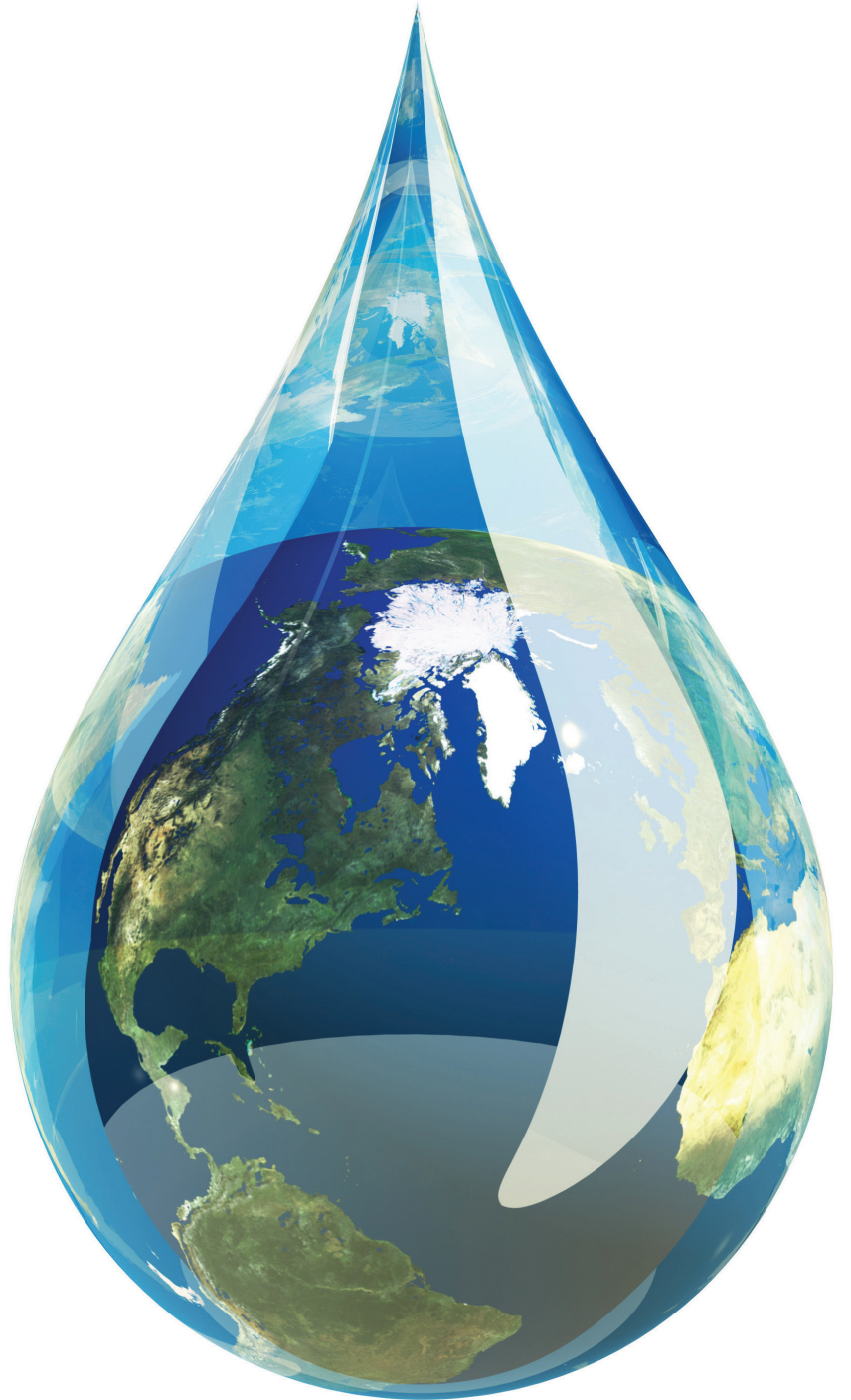




# Annual Report 2011



## VIET NAM CLEANER PRODUCTION CENTRE

Established in partnership of HUST, UNIDO and SECO (Switzerland)

[www.vncpc.vn](http://www.vncpc.vn)



# CONTENTS

<b>List of Abbreviations</b>	<b>1</b>
<b>Vietnam Cleaner Production Limited Company and VNCPC</b>	<b>2</b>
<b>Projects implemented and provided by VNCPC</b>	<b>4</b>
<b>Updates of projects implemented by VNCPC</b>	<b>7</b>
Sustainable Product Innovation (SPIN) in Vietnam, Laos and Cambodia	7
Green Credit Trust Fund Vietnam	9
Development of an Implementation Guide and Training for Consultants on CSR	10
CEO water mandate	12
Green Production and Trade	13
Policy advice on environment: Green Industry Development	15
Introduction of BAT and BEP	17
Establishing the sustainable production system for rattan products	19
<b>Projects that VNCPC provides services</b>	<b>21</b>
Vietnam Provincial Environmental Governance (VPEG)	21
<b>Conferences and Exhibitions</b>	<b>23</b>
<b>Community activities</b>	<b>25</b>

## List of Abbreviations

<b>AAC</b>	Artisan's Association of Cambodia
<b>AITVN</b>	Asian Institute of Technology in Vietnam
<b>ASEP</b>	Asian Society for Environmental Protection
<b>ASSIST</b>	Asian Society for Social Improvement and Sustainable Transformation
<b>CCPO</b>	Cambodian Cleaner Production Office
<b>CIDA</b>	Canadian International Development Agency
<b>DANIDA</b>	Danish International Development Agency
<b>DEG</b>	German Investment Corporation
<b>ER</b>	Enterprise Representative
<b>EU</b>	European Union
<b>FAO</b>	Food and Agriculture Organization of the United Nations
<b>GEF</b>	Global Environmental Fund
<b>ILO</b>	International Labor Organisation
<b>INWENT</b>	Capacity Building International, Germany
<b>ITC</b>	International Trade Committee
<b>KOICA</b>	Korean International Cooperation Agency
<b>LAR</b>	Local Authority Representative
<b>LNCCI</b>	Laotian National Chamber of Commerce and Industry
<b>PSMEA</b>	Multilateral Environmental Agreements
<b>SDC</b>	Swiss Agency of Development and Cooperation
<b>SECO</b>	Swiss State Secretariat for Economic Affairs
<b>SIDA</b>	Swedish International Development Agency
<b>TUD</b>	Technology University of Delft
<b>UN</b>	United Nations
<b>UNCTAD</b>	United Nations Conference on Trade and Development
<b>UNEP</b>	United Nations Environment Program
<b>UNIDO</b>	United Nations Industry Development Organization
<b>US-EPA</b>	United State Environment Protection Agency
<b>WWF</b>	World Wildlife Fund

## VIETNAM CLEANER PRODUCTION CENTRE AND VNCPC ENTERPRISE

Vietnam Cleaner Production Centre (VNCPC) is established in the Institute for Environmental Science and Technology, Hanoi University of Science and Technology in the framework of project US/VIE/96/063 signed between the Ministry of Education and Training and the United Nations Industrial Development Organization (UNIDO) on 22 April 1998. Since more than 10 years of establishment and development, with the financial support from Swiss Government, the Centre has become a leading organization in providing cleaner production services in Vietnam. At present, VNCPC operates under self-control and sole responsibility mechanism pursuant to the Business Certificate No. 0103772135, dated 13 April 2011 (first registration on 29 April 2009). With the experiences and contributions to the promotion of sustainable development in Vietnam and in the region, VNCPC is recognized as a regular member of the UNIDO – UNEP global network on Resource Efficiency and Cleaner Production (RECP\_net). Since very first days of establishment, VNCPC has identified its mission as Promoting Resource Efficiency and Cleaner Production in industry and services towards a sustainable consumption and production society in Vietnam and the region.

To successfully achieve that goal, VNCPC keeps on disseminating widely the concept of Cleaner Production and promoting the pollution prevention approach in industrial enterprises in Vietnam. In the past years, VNCPC succeeded in carrying out CP assessment demonstration in more than 500 enterprises, creating prestige in community of the enterprises. VNCPC has developed a network of experts, which is the focal point for improving CP services and promoting the integration of these services into other environmental services. Through researches and information dissemination, the Centre has developed a wide and tight partnership with international organizations like UNIDO, UNEP, SWITCH-ASIA program, SECO (Switzerland)... and domestic agencies like Ministry of Industry and Trade, Ministry of Natural Resources and Environment, Ministry of Planning and Investment..., which share the same interest in sustainable development in Vietnam. All activities of VNCPC are managed in compliance with ISO 9001 and 14001 which has been certified by SGS of Switzerland since 2002.

### VNCPC STAFF VNCPC STAFF



VNCPC staff

There are 25 senior and junior experts in VNCPC family who are capable of providing high quality services on Resource Efficiency and Cleaner Production, creating added value for industrial enterprises, research institutes and governmental agencies. Together with internal training and capacity building activities, VNCPC keeps on developing the collaborator network gathering leading experts in different fields.

### MAIN SERVICES PROVIDED BY VNCPC:

- » Resource Efficiency - Cleaner production consultancy and training, towards sustainable consumption and production;
- » Cleaner technology transfer, assessment and project development consultancy;
- » Consultancy and training services on Corporate Social Responsibilities (CSR), Occupational Health and Safety (OHS), Environmental Management System/ISO 14000, Sustainable Product Innovation; and Cleaner Development Mechanism (CDM);
- » Consultancy on the access to financial supports for projects on cleaner technologies like Green Credit Trust Fund (GCTF) of SECO, Switzerland...;
- » Assessment, consultancy and technology transfer for waste treatment and other environmental services.



In-company assessment



Signing ceremony of the project "Promoting new CP services in Vietnam through VNCPC"



Signing ceremony of the project "Green Credit Trust Fund" funded by Swiss Government



## PROJECTS IMPLEMENTED AND PROVIDED BY VNCPC

### THE PROJECT IMPLEMENTED BY VNCPC

No	Project name	Implementation period	Donor	Note
1	Sustainable Product Innovation (SPIN) in Cambodia, Laos and Vietnam	04/2010 - 03/2014	EU	Leading partner: Technology University of Delft Partner: VNCPC, UNEP, AITVN, LNCCI và CCPO
2	Green Credit Trust Fund (GCTF)	2007 - 2014	SECO, Switzerland	Coordination and first technical appraisal
3	Helping Vietnamese SMEs Adapt and Adopt Corporate Social Responsibility for Improved Linkages with Global Supply Chains in Sustainable Production (CSR)	2011 - 2012	SECO-UNIDO	Leading partner: UNIDO
4	CEO water mandate	08/2011 - 02/2012	UNEP, KOICA	Leading partner: VNCPC Partner: Formosa, Hansae, Lucretia and Newell
5	Green Trade and Production	2010 - 2012	UN	Coordinator: ITC. Partner: FAO, UNIDO, UNCTAD, ILO
6	Green Industry: Developing Ecotown	09/2011 - 04/2012	UNIDO	Leading partner: UNIDO
7	Applying BAT and BEP in demonstrating POP reduction in Vietnam	2010 - 2011	GEF through UNIDO	Leading partner: Vietnam Environmental Administration
8	Establishing the sustainable production system for rattan products in Vietnam, Laos and Cambodia	2009 - 2011	EU & IKEA	Coordinator: GMP - WWF Partner: VNCPC, AAC, LNCCI
9	Promoting Resource Efficiency in SMEs in Vietnam	2009 - 2010	UNEP	Leading partner: MONRE
10	Cleaner Production for Better Products (CP4BP)	2007 - 2009	EU	Leading partner: VNCPC Partner: TUD, UNEP, LNCCI, PSMEA
11	Industrial Maintenance	2007 - 2008	Wallonie-Bruxelles, Belgium	Technical support and consultancy
12	CDM in industry	2007	UNIDO	Leading partner: VNCPC
13	Improving resources by using renewable resources and waste utilization	2006 - 2007	UNEP	Leading partner: VNCPC

14	Resource Efficiency in high energy consumption enterprises in Hanoi	2006 - 2007	Hanoi DONRE	Leading partner: INEST, Hanoi University of Science and Technology
15	Environmental management accounting	2005 - 2007	Inwent/Asep	Leading partner: VNCPC
16	Greenhouse gas emission reduction from industry in Asia and the Pacific (GERIAP)	2002 - 2006	UNEP/ROAP	Leading partner: VNCPC
17	Promoting new CP services in Vietnam through Vietnam Cleaner Production Centre	2005 - 2009	SECO, Switzerland	Leading partner: INEST, Hanoi University of Science and Technology
18	Boiler efficiency in textile industry	2004	US-EPA	Leading partner: VNCPC
19	Improving efficiency of industrial environmental management through CP application (in Binh Dinh province)	2003 - 2004	SECO, Switzerland	Leading partner: INEST, Hanoi University of Science and Technology
20	Program on promoting energy efficiency in industry through CP/EMS (CP-EE)	2002 - 2004	GEF	Executor: UNEP Partner: National CP centres of China, Czech, Hungary, India, Slovakia, and Vietnam
21	Establishment of "Vietnam Cleaner Production Centre"	1998 - 2004	SECO, Switzerland	Leading partner: INEST, Hanoi University of Science and Technology

### PROJECTS THAT VNCPC PROVIDES SERVICES

	Project name	Implementation period	Donor/Leading partner	Note
1	Vietnam Provincial Environmental Governance (VPEG)	2009 - 2013	CIDA/VEA and DONRES of Hanoi, Da Nang, Bac Ninh, Hai Duong, Binh Duong, Long An, Quang Ngai, Soc Trang	Implementing CP in Da Nang, Hai Duong, Long An, Soc Trang
2	Resource Efficiency and Waste Management in PUMA's suppliers in Vietnam	9/2011 - 01/2013	DEG/PUMA	Cooperating with ASSIST
3	Cleaner Production in industries of Vietnam (CPI)	2005 - 2011	DANIDA/MOIT	Implementing CP demonstration in enterprises and supporting technically for enterprises



4	Strengthening environmental management and land administration (SEMLA)	2004 - 2009	SIDA/MONRE	Overview of CP in Vietnam. Pilot CP demonstration in Nghe An
5	Technical support for CP program in Laos and Cambodia	2005 - 2007	UNIDO/Laos Ministry of Industry and Small Industry & Cambodia Ministry of Industry and Mining	CP training and demonstration in enterprises
6	Hazardous waste management in Nam Dinh Province	2004 - 2006	SDC, Switzerland/ Nam Dinh DONRE	CP training and demonstration in enterprises
7	Vietnam – Canada Environment Project (VCEP II): Industrial pollution management	2001 - 2005	CIDA/MONRE	CP training and technical consultancy in 4 targeted provinces
8	Urban and industry development in Viet Tri, Phu Tho	2002 - 2004	DANIDA/Phu Tho DONRE	CP training, consultancy and investment
9	Industrial pollution reduction in Ho Chi Minh City (phase III)	2002 - 2004	SIDA/UNIDO/HCMC DONRE	Provide CP trainings and share experiences for Hochiminh City's DOSTE related personnel and selected companies
10	Seafood Export and Quality Improvement Project (SEAQIP)	2002 - 2003 2003 - 2005	DANIDA/Ministry of Seafood	CP & environment management training, supporting Nha Trang Seafood university to develop CP curriculum
11	Innovation and development support for seafood enterprises	2002 - 2003		Training on CP & Environment management for enterprises
12	Training on CP & Environment management for enterprises	2001 - 2003	DANIDA/Phu Tho DOST, DONRE	Implementing CP components
13	CP in construction material sector	2002	DANIDA	Training for Institute for Construction Material Research
14	Environment management in Thai Nguyen Province	2000 - 2002	DANIDA	In-company CP training and assessment
15	CP investment improvement mechanism and strategy	2000 - 2001	UNEP/BKHĐT	Raising awareness on CP, training on financial technology – bank borrowing project development
16	Agenda 21	2000 - 2001	UNDP&SDC/ MPIv	04 CP assessments in Hanoi
17	Scientific and practical foundation for CP national action plan 2001 - 2005	2000 - 2001	Environment Bureau, MONRE	Developing draft CP action plan (2001 – 2005)

## UPDATES ON PROJECTS IMPLEMENTED BY VNCPC

### SUSTAINABLE PRODUCT INNOVATION (SPIN) IN VIETNAM, LAOS AND CAMBODIA

\* Project name: Sustainable Product Innovation in Vietnam, Cambodia and Laos (SPIN-VCL).

\* Donor: SWITCH-Asia programme funded by the European Union

\* Objective: To promote potential innovation in the industry and increase social and environmental quality of the products produced in Vietnam, Laos and Cambodia. This will be accomplished through the implementation of Sustainable Product Innovation (SPIN) on a large scale in all three countries. SPIN is regarded as a significant factor in approach to sustainable production and consumption, in a broad range in all three countries.

\* Duration: 4 years (01/04/2010 – 31/03/2014).

#### ACTIVITIES IN 2011:

##### » Training activities:

Within the framework of SPIN project, VNCPC collaborated with the Asian Institute of Technology in Vietnam (AITVN) in organizing following training courses in Vietnam, Laos and Cambodia:

No	Venue	Sector	Content	Participant			Day
				Expert	LAR	ER	
1	Hanoi, 03/2011 Vung Tau, 05/2011	Handicraft, food processing, textile, footwear, furniture	ToT on Sustainable Product Innovation	35	0	14	22
2	Campuchia, 31/10 – 3/11, 2011	Handicraft, food processing	Marketing skills workshop and Innovation skills building workshop		3	39	5
3	Laos, 11/2011	Handicraft, food processing, textile, furniture, medicine	Marketing skills workshop	2	1	20	2,5
4	Hanoi, March 2011	Food processing	Training on SPIN methodology and packaging design for food processing companies of Hanoi Business Incubator			18	1
5	Yen Bai, March 2011	Tea sector	Training on marketing skills for Yen Bai tea companies		2	15	2
6	Ho Chi Minh, August 2011	Food processing, furniture	Training on packaging design for companies in food processing and furniture sectors			30	1/2



7	Ho Chi Minh, December 2011	Fashion and textile	ToT on styling, fashion design, 3D development and sustainability	6	-	17	5
TOTAL				43	6	153	



Marketing skills and Innovation skills building workshop in Cambodia



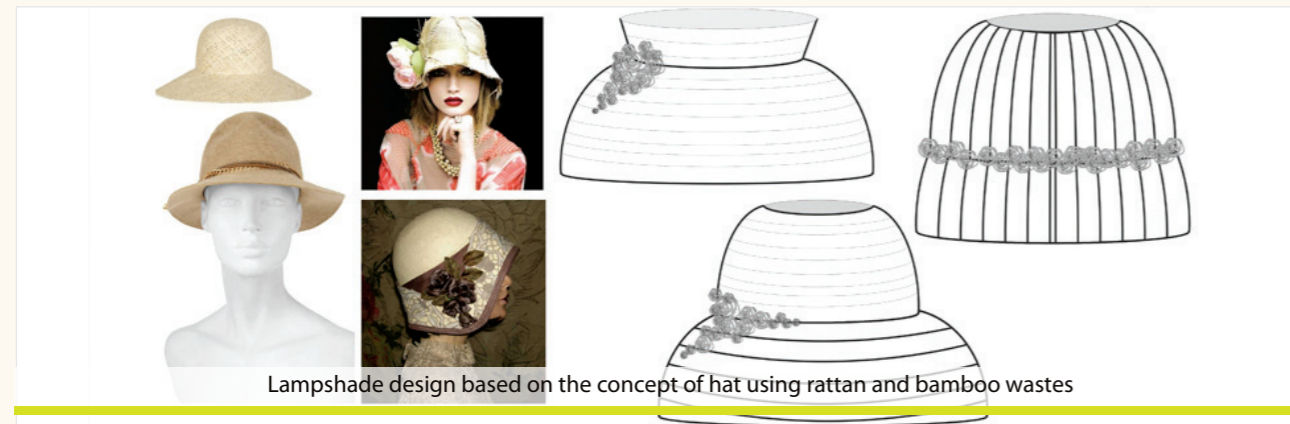
Fashion ToT in Hochiminh city

» **In-company SPIN implementation:**

In cycle 1, more than 70 companies in Vietnam have joined the project to receive guidelines and supports in at least 4 visits. Among them, 31 companies joined the package of re-designing products (product improvement), 25 companies joined the packaging of new-designing products and 08 companies requested supports in strategic development of their products. All the participating companies received quick CP assessment at various levels. The Future Living Studio, project helpdesk in Hochiminh City, positively supported as well as built design capacity for companies.

Some significant achievements that the project gained in 2011 are as follow:

- \* 24 companies were provided 134 sketches for re-/new-design,
- \* 02 companies produced 11 prototypes, and
- \* 11 companies turned the prototypes into 526 product lines for their business.



Lampshade design based on the concept of hat using rattan and bamboo wastes

» **Clean Technology development**

In 2011, SPIN project in collaboration with several technical partners has studied and developed clean technologies as well as produced equipment for in-company application like: (i) Gasification technology using biomass as heating source for domestic use; (ii) Solar heat trapping technology; (iii) Boiling and carbonizing technology applied for bamboo; (iv) Zero-waste technologies applied in agricultural sector.

**GREEN CREDIT TRUST FUND VIETNAM**

- \* Project name: Green Credit Trust Fund in Vietnam
- \* Donor: SECO (Switzerland)
- \* Objective: Promoting long-term investments in cleaner production technology within SMEs in Vietnam
- \* Duration: 2007-2014

**ACTIVITIES 2011:**

» 2 exhibition booths joined in ENTECH 2011 (25-28/5/2011) in Hanoi and ENCON EXPO 2011 (13 -16 October 2011) in Hochiminh City to introduced GCTF to different target groups (technology suppliers, manufacturing enterprises, consultancies).

» GCTF was also introduced in the different workshops: in Soc Son, Hung Yen, Nam Dinh, Thai Binh, Ha Nam, Hochiminh City (Saigon Entrepreneur Club and ENCON EXPO) and Hanoi (VN Association for Conservation of Nature and Environment and National Agency for Science and Technology Information).

» Companies' investment projects:

\* GCL-VNCPC-15 (Tan Phu Plastic Joint Stock Company) was disbursed by ACB. 2 modern injection moulding machines were installed following the loan proposal. The ex-post measurement was conducted in September by VNCPC and the level of 25% of credit value was recommended to SECO for the granted reimbursement for the project.

\* GCL-VNCPC-19 (Bac Ha Paper Company) was developed and disbursed in the period of April-September. The ex-post measurement was conducted in October by VNCPC and the level of 25% of credit value was recommended to SECO for the granted reimbursement for the project.

\* GCL-VNCPC-11 (Viet-Phap Steel company) was disbursed and the company installed a new steel line since July 2011. The expost measurement was conducted in December by VNCPC. A level 15% of credit value was recommended to SECO for the granted reimbursement for the project.

\* GCL-VNCPC-20 (Dao Van Tung Household Enterprise, which produces plastic net) has been developed in 2011 and waiting for the Letter of Guarantee and Reimbursement Commitment from SECO).

GCL-VNCPC-18 (Huu Tin Plastic Company) has been developed in 2011 and waiting for the feedback from bank on Letter of Credit Approval.

\* GCL-VNCPC-21 (Hung Thinh Textile and Garment Company) and GCL-VNCPC-22 (An Viet Non-woven Fabric Company) are in the phase of full assessment report preparation.

\* Besides, there have been some other potential companies in the sectors of steam production and brick production approaching GCTF during 2011.

**COMING ACTIVITIES:**

» Continuing support companies in the framework of GCL-VNCPC-18, GCL-VNCPC-20, GCL-VNCPC-21 and GCLVNCPC- 22 to step by step implement their projects.

» Propagate GCTF continuously through workshops, exhibitions and in connection with other projects implemented by VNCPC.



ENTECH Exhibition



Old injection moulding machine



New injection moulding machine

## DEVELOPMENT OF AN IMPLEMENTATION GUIDE AND TRAINING FOR CONSULTANTS ON CSR FOR SMES IN VIETNAM

- \* Donor: UNIDO/SECO
- \* Objective: Contribute on the Training and Company assessment component of the EC project "Helping Vietnamese SMEs Adapt and Adopt Corporate Social Responsibility for Improved Linkages with Global Supply Chains in Sustainable Production". Target companies are SMEs of garment, footwear and electric & electronics sectors.
- \* Duration: 2011

### ACTIVITIES 2011

#### » Training activities

2 CSR training courses were prepared and delivered in 2011 for experts in the North and the South, who plan to conduct CSR consultancy in future.

nO	Venue	Sector	Content	Participant			Man-day
				Expert	LAR	ER	
1	Hanoi	Consultants	Basic CSR training (CSR overview, ISO 26000:2010 core subjects and issues, CSR quick assessment and in-plant implementation)	13			65
2	HCMC	Consultants		21			105
TOTAL				34			170

#### » CSR Implementation Guide and Quick Start Tool Development

The CSR Implementation Guide and Quick Start Tool was developed and submitted to UNIDO and EC CSRVietnam project's Technical Advisor in March 2011. This Guide is aimed to be a primary resource for CSR personnel in enterprises and CSR advisors/consultants. It provides hands-on methods, direction and practices for improving performance in each of core CSR subjects and issues defined in ISO 26000:2010. The Quick Start Tool is an integral part accompanied with the Guide.

#### » CSR Quick Assessment

VNCPC coordinated, supervised and peer-reviewed the application of the Quick Start Tool by expert trainees in 12 companies in the North and 11 companies in the South of three target sectors. Each of the expert trainees had chances to visit one to three companies to practice CSR consultancy following the guidance of ISO 26000:2010. Reports of the quick assessment have been submitted to the EC CSR-Vietnam project for approval.



There are 10 in-company CSR quick assessments to be done in 2012 in the cooperation with the EC CSR-Vietnam project.



## CED WATER MANDATE

\* Donor: UNEP, KOICA

\* Objective: Improving the water consumption quality and reduce the discharges to the environment

\* Duration: 10/2011 to 2/2012

### ACTIVITIES IN 2011

#### » Training activities

No	Venue	Sector	Content	Participant			Man-day
				Expert	LAR	ER	
1	Hochiminh City	Textile	Water consumption in textile enterprises in VietNam and some environmental concerns	6	3	20	29
TOTAL				6	3	20	29



Training on The importance of water consumption in Vietnamese apparel industry and the environment



#### » CP, Resource Efficiency and CSR assessment and demonstration

During the first assessment in last October, there are several options suggested to manufacturers to reduce water consumption and also production cost. Three of four manufacturers have not used the condensate properly which could lead to 50% energy loss on steam. In some of them, the sanitary water loss was high due to over load in the section. In addition, there are leaking points at all factories. Therefore, in the first assessment report, VNCPC's project team has suggested manufacturers to fix all the broken points of pipe and insulation layer to reduce the water and energy losses. Moreover, proper condensate reuse has been recommended to the management board of all companies.

#### » CP, Resource Efficiency and CSR achievements:

No	Enterprise	Options	Saving potential			Cost (VND)
			Energy		Water (m3)	
			Electricity (KWh)	Coal (ton/day)		
1	Formosa	Increasing condensate reuse		19.24	130	17.8bil/year
2	Hansae	Fixing the broken tap and pipe			1000	2.1 bil/year
3	Lucretia	Reusing condensed			40	500 mil/year
4	Newell	Reusing condensed water				120mil/year
TOTAL					1170	Over 20 bil/year

## GREEN PRODUCTION AND TRADE TO INCREASE INCOME AND EMPLOYMENT OPPORTUNITIES FOR THE RURAL POOR

\* Programme duration: 36 months (2010-2012)

\* UN Coordinating Agent: International Trade Centre

\* Leading organization: VIETCRAFT

\* Partners: FAO, UNIDO, UNCTAD, ITC, and ILO

\* The joint programme works to increase income and employment opportunities for raw craft material growers/collectors and grassroots handicrafts and furniture producers, targets about 4,800 poor farming and craft-producing households in four Northern provinces of Viet Nam (Nghe An, Thanh Hoa, Hoa Binh and Phu Tho).

### ACTIVITIES IN 2011:

#### » Training activities:



Training of trainer course on Cleaner Production and D4S



No	Venue	Sector	Content	Participant			Man-day
				Expert	LAR	ER	
1	Ha Noi	Bamboo- rattan and Lacquer ware	CP & D4S	5	9	11	87.5
2	Ha Noi	Sea grass, Handmade paper and Sericulture	CP & D4S	3	7	10	60
TOTAL				8	16	21	147.5

#### \* Technical seminars :

No	Venue	Sector	Content	Participant			Man-day
				Expert	LAR	ER	
1	Ha Noi	Technical Seminar on silk dyeing	Current status of sericulture in Vietnam The ability to use natural colorants to dye the cotton and silk in Vietnam	7	3	6	8
2	Ha Noi	Technical Seminar on lacquer collection and processing techniques	Exchange of experiences in lacquer collection and processing techniques among Japanese and Vietnamese experts	12	5	7	24
TOTAL				19	8	13	32





» **Consultancy activities:**

VNCPC carried out semi-quantitative assessment on CP and D4S needs of handicraft producers along each of the five value chains. The assessment focuses on:

- Collecting baseline data;
- Identifying key problems in the five value chains;
- Recommendations for more effective production;
- Equipment upgrading recommendations for innovative development;

In addition, a rapid appraisal has been conducted for each of beneficiary companies to advise individual producer on energy efficiency, effective material consumption, increasing the quality of product and improving the product designs.

**RESULTS:**

The field surveys were implemented during the 1st quarter 2011 in the four targeted provinces and some other places including Ha Noi. In total, there were 48 SMEs and cooperatives being investigated. During the assessment, key unsustainable problems in each link throughout the five value chains were identified and recommendations/opportunities for improvement were generated correspondingly in order to build up the entire value chains toward sustainability and create value-added for enterprises.

**COMING ACTIVITIES:**

In 2012, VNCPC is going to carry out in-dept CPA for 8 selected companies in 4 provinces of project area, and deliver green production training to grassroots. VNCPC also evaluates the relevant tools and equipment needed for supporting households to improve their production.

**POLICY ADVICE ON ENVIRONMENT: GREEN INDUSTRY DEVELOPMENT, HOI AN ECO-TOWN DEVELOPMENT COMPONENT (FB/VIE/11/002)**

\* Donor: UNIDO

\* General objective: The Green Industry Program is supporting Vietnam to develop Hoi An to be the first ecotown in the country. In this component, enterprises in Hoi An are supported to improve resource efficiency and reduce environmental impacts. The project facilitates enterprises in approaching Resource Efficiency and Cleaner Production (RECP), Corporate Social Responsibility (CSR) and generating Design for Sustainability (D4S) options in traditional sectors in order to save materials, water, energy and chemicals. These changes will bring both economic and environmental benefits to enterprises. The project serves as a step to build up an eco-town model in Hoi An.

\* Implementation period: September 2011 to March 2012

**ACTIVITIES IN 2011:**

» **Training:**



Training Course for hotels in Hoi An

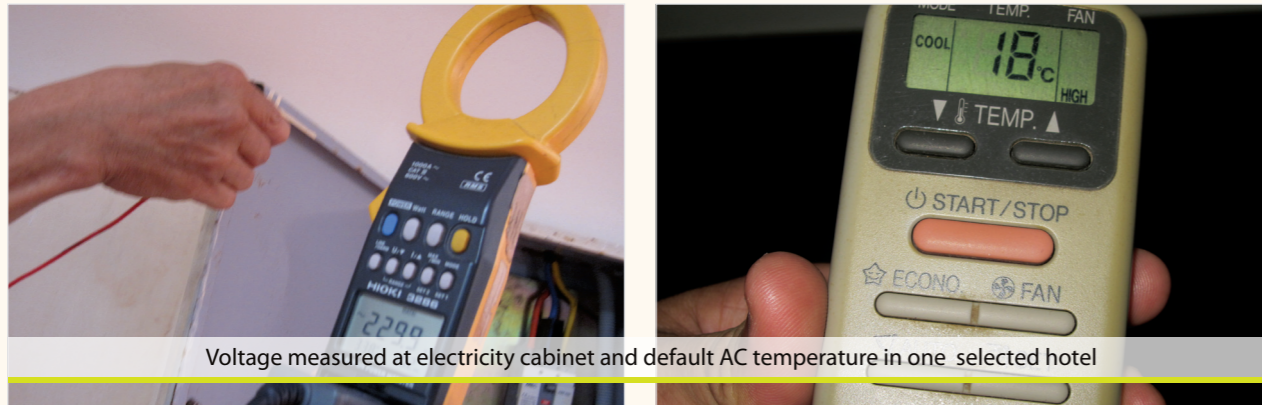
No	Venue	Sector	Content	Participant			Man-day
				Expert	LAR	ER	
1	Hoi An	Hotel	RECP/CSR training	3	13	24	80
Total				3	13	24	80

» **RECP/CSR assessment and demonstration**

RECP/CSR assessment were done for 09 enterprises in hotel sector: Hoi An Golf Hotel, Indochina Hotel, Hoi An Hotel, Hoi An Beach Resort, Victoria Hoian Beach Resort and Spa, Thanh Van Hotel, Vinh Hung III Hotel, Pacific Hotel and Hoi An Laundry Enterprise. In each of participating enterprises VNCPC expert team visited 03 ready rooms checking equipment facilities, measuring pipeline waterflow and electricity in main electricity cabinets by professional equipment.

After some initial assessment, it is shown that most of the hotels have bad maintenance, improper domestic electricity and lighting system. Hotels mainly use borehole water, thus the awareness on water efficiency is low.





Voltage measured at electricity cabinet and default AC temperature in one selected hotel

Project's beneficiaries are not only hotels but also households producing rice vermicelli and lantern which are two popular craft sectors in Hoi An. Expert team made a walkthrough at enterprises with the managers and made quick assessment on existing production from the beginning to the end of production line, and auxiliary area like: wood cutting area, boiler, drying area, electricity system... During the walkthrough, the team interviewed and discussed with managers on the use of materials, chemicals and energy.

The assessment showed that RECP/D4S concept had not been understood by the production units. They just learnt from each others without scientific basis. After being advised, most of households have improved their awareness on RECP/D4S and agreed to implement RECP/D4S activities at their location.



Some pictures of the unsustainability in rice vermicelli production households

**COMING ACTIVITIES:**

In coming time, VNCPC will continue organizing training activities to raise awareness on RECP/D4S for production households in small-scaled industry and handicraft villages in Hoi An and monitoring results in 9 enterprises participating the project.

**INTRODUCTION OF BAT AND BEP METHODOLOGY TO DEMONSTRATE REDUCTION OR ELIMINATION OF UNINTENTIONALLY PRODUCED PERSISTENT ORGANIC POLLUTANTS (U-POPS) RELEASES FROM THE INDUSTRY IN VIETNAM**

- \* The project was implemented by the United Nations Industrial Development Organization (UNIDO) as the GEF Executing Agency with Expanded Opportunities. The Vietnam Environment Administration (VEA) is the national implementing agency in coordination with the Industrial Safety Techniques and Environment Agency (ISEA) of Ministry of Industry and Trade (MoIT) of Vietnam. In the project, Vietnam Cleaner Production Centre and Dioxin Laboratory are two technical partners in charge of directly implementing the project at enterprise levels as well as coordinating between international and national experts to support other project activities.
- \* Objective: The overall goal of this project is to establish the required human resources and infrastructure to implement the obligations of the Stockholm Convention in Article 5 "Measures to reduce and eliminate releases from unintentional production" and coordinate its activities with the national strategies on environmental protection, industrial and sustainable development and cleaner production. The project activities, therefore, contribute to the improvement of human health and environmental protection.
- \* Duration: 7/2010 – 7/2011

**ACTIVITIES IN 2011:**

» **Training workshops :**



Training course in URENCO

There were 7 seminars and workshops, which gathered more than 450 participants, organized by PMU, VNCPC and Dioxin Lab. Beside 4 big workshops for opening, midterm review and closing stages, and general training for 4 selected sectors, the other three focused on technical aspect in pilot companies. Those workshops and seminars focused on the formation, release and monitoring of U-POP, as well as BAT/BEP applications for RECP and U-POP minimization. The midterm and closing workshops received great attention from international and internal experts. There was a lot of knowledge and experiences that had been shared during these events.

» **Technical booklets:**

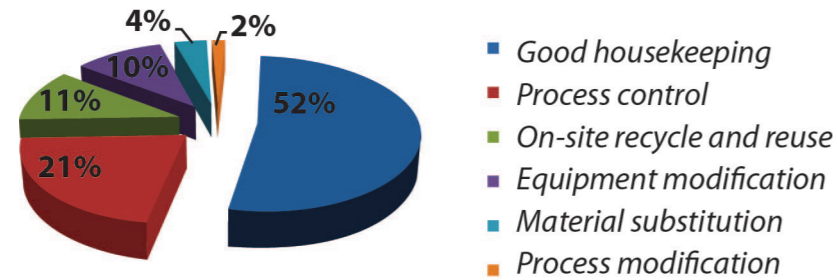
Four booklets for applying BAT/BEP in 4 selected industrial sectors have been developed. The booklets contain practical methods, which are explained in an easy way to understand and applied in reality by technical staff and operation workers.

The booklets for 4 selected sectors had been complied with the aim to support companies technical, safety and environment staff by providing quick guideline on BAT/BEP options which have been applied in developing countries to reduce U-POPs.



» **Resource Efficiency and Cleaner Production assessment and demonstration:**

Except Holcim Vietnam, which is seen as a successful case study in applying BAT/BEP to eliminate and prevent the formation and release U-POPs, the other three pilot projects had received the consultancy from international and national experts in order to determine potential options for not only improving their production efficiency but also U-POPs reduction and prevention. In general, 136 RE-CP and BAT/BEP options



RE-CP, BAT/BEP options in categories

The potential saving from applied RE-CP and BAT /BEP options was estimated from 5,473 to 9,416 millions VND per year. More importantly, by implementing them, pilot companies were able to reduce U-POPs release and other impacts to the environment. Thus, the working conditions and occupational health and safety aspect were also improved.

*RE-CP, BAT /BEP assessment at LuuXa factory of Thai Nguyen Iron and Steel joint stock Corporation (TISCO):* Right after the training, the expert team carried out the first assessment at the factory with sampling (taken by Dioxin Lab.). The factory also received the RECP assessment visits together with second U-POP sampling. The potential U-POP release sources had been determined. The number of proposed RE-CP, BAT /BEP options was 39 including 28 RE-CP options and 11 options relating to preventing and eliminating U-POP formation and release. Except one option with high investment was rejected, other options have been approved for implementation.

*Bac Son Urban Environment Company (URENCO):* The company had received 4 technical support visits from VNCPC's expert team. The number of proposed RE-CP, BAT /BEP options was 54, in which the total number of BAT /BEP options for U-POP reduction and prevention was 39. There were 49 feasible options to the company's circumstance, among of which 26 options have been implemented. Only 2 from 15 RE-CP options and 3 from 39 BAT /BEP options were rejected because they require high investment and strict technical conditions. In general, company had invested approximately 446 million VND for 2 options to fix and upgrade the exhausted gas system that could improve the air treatment effectiveness. By implementing RE-CP and BAT /BEP options, the DO consumption for burning wastes was reduced by 31 – 135 liter per ton depending on types of wastes.

*Bai Bang Paper Company:* The company still remained its CP team since its first time joining VNCPC's CP program. The number of proposed RE-CP and BAT /BEP options was 43 in which 23 RE-CP options and 14 BAT /BEP options were considered feasible to the company's circumstance. Some rejected options at that moment were those require high investment and big technology changes that need further detailed study in future. The company has carried out 28 options that helps to reduce energy and material consumption, improve product quality and environmental impacts.

## ESTABLISHING THE SUSTAINABLE PRODUCTION SYSTEM FOR RATTAN PRODUCTS IN VIETNAM, LAOS AND CAMBODIA

- \* Donor: European Union (80%) and IKEA (20%)
- \* Implementation partners: Switch-Asia program, European Union
- \* Objective: By end of the project at least 40% of all targeted Small and Medium sized Enterprises (SMEs) from Cambodia, Laos and Vietnam in the supply chain are actively engaged in Cleaner Production of rattan products in Cambodia, Laos and Vietnam and at least 15% of targeted processing SMEs are providing sustainable products to European and other markets, thus delivering tangible achievements and improving the sector's environmental performance.
- \* Duration: 3 years (2009-2011)

### ACTIVITIES IN 2011:

» **Training :**

No	Venue	Sector	Content	Participant			Man-day
				Expert	LAR	ER	
1	Thanh My (Nam Giang-Quang Nam)	Rattan	Sustainable production in rattan sector		X		36
2	Ca Di (Nam Giang-Quang Nam)				x		25.5
3	Ta Bhing (Nam Giang- Quang Nam)				x		37.5
4	Khamkeuth, Bolikhamsay, Cambodia				x		80
TOTAL							179



» **RE-CP asesment and demonstration:**

In 2011, 70 enterprises in rattan sector were quickly assessed following Cleaner Production criteria to select 10 potential enterprises for full CP assessment. These enterprises are located all over the country.



Quick CP assessment in an enterprise in former Ha Tay province (Hanoi now)



Consultancy on rattan bleaching system for An Khe enterprise (Da Nang)

Technical innovation in sustainable rattan production implemented by VNCPC:



Composite covered bleaching tank



Solar energy drying chamber

Although the project was successfully finished, VNCPC with its CP propagandizing responsibility will continue developing related documents and providing consultancy to enterprises in approaching new technology, production methods as per demands from rattan enterprises in particular and handicraft enterprises in general.

## PROJECTS THAT VNCPC PROVIDES SERVICES

### VIETNAM PROVINCIAL ENVIRONMENTAL GOVERNANCE (VPEG)

- \* Donor: Canadian Government
- \* Objective: The project aims to promote sustainable strengthening the development through state management on environment. It supports the improvement of industrial pollution management capability at local level by applying pollution prevention approach and enforcing regulations on industrial pollution management. The project also aims at supporting Ministry of Natural Resources and Environment in improving the efficiency of policies and legislations on industrial pollution management.
- \* Implementation period: 2009-2013 in Hanoi, BacNinh, Hai Duong, Da Nang, Binh Duong, Long An, Quang Ngai and Soc Trang.

**ACTIVITIES IN 2011:**

» **Training:**



Training in Hung Yen and Hai Duong



No	Venue	Dector	Content	Participant			Man- day
				Expert	LAR	ER	
1	Hai Duong	Food processing	Cleaner Production		24	2	84
		Textile				2	
2	Soc Trang	Seafood			14	11	75
3	Long An	Metal finishing			11	6	51
Total							



#### » CP assessment and demonstration:

Under the project's framework, VNCPC has carried out CP assessment and demonstration in 3 targeted provinces (Hai Duong, Soc Trang and Long An) and achieved positive results.

In Hai Duong, receiving the technical demonstration from VNCPC team, 2 enterprises have achieved technically supported coal, electricity and materials saving.

In Soc Trang and Long An province, 02 enterprises have saved fuel, reduced energy and material losses, found out and solved many incidents by conducting a comprehensive assessment on the company's production thanks to the VNCPC's technical support. Experts also helped raise awareness and responsible behavior of companies' management and CP team on cleaner production within their function.

Minh Dang company is a shining example. Thanks to the CP program, the company decided to invest immediately 267 million VND in some CP options and the results are really positive when all benchmarks have shown the downward trend. The company also decided to invest in heat-releasing tank system on the top of its under-construction 4-storey building following VNCPC expert team's recommendations to supply cool water for the whole production.

Soc Trang Seafood company (STAPIMEX), which was formerly a state-owned company, is another successful case. As the awareness on CP is improved, the company decided to make a big investment of more than 2 billion VND to replace existing obsolete compressors with 4 new piston ones, existing old FO-fired boiler with DO-fired one, existing broken insulation curtain with the new one, install semi-auto door in the refrigeration storage, install 120 monitoring cameras ...in order to improve productivity, innovate equipment, reduce material losses, reduce environmental impacts and improve housekeeping practices. Implementing these options, the company has gradually reduced its production costs, improved product quality, and thereby enhanced its competitiveness.



Before and after the repair of the steam leakage in TVP Steel JSC. – Long An

## CONFERENCES AND EXHIBITIONS

### 5<sup>TH</sup> NATIONAL ROUNDTABLE ON SUSTAINABLE CONSUMPTION AND PRODUCTION (SCP) IN VIETNAM

After 04 national roundtables which were organized every two years from 2002 now, the 5<sup>th</sup> conference on SCP was successfully hold under the cooperation among VNCPC, Ministry of Industry and Trade, and Ministry of Natural Resources and Environment in Nha Trang City on May, 2011. Key activities of the conference are to review and plan for the CP implementation in industry to the year 2020; to introduce



5<sup>th</sup> National Roundtable on Sustainable Consumption and Production

the draft national program on sustainable consumption and production; to exchange information on achievements and experiences in implementing CP programs in Vietnam to improve the consultancy quality and look towards SCP model development; to promote CP and SCP model application for the sustainable development of industry and community through appropriate policies and strategies.

More than 200 participants contributed to presentations, discussion and exchanged ideas relating to CP, Resource Efficiency and SCP. The conference served as a chance for policy-makers, leading experts and company's representatives to meet and discuss for drawing out the overall picture of SCP in Vietnam. Participants also discussed about obstacles and the approaches to overcome and further promote CP and SCP network in Vietnam.

National stakeholders gained the consensus on: (i) the necessity of policy promulgation to facilitate the development of environmentally-friendly industrial zones ; (ii) the development of criteria set for eco-town feasible to Vietnam's circumstances ; (iii) policy issuance on municipal solid waste treatment in big urban area; (iv) support for developing and promulgating the legislation on resource efficiency in Vietnam... Experts and company's representatives exchanged their experiences as well as economic and environmental benefits achieved through applying CP in different sectors, using resource efficiency tools, innovating products toward sustainability...

The success of National Roundtables on Sustainable Consumption and Production has shown deep significance of a national forum in which VNCPC is an important and active member.



**EXHIBITIONS:**



ENTECH Exhibition

On May 25<sup>th</sup> 2011, VNCPC attended ENTECH HANOI 2011 exhibition with the topic "Energy-Environment Efficiency, Business Efficiency and Sustainable Development, which was organized at Vietnam Exhibition Centre with the participation of more than 80 enterprises from Vietnam, Korea, Hong Kong, China, New Zealand...

In order to propagandize the services and dissemination of information relating to energy efficiency, in October, 2011, VNCPC attended the 3rd energy efficiency and renewable energy exhibition 2011 (ENCON EXPO 2011) at Tan Binh Exhibition Centre (Tan Binh District, Ho Chi Minh City).

At the booth in exhibitions, beside the information on projects related to CP and Energy Efficiency implemented by the Centre, VNCPC also introduced to enterprise community and relevant stakeholders some manuals on CP which were compiled or jointly compiled by VNCPC.



ENCON EXPO Exhibition



**COMUNITY ACTIVITIES**

Community activity is one of regular activities in VNCPC. In 2011, with the purpose of sharing spiritual and financial difficulties with unlucky fates, VNCPC visited and gave gifts to child patients in National Institute of Hematology and Blood Transfusion.

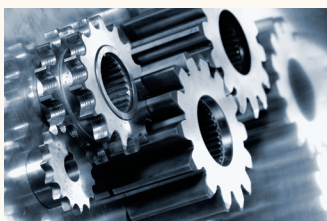
At the institute, the stories about life of young patients were so touching to VNCPC staff. 60 presents were given to these patients, representing the heart of VNCPC staff to share difficulties and the wish for young patients to have goodluck and happiness in near future.



VNCPC staff gave gifts to child patients at National Institute of Haematology and Blood Transfusion



*Mor profits,  
less wastes,  
and much more ...*



**VIET NAM CLEANER PRODUCTION CENTRE**

4th floor, C10 Building, Hanoi University of Science and Technology

Tel : 04 3868 4849

Fax : 04 3868 1618

Email : [vncpc@vncpc.vn](mailto:vncpc@vncpc.vn)

Webstie : [www.vncpc.vn](http://www.vncpc.vn)