

# Annual Report 2022



## FOREWORD



In 2022, Vietnam's economy achieved significant recovery and basically regained its growth momentum. However, in 2023, the world and regional situation is forecasted to have complicated and unpredictable circumstances. The decline in consumption and investment demand will directly affect domestic producers.

In that context, optimizing the production process for saving input costs such as electricity, water, and raw materials

still remains a matter of top priority for manufacturing businesses.

For nearly a quarter of a century, with the mission to promote sustainable consumption and production in Vietnam, Vietnam Cleaner Production Centre Co. Ltd (VNCPC) - a member of BK-Holdings (Hanoi University of Science and Technology), has constantly accompanied and supported enterprises from micro, small and medium scale to FDI enterprises in industrial park through the application of Resource Efficiency and Cleaner Production.

Accompanying and contributing to our success during this journey, VNCPC would like to send our sincere thanks to international organizations, donors, and ministries and agencies such as the Ministry of Industry and Trade, the Ministry of Planning and Investment, Ministry of Natural Resources and Environment, Ministry of Education and Training, Hanoi University of Science and Technology... The results of activities VNCPC has implemented in 2022 are pleased to introduce in the publication.

We hope that VNCPC will be offered opportunities to receive trust, support and cooperation for continuous companion and assist enterprises and industrial parks in 2023 and the future.

*Director*

Dr. Le Xuan Think

## ABBREVIATIONS

<b>BAT</b>	Best Available Techniques
<b>BEP</b>	Best Environmental Practices
<b>BIDV</b>	Joint stock Commercial Bank for Investment and Development of Vietnam
<b>E&amp;S</b>	Environmental and Social
<b>ESMS</b>	Environmental and Social Management System
<b>GG</b>	Green Growth
<b>IDH</b>	The Sustainable Trade Initiative organization
<b>IP</b>	Industrial Park
<b>IS</b>	Industrial Symbiosis
<b>MARD</b>	Ministry of Agriculture and Rural Development
<b>MOIT</b>	Ministry of Industry and Trade
<b>MONRE</b>	Ministry of Natural Resources and Environment
<b>POPs</b>	Non-Persistent Organic Pollutants
<b>RECP</b>	Resource Efficient and Cleaner Production
<b>SCP</b>	Sustainable Consumption and Production
<b>SECO</b>	Swiss State Secretariat Economic Affairs
<b>SUNREF</b>	Sustainable Use of Natural Resources and Energy Finance
<b>UIS</b>	Urban Industrial Symbiosis
<b>UNIDO</b>	United Nations Industrial Development Organization
<b>UPOPs</b>	Unintentional Persistent Organic Pollutants
<b>WS</b>	Work Packages

# CONTENTS

<b>1</b>	<b>FOREWORD</b>
<b>2</b>	<b>ABBREVIATIONS</b>
<b>3</b>	<b>CONTENTS</b>
<b>4</b>	<b>MISSION - VISION - CORE VALUES</b>
<b>5</b>	<b>SERVICES</b>
6	Strengthening the business case of small-scale pyrolysis in Vietnam
8	Promotion of supply and demand for eco-fair agri-food processing products in Vietnam
10	The provision of services and equipment (turnkey) for 2 pilot facilities to be located at Phan Boi and Minh Khai (Hung Yen) craft villages
12	Assessment of water risk and circularity solutions for a selected industrial park
14	Consultancy service on the development of the action plan and the guideline on the integrating green growth into strategies, master plans, and socio-economic development plans of ministries, sectors and localities for period of 2021-2030 (the industrial sector)
16	Provision of training and consultancy services to identify resource efficiency and industrial symbiosis interventions in Hiep Phuoc industrial park in Vietnam
18	Technical assistance program: sustainable use of natural resources and energy finance
20	Provision of training and consultancy services to identify resource efficiency and industrial symbiosis interventions in Deep C and Amata industrial park in Vietnam
22	Development of technical guidelines for plastics and resin pellets leakage prevention from factories and informal recycling sector in Hanoi
24	Energy and water assessment at garment factories of the Hirdaramani Industries Group (Sri Lanka) in Vietnam
26	Supporting business case development and access to finance for industrial synergy interventions in Hoa Khanh (Da Nang) and Tra Noc (Can Tho) industrial parks in Vietnam
28	"Clean by design" program
30	Renewable energy for the tea sector of Vietnam
32	Developing a levelized training program and organizing training courses for experts in the sustainable consumption and production field
<b>34</b>	<b>DONORS &amp; NETWORKS - PARTNERS</b>



## MISSION

In line with the principle of Partnerships for Sustainable Development, as a not-for-profit organization, VNCPC brings added value to clients through advanced scientific and technological services contributing to sustainable consumption and production promotion. VNCPC has created a friendly working environment with the best conditions for the team to develop their professional competencies and interpersonal skills.

## VISION

With the desire to build a sustainable future, VNCPC strives to become the leading organization in Vietnam and the region to provide both scientific and technological services on Resource Efficient and Cleaner Production, as well as climate change adaptation.

## CORE VALUES

Dedicated - Innovated - Responsible for Sustainable Production and Consumption

Respect - Share - Eager to learn - Partnerships for mutual development.



VNCPC is a regular member of the Global Network for Resource Efficient and Cleaner Production (RECPnet) which has been jointly established by UNIDO and UNEP.



VNCPC is a member of Bach khoa Hanoi Technology Investment and Development One Member Company Limited (BK-Holdings - Hanoi University of Science and Technology)

## SERVICES

1. Production cost reduction
2. Energy efficiency and savings
3. Energy audit
4. RECP +
5. Eco-industrial park development
6. Capacity building training
7. Technology transfer consultancy
8. Technology event
9. Sustainable consumption promotion



**Vietnam Cleaner Production Centre Co. Ltd.**

**Address:** 3<sup>rd</sup> Floor, Building B, No.125 Hoang Van Thai,  
Khuong Trung ward, Thanh Xuan district, Hanoi

**Tel:** (84-24) 3868 4849

**Email:** [vncpc@vncpc.org](mailto:vncpc@vncpc.org)

**Website:** [vncpc.org](http://vncpc.org)

# STRENGTHENING THE BUSINESS CASE OF SMALL-SCALE PYROLYSIS IN VIETNAM

The project “Strengthening the business case of small-scale pyrolysis in Vietnam” is under the framework of the Global Eco-Industrial Programme (GEIPP) with funding from SECO through UNIDO. The project aims to promote the commercialization of pyrolysis technology in Vietnam with 03 key objectives: (1) “Green technology” recognition and awareness raising on pyrolysis technology; (2) Feasibility study and business case development; and (3) Promotion of the biochar market in Vietnam.

## GENERAL INFORMATION

**Donor:** SECO

**Host institution:** UNIDO

**Project lead:** Sofies/dss+

**Implementing partners:** VNCPC; Vina Viet Hien One Member Co., Ltd; Oekozentrum/Generation Carbon GmbH (Switzerland); Husk Ventures S.L (Spain)

**Duration:** 06/2020 - 04/2023

**Sector:** Technology transfer

**Region:** Vietnam

**Contact:** Do Thi Diu

**Email:** diu.dt@vncpc.org

**Tel:** (84-24) 3868 4849 - ext 32





## Main activities of the project:

- ♦ “Green technology” and awareness raising;
- ♦ Feasibility study and business cases;
- ♦ Biochar market promotion in Vietnam.

## Activities in 2022:

- ♦ Organized and ran 03 awareness-raising events, 01 technology transfer workshop and 01 field mission to support the potential adopters of pyrolysis technology;
- ♦ Supported and coordinated with the implementing partners to develop and prepare reports, communication materials, leaflets, videos and so on, and then sharing information;
- ♦ Identified, selected and provided technical support for adopters of pyrolysis technology and biochar market players;
- ♦ Prepared feasibility studies and developed business cases;
- ♦ Developed a roadmap and proposed appropriate strategic orientations to promote the application of pyrolysis technology and strengthen the biochar market in Vietnam.

## Next steps:

- ♦ Update and finalize the report of identified potential business cases.



*Capacity building workshop and expert consultation on biochar for soil improvement*



*The workshop “The potential of biochar to decarbonize the agriculture sector in Vietnam”*



## PROMOTION OF SUPPLY AND DEMAND FOR ECO-FAIR AGRI-FOOD PROCESSING PRODUCTS IN VIETNAM

The objective of the “Promotion of supply and demand for eco-fair agri-food processing products in Vietnam (Eco-fair)” project is to contribute to support MS-MEs in Vietnam to improve production processes, improve product quality in the period of international integration, and at the same time, change perceptions and trust of the community for domestic products. Agri-food processing enterprises and consumers will receive useful practical knowledge about sustainable production and consumption through free online courses and direct consultation.

### GENERAL INFORMATION

**Donor:** European Union (EU)

**Implementing partners:** VIRI, CCS, Funzi and VNCPC

**Duration:** 04/2020 - 04/2023 (extended until 31/05/2023)

**Sectors:** Processing of meat, seafood, rice, cashew, fruit and vegetable

**Region:** Vietnam

**Contact:** Dang Nguyen Nhung

**Email:** [nhung.dn@vncpc.org](mailto:nhung.dn@vncpc.org)

**Tel:** (84-24) 3868 4849 - ext 26



## Main activities of the project:

- ◆ Compiling and disseminating online courses on sustainable consumption and production (SCP);
- ◆ Raising awareness for consumers through online training, and build a network of ambassadors to create change in the community;
- ◆ Stimulating SCP through retailers of eco-fair products;
- ◆ Capacity building for 1,000 MSMEs in the field of agricultural product processing through online courses;
- ◆ Raising awareness of ecological products - equity and circular economy policy in the process of agricultural product processing.
- ◆ Quickly assessing to find opportunities to support 200 MSMEs to produce more sustainably;
- ◆ Conducting in-depth RECP assessments for 50 MSMEs in order to find opportunities to save on production costs and increase access ability to domestic and foreign markets;
- ◆ Training for MSMEs on procedures and opportunities to access green financial resources, and helping businesses in need to make records to access capital sources.

## Activities in 2022:

- ◆ Continued to support 118 MSMEs to identify and apply RECP options to save energy, water, and raw materials as well as improve their waste management, bringing the total number of businesses supported in 2 years to 172;
- ◆ Organized 02 online training sessions on "Preferential sources of capital for sustainable production and loan application" on 30/03/2022 and 01/04/2022. The program has attracted 115 enterprises to participate in the training;
- ◆ Received information about the loan needs of 10 businesses, and contacted appropriate credit institutions to connect cooperation between the parties.



*Online training session on "Preferential source of capital for sustainable production and loan application"*

## Next steps:

- ◆ Continue with RECP assessments in enterprises in 6 sub-sectors of the project;
- ◆ Support RECP implementation in potential MSMEs;
- ◆ Connect 20 businesses, who have loan needs, with appropriate credit institutions and support the preparation of loan documents.



*Product introduction of Eco-fair project*

## THE PROVISION OF SERVICES AND EQUIPMENT (TURNKEY) FOR 2 PILOT FACILITIES TO BE LOCATED AT PHAN BOI AND MINH KHAI (HUNG YEN) CRAFT VILLAGES

The purposes of the service are to survey, conduct feasibility studies, identify, and implement BAT/BEP solutions to improve the production processes and reduce wastes and emissions of unintended persistent organic pollutants (UPOPs) generated from the open burning of plastic discards.

### GENERAL INFORMATION

**Donor:** GEF/UNIDO

**Host institution:** "Demonstration of BAT and BEP in open burning activities in response to the Stockholm Convention on POPs" project management board (MONRE)

**Implementing partners:** VNCPC, Vietnam Colour Trading and Manufacturing Co., Ltd (Vinacolour), Viet Trung Environmental Technology Co., Ltd

**Duration:** 09/2018 - 07/2023

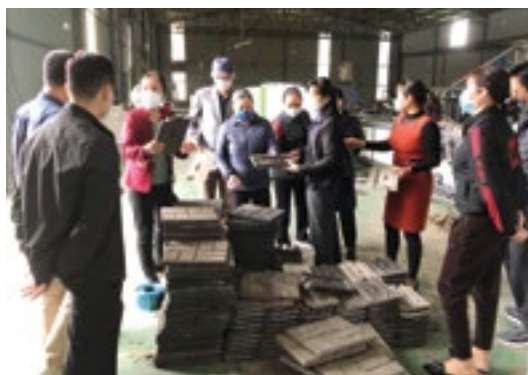
**Sector:** Plastic waste recycling

**Region:** The North of Vietnam

**Contact:** Le Xuan Thinh

**Email:** [thinh.lx@vncpc.org](mailto:thinh.lx@vncpc.org)

**Tel:** (84-24) 3868 4849 - ext 28



## Main activities of the service:

- ◆ On-site survey and assessment to (i) update the current situation of plastic recycling in the two villages (market, stream of recycled materials, policy review); and (ii) analyse production processes and BAT/BEP technique identification for the two villages;
- ◆ Proposing BAT/BEP solutions includes (i) identifying the most viable and economically sustainable BAT/BEP solutions; (ii) carrying out the feasibility study and preliminary design for selected BAT/BEP solutions; and (iii) identifying private partners willing to join the project and operate BAT/BEP facilities;
- ◆ Installation and commissioning includes (i) identifying suppliers of the facilities, and (ii) procuring equipment and installation and commissioning;
- ◆ Training and evaluation include (i) supporting private partners on operation, training the operators and villagers; and (ii) assessing the effectiveness of the implemented technology solutions.

## Activities in 2022:

VNCPC, together with project partners, has made efforts to implement the remaining activities and tasks of the assignment after 02 years of delay due to the impact of the Covid-19 pandemic. Specifically, these include the following:

- ◆ Completed the commissioning, adjustment and correction of three BAT/BEP plastic recycling lines;
- ◆ Conducted training courses and organized capacity-building training sessions for plastic recycling households' members and workers in 2 craft villages;
- ◆ Instructed workers to operate and support households in operating the plastic recycling line after the trial run;
- ◆ Evaluated the effectiveness of the selected technology by improving the quality and effectiveness of products on the market, the current state of the environment and reducing U-POP emissions;
- ◆ Supported private partners (03 households receive 03 BAT/BEP production lines respectively, including 01 new PE granulating plastic recycling line; 01 upgraded HDPE granulating plastic recycling line and 01 plastic waste recycling line) in the operation and maintenance of BAT/BEP production lines after commissioning until the project ended.



*Training activities for local (plastic recycling) households in Minh Khai and Phan Boi craft villages*

## Next steps:

- ◆ To deploy monitoring and support households to troubleshoot (if necessary) during the 12 month guarantee period (by 07/2023).

## ASSESSMENT OF WATER RISK AND CIRCULARITY SOLUTIONS FOR A SELECTED INDUSTRIAL PARK

The assessment will utilize WWF's Water Risk Filter tool to assess and quantify the water risks for the selected industrial park (IP) based on three layers (physical, legislation, and reputational risk). Based on IP-level and company-level site investigation, potential water conservation opportunities for the park are recommended.

### GENERAL INFORMATION

**Donors:** WWF-Vietnam

**Service provider:** VNCPC

**Duration:** 08 - 11/2022

**Sectors:** Textile-garment production and others in an IP

**Location:** Mekong Delta in Vietnam

**Contact:** Nguyen Le Hang

**Email:** hang.nl@vncpc.org

**Tel:** (84-24) 3868 4849 - ext 14



Source: <https://meeymap.com/tin-tuc/khu-cong-nghiep-xuyen-a>



## Main activities of the assignment:

- ◆ Identify the water risks at the park level;
- ◆ Audit of total water consumption and its consumption intensity in key industries and sites;
- ◆ Establish water balance diagram of the IP;
- ◆ Assess the wastewater treatment infrastructure of the IP; and
- ◆ Identify water saving, reuse and circularity opportunities based on industrial symbiosis (IS).

## Activities in 2022:

- ◆ Fulfilled the site assessment in the IP's water and wastewater infrastructures and 05 selected tenant companies of textile-dyeing and electroplating sectors;
- ◆ Developed the individual-company quick water assessment report, as well as the IP's water risk and circulation opportunities assessment report; and
- ◆ Presented the findings and recommendations to the IP developer and involved tenants.



*Workshops of tenant companies*



*Common effluent treatment plant of Xuyen A IP*

# CONSULTANCY SERVICE ON THE DEVELOPMENT OF THE ACTION PLAN AND THE GUIDELINE ON THE INTEGRATING GREEN GROWTH INTO STRATEGIES, MASTER PLANS, AND SOCIO-ECONOMIC DEVELOPMENT PLANS OF MINISTRIES, SECTORS AND LOCALITIES FOR PERIOD OF 2021-2030 (THE INDUSTRIAL SECTOR)

The guideline introduces approaches, processes, methods and tools to support the development of the Vietnam Green Growth Action Plan (VGG-AP) and the integration of the VGG into the Strategies, Master Plans and Socio-economic Development Plans of Ministries, Sectors and Localities with the aims to: (1) To ensure the synchronization with the VGG Strategies and VGG-AP; (2) To achieve consensus among stakeholders; (3) To improve the feasibility and efficiency in resource mobilization, coordination and implementation at the sectoral and local levels; and (4) To minimize the overlap and waste in investment activities and development programmes in order to optimize the results of socio-economic development, reduce greenhouse gas emissions and protect the environment.

## GENERAL INFORMATION

**Donor:** German Agency for International Cooperation (GIZ), under Macroeconomic Reforms/Green Growth (GG) Programme

**Implementing partners:** The Department of Science, Education, Natural Resources and Environment (DSENRE) under MPI, VNCPC

**Duration:** 06/2020 - 12/2023

**Sector:** Industrial sector

**Region:** Vietnam

**Contact:** Le Xuan Think

**Email:** [think.lx@vncpc.org](mailto:think.lx@vncpc.org)

**Tel:** (84-24) 3868 4849 - ext 28



## Main activities of the service:

- ◆ Providing the input information and data related to specific tasks and activities assigned to the industrial sector, and assisting the reporting aggregation team on the development of VGG-AP's explanatory report;
- ◆ Developing the guideline for integrating VGG into strategies, master plans and socio-economic development plans of ministries, sectors and localities for the 2021 - 2030 period, in charge of content for industrial sector.

## Activities in 2022:

- ◆ Reviewing, analyzing and determining specific tasks, activities, implementation timeline, assignment of responsibilities and resources mobilized in the VGG-AP. These steps are the basis for implementing objectives, orientations and measures of the industrial sector which were set out in the VGG Strategy;
- ◆ Coordinating, exchanging and getting consensus with experts in charge of other sectors on the related contents in group working sessions and seminars on developing VGG-AP;
- ◆ Participating in drafting the explanatory report, giving comments on the draft decision on the issuance of the VGG-AP; and
- ◆ Providing information and writing down the content of the industrial sector in the Guideline for integrating VGG into socio-economic development strategies, master plans and plans of ministries, sectors and localities for the 2021-2030 period.

## Next steps:

- ◆ Coordinating with the editorial team and other expert groups in finalizing the Guideline, the Draft Promulgation Decision and accompanying reports and documents for submission to the Government for approval;
- ◆ Consult with relevant ministries (Ministry of Industry and Trade, MOC, MONRE, MPI), localities, domestic and abroad organizations on specific tasks and activities of the industrial sector;
- ◆ Participating in training meetings/workshops on developing VGG-AP and integrating VGG in specific regions and localities; and
- ◆ Supporting ministries, agencies and localities to develop guidelines for the integration of green growth into strategies, master plans and plans for socio-economic development for the period of 2021 - 2030, specifically in the industrial sector.



*Working with the expert team on the development of the Guideline*

## PROVISION OF TRAINING AND CONSULTANCY SERVICES TO IDENTIFY RESOURCE EFFICIENCY AND INDUSTRIAL SYMBIOSIS INTERVENTIONS IN HIEP PHUOC INDUSTRIAL PARK IN VIETNAM

This assignment is part of the SECO-funded project "Eco-industrial Park Intervention in Viet Nam - Perspective from Global Eco-industrial Parks Programme (GEIPP)" which is currently being implemented by UNIDO in the developing and transition countries. In Viet Nam, it is jointly implemented by MPI (as the government coordinating agency) and UNIDO in the 2020 - 2023 period. The project's objective is in line with that of GEIPP, to demonstrate the viability and benefits of Eco-IP approaches in scaling up resource productivity and improving economic, environmental, and social performances of businesses and, thereby, contributing to inclusive and sustainable industrial development in Vietnam. Hiep Phuoc IP (HCM city) and their resident companies are selected to join this part of the project.

### GENERAL INFORMATION

**Donor:** SECO

**Leading partner:** MPI (PMU) and UNIDO

**Implementing partners:** VNCPC, SOFIES, NREC

**Duration:** 09/2021 - 08/2023 (extended until 04/2024)

**Sector:** Industry

**Region:** Vietnam

**Contact:** Vu Nang Nam

**Email:** nam.vn@vncpc.org

**Tel:** (84-24) 3868 4849 - ext 16



## Main activities of the project:

Enterprises participating in the project will be supported with the following activities:

- ♦ Capacity building on RECP, industrial symbiosis, and the Eco-IP concept at the level of the IP;
- ♦ In-depth RECP assessment and guidance on identifying wastes in the production process, improvement opportunities to optimize profits, reduce production costs, and save raw materials, energy, and water;
- ♦ Development of feasibility studies for selected RECP and IS interventions as well as the implementation plan towards the Eco-IP model.

## Activities in 2022:

- ♦ VNCPC and NREC have implemented RECP assessment for 31 enterprises.
- ♦ On November 24, 2022, VNCPC and Project Management Unit successfully organized the workshop: "Industrial symbiosis in Hiep Phuoc IP" at Workers Living Center - Hiep Phuoc IP. VNCPC experts have proposed and discussed with 13 enterprises on IS opportunities and 06 urban industrial symbiosis (UIS) opportunities.

## Next steps:

- ♦ Completing the RECP assessment component at enterprises;
- ♦ Organize visits to the project's participating enterprises to monitor and evaluate the results of RECP implementation;
- ♦ Finalize pre-feasibility assessment reports for IS opportunities. On that basis, propose and support stakeholders to implement RECP/IS opportunities.



*Workshop on IS in Hiep Phuoc IP*

## TECHNICAL ASSISTANCE PROGRAM: SUSTAINABLE USE OF NATURAL RESOURCES AND ENERGY FINANCE

**O**n 26 May 2021, BIDV and the French Development Agency (AFD) signed a credit facility agreement of USD 100 million with the aim of promoting green investments, focused on renewable energy and energy efficiency projects in Vietnam. The technical assistance program aims to contribute to the development of local economies, sober in energy consumption, carbon emission and sustainable use of natural resources, and accompany BIDV, one of the major financial institutions in Vietnam, in enhancing its environmental and social (E&S) risk management system toward international standards.

### GENERAL INFORMATION

**Donor:** AFD

**Implementing partners:** Ginger-Burgeap, VNCPC, Espelia and Keran Asia

**Duration:** 06/2021 - 05/2022 (extended until 12/2022)

**Sectors:** industries, renewable energy

**Regions:** Vietnam

**Contact:** Nguyen Le Hang

**Email:** hang.nl@vncpc.org

**Tel:** (84-24) 3868 4849 - ext 14



*Soc Trang 7 and Lac Hoa Wind Power Plants (Source: SUNREF Vietnam)*

## Main activities of the project:

- ◆ Transferring knowledge and building capacities of BIDV on E&S risk assessment and the Environmental and Social Management System (ESMS), with a focus on renewable energy and energy efficiency;
- ◆ Galvanizing green projects by identifying potential green projects in emerging sectors (wind power, rooftop solar, energy efficiency in building for instance) and supporting the private sector (banks and developers) in the development and conception of projects;
- ◆ Promoting green investments, in renewable energy, industrial enterprises, buildings and properties development, service sectors (trade, offices) and households; and
- ◆ Efficient and flexible management of the project to maximize impacts.

## Activities in 2022:

VNCPC and the partner finished following activities:

- ◆ Fulfilled environmental and social assessment based on AFD's eligible, general and E&S criteria, in which 4 wind-power projects (Cuu An, Lac Hoa 1, Soc Trang 7 and Tan An 1) were approved by AFD for disbursement. The investigation on potential impacts on bird and bat fauna project Ben Tre V1-3 is on-going;
- ◆ Reviewed BIDV's existing ESMS applied to proposed loan projects and proposed the ESMS upgradation for BIDV to meet E&S international standards;
- ◆ Conducted training (1) Evaluation and monitoring of E&S aspects of subjects and (2) Sustainable Energy Financing and Project Finance according to the agreed contents during the period from March to May 2022;
- ◆ Monitored the impact of funded projects; and
- ◆ Developed a set of communication products about the SUNREF program in Vietnam.



*Bird investigation in Ben Tre V1-3 project area  
(Source: WildTour Co., Ltd)*

## Next steps:

- ◆ Continue the investigation on bird and bat fauna for any necessary impact mitigation solution in Ben Tre V1-3 wind-power plant's affected area, which is expectedly accomplished in January 2023;
- ◆ Prepared the final report to be submitted to AFD and BIDV.

## PROVISION OF TRAINING AND CONSULTANCY SERVICES TO IDENTIFY RESOURCE EFFICIENCY AND INDUSTRIAL SYMBIOSIS INTERVENTIONS IN DEEP C AND AMATA INDUSTRIAL PARK IN VIETNAM

This assignment is part of the SECO-funded project "Eco-industrial Park Intervention in Viet Nam - Perspective from Global Eco-industrial Parks Programme (GEIPP)" which is currently being implemented by UNIDO in the developing and transition countries. In Viet Nam, it is jointly implemented by MPI (as the government coordinating agency) and UNIDO in the 2020 - 2023 period. The project's objective is in line with that of GEIPP, to demonstrate the viability and benefits of Eco-IP approaches in scaling up resource productivity and improving economic, environmental, and social performances of businesses and, thereby, contributing to inclusive and sustainable industrial development in Vietnam. The targeted IPs are Deep C (Hai Phong city) and Amata (Dong Nai province) together with their resident companies.

### GENERAL INFORMATION

**Donor:** SECO

**Leading partner:** MPI (PMU) and UNIDO

**Implementing partners:** VNCPC, SOFIES

**Duration:** 05/2021 - 06/2022 (extended 04/2024)

**Sector:** Industry

**Region:** Vietnam

**Contact:** Vu Nang Nam

**Email:** nam.vn@vncpc.org

**Tel:** (84-24) 3868 4849 - ext 16



## Main activities of the project:

Enterprises participating in the project will be supported with the following activities:

- ♦ Capacity building on RECP, IS, and the eco-IP concept at the level of the IP;
- ♦ Quick RECP assessment and guidance on identifying wastes in the production process, improvement opportunities to optimize profits, reduce production costs, and save raw materials, energy, water and chemical;
- ♦ Development of feasibility studies for selected RECP, and IS interventions; and
- ♦ Accessing financing sources for IS interventions.



*Workshop on RECP, IS and the Eco-IP*

## Activities in 2022:

- ♦ RECP/IS assessment and consultancy

IS	Enterprises assessed RECP/IS	RECP opportunities	Savings (billion VND)/year	Reduce tons of CO <sub>2</sub> /year
Deep C	18	124	31	9,962
Amata	17	130	8.1	2,991

- ♦ IS workshops organization

Date	IP	IS opportunities	UIS opportunities
22/11/2022	Deep C	14	7
25/11/2022	Amata	13	6

## Next steps:

- ♦ Completing the RECP assessment component at enterprises;
- ♦ Organize visits to the project's participating enterprises to monitor and evaluate the results of RECP implementation; and
- ♦ Perform pre-feasibility assessment reports for IS opportunities. On that basis, propose and support stakeholders to implement RECP/IS opportunities.



*Answering question from enterprises in the workshop*



## DEVELOPMENT OF TECHNICAL GUIDELINES FOR PLASTICS AND RESIN PELLETS LEAKAGE PREVENTION FROM FACTORIES AND INFORMAL RECYCLING SECTOR IN HANOI

The assignment “Development of technical guidelines for plastics and resin pellets leakage prevention from factories and informal recycling sector in Hanoi, Vietnam”, signed between VNCPC and the Regional Resource Center for Asia and the Pacific (RRC.AP) located at the Asian Institute of Technology (AIT) – Thailand. This assignment is one component of the Project “Development and dissemination of technical guidelines for plastics and resin pellets leakage prevention from factories and informal recycling sector in the ASEAN” funded by the Economic Research Institute for ASEAN and East Asia (ERIA). The overall objective of the proposed project is to contribute to preventing plastics and resin leakage into the marine by promoting best practices and guidelines appropriate to resin-producing factories and informal recycling facilities in ASEAN countries.

### GENERAL INFORMATION

**Donor:** The Economic Research Institute for ASEAN and East Asia (ERIA)

**Implementing partners:** RRC.AP - AIT Thailand, VNCPC

**Duration:** 05/2022 - 06/2023

**Sector:** Plastic waste management

**Region:** Vietnam

**Contact:** Do Thi Diu

**Email:** diu.dt@vncpc.org

**Tel:** (84-24) 3868 4849 - ext 32



## Main activities of the service:

- ◆ Development of situation assessment report on the status and plastic leakages related to operations of informal recycling actors and the plastic industry;
- ◆ Development and update of context-specific draft guidelines/manual and best practices for preventing plastics (by informal recyclers) and pellet losses by factories;
- ◆ Submission of final guidelines/manual in English and in Vietnamese versions; and
- ◆ Participation in knowledge dissemination and capacity-building workshop.

## Activities in 2022:

- ◆ Reviewed the literature regarding (i) policy and regulatory mechanisms; (ii) institutional framework and stakeholders involved in plastic waste management and plastic recycling; (iii) plastic value chain and material flows for plastic recycling; and (iv) current status of recycling technology and environmental - economic - social impacts of plastic recycling (formal and informal sectors);
- ◆ Conducted surveys, in-depth interviews and focus group discussions with identified keystone recycling enterprises, actors, and industry actors;
- ◆ Carried out onsite field visits and assessment of process operations of selected recycling factories, junkshops, and plastic industry; and
- ◆ Developed and completed the situation assessment report on plastic leakage from informal/formal recycling groups and pellet losses from logistical handling of pellets in the plastic industry in Hanoi city.

## Next steps:

- ◆ Develop and update technical guidance relevant to the local context and solutions to prevent plastics and resin pellets leakage from recycling facilities;
- ◆ Completing and handing over the technical guideline in English and Vietnamese; and
- ◆ Participation and presentation of findings/draft reports in the training and dissemination workshops.



*Plastic recycling activities in Tien Duoc commune, Soc Son district, Hanoi*

## ENERGY AND WATER ASSESSMENT AT GARMENT FACTORIES OF THE HIRDARAMANI INDUSTRIES GROUP(SRI LANKA) IN VIETNAM

The signed contract between VNCPC and the Sri Lanka National Cleaner Production Center (NCPC) aims to assess energy and water usage at 06 factories of the Hirdaramani Industries Group in Vietnam. Accordingly, VNCPC conducted energy and water assessment at the selected sites in compliance with ASHRAE level 2 audit requirements.

### GENERAL INFORMATION

**Cooperation agency:** Sri Lanka NCPC

**Implementation partner:** VNCPC

**Duration:** 03 - 10/2022

**Sector:** Textile

**Region:** Dong Nai, Quang Nam, Dong Thap

**Contact:** Nguyen Dai An

**Email:** an.nd@vncpc.org

**Tel:** (84 -24) 3868 4849 - ext 41



## Main activities of the contract:

- ♦ Energy and water assessments carried out at selected garment factories in Vietnam;
- ♦ Technical reports developed and shared with the NCPC Sri Lanka. Finalized version following feedback submitted to the client.

## Activities in 2022:

- ♦ The team completed the on-site assessment at 06 factories as per the contract.
- ♦ Recommended RECP solutions enabled an annual consumption reduction of up to 723,000 kW of electricity; 4,406 m<sup>3</sup> of water; 225 tons of steam; and nearly 538 tons of CO<sub>2</sub> emission. It led to the total estimated cost savings of 2 billion VND/year approximately/year.



*Energy assessment at the factory*

## SUPPORTING BUSINESS CASE DEVELOPMENT AND ACCESS TO FINANCE FOR INDUSTRIAL SYNERGY INTERVENTIONS IN HOA KHANH (DANANG) AND TRA NOC (CAN THO) INDUSTRIAL PARKS IN VIETNAM

This assignment is a part of the project "Eco-industrial Parks intervention in Vietnam – Perspective from Global Eco-Industrial Parks Programme". The objective of this assignment is to survey and re-evaluate the current status of implementation of IS between enterprises in Hoa Khanh and Tra Noc 1&2 industrial zones that were implemented by the Eco-IP project-phase 1 and continue to provide technical solutions and financial access to support the implementation of these IS in the next phase.

### GENERAL INFORMATION

**Donor:** UNIDO

**Partners:** SOFIES, VNCPC, CL2B

**Duration:** 11/2020 - 08/2022

**Sector:** All industries

**Region:** Hoa Khanh and Tra Noc 1&2 IP

**Contact:** Dang Nguyen Nhung

**Email:** [nhung.dn@vncpc.org](mailto:nhung.dn@vncpc.org)

**Tel:** (84 - 24) 3868 4849 - ext 26



### Main activities of the assignment:

- ♦ To survey and update the implementation of IS options identified in phase 1 of the project;
- ♦ To support the development of an Environmental and Social Management Plan (ESMP) for 2 IPs Hoa Khanh and Tra Noc 1&2;
- ♦ To build a clear plan to develop more investment cases/feasibility studies of IS opportunities;
- ♦ To support enterprises involved in identified IS in developing and submitting investment proposals to relevant banks or financial institutions; and
- ♦ To continue support to enterprises and the IP Management Board to implement IS solutions.

### Activities in 2022:

- ♦ 02 field trips to update the implementation of 12 IS solutions, identified and carried out pre-feasibility studies for 04 new IS solutions;
- ♦ A final report covering (i) benefit calculations for the implemented IS solutions, (ii) the update of ongoing and to-be-implemented solutions, as well as pre-feasibility studies for newly identified IS opportunities.

### Next step:

- ♦ Finalize the final report of the assignment.



*Working at Tan Long Paper and Packaging factory in Da Nang*



## "CLEAN BY DESIGN" PROGRAM

It is a program initiated by the Apparel Impact Institute (Aii) in 2018 and originally named "Race to the Top". Since 2021 the program has cooperated with the Sustainable Trade Initiative (IDH) and changed its name to "Clean by Design" (CbD). The goal of the program is to reduce the environmental impact of the global textile and garment industry through energy-saving, resource-efficient solutions, thereby helping businesses reduce costs and environmental impact.

### GENERAL INFORMATION

**Donor:** Aii, IDH

**Implementing partner:** VNCPC

**Duration:** 08/2020 - 08/2023

**Sectors:** Textile, garment, footwear

**Region:** Vietnam

**Contact:** Dinh Manh Thang

**Email:** [thang.dm@vncpc.org](mailto:thang.dm@vncpc.org)

**Tel:** (84 -24) 3868 4849 - ext 25





## Main activities of the program:

- ◆ Organize online meeting between IDH, Aii, a team of consultants, brands and factories to introduce and provide information about the program;
- ◆ Perform assessment activities/mission at the factories, work with factories manager/leader, on production lines and key energy/fuel/water consumption points, and write reports;
- ◆ Assist factories in developing action plans. During the factory deployment (3 to 5 months), the team of consultants continue to provide technical support via phone and email;
- ◆ Guide the factories' technical teams to implement additional solutions depending on their needs and requirements, based on the plan from the initial report and the overview of opportunities;
- ◆ Organize training seminars to provide knowledge on energy saving and resource efficiency in production to factories.

## Activities in 2022:

- ◆ Completed the assessment and support to improve energy and resource efficiency at 12 factories in Vietnam; and submitted the final reports for each factory to Aii and corresponding factories;
- ◆ Paid the first assessment mission to 11 other factories;
- ◆ Conducted 01 project introduction and training seminar in HCM city.

## Next steps:

- ◆ Complete consulting and improvement support for 11 ongoing factories.
- ◆ Start the assessment at new factories (10 expected ones) joining in 2023.



*Work meeting with the factory technical team*

## RENEWABLE ENERGY FOR THE TEA SECTOR OF VIETNAM

The proposed project aims to assess the feasibility and to recommend the implementation roadmap for the application of a pilot integrated agrivoltaics, pyrolysis and biochar system in the tea-producing area of Anh Son district, Nghe An province, towards building a sustainable tea farming and production model according to the circular economy model for Vietnam.

### GENERAL INFORMATION

**Donor:** REPIC Platform

**Project lead:** Center for International Industrial Solutions under Zurich University of Applied Sciences (ZHAW) - Switzerland

**Implementing partners:**

- ◆ VNCP
- ◆ Kaskad-E GmbH (Switzerland)
- ◆ ZHAW Institute of Natural Resource Sciences (Switzerland)
- ◆ REM Tec s.r.l (Italy)
- ◆ Institute for Circular Economy Development (ICED) under Vietnam National University Ho Chi Minh City
- ◆ Nghe An Tea Development JSC. under Song Lam Cooperation
- ◆ Vina Viet Hien One Member Co., Ltd
- ◆ Soils and Fertilizers Research Institute (SFRI) under Vietnam Academy of Agricultural Sciences (VAAS)
- ◆ Bach Khoa Solar Energy Development and Investment JSC. (SolarBK)

**Duration:** 01/2023 - 02/2025

**Sector:** Renewable energy, green tea

**Region:** Viet Nam

**Contact:** Do Thi Diu

**Email:** diu.dt@vncpc.org

**Tel:** (84-24) 3868 4849 - ext 32

## Main activities of the service:

The project consists of 03 technical work packages (WP) and 01 integrated one. Within each WP, knowledge transfer takes place between the Swiss/European and Vietnamese partners, with the active participation of the local private sector. Specifically:

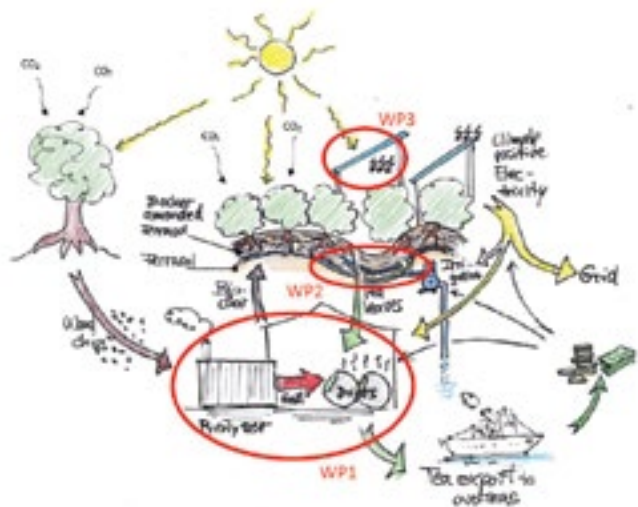
- ♦ WP 1: Application of pyrolysis technology for heat and biochar production from acacia wood chips. For this purpose, the PPV-300 pyrolysis technology of Vina Viet Hien Co. will be adapted to produce heat for tea leaf drying. Electricity from the photovoltaic unit will be used among others to support these processes;
- ♦ WP 2: Assessment of (i) biochar properties and quality, (ii) soil health before and after biochar amendment (focus on carbon storage, water retention capacity and nutrient content), and (iii) impact on tea quality and yield;
- ♦ WP 3: Application of agrivoltaics to provincial tea growing settings (slope, solar radiation, soil, etc.) and assessment of impacts on tea quality and yield;
- ♦ WP 4: Knowledge integration, business model design and implementation roadmap development based on inputs from WPs 1 to 3.

## Activities in 2022:

- ♦ Participated in project kick-off meeting at the end of January 2023;
- ♦ Planned and coordinated with the implementing partners to prepare for the kick-off trip at the project site.

## Next steps:

- ♦ Participating in the kick-off trip to the project site (Anh Son district, Nghe An province) in 02/2023;
- ♦ Supporting Vina Viet Hien Company in deploying the pyrolysis work package (WP 1) and reporting the results to the project team;
- ♦ Sharing project results and connecting with national stakeholders.



*Descriptive diagram of the pilot integrated agrivoltaics, pyrolysis and biochar system*

## DEVELOPING A LEVELIZED TRAINING PROGRAM AND ORGANIZING TRAINING COURSES FOR EXPERTS IN THE SUSTAINABLE CONSUMPTION AND PRODUCTION FIELD

**A**iming at improving the capability of experts in the SCP field of Vietnam, the assignment develops the training material set and organizes the pilot basic and advanced training on SCP.

### GENERAL INFORMATION

**Donor:** Department of Energy Efficiency and Sustainable Development - MOIT

**Duration:** 08/2022 - 12/2022

**Sectors:** Sustainable consumption and production

**Regions:** Vietnam

**Contact:** Le Van Tung

**Email:** tung.lv@vncpc.org

**Tel:** (84-24) 3868 4849 - ext 34



## Main activities of the assignment:

Survey and assess the capability of experts, who are active in the SCP field, by:

- ♦ reviews and statistics and make a list of experts;
- ♦ survey and interview to investigate expert capacity;
- ♦ compiling, analyzing and evaluating the competence of experts; and
- ♦ propose orientations and solutions to improve their capability.

Develop training programs for fundamental and in-depth levels by:

- ♦ proposing the training framework;
- ♦ developing a set of training contents; and
- ♦ consultation and finalizing the training materials.

Organize 01 training course on SCP including:

- ♦ determine the size, participants and form of training;
- ♦ prepare of training materials and lectures;
- ♦ implement training; and
- ♦ report with recommendations.



*Representative of MOIT speaking at the opening of the training course*

## Activities in 2022:

- ♦ Surveyed and assessed the capability of SCP experts conducted from 8<sup>th</sup> to 30<sup>th</sup> October 2022 to collect information on training needs and existing experiences.
- ♦ Based on that, developed an appropriate training program and materials for further expanding the SCP expert network, consisting of 06 main topics: (1) sustainable resource management; (2) sustainable design; (3) sustainable production; (4) sustainable distribution; (5) sustainable Consumption; and (6) waste management; and
- ♦ Organized 01 SCP training course for the fundamental and in-depth levels for experts. The course attracted 30 participants offline and 19 others online through the zoom platform.



*Participants received certificates after completing the course*

## DONORS & NETWORKS - PARTNERS

### CƠ QUAN TÀI TRỢ - MẠNG LƯỚI - ĐỐI TÁC



Tính đến tháng 4/2019, UNIDO có 170 quốc gia thành viên. Nhiệm vụ của UNIDO là xúc tiến và thúc đẩy phát triển công nghiệp bền vững ở các nước thành viên.

As of April 2019, 170 states are member of UNIDO. The mission of UNIDO is to promote and accelerate inclusive and sustainable industrial development in member states.



BURGEAP là một tập đoàn kỹ thuật môi trường của Pháp chuyên tư vấn và quản lý dự án trong việc bảo tồn môi trường, phát triển đô thị và địa phương bền vững và chuyển đổi năng lượng.

BURGEAP is a French environmental engineering group specialized in consulting and project management in environmental preservation, sustainable local and urban development, and energy transition.



RECPnet là mạng lưới toàn cầu về Hiệu quả tài nguyên và Sản xuất sạch hơn nhằm thúc đẩy việc ứng dụng RECP và điều chỉnh thích nghi tại các nước đang phát triển và các nền kinh tế chuyển đổi.

RECPnet is the global network for promoting the widespread adaptation and adoption of Resource Efficient and Cleaner Production in developing and transition economies.



UNEP là cơ quan điều phối các hoạt động môi trường của Liên hiệp quốc, hỗ trợ các nước đang phát triển trong việc thực hiện các chính sách và các cách làm hợp lý về môi trường.

UNEP is the United Nations' coordinating agency for environmental activities, supporting developing countries in implementing environmental policies and practices.



Sứ mệnh của Aii là xác định, tài trợ và nhân rộng các giải pháp chất lượng đã được chứng minh để thúc đẩy các tác động tích cực trong ngành dệt may và da giày.

Aii's mission is to identify, fund and scale proven quality solutions to accelerate positive impact in the footwear and textile industry.



CTCN thúc đẩy chuyển đổi nhân rộng các công nghệ môi trường an toàn hướng tới sự phát triển các bon thấp và ứng phó với biến đổi khí hậu tại các nước đang phát triển.

The CTCN promotes the accelerated transfer of environmentally sound technologies for low carbon and climate resilient development at the request of developing countries.



GEF được thành lập năm 1992, giúp giải quyết các vấn đề môi trường cấp bách. Hiện GEF đã trở thành đối tác của 183 quốc gia, các tổ chức quốc tế, tổ chức xã hội dân sự và khu vực tư nhân để giải quyết các vấn đề môi trường toàn cầu.

GEF was established in 1992, which helped solve urgent environmental problems. GEF has now become a partner of 183 countries, international organizations, civil society organizations and the private sector to resolve global environmental issues.



## CƠ QUAN TÀI TRỢ - MẠNG LƯỚI - ĐỐI TÁC DONORS & NETWORKS - PARTNERS

switchasia



Liên minh châu Âu hỗ trợ thúc đẩy SXSH và tiêu dùng bền vững tại 18 nước châu Á, trong đó có Việt Nam, thông qua chương trình SWITCH-Asia với đa dạng các lĩnh vực và khu vực/địa phương.

The European Union support to promote cleaner production and sustainable consumption in 18 Asian countries, including Vietnam, through SWITCH-Asia program with a variety of fields at both regional and local levels.



Schweizerische Eidgenossenschaft  
Confédération Suisse  
Confederazione Svizzera  
Confederaziun Svizra  
Swiss Confederation  
Federal Department of Economic Affairs FDFA  
State Secretariat for Economic Affairs SECO

SECO là cơ quan của Chính phủ Liên bang Thụy Sĩ, phụ trách các vấn đề chính liên quan tới chính sách kinh tế và thị trường lao động.

SECO is the federal government's centre of excellence for all core issues relating to economic and labour market policy.

giz

Deutsche Gesellschaft  
für Internationale  
Zusammenarbeit (GIZ) GmbH

GIZ là tổ chức được Bộ Hợp tác và Phát triển Kinh tế Liên bang Đức (BMZ) ủy quyền. GIZ hỗ trợ Chính phủ trong lĩnh vực hợp tác quốc tế vì mục tiêu phát triển bền vững.

GIZ is an organization commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ). GIZ supports the government in international cooperation for sustainable development.



IFC | International  
Finance Corporation  
WORLD BANK GROUP

Creating Markets, Creating Opportunities

IFC giúp các nước đang phát triển tăng trưởng bền vững thông qua đầu tư tài chính, huy động vốn từ các thị trường tài chính quốc tế, cung cấp các dịch vụ tư vấn cho các DN và chính phủ.

IFC applies its financial resources, technical expertise, global experience, and innovative thinking to help our partners overcome financial, operational, and political challenges.

idh

the sustainable  
trade initiative

IDH (Sáng kiến Thương mại Bền vững) được chính phủ Hà Lan thành lập vào năm 2009 nhằm giúp cải thiện tính bền vững của chuỗi cung ứng quốc tế.

IDH (The Sustainable Trade Initiative) is an organization established by the Dutch government in 2009 to help improve the sustainability of international supply chains.



AFD  
AGENCE FRANÇAISE  
DE DÉVELOPPEMENT

AFD là tác nhân có vai trò trung tâm trong chính sách phát triển của Pháp. AFD cam kết các dự án cải thiện cụ thể đời sống của người dân tại các nước đang phát triển.

AFD plays an important role in French development policy. AFD is committed to projects that specifically improve the lives of people in developing countries.

dss+

Protect. Transform. Sustain.

dss + giúp khách hàng sống và kiến tạo một tương lai bền vững. Họ luôn nỗ lực xây dựng một cái gì đó mới trên nền tảng đã tồn tại lâu dài trước đó.

dss + helps clients to save lives and create a sustainable future. They are building something new, on the rock-solid foundation of a decades-long legacy.

VIRI

Viện Nghiên cứu và Phát triển ngành nghề Nông thôn Việt Nam (VIRI) được thành lập năm 1997 - là tổ chức khoa học công nghệ hàng đầu trong lĩnh vực ngành nghề nông thôn tại Việt Nam.

The Vietnam Rural Industries Research and Development Institute (VIRI) - a leading non-governmental organization established in 1997 to support the sustainable development of rural industries in Vietnam.