



TOGETHER
for a sustainable future

OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.



TOGETHER
for a sustainable future

DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

CONTACT

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org

RECP Experiences at Europe Joint Stock 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 Europe Joint Stock Company (Vietnam).

Achievements at a Glance

Based on the focus assessment that investigated the operation of main engines, heat system, the RECP assessment identified 25 RECP options to solve the identified problems. Implementing most of the feasible RECP solution, the company has achieved following results:

- Saving generated by 214.729USD annually;
- CO₂ emission reduced by 1.721 tons annually;
- Improved occupational health and safety condition by reduced electricity leakage and reduced fire/explosion risk.



Overview

Europe JSC is a member of Hung Vuong Corporation, which runs a closed system of producing breed, aquaculture, processing, cold storage, and export of pangasius product. Hung Vuong Chau Au JSC locates in Tien Giang province – Viet Nam. The company is operating one factory specialized in pangasius processing for export. RECP assessment at the factory was conducted from April to December 2015 in the frame work of the project „Establishing a sustainable Pangasius supply chain in Vietnam” (SUPA), which is funded by Switch Asia programme (EU). 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 improve the quality of pangasius products toward a Vietnam’s sustainable pangasius supply chain.

Europe JSC was established in November 2009 with the designed processing capacity of 500 tons materials per day. The company’s product is high quality Pangasius fillet for exporting to markets such as Europe, Brazil, Mexico, Australia, the USA, Middle East and Asian countries... Hung Vuong Corporation and the company manager showed strong commitment to the project.

Benefits

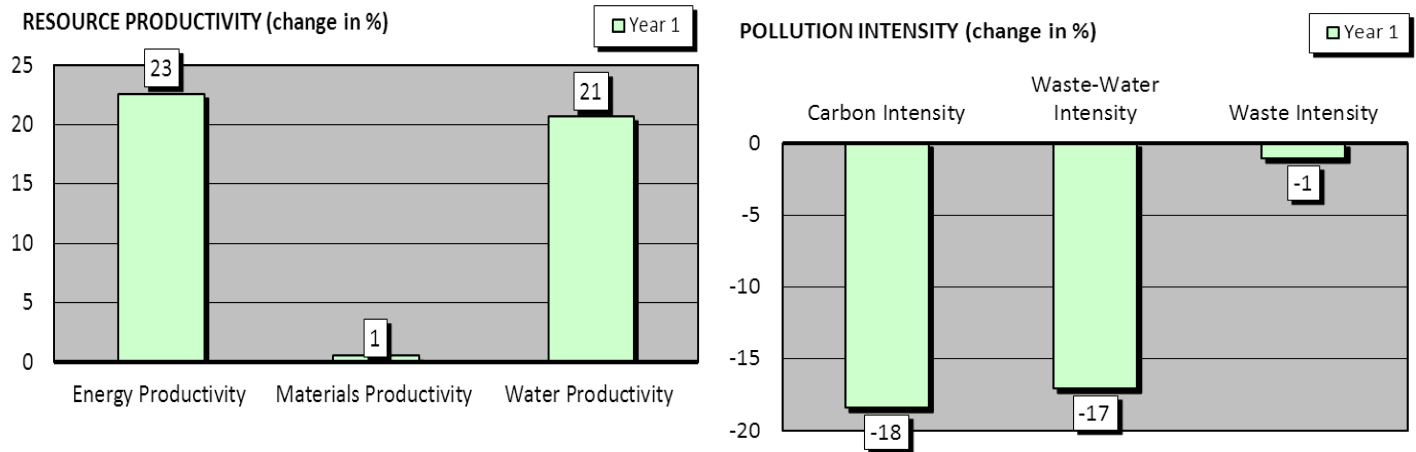
The production of a seafood processing company is typically water- and energy-consuming starting with raw fish through several key steps of washing, filleting, skinning, trimming, sizing, and freezing. The final product is pangasius fillet. Beside raw fish, main input of the production is electricity and water.

Absolute Indicator	Change (%) Year 1	Relative Indicator	Change (%) Year 1
Resource Use		Resource Productivity	
Energy Use	-14	Energy Productivity	23
Materials Use	5	Materials Productivity	1
Water Use	-13	Water Productivity	21
Pollution Generated		Pollution Intensity	
Air emissions (global warming, CO ₂ equivalent)	-14	Carbon Intensity	-18
Waste-water	-13	Waste-water Intensity	-17
Waste	4	Waste Intensity	-1
Production Output	5		

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 and water used by 14% and 13%, respectively, in first year, while its production has been increased by 5%. This relates to the improvement of energy and water productivity by 23% and 21% accordingly. As the result of this, the carbon emission per ton of product has reduced by 18%.

RECP Profile



Success Areas

Main area of improvement in the RECP assessment at Europe JSC is electricity consumption, hot water and water usage. The big issues of the company are electricity leakage, bad maintenance and operating practices. Therefore, RECP assessment helps company with following key measures:

- Regular check and fix electric leakage in distribution lines and control boxes
- Establish a preventive maintenance plan
- Invest a hot water system using solar energy or heat pump combined with solar energy
- Increase air convection to reduce overheat
- Move capacitors from power station to compressors' motor
- Regular descale the condenser tube.
- Install capacitor to the lighting electric box to handle with overload of conductors
- Better production planning and control water consumption.
- Install capacitors in the wastewater treatment plant

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)
Invest hot water system using solar energy or heat pump combined with solar energy	22,730	22,560	~352,800 kWh	~198 tons of CO ₂
Install capacitors	11,275	7,820	~114,264kWh	~64 tons of CO ₂
Replace old light bulbs and tubes by energy saving ones	2,205	1,486	~23,235 kWh	~13 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 2014 to March 2015 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	Training on RECP for RECP team of the company	- 01 day RECP training with following contents: (1) 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).
2	Detailed assessment	- 3 missions: <ul style="list-style-type: none"> o Data collection, walkthrough for pre-assessment; o Waste stream diagnosis, cause analysis and RECP option generation o RECP screen, feasibility study and implementation o Monitoring/Evaluation

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 Dai Co Viet Street, Hanoi, Vietnam Phone: +84 4 3868 4849 Email: vncpc@vncpc.org</p>



RECP Experiences



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.