP) concept. The United Nations Industrial Development Organisation (UNIDO) is providing professional and general support to NCP-Moldova, in particular through its Cleaner and Sustainable Production Unit.

NCP-Moldova has been granted with the observer membership in the global network RECPnet (www.recpnet.org) established to intensify cooperation and knowledge sharing.



What is RECP

Resource Efficient and Cleaner Production (RECP) employs preventive environmental and total productivity management concepts and techniques to improve productive use of natural resources

(materials, energy and water) reduce generation of waste and emissions; and minimize risks to employees, communities and consumers (www.unido.org).

Objectives

The overall objective of NCP-Moldova is to improve the resource productivity and environmental performance of enterprises and other organizations in the Republic of Moldova and thereby contribute to sustainable Industrial Development and Sustainable Consumption and Production.

RECP Benefits in Moldova over 2012

19 companies and organisations from targeted agro-food processing, municipal services, and construction materials' sectors benefited from the assistance of NCP-Moldova over 2012.

In particular, the assistance refers to RECP assessments comprising baseline resource usage assessment, compilation of material and energy balances, source and cause analysis for materials and energy losses, option generation and evaluation, and drafting of recommendations for action and implementation by management.

The implementation progress of recommended RECP measures, and gained benefits has been monitored by the use of standard set of RECP indicators, and some of them are illustrated below by sectors.

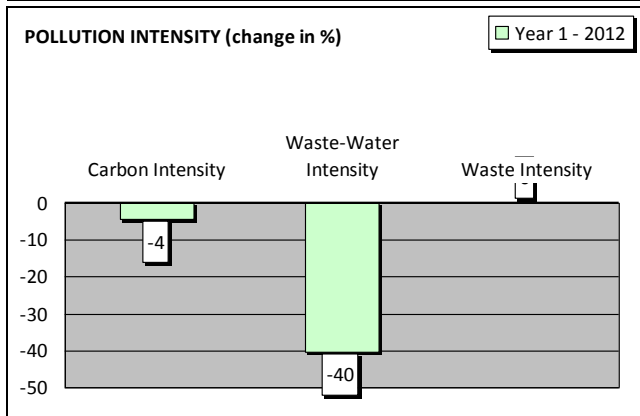
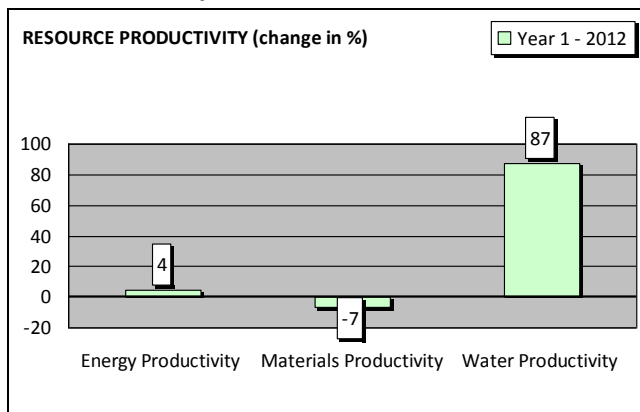
About RECP Programme

The Joint UNIDO-UNEP Programme on Resource Efficient and Cleaner Production (RECP) aims at improving the resource productivity and environmental performance of businesses and other organizations in developing and transition countries.

FOOD PROCESSING/BEVERAGE AND CONSTRUCTION MATERIALS SECTORS

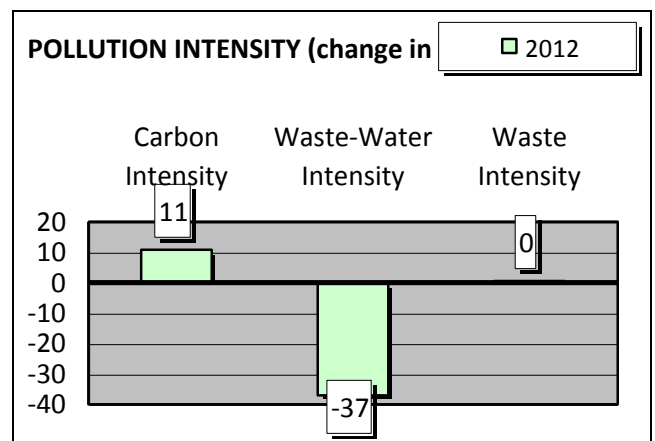
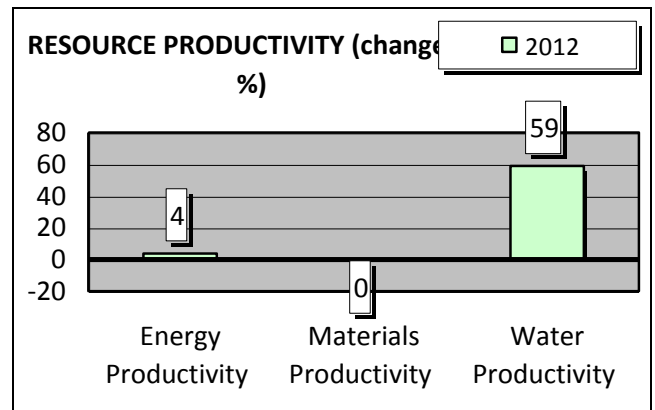
Orhei-VIT, Căușeni branch is seasonally processing fruits and vegetables grown locally. Currently the enterprise runs less than half of its capacity. The branch Director, being committed to the RECP concept, was personally involved in the RECP assessment. In result, the company reduced: annual natural gas consumption by 56,275 m³; annual water consumption by 3,300 m³; waste water generation by 3,300 m³; air emissions by 103,9 tons CO_{2eq}. In addition, more than 7 tonnes of solid waste have been recycled. The amount of auxiliary process materials like filter salt and deaeration chemicals has been also reduced. The annual savings from the implemented RECP options achieved 35,450 USD.

Orhei-VIT RECP profile¹



Doina Vin winery follows long-lasting traditions in winemaking. The enterprise produces high quality and ordinary wines from selected European Grape Varieties, which are harvested manually. The wines are stored for maturation/aging for a minimum of 2 to 3 years in oak barrels. With RECP options being identified and implemented, the factory avoided 11.5 tonnes of annual oil use, 1,800m³ annual water use, and reduced annual air emissions by 34.5 tons CO_{2eq}. This RECP work improved resource productivity indicators and generated savings equivalent to 12,560 USD.

Doina Vin RECP profile



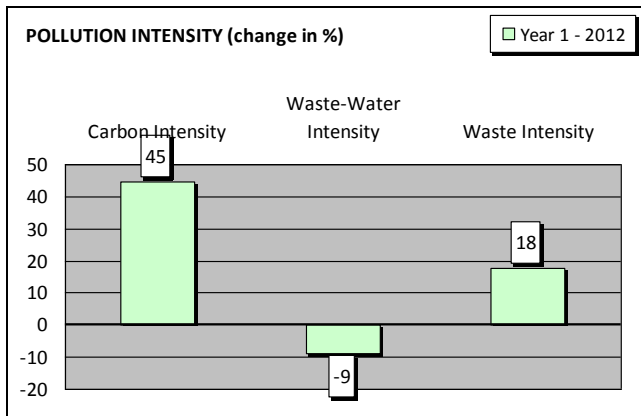
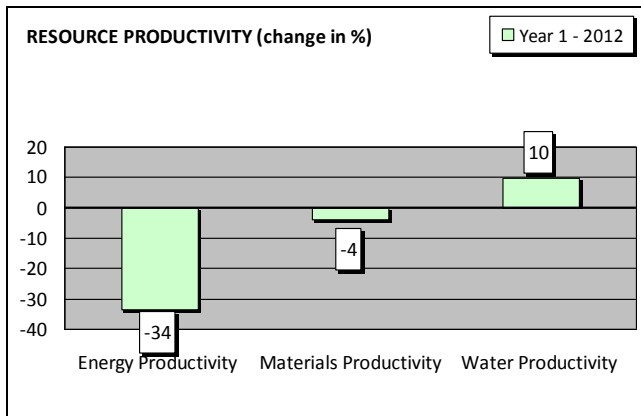
¹ **Note:** The RECP profile provides a visual overview of resource productivity and pollution intensity shown as change in % compared to the baseline values. Environmental performance is improved when resource productivity increases and when pollution intensity decreases.



Stăuceni wine factory is a subdivision of the National College of Vini-viticulture that produces large varieties of wines.

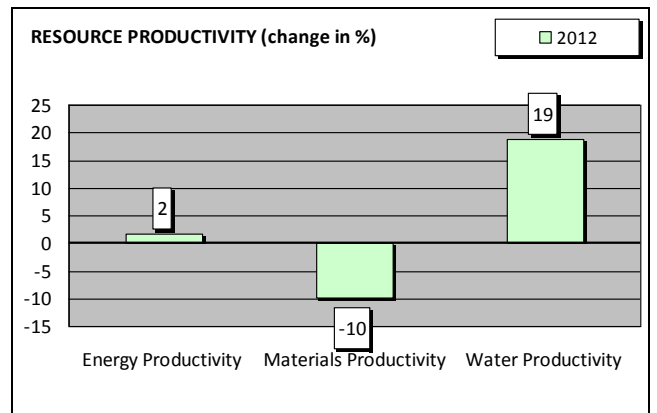
RECP assessment was carried out with support of the two technologists of the factory. The combined efforts have resulted in generation of a series of RECP options. The first implementation refers to the optimization of grape pressing process which increased the yield of high quality wine by more than 35,000 litres leading to annual savings of 4,870 USD.

Stăuceni RECP Profile



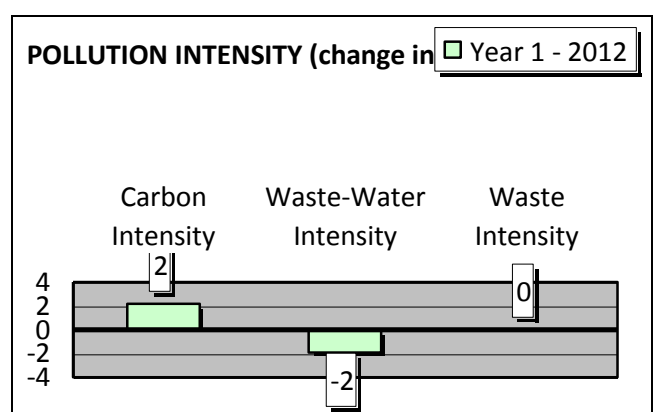
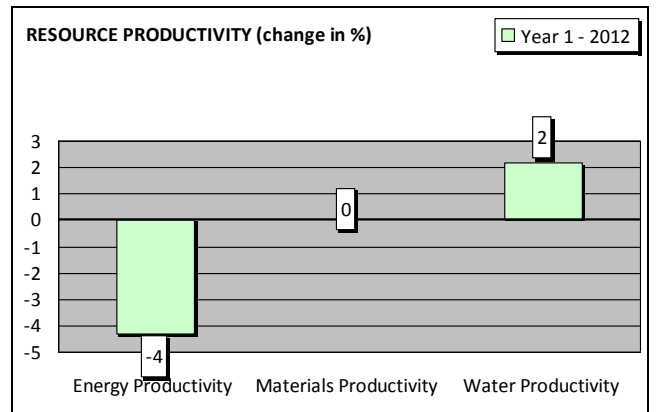
Agrosfera – BM focuses on vegetable processing, runs a flower mill, owns crop plantations. The improved organizational management and operational control over the vegetable processing alone addressed by RECP saved 5,000 kWh of electricity and 300 m³ of natural gas, and reduced air emissions by 5 tonnes of CO_{2eq}. The energy productivity thus improved by 2% and the pollution intensity dropped by 9%. The overall annual ‘low-hanging fruit’ savings are estimated at 800 USD.

Agrosfera-BM RECP Profile



Bucuria is the largest confectionery producer with the share of 90% on the Moldovan market. The company is a significant energy consumer, and for this reason recommended RECP measures targeted mostly energy efficiency. The successful implementation of RECP options allowed the company to reduce annual electricity consumption by 105,000 kWh, subsequently reducing air emissions by 104 tons CO_{2eq}, thus making savings of 14,500 per year USD.

Bucuria RECP Profile





BNV is a construction materials company producing concrete, precast concrete, bricks, blocks, pavement tiles and other construction elements made of wood and metal. BNV targets 'close-loop' production process. The company therefore adopts RECP techniques that employ full recycling of materials. To mention wasted concrete is collected and used for production of concrete elements of lower quality; the water from cleaning of moulds and mixers is collected and reused for concrete production; waste is separated, metal scrap and plastic is recycled.

MUNICIPAL SERVICES

12 public institutions

Apart of industrial sector, RECP assessments have been completed for 12 public institutions from the municipal services sector, and further guidance is provided to assist with implementation of recommended options and tracking of implementation benefits. RECP specialised guidelines have been prepared for schools/ educational institutions and trailed these in 10 nominated schools/kindergartens in the Ungheni region. These guidelines are a compendium of results in these 10 schools in a publication for further distribution and use by other schools around the region, and the country. A brief overview of the recommended RECP options for the 10 public institutions is included in the table on the next page.



Vastdial & Co is managed by the experienced, passionate and devoted beekeepers, who focus on beekeeping and bee products processing. The company's products are organic, fresh, and healthy and therefore meet international quality standards. The company aims to expand existent processes by adding a new technology for vinegar production from wasted honey. Turning waste into products is an interesting opportunity, which opens future perspectives for fruitful collaboration between NCPP-Moldova and Vastdial & Co.



Refurbishment measures for the public buildings

Nr.	Analyzed building	Refurbishment measures											
		Insulation of exterior walls			Insulation of ceiling slab or roof			Insulation of basement floor slab			Chancing windows and doors		
		Annual savings, kWh/yr	Investment cost, USD	Payback period, years	Annual savings, kWh/yr	Investment cost, USD	Payback period, years	Annual savings, kWh/yr	Investment cost, USD	Payback period, years	Annual savings, kWh/yr	Investment cost, USD	Payback period, years
1	Lyceum M. Eminescu	965722,3	184500,0	2,6	746268,4	225750,0	4,1	349671,5	139000,0	5,4	337236,3	210917,0	8,8
2	CRRT Făcia	428928,5	94083,3	4,1	400934,2	160250,0	7,5	220847,6	82500,0	7,1	126282,1	85083,3	12,7
3	Kindergarten Licurici	400000,0	101417,0	3,2	400000,0	101750,0	3,2	400000,0	135917,0	4,3	328,6	333,3	14,5
4	Kindergarten Steluta	500000,0	79166,7	2,3	100000,0	85666,7	8,3	200000,0	70750	4,9	40262,0	20833,3	7,1
5	Theoretical lyceum V.Alexandri	182570,4	29333,3	2,2	-	-	-	-	-	-	189672,6	168500,0	12,1
6	Kindergarten Guguță	-	-	-	235423,2	67333,3	3,9	212813,5	67333,3	4,3	-	-	-
7	Kindergarten Tereza Sobolievsvchi	455619,5	79166,7	2,4	103110,2	30083,3	4	323122,8	70750,0	3	36314,6	5583,3	2,1
8	Primary school „A.Mateevici”	460703,9	101417,0	3	402982,6	107333,0	3,6	246908,2	107333,3	5,9	154597,9	72583,3	6,4
9	Theoretical lyceum A.S.Puskin	467487,2	108167,0	3,2	409241,4	105250,0	3,5	231832,2	105667,0	6,2	169475,9	109083,0	8,8
10	Theoretical lyceum I. Creangă	1046835,6	135917,0	1,8	676347,6	110667,0	2,2	-	-	-	220830,5	146667,0	9,1



The capacity building activities achieved progress, relative to the development stage of the NCPP-Moldova. They have contributed to putting NCPP-Moldova on the map of government, business and other stakeholders in Moldova, creating the framework for development and implementation of its activities and starting to establish a national expert pool. Moreover, the official launching event of NCPP-Moldova have attracted high level participation of the Minister of Environment, the Vice Minister of Economy, Head of Office Austrian Embassy in Chisinau, UN Resident Coordinator, UNIDO Project Manager.



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This publication was made possible with the generous support of the Government of Austria.