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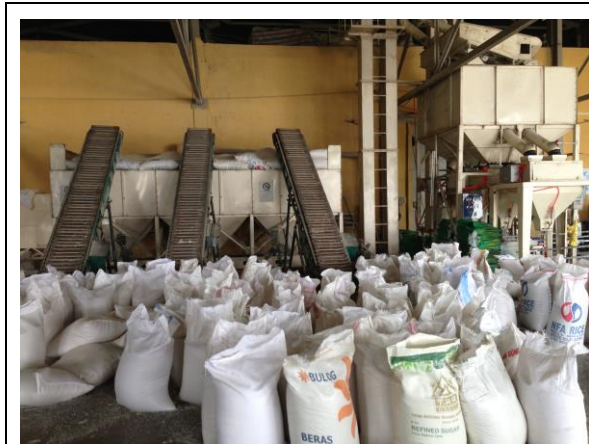
RECP Experiences at Long Xuyen Rice Processing Company

The efficient and environmentally sound use of materials, energy and water - coupled with the minimization of waste and emissions - makes good business sense. Resource Efficient and Cleaner Production (RECP) is a way to achieve this in a holistic and systematic manner. RECP covers the application of preventive management strategies that increase the productive use of natural resources, minimize generation of waste and emissions, and foster safe and responsible production. Benefits are eminent in many enterprises, regardless of sector, location or size, as demonstrated by the experiences of Long Xuyen Rice Processing Company (Vietnam).

Achievements at a Glance

Based on the focus assessment that investigated the operation of main engines, heat system, the RECP assessment identified 15 RECP options to solve the identified problems. Implementing most of the feasible RECP solution, the company has achieved following results:

- Saving generated by 15.729USD annually;
- CO2 emission reduced by 124.9 tons annually;
- Improved working environment by reduced in-house dust generation, electricity leakage and explosion risk.



Overview

Long Xuyen Food Processing Factory, which locates in An Giang province – Viet Nam is a member of An Giang Food Company. RECP assessment at the factory was conducted from April to December 2013 in the frame work of the project „Industrial Waste Minimization for Low Carbon Production“. The objectives of the assessment consist of the followings:

1. To improve company’s management and staff awareness of RECP concept and methodology;
2. To demonstrate the RECP benefits brought to company through the full process of production analysis, RECP option identification and implementation; and
3. To reduce the emission of GHG gases and minimize wastes discharge into environment through energy consumption reduction.

The company is a small factory member of An Giang Food Company however the company manager showed strong commitment to the project. The company production accounts for about 30% of total production of mother company.

Benefits

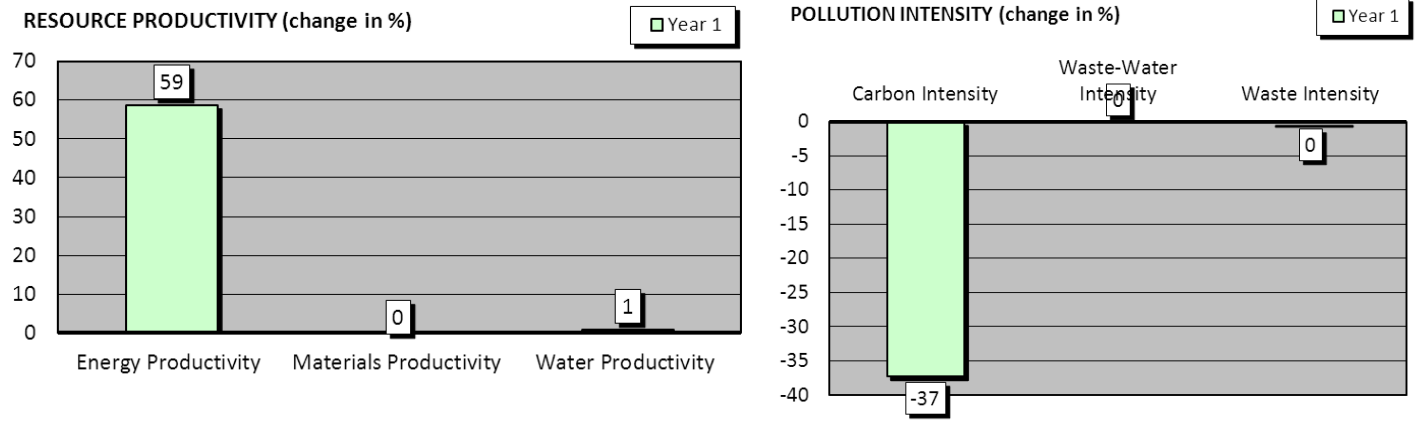
The production of a rice processing company is very simple starting with brown rice with several steps of screening, milling, polishing, drying (depending on rice humidity), sorting and packaging. The final product is white rice. Main input of the production is electricity.

Absolute Indicator	Change (%) Year 1	Relative Indicator	Change (%) Year 1
Resource Use		Resource Productivity	
Energy Use	-36	Energy Productivity	59
Materials Use	2	Materials Productivity	0
Water Use	1	Water Productivity	1
Pollution Generated		Pollution Intensity	
Air emissions (global warming, CO ₂ equivalent)	-36	Carbon Intensity	-37
Waste-water	0	Waste-water Intensity	0
Waste	2	Waste Intensity	0
Production Output	2		

Note: Absolute indicators present the total resource used by the company for the production in one year basis Relative Indicators show how efficient the production is per unit of resource consumed.

After the implementation of identified RECP solution, the company has reduced its energy used by 36% in first year, while its production has been increased by 2%. This relates to the improvement of energy productivity by 59%. As the result of this, the carbon emission per ton of product has reduced by 37%.

RECP Profile



Success Areas

Main area of improvement in the RECP assessment at Long Xuyen Rice processing company is electricity consumption. The big issues of the company are old inefficient motors, improper arrangement and maintenance of electric consumers and heating for drying rice. Therefore, RECP assessment helps company with following measures:

- Increase voltage to standard (380V±2.5%).
- More often check voltage to ensure it is in optimum value (370-390V).
- Fix the leakage transformer oil
- Replace by new transformer
- Check all electric terminals in control box and fix.
- Better maintenance.
- Better maintenance to ensure all electric control box are free of dust.
- Better load control.
- Replace all small capacitors by one or two automatic capacitor 25-40kVar at control box.
- Replace by high efficiency motor
- Better maintenance to ensure motor belt being optimum tension.
- Better maintenance to keep air filter being always clean.
- Check all pressured air pipe and fix all air leakages.
- Replace coal fire by rice husk
- Better raw material control when buying.

Principal Options Implemented	Benefits			
	Economic		Resource Use	Pollution generated
	Investment [USD]	Cost Saving [USD/yr]	Reductions in energy use, water use and/or materials use (per annum)	Reductions in waste water, air emissions and/or waste generation (per annum)
Proactive maintenance planning for electricity equipment.	Inconsiderable			
Rearrange transformers appropriate with consumer (domestic and production purposes)	Inconsiderable	1,200	~35,000kWh	19.5 tons of CO ₂
Rearrange capacitors	Inconsiderable			
Regulatory cleaning inlet air filter of compressor	Inconsiderable	140	~2,000kWh	~1,1 tons of CO ₂
Replace 4 old and multi-rewound motors	12,000	2300	~33,500kWh	~19 tons of CO ₂

Resource Efficient and Cleaner Production (RECP)

Resource Efficient and Cleaner Production (RECP) entails the continuous application of preventive environmental strategies to processes, products and services to increase efficiency and reduce risks to humans and the environment.

RECP addresses three sustainability dimensions individually and synergistically:

- *Production efficiency*
 - > Through improved productive use of natural resources by enterprises
- *Environmental management*
 - > Through minimization of the impact on nature by enterprises
- *Human development*
 - > Through reduction of risks to people and communities from enterprises and supporting their development



Approach taken

The RECP assessment at the company was conducted from April to December 2013 with the participation of VNCPC expert and company's RECP team. The RECP assessment in the company has been run within following stages:

No	Work	Brief description of work
1	Quick scan	<ul style="list-style-type: none"> - Introduction to the project and RECP programme. - Data collection. - Quick RECP assessment. - Assessment report to company.
2	Detailed assessment	- Not available due to problem of company.
3	RECP training for company staff	- 03 day RECP training: The training consisted of sections: PDCA and Resources Efficiency (1), RECP technique and options (2), RECP Methodology (3) and RECP assessment by themes (Raw materials, Energy, Water, Chemicals and Waste).

Business case

RECP assessment do not only focus on the internal improvement of the company operation, but also try to link with community such as solutions to help farmers to improve paddy quality.

Testimony Box
<p>National Cleaner Production Centre (NCPC)</p> <p>Vietnam Cleaner Production Centre (VNCPC) was established by the United Nations Industrial Development Organization (UNIDO) and the Ministry of Education and Training in 1998 under the financial support of the State Secretariat for Economic Affairs Switzerland (SECO). During the establishment period from 1998 to 2009, as a project implementer, 4 main activities of the Centre consisted of awareness raising, national capacity building, in-plant demonstration and policy advice for promoting the concept of Cleaner Production. Since 2009, VNCPC has been transformed into an organization with legal entity providing scientific and technological training and consulting services for promote RECP and SCP in industrial and service sectors.</p>
<p>Contact Details</p> <p>Vietnam Cleaner Production Centre Address: P228B, Ta Quang Buu Library Building, Hanoi University of Science and Technology</p>



RECP Experiences



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ABOUT RECP EXPERIENCES

Through the joint Resource Efficient and Cleaner Production (RECP) Programme, the United Nations Industrial Development Organization (UNIDO) and the United Nations Environment Programme (UNEP) cooperate to improve the resource productivity and environmental performance of businesses and other organizations in developing and transition countries. The Programme is implemented in partnership with the Global Network for Resource Efficient and Cleaner Production (RECPnet). This series of enterprise success stories documents the resource productivity, environmental and other benefits achieved by enterprises in developing and transition countries through the implementation of RECP methods and practices.

These successes were achieved with the assistance of the National Cleaner Production Centres, which are part of RECPnet established with support of the UNIDO and UNEP. The success stories employ the indicator set described in *Enterprise Level Indicators for Resource Productivity and Pollution Intensity*, UNIDO/UNEP, 2010. The primer with accompanying calculator tool and further case studies are available at www.recpnet.org, as well as on www.unido.org/cp and www.unep.fr/scp/cp.