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**Vietnam National Cleaner Production Centre
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*Report of the Independent Joint In-depth Evaluation Mission**

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The views and opinions of the team do not necessarily reflect the views of the Government of Switzerland, of the Government of Vietnam and of UNIDO.

This document has not been formally edited.

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Abbreviations and Acronyms Used In This Report

BAT	Best Available Technology
BEAT	Best Economically Attractive Technology
BP	Business Plan
CDM	Clean Development Mechanism
CERT	Carbon Emission Reduction Trade
CHF	Swiss Franc
CIDA	Canadian International Development Agency
CP	Cleaner Production
CPC	Cleaner Production Centre
CT	Cleaner Technology
CTA	Chief Technical Advisor
DANIDA	Danish Agency for International Development
DOSTE	Department of Science, Technology and Environment (in Provinces)
DPI	Department of Planning and Investments
EC	European Commission
EIA	Environmental Impact Assessment
EIU	Economist Intelligence Unit
EMS	Environmental Management System
EST	Environmental Sound Technologies
EU	European Union
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GEF	Global Environmental Facility
GHG	Greenhouse Gases
HCMC	Ho Chi Minh City
HIFU	HCMC Investment Fund for Urban Development
HUT	Hanoi University of Technology
INEST	Institute for Environmental Science and Technology
KP	Kyoto Protocol
MOET	Ministry of Education and Training
MOF	Ministry of Finance
MOI	Ministry of Industry
MONRE	Ministry of Natural Resources and Environment
MPI	Ministry of Planning and Investment
NCPC	National Cleaner Production Centre
NEA	National Environment Agency
NEPS	National Environmental Protection Strategy
NGO	Non-Governmental Organization
OECD	Organization for Economic Cooperation and Development
POP	Persistent Organic Pollutants
RC	Reference Centre
SDC	Swiss Agency for Development and Cooperation
seco	Swiss State Secretariat for Economic Affairs
SIDA	Swedish International Development Agency
SME	Small and Medium Sized Enterprises
SOFI	Swiss Organization for Facilitating Investments
SRC	Swiss Reference Centre
TOR	Terms of Reference
TT	Technology Transfer

UNDP	United Nations Development Program
UNEP	United Nations Environmental Programme
UNIDO	United Nations Industrial Development Organization
UR	UNIDO Representative
USD	United States Dollar
VCCI	Vietnam Chamber of Commerce and Industry
VNCPC	Vietnam Cleaner Production Centre
WWTP	Waste Water Treatment Plant

Executive Summary

The application of the concept of Cleaner Production (CP) is that: production processes and enterprises have to be efficient to compete in the international market. Aiming at a more efficient use of services, materials and production processes, through the CP application, the resources are better utilized and the environment less charged. Therefore, protection of the environment and increased economic competitiveness are the effects of the Cleaner Production concept application.

1. BACKGROUND

The Vietnam Cleaner Production Centre (VNCPC) started its activities at the end of 1998 within the framework of the project signed by the Ministry of Education and Training and UNIDO. The project has been financed through a contribution of the State Secretariat for Economic Affairs (seco) of Switzerland. UNIDO is the executing Agency and the University of Applied Sciences of Basel acts as Swiss Reference Centre for the international transfer of know-how and technology. In Vietnam the project is hosted at the Institute for Environmental Science and Technology (INEST) at the Hanoi University of Technology, where its office and laboratories are located.

The VNCPC contributes to the promotion and divulgation of the cleaner production concept (CP) in Vietnam. Its main services to be developed and implemented in Phase II include: rapid and full CP assessments, financial engineering, clean technology assessments, sector specific training for consultants and enterprise staff, tailored courses for specific clients, training for university lectures, informational services, promotional services, policy advice and support services to service providers.

The project was divided into two phases. The second phase started officially at the beginning of 2001 and the expected completion date is foreseen for 31/3/2004. A third project phase is proposed for the period August 2004 – August 2007.

Upon request of the Swiss Government, an independent in-depth evaluation has been conducted, in order to assess the activities of the Centre in Phase II and to propose changes for Phase III.

2. KEY FINDINGS and CONCLUSIONS

Economic and environmental context

High GDP and industrial growth rates have been recorded in recent years in Vietnam and this trend is expected to continue (an average annual 7% GDP growth rate and 10-15% industrial growth rate is forecasted for the period 2002-2007). Economic reforms are gradually being implemented since 1999, including among others a gradual opening of the economy to global markets, trade liberalization, banking reform, privatisation and support to developing the SME and private sectors. These factors, together with increasing pollution resulting from increasing industrial production, will likely raise demand for CP and CT services in Vietnam.

Recent progress in analysing the state of the Vietnamese environment has shown that there are a number of serious environmental problems, including for example, land and forest degradation, serious water pollution and waste management practices which seriously impact soil and water quality. Increasing industrial production has gone hand in hand with increasing pressure on the environment, including water and air pollution, waste management and toxic chemical pollution. As a response to existing and emerging environmental challenges, reform of environmental policy and management has begun (reform of environmental authorities, preparation of new environmental

strategies and action plans, reform of environmental legislation, gradual strengthening of enforcement, development of subsidized financing mechanisms, etc.). While most of these reforms are yet only in progress, the eventual implementation of the reforms will likely raise demand for CP and CT services in Vietnam. Notably, CP already is prominently included in reform priorities.

Main findings of the evaluation

The relevance of the project in the context of the industrial production in Vietnam is still important. The basic institutional approach of the project does not need to be changed. Demand for CP and CT services has grown modestly since the 2000 in-depth evaluation and can be expected to increase over the next years. Demand appears to be higher in the south of the country as compared to the north, and is likely to be higher in the private sector and in the SME sector. The industry continues to have a strong potential to reduce environmental pollution and resource use while achieving substantial economic results through the application of cleaner production.

One year before finalization of Phase II, the VNCPC already has achieved a number of the training related goals formulated in Phase II business plan. In all other areas, the Centre is on track to achieve the goals, except the areas of financing services and service providers where goals may not be achieved.

UNIDO inputs have been of good quality and no major problems could be identified in these areas. The same can be said about the CTA inputs. The VNCPC has benefited from being part of the UNIDO NCPC network, especially as regards access to documentation, access to external consultants and sharing of experiences with other NCPCs. The networking on more concrete topics with other centers is rather inexistent.

Overall the services developed and provided by the VNCPC have been of good or excellent quality, especially considering economic circumstances and modest demand. The creation of a market for CP primarily through service providers has been more difficult than expected: while the Centre has succeeded in training service providers, it has problems to oversee the activities of service providers. Some service providers may perceive the VNCPC as competitor, provide inadequate quality in assessments, offer services at very low fee rates, etc.

Important emerging new service areas for the VNCPC include CT related services, enhanced financing services, policy advice during the reform of environmental policies, know how transfer and consulting activities abroad (e.g., neighboring countries), and re-training. VNCPCs efforts to market the CP concept in Vietnam have been good: respective trainings and networking can be highlighted, as well as the production of promotional material such as annual reports and a useful website. The VNCPC has managed to create a wide and overall functioning network, including company networks, a network with relevant authorities, a network with relevant universities, and a network with key donor institutions.

Sometimes maybe a little bit disappointing is the implementation of CP options elaborated by the VNCPC at company level. Implementation typically is rather limited to no or low costs options in good house keeping or process change. The reasons for this are manifold, but typically due to the operating environment in companies rather than due to failures in the VNCPCs assistance. Nevertheless, the VNCPC could try to put even more emphasis on enabling implementation.

There are several other donor funded CP activities ongoing in Vietnam and the VNCPC has successfully tried to coordinate and get involved in such work. In particular, the Centre got contracted to contribute to DANIDA, CIDA ad SIDA projects. Overall the Centre has gained institutional weight and undisputable credibility in Vietnam. Management and professional capacity in the Centre are well developed. Financial sustainability has improved and targets regarding income generation have been exceeded both in 2001 and 2002. However, there is still a long way to go to achieve full financial sustainability. Complementing the Centre's service areas during Phase III, continued provision of high

quality services, progress in service fee policies and continued business oriented approach will be key elements to substantially improve financial sustainability during Phase III.

3. MAIN RECOMMENDATIONS

Based on its findings, the evaluation team derived the following key recommendations for the project extension to an additional third phase:

- We recommend to carry out the proposed CP projects in the Lao PDR and Cambodia with involvement of the VNCPC.
- We support the idea that the VNCPC opens a branch office in HCMC and recommend to consider also a branch office in Central Vietnam.
- We recommend to base the Centre's existing and proposed new services as much as possible on demand for CP and CT. This will likely require strategy adjustments.
- We propose that the VNCPC reorients and refocuses more on the private sector and the SME sector. In addition we think that the VNCPC should identify companies to work with carefully with a view to selecting companies where implementation and investment is a real option.
- The VNCPC should continue to offer its policy advice services in view of ongoing reform of environmental policy and management. The Centre should lobby for this as long as the window of opportunity for reform is open.
- The VNCPC should decisively pursue a policy, which leads to highest possible financial sustainability at the end of Phase III. We also recommend that the Centre introduces accounting of consolidated accounts and financial indicators coming out of accounting (profit, turnover, etc.) to be included in the set of success indicators.
- The VNCPC should continue to seek cooperation and contracts with other donor programs in the CP area.
- We recommend that the Centre addresses current problems with achieving goals related to service providers by stronger networking, more decisively offering support services and possibly also by introducing a subcontracting policy.
- We recommend that the VNCPC enhances its financing services, including the development of a directory on CP funding sources in Vietnam, strategic cooperation with key financing institutions, services for financing institutions aimed at decreasing transaction costs, training related to financing, and better tailored support to elaborate co-financing proposals.
- As regards existing and proposed new CP/CT consulting services we recommend changes in details, including: inclusion of compliance information in assessments, inclusion of information on financial effects of implemented options, and a reorientation towards actual demand and needs of specific companies (if appropriate).
- We recommend the elaboration and wide dissemination of a CP newsletter in Vietnamese language, which would also be a forum for VNCPC's stakeholders to publish success stories and news.

I. INTRODUCTION

1.1 Concept of Cleaner Production

At the beginning of the 1990s, UNIDO and UNEP started a programme for the establishment of National Cleaner Production Centres (NCPCs) as an organized system to promote and divulgate the cleaner production concept (CP), through:

- Awareness creation
- Demonstration projects
- Training
- Policy intervention

Currently the network of the NCPCs consists of more than 20 Centres.

Cleaner Production is the application of a preventive environmental strategy regarding processes, choice of raw materials, products and services to improve eco-efficiency and reduce at the same time the negative effects on humans and the environment.

The method aims at enhancing the economic competitiveness of the enterprises improving their production processes.

In contrast to a narrow “end-of pipe strategy” at plants level, this Cleaner Production strategy aims at the following objectives:

- Regarding the choice of raw materials: to reduce the potential toxicity of the processes and of the products through the whole life cycle of the products.
- Regarding the production process: to reduce and save raw materials and energy, to eliminate toxic materials, to decrease the level of toxicity and of the amount of emissions and wastes at the end of the industrial processes.
- Regarding the products: to reduce the negative impacts along the entire life cycle of the product, from its design to its disposal.
- Regarding the services: to incorporate environmental concerns and awareness in the delivering of services. For instance reducing the quantity of water or energy in a process, if with less energy and water can be obtained the same result and the same quality, i.e. optimising the results.

To sum up, Cleaner Production requires changed attitudes, increased awareness, responsible environmental management and a deep analysis of the most suitable technological options.

The experience obtained so far has shown that the application of cleaner production can significantly improve the environmental performance of the production processes. Moreover, many of these improvements can be obtained at enterprises level with minimal or little investments, or just taking some appropriate corrective measures in the production process.

During the last two decades, the industrialized countries have started to look for answers to the problem of pollution of the environment.

“Cleaner Production” promotes the efficient use of raw materials, water and energy, as well as the removal of toxic products and the reduction of emissions and waste during the production process.

The achievement of these results does not necessarily imply the adoption of new technologies. The experience has shown that some of these improvements can be achieved practically at no costs, but just by rationalizing energy, inputs, modifications of processes and developing a better managerial culture.

After the implementation of initial “good housekeeping” options of the concept of cleaner production in the enterprises, more innovative technical improvements and managerial modifications can be introduced in a following phase, provided the management of the enterprises is ready for this further step.

1.2 Background and purpose of the VNCPC

The Vietnam Cleaner Production Centre was established in April 1998 within the framework of a project signed by UNIDO and the Ministry of Education and Training. The Centre and its laboratories are hosted at the Hanoi University of Technology, Institute for Environmental Science and Technology (INEST).

It was created as a Centre of excellence for the support to enterprises and national institutions in the field of cleaner production.

The project started its operations at the end of 1998 and the Swiss State Secretariat for Economic Affairs (seco) funds it.

The Executing Agency is UNIDO and the international counterpart institution is the Institute of Environmental Technology at the University of Applied Sciences of Basel, which acts as the Swiss Technical Reference Centre for all the activities of the VNCPC.

The strategic supervision of the project is assured through a tripartite coordination of Vietnamese Government, UNIDO and seco.

The first phase of the project was completed in March 2001, having contributed in establishing in Vietnam a solid capacity to deliver both in-plant and academic training courses on cleaner production. In March 2000 the project underwent a joint independent in-depth evaluation. The evaluation team recommended an extension of the project, suggesting some modifications to the project document in order to facilitate the application of the cleaner production concept in the Vietnamese industry and gradually progressing towards the sustainability of the Centre.

The phase II started in April 2001 guided by a three-year business plan.

Now, at two-third of the implementation of the second phase, the VNCPC has nearly completed, in some cases exceeded, the originally planned in-plant assessments and training courses tailored to a variety of institutions and factories.

The philosophy of the National Cleaner Production Centres system built by UNIDO is that an enterprise to be efficient, productive and competitive in the market, should utilize the resources in an optimal way, applying a production process, that has so much as possible a limited negative impact on the environment.

1.3 Development Objective of the Centre and expected results

The Vietnam Cleaner production Centre can be considered as the national focal point for the promotion and implementation of eco-efficient industrial production processes, utilizing appropriate cleaner technology.

The global development objective is to facilitate the application of the cleaner production in the Vietnamese industry.

As mentioned above, the Centre delivers high quality services as: awareness creation, technical cleaner production assessments, demonstration projects, financial engineering services, technology advice, training and information to industries and service providers and intervention at national policy level.

Following the modifications of October 2000 to the original project document the three immediate objectives of the project were:

- Establish a Centre capable of performing a catalytic role in building countrywide capacities in cleaner production.
- Strengthen the national capacity in implementing cleaner production techniques at the plant level.
- Create increased awareness of the advantages of CP in Vietnam.

To implement these objectives attention has been given in keeping in view the local requirements. This has been implemented, through the provision of cost effective training to industrial personnel on CP, regarding assessment and implementation, and providing expertise and advisory services, particularly in industrial specific selected sectors.

- Globally, the expected results of the Centre, in the Vietnamese context, can be sum up as follows:
- Train on the CP concept the national human resources in enterprises, industrial associations, research institutes, governmental industrial and environmental management agencies.
- Organize CP demonstration assessments in industries to promote the CP concept and adapt it to the Vietnamese conditions.
- Advise national policy-makers on CP, providing recommendations on how to promote the CP concept in industries and through legislation.
- Raise awareness on CP among industries and governmental institutions.
- Assist the universities in integrating the CP concept into their curricula.
- Co-operate with domestic and international organizations in supporting actions concerned with the preventive environmental protection.
- Advise on new technologies and subsequent investment opportunities.
- Serve as focal point in Vietnam of the UNIDO/UNEP network of national Cleaner Production Centres.

The participation in this worldwide network, with its wealth of information and expertise, allows the VNCPC to provide updated and reliable services to the enterprises.

1.4 Implementation strategy

The original project document was forecasting two phases (with an independent evaluation before the end of each phase). The first phase aimed at creating the basic infrastructure and the capacity for the

CP in the country, while the second phase had the basic goal of a widespread dissemination of the CP concept, based on the capacity built up in the first phase. For the first phase the main core of the activities was on training linked with in-plant demonstrations.

The document was giving a good overview of the national situation. The idea to develop first a capacity and then disseminating the results, based on the experiences and the capacity built, can be considered a good and successful approach.

The business plan for the first phase was not really oriented towards the real demand and was weak in identifying the different potential clients or allies.

The relation between development objective and immediate objectives was not well specified. The clients were not identified, just some potential target groups with their needs. There was no assessment concerning the willingness of clients to pay for the services received and consequently no analysis of the potential financial sustainability of the Centre. The financial sustainability was just seen as means to seek for external resources. Charging fees for the services, creating a demand, having the direct control of the quality of the services was not an element of the business strategy for the first phase.

The changes agreed upon by all the parties concerned on 6 November 2000, after the mid term independent evaluation, were reflected in the amendment to the project document.

The possible risks remained the same. They are associated to the demand for CP services from the companies, as consequence on the pressure on the companies to implement the changes (law enforcement, energy and resources pricing) and the willingness of the companies to invest in CP technology.

The business plan for the second phase reflected, updated and refined the development objective, the immediate objectives and the activities. The outputs were quantified and some indicators as annual targets were indicated.

The summary of the changes foreseen was also indicating “apart from the government, the VNCPC will also target bilateral and multilateral donors in order to ensure coordination between donors and lobby for the inclusion of CP components in general environmental improvement or industrial development projects”.

The activities planned can be sum up more specifically, as follows:

- Produce eco-assessments together with the enterprises with the purpose of integrating CP and environmentally sound technologies.
- Build capacity of local consultants / service providers in the field of eco-auditing of industries.
- Deliver information and guidance on financial instruments and engineering services for the investments of the factories in cleaner technology.
- Upon request of some international organisations advise and provide training in CP, combining national SMEs with export oriented large-scale enterprises.
- Advise and inform national policy-makers on CP. As a result, it can be said, that during these first four years of operations, the Centre has largely contributed to the new environmental strategy of the country, particularly regarding the introduction of the CP concept. The wide known reputation of the national director of the Centre has certainly helped in developing the environmental policy in Vietnam.
- Implement and advise on projects sponsored by other international organizations, either bilaterally or in the field of international environmental conventions.

The approach utilized is not just a transfer of technology, but the methodology applied is aiming at transferring the know-how. The major task of the Centre is to train the enterprises on finding the best solutions for their industrial and production problems, improving and optimising the technical processes.

The methodology is to offer an integrated service package, which includes: training, in-plant assessments, appropriate technology, advise on new technologies and subsequent investment opportunities, assistance and information on legislative policies.

The peculiarity of the VNCPC is that, unlike all other projects of Cleaner Production Centres of UNIDO, is utilizing on annual part time basis the services of a resident Chief Technical Adviser, whose employment is very useful for the efficiency of the Centre. The CTA is assuring the international relations and the technical and administrative coordination of the Centre. Possessing a sound engineering background and vast experience, the CTA knows where to ask at the Swiss technical reference institution of the project, for the necessary and appropriate expertise needed. The presence of the CTA has helped the international management of the Centre and has assured the continuous and direct contact with the donor.

Being on part time basis, the presence of the CTA is not continuous, but during planned periods of the year. In case of an extension of the project and the enlargement of the Centre's services on the country and on regional basis, covering also Laos and Cambodia, the presence and duty station of the CTA will have to be properly planned, in order to cover also other parts of Vietnam.

1.5 Purpose of the independent joint evaluation

The tasks of the joint in-depth evaluation mission are described in the terms of reference of the mission (Annex I). The evaluation team comprises all three parties involved in the execution of the project: the donor, the executing agency and the recipient country. This composition of the team assures uniformity, impartiality and the guaranty that all the different views of the concerned parties are taken into account.

The primary purpose of a joint independent evaluation is:

- To assess the achievements of the Centre during this first operational phase, against the objectives and the expected results.
- To identify the factors which have facilitated the achievements of the projects objectives, as well as the factors that have hindered the fulfilment of the objectives.
- To determine which lessons are to be learned from the existing experience, in order to improve the project activities in the further phase, with particular regard to the ability of the Centre to become financially self-sustainable.

However, it has to be noted that opinions of the evaluation team do not necessarily reflect the views of the parties nominating the evaluation members, who are acting in their own capacity.

1.6 Composition and timetable of the evaluation mission

The persons nominated to conduct the evaluation have not been involved in the design, appraisal or implementation of the programme. The observations and findings of the evaluation team are the result of this in-depth evaluation carried out in their own capacity. The views and opinions of the team do not necessarily reflect the views of the Government of Switzerland, of the Government of Vietnam or of UNIDO.

The mission was composed of the following members:

- Mr. Juerg Klarer, Managing Director of Aequilibrium Consulting, GmbH (Consulting in Environmental Finance, Economics and Policy). Representative of the Donor and nominated by the State Secretariat for Economic Affairs (seco) of Switzerland.
- Mr. Tran Minh Chi, Director of the Vietnam Institute for Tropical Technology and Environmental Protection in Ho Chi Minh City and Representative of Vietnam.
- Mr. Mario Marchich, Senior Evaluation Officer, Evaluation Services Branch, Administration Division. Representative of UNIDO.

The mission assembled in Hanoi 17 March 2003 to start its fieldwork, which was concluded on 31 March 2003. The agenda of the mission is contained in Annex II.

The preliminary findings and conclusions of the mission have been presented in draft by the evaluation team at the end of the fieldwork in Hanoi (Monday 31 March 2003) to the staff of the Centre (including its National Director and Deputy Director), the international Chief Technical Adviser of the project, the UNIDO Director in Vietnam, the representative of the Ministry of Education and training (MOET) and the representative of the Ministry of Industry (MOI).

These draft preliminary conclusions and recommendations have also been presented at seco in Berne on 9 April 2003.

All the presentations have been followed by interesting and fruitful discussions. The results of these discussions have been considered in this report.

The list of the persons met and interviewed is contained in the Agenda of the mission (Annex II).

1.7 Evaluation methodology

The report is based on:

- The Project Document dated 18 November 1997, establishing the Centre.
- All other documentation regarding the project and provided by the project parties to the evaluation team in Vienna, in Switzerland and in Vietnam.
- In-depth discussions with the project manager, with the Director and the staff of the Centre in Vietnam, the technical consultants / services providers, the members of the professional associations, the Chamber of Commerce and Industry (Branch of Hanoi and the one of Ho Chi Minh City).
- Meetings with state counterparts and high-ranking officials of several Ministries.
- Visits to several industrial plants and meetings with their managers, to discuss the problems related to the cleaner production, its application in their factories and their experience with the cooperation with the VNCPC.

Analysis of the questionnaires prepared by the evaluation team and answered by the enterprises, which were assisted by the VNCPC.

To prepare the report the evaluation team has followed the UNIDO's instructions for preparing the independent joint in-depth evaluation reports.

The team has attempted in this report to give a comprehensive image of the activities of the Centre, discussing the issues in a way, which should be helpful to the responsible authorities and the staff of the project, to further improve their present and future performance.

At the same time, the report attempts to offer to the Donor and to the Authorities concerned with the project, the possibility to have a clear, independent and objective picture of the situation, after four years of implementation of the activities.

The report should allow to the parties concerned to take a well considerate decision regarding a possible future extension of the project.

All the issues have been openly discussed and all parties concerned have agreed on most of the conclusions presented.

The majority of the observations made to the evaluation team regarding factual mistakes in the draft, or misinterpretations, have been taken into account by the evaluation team and appropriately corrected, when agreed, in the final draft.

Before the beginning of the evaluation work, the evaluation team requested the Director of the Centre to send to all the enterprises assisted by the Centre a questionnaire, in order to have a feedback on the client's satisfaction regarding the work of the VNCPC.

The valuation of the questionnaires is in Annex III and the questionnaire sent is in Annex IV.

The data derived from the management information system of the project, the questionnaire results, the interviews and the evaluators' own observations, supported by the valuable contribution given by the local national resource persons, have enabled the evaluation team to get valuable insights into the achievements of the project.

2. ECONOMIC AND ENVIRONMENTAL CONTEXT

2.1 Economic context

Vietnam has a surface of 330.363 km² and is the 14th most populace nation in the world with around 79 million (2001). A map of Vietnam is presented in Box 1.

2.1.1 Economic development since 1990

During the 1990s, Vietnam's GDP doubled and exports rose by an average 25% per year. Vietnam moved from a food deficit nation to become a food exporter for various types of food (for example, Vietnam is now the second largest exporter worldwide of rice). The poverty rate was halved from 70% to around 35% during the 1990s. As compared to the beginning of the decade, life standards have markedly improved.

Despite of the 1997/8 East Asian recession, Vietnam achieved solid growth in recent years (see table 1 for basic macroeconomic indicators for the period 1998-2001). The Vietnamese economy was nevertheless vulnerable to the crisis in East Asia, since more than two-thirds of foreign investment inflows and export earnings come from the region.

2.1.2 Economic reform programs since 1999

The government reacted to this challenge by initiating a reform in macroeconomic policy, which should also address other distortions and inefficiencies in the largely planned economy. The authorities began planning reform programs since 1999, covering banking and state enterprise reform, trade liberalization, public expenditure management, and policies for private sector development.

Box 1: Map of Vietnam



Table 1: Selected economic indicators for Vietnam 1998-2001 and forecast for the 2002-7 period

	1998	1999	2000	2001	forecast 2002-7
GDP growth (% change on previous year)	5.8	4.8	6.8	6.8	7 % p.a.
GDP, current prices (billion USD)	27.2	28.7	31.3	32.9	46 (in 2007)
GDP/capita, current prices (USD)	360	370	400	420	540 (in 2007)
GDP/capita, current prices, PPP (USD)	1,840	1,920	2,080	2,230	3,500 (in 2007)
Production structure (% of GDP)					
- agriculture	26	25	24	23	19 (in 2007)
- industry	32	35	37	38	45 (in 2007)
- services	42	40	39	39	36 (in 2007)
Industrial production (% change on prev. year)	8.3	7.7	10.1	10.3	10 % p.a.
Inflation: consumer prices, annual average (%)	7.3	4.1	-1.7	-0.4	5 % p.a.

Source: EIU, 2003 and Worldbank, 2002. Note: PPP = purchasing power parities.

Most reform programs have since been announced, but most reforms are only at the beginning of implementation. The Ninth Party Congress, held in March 2001, endorsed a ten-year Socio-Economic Development Strategy covering the 2001-2010 period. This Strategy lays out a path of transition

towards a “market economy with socialist orientation”. It commits Vietnam to full openness to the global economy over the coming decade, and the creation of a level playing field between state and private sectors.

Also employment considerations will continue to play an important role in economic policies of Vietnam in the future: The average population growth rate in the period 1995-2001 was 1.5%. The labor force growth rate in the same period was 1.7%. The working age population is forecasted to increase from 51 million in 2001 to 58 million in 2007 (EIU, 2003).

2.1.3 Trends in industrial production and private sector development

High growth rates were recorded in industrial production in recent years. The non-state sector industrial output rose by 19.2% in 2002, outpacing state-sector output (which grew by 11.7%) and output from foreign-invested enterprises (which rose by 14.5%). This is likely the result of the policy shift towards developing and improving the conditions for the private sector. The special meeting of the Central Committee of the Party in March 2002 noted that attitudes towards private enterprise and profit need to be changed, SMEs need to be proactively given access to credit, land, information and other services, and noting the role of the Government in promoting a more pro-private sector environment.

Continued efforts in implementing this policy shift will likely show further results. Since the adoption of the Enterprise Law in January 2000 the number of domestic enterprises has more than doubled - from less than 30,000 to more than 60,000. Employment in SMEs also appears to have doubled, domestic private investment has risen by 3% of GDP, and the share of formal credit going to the non-state sector has risen to an all-time high of over 60%. About 1,600 new businesses are registered every month.

The government is pushing hard to advance enterprise reform and deadlines have been set for 2005 (for example, one goal is to reduce the number of SOEs from around 5,600 at present to 2,000 by 2005). By then ministries and provincial authorities are expected to have completed the equitization, sale or merger of designated state enterprises. Even though progress is likely to be made in meeting equitization and other targets, further restructuring will be necessary to ensure productivity gains are forthcoming in enterprises partially, or totally sold off.

At present, however, the equitization (privatization) process, is advancing rather slowly. Firms are not obliged to equitize and resistance is strong among directors, managers, workers and some ministries and local governments. The positive performance of enterprises that were equitized prior to 2001 has not persuaded many other firms to follow suit, probably because the more problematic cases have yet to be equitized (EIU, 2003).

Vietnam’s privatization policies represent a window of opportunity to simultaneously achieve economic efficiency gains and environmental protection gains: opportunities include industrial modernization, improving productivity, replacing obsolete technology and updating working methods. CP and CT investments could be promoted and implemented during privatization processes. It is likely that this window of opportunity can only be effectively used, if the “professional environmental lobby” (including the VNCPC) manages to convince previous and new owners of companies under privatization about the benefits of addressing environmental issues. This requires the development and implementation of realistic and affordable solutions and services. Experience made in Eastern European transition countries in recent years could be valuable in this respect.

2.1.4 Trends in foreign trade and FDI

In 2002 the USD value of merchandise exports of Vietnam increased by 10% to USD 16.5 billions. Merchandise imports rose by 20.6% to USD 19.3 billions. Major types of exported goods included crude oil (20% of total exports), textiles and garments (16%) and marine products (12%). The leading export markets were Japan, Australia, China and the USA. Major types of imported goods included cloth and fabrics (15% of total imports), refined petroleum (11%) and steel (7%). Singapore, China, Japan and South Korea were leading the import statistics. About 25% of total Vietnamese exports went to EU countries and around 10% of imports into Vietnam came from EU countries. Both exports to and imports from Switzerland were below 1% of totals.

Vietnamese exports to Switzerland steadily grew from 6 million CHF in 1990 to 157 million CHF in 2001. Swiss exports to Vietnam grew from 3 million CHF in 1990 to 103 million CHF in 1997, then fell back to around 80 million CHF after the East Asian financial crisis and reached again 100 million CHF in 2001. In 2001, the main type of goods exported from Switzerland to Vietnam were machines (34% of total exports), pharmaceutical products (26%) and chemical products (21%). The main type of goods exported from Vietnam to Switzerland were shoes (35% of total exports), agricultural products (21%), textiles and clothes (13%) and watches (9%).

FDI into Vietnam increased sharply in the early to mid-1990s as liberalizing reforms were introduced. Average annual inflows rose from USD 128 millions in 1989-91 to USD 2.1 billions in 1994-99, peaking at USD 2.4 billions in 1995-96. In 1998-2000, inflows declined, partly because of the 1997-98 Asian crisis. After falling to USD 1.3bn in 2000-01, FDI inflows picked up to an estimated USD 1.5 billions in 2002. The stock FDI totaled about USD 16.6 billions (47% of GDP) in 2002. Around 70% of FDI comes from other Asian countries. Over the last ten years, the leading investors in Vietnam have been (in order) Singapore, Taiwan, Hong Kong, Japan and South Korea. A new trend in FDI is increasing Chinese investments in Vietnam.

With 525 millions USD FDI in 22 projects, Switzerland occupies the 15th position overall and is the fourth largest European investor country (after France, Great Britain and the Netherlands) as of 2001. The majority of Swiss FDI has been made in the construction sector, the food sector and pharmaceuticals sector. According to official statistics, Swiss FDI has so far created around 1500 work places in Vietnam.

2.1.5 Economic forecast until 2007

According to the Worldbank, the economic outlook for Vietnam continues to improve (Worldbank, 2002): The gradual implementation of the economic reform program has improved business sentiment and put Vietnam on a healthier medium-term growth trajectory. However, the implementation of the ambitious reform agenda needs to be advanced for sustaining investor confidence and promoting faster growth. The Worldbank expects Vietnam to reap the full benefits of the reforms after 2003, with annual GDP growth expected to reach or exceed 7%, supported by annual export growth rates of 10-15%. The prospect of entry into the World Trade Organization (WTO) by 2006 likely will ensure that the pace of economic and administrative reforms will be accelerated in the next three years.

Also the EIU forecasts average annual GDP growth rates of 7% in the period 2002-2007 (see table 1). According to EIU, the GDP could grow around 60% from 2002-7 while industrial production could grow by some 80% in the same time period. Major elements of EIU's economic policy forecast for Vietnam to the year 2007 are summarized in box 2.

Box 2: Economic development forecast for Vietnam to the year 2007 (according to EIU)

- Economic growth is forecast to strengthen during 2003-7, exceeding that of the period 1998-2002. Vietnam will benefit from rising world trade growth, buoyant commodity prices and higher levels of foreign investment.
- Policy towards private enterprise and competition. 2003-04: Preferential treatment for the state sector will be limited to a smaller core of “strategic” firms. Partial privatization will pick up speed. 2005-07: Competition will increase gradually as a result of changes required by regional and global trade organizations.
- Policy towards foreign investment. 2003-04: Policy will remain open to foreign investment in non-strategic areas. Despite new incentives, red tape will remain an obstacle to foreign investment. 2005-07: Restrictions on foreign investment will continue in some strategic or saturated sectors. Red tape will remain.
- Foreign trade and exchange controls. 2003-04: Trade barriers and tariff levels will come down in line with commitments under the US trade accord and the Association of South-East Nations (ASEAN) free-trade area (AFTA). Foreign-exchange controls will gradually be eased. 2005-07: Trade barriers will continue to fall.
- Financing. The quality of financial regulation will remain poor, and political interference in bank lending decisions is unlikely to cease. However, some progress towards creating a more robust banking sector is likely to be made. 2003-04: The banking system will remain tightly controlled by the government. 2005-07: Bank finance availability will improve. Banks will be able to make more loans in dong.

Source: EIU, 2003 with some modifications.

2.2 Environmental context

2.2.1 Main environmental problems in Vietnam

The 2001 State of the Environment Report of Vietnam identified 6 key environmental issues, which can be summarized as follows¹:

- Land degradation. Around 50% of Vietnam’s land resources are classified as “problem soils”. Most of this land degradation has been attributed to natural and socio-economic conditions and deforestation. Problems include soil erosion, depleted soil fertility, salinization, acidification, contamination, desertification, etc.
- Forest degradation. The forested land area declined from 14.3 million ha in 1943 to 9.6 million ha in 1999. Causes of deforestation include over-logging, forest fires, war damages and shifting cultivation. A 5 million ha reforestation program has been launched.
- Biodiversity loss. Vietnam is regarded as one of ten centers of high biological diversity in the world. However, diversity of fauna and flora species is threatened by over exploitation, habitat disturbance and unsustainable use of biodiversity resources. The number of threatened species is gradually increasing.
- Water pollution. Accelerated urbanization and industrialization have resulted in a growing water demand and increasing amounts of wastewater produced. Water supply is insufficient in many areas of Vietnam and leakage from supply pipelines has reached around 40-50% in average. With few exceptions, wastewater from households and industry is being released directly into receiving water bodies without prior treatment. This is creating serious water contamination, for example in Hanoi, Hai Phong, HCMC, Viet Tri and Bien Hoa. Increasing

¹ The information is based on the Vietnam INFOTERRA Newsletter, issue No 3, July/Sept. 2002.

groundwater extraction in various areas has resulted in a collapse of groundwater resources (e.g., in Hanoi city). Except for rivers in Central Vietnam, most of the rivers sampled do not fulfill the National Class A Water Resource Standards. In a number of cases, river water pollution is very serious. There are numerous cases of coastal water pollution.

- Air pollution. Dust pollution has reached alarming levels in most of Vietnam's urban areas. SO₂ concentrations are above the permitted levels in certain industrial areas. Lead pollution is reaching permitted levels at places with heavy traffic. GHG emissions are low in comparison with other countries.
- Waste management. The collection rate for solid waste is low with an average 40-70% throughout the country. In some cities, only 20-40% of waste is being collected in an organized way. If collected, solid waste is being dumped. Existing dumpsites are not properly designed and with few exceptions do not fulfill sanitary requirements. There are no treatment facilities in Vietnam for hazardous waste. Industrial solid waste is typically dumped together with municipal solid waste.

Main problem areas of industrial pollution include water pollution, air pollution, solid waste management, noise pollution, radiation and toxic chemical pollution. In addition, more rational and efficient use of natural resources is a major issue in the context of industrial development. The pressure on the environment caused by industrial sources will likely continue to increase, especially if the forecasted 10%/a growth rates of industrial production will actually be realized.

With a total of 18 stations, Vietnam has an environmental monitoring system in place, which according to a report of the National Environmental Agency (NEA) covers 40 out of a total of 61 cities and provinces². These facilities used to monitor water, air and noise pollution, as well as waste discharges and radioactivity. According to the NEA report, these stations are obsolete and inappropriate to properly monitor and assess pollution from industrial enterprises. Overall, information from the monitoring system appears to be rather unreliable.

2.2.2 Trends in environmental policy and law

The two main pieces of environmental law currently in force in Vietnam is the 1993 framework Law on Environmental Protection and the 1998 Water Law. The Law on Environmental Protection outlines the framework for environmental management in Vietnam. Compared to international experience, however, the law is rather vague and lacks many elements of modern environmental legislation. Much of (the ideally more concrete) secondary environmental legislation appears to be missing yet. Strengthening environmental legislation and filling legal gaps in key areas should be a high priority for environmental authorities and the government.

Enforcement of environmental legislation is said to be rather weak which may be because of the vague and incomplete legal basis, capacity constraints of authorities and possibly also because of limited political pressure to properly implement environmental law and policy. Several companies met during the evaluation mission mentioned, however, that enforcement has been picking up in recent years, which may be attributed to the fact that environmental pressures are gradually increasing and the understanding of the true extent of pollution is increasing too. In addition, authorities began to realize that continued strong industrial growth and population growth will further aggravate environmental problems. Foreign aid has contributed significantly to the better understanding and the gradual awareness raising on environmental problems.

² The information is derived from an article published by the Vietnam Economic Times dated April 11, 2001, reproduced on the website of the Communist Party of Vietnam (original information from the 2000 State of the Environment Report prepared by the National Environmental Agency, NEA). See: http://www.cpv.org.vn/studies/towards/theopracissrenovation/docs/5_vnenvironmentalprotection.htm

A number of national environmental strategies have been prepared in the past 10 years. In 1986, the National Conservation Strategy was prepared. In 1991, a ten year National Environmental Plan for Sustainable Development was adopted. In 1995, the National Environmental Action Plan and the Biodiversity Action Plan were prepared. Currently, the Ministry of Natural Resources and Environment and is preparing a second ten year National Strategy on Environmental Protection, covering the period 2001-2010. This Strategy has not been adopted yet. Environmental strategies so far lacked cross-sectoral support and integration with economic and social policies. As a result, these strategies typically lacked realistic implementation plans (especially financing strategies which would allow for full and timely implementation were lacking).

In December 2000, the Ministry of Science, Technology and Environment together with the National Environment Agency prepared a draft “National Action Plan of Cleaner Production 2001 – 2005³”. The VNCPC had been contributing to the elaboration of this Action Plan. This Action Plan is a comprehensive and well-prepared document, the implementation of which would certainly advance CP in Vietnam. One weakness of the Action Plan is that no strategy for the financing of the various proposed actions is elaborated.

Box 3 summarizes key environmental policy recommendations made by the Worldbank in its new Country Assistance Strategy for Vietnam.

Box 3: Policy recommendations for Vietnam as seen by the Worldbank for the period 2003-2005

- Continue implementation of Decision No. 104 issued by the Prime Minister on the National Strategy for Rural Hygiene and Clean Water to the year 2010.
- Approve and implement the National Strategy for Environmental Protection (NSEP) 2001-10. Strengthen capacity in government agencies at the central and local level for environmental assessments. Improve environmental monitoring and disclosure of environmental data.
- Limit and roll back the environmental degradation in industrial zones and densely populated areas in cities and rural areas.
- Strengthen education, mobilization and control of environmental hygiene with respect to animal breeding at the household level and at the large-scale level and in craft villages.
- Supplement, complete and develop new legal normative documents to provide concrete guidelines for implementation of the Water Resource Law, Environmental Protection Law and other legal management documents. Expand the range of regulatory instruments and incentives for pollution reduction.
- Build construction works to clean the environment such as wastewater and rubbish treatment stations, dust and noise treatment facilities in cities, townships. Develop auto-disintegrative latrines in rural areas. Improve the quality of natural resource management with respect to the poor, who mainly depend on natural resources for their livelihood. Develop the framework to enable community participation in natural resources management.
- Encourage the use of biogas in rural areas and develop solar, wind energy and other energy resources.

Source: World Bank, 2002 with some modifications.

A sign for an increased political will to address environmental problems in Vietnam may be the creation of a new Ministry of Natural Resources and Environment in 2002. There appears to be a general agreement that environmental authorities at national, regional and local levels need to be further strengthened in terms of institutional arrangements, human resources as well as physical and technical infrastructure.

³ See Annex V for a summary of the 2001-2010 NEPS.

2.2.3 Environmental financing and economic incentives in environmental policy

An environmental financing system is emerging in Vietnam and environmental authorities have recognized that it needs to be further developed. There already is (limited) supply of environmental finance. The problem, however, rather is that demand for finance is still rather weak, largely because of the above-mentioned problems (weak legal basis, weak law enforcement, limited capacity, etc.).

Already existing sources of environmental finance include, for example: a soft loan program of HIFU in HCMC; a loan interest subsidy program of DPI in HCMC; at least one leasing company in HCMC; there appear to be regional environmental funds under DOSTE in Hanoi and HCMC; loans from selected commercial banks (commercial loans often are unattractive to companies, however, as interest rates remain rather high and long term finance appears to be difficult to get); project finance available from donors. In addition, a new SME credit guarantee facility is proposed to be set up in near future on the proposal of Vietnams Chamber of Commerce (VCCI) – the “professional environmental lobby” (incl. VNCPC) could lobby for having environment related projects eligible for support in such a new facility.

A major new player in Vietnams environmental financing system could be the proposed new National Environmental Fund. Apparently the legal basis for such a Fund has been created in June 2002 by Government decision (NACESTID/UNEP, 2002). According to the information collected during the evaluation mission, this Fund has not yet been made operational. In line with the priorities laid down in the proposed new “National Strategy on Environmental Protection 2001-2010” and the draft “National Action Plan of Cleaner Production 2001 – 2005”, the new National Environmental Fund could offer a specific financing line for CP investments. It should be noted that national environmental funds have been important policy instruments in transition countries – the experience gained in these countries on how to best design and operationalize such a fund should be extremely useful for the Vietnamese authorities.

Other financial and economic incentives in environmental policy appear to be weak or non-existing in Vietnam. However, as the evaluation team learned, there is interest to design and introduce new pollution charges (e.g., on wastewater effluents), which could help capitalize the proposed new National Environmental Fund. Again, it could be recommended to take advantage of experience made in transition countries when it comes to implementing such plans. In addition, an option could be to also consider product charges (product charges often can be administered and implemented more easily than pollution charges).

The draft National Action Plan of Cleaner Production 2001 – 2005 mentions the need to introduce new economic incentives, including fee and tax incentives (see Actions 14 and 15 in the Action Plan). The Action Plan, however, does not detail which type of concrete instruments should be introduced. Thus, the options (e.g., tax allowances, accelerated depreciation, subsidy programs, pollution fees, product charges, etc.) would have to be further investigated by the relevant Ministries.

As regards existing incentives, it appears that the only instruments currently in force are user charges (e.g. on water and energy products) and fines, which can be levied by Environmental Inspectorates in cases where environmental legislation has been violated. Judging from what the evaluation team learned during the evaluation mission, environmental fines – if levied at all - typically do not have a tremendous financial impact on the enterprises fined, rather they are perceived as detrimental for the company image.

Water user charges apparently are low, if levied at all. An improvement of the charge system and increase of charge levels appears to be imperative, especially if capital investments necessary for building new infrastructure and upgrading existing infrastructure are considered. As there will be

limitations in raising water use charge due to affordability concerns, it would be recommendable that the authorities consider the preparation of financing strategies prior to planning new infrastructure investment.

As regards energy prices, the evaluation team collected some information on electricity pricing: Most price controls were abolished at the end of the 1980s, but a few remain, notably electricity prices (EIU, 2003). As of spring 2003, regular electricity prices were about 5 –6 US cents / kWh (up to 9 US cents / kWh in peak time). This corresponds to electricity price levels found in Eastern Europe at the end of the 1990s (see Klarer, 1999 – electricity price levels in western Europe were about 15-20 US cents in average at the end of the 1990s). If purchase power parities are taken into account, in fact these price levels are quite high in relative terms. However, in order to realize (expensive) new infrastructure investment, the prices would likely have to be further increased.

Expanding domestic consumption and rising industrial activity will push up the demand for energy. Energy consumption is expected to raise around 20 % in the period 2002-2007 (EIU, 2003). The state-owned electricity company has stated that investment for electricity development needs to reach around USD 22.5 billion over the next seven years to meet demand (EIU, 2003). Electricity demand in particular will likely continue to grow significantly in the next years (in both 2001 and 2002, electricity demand increased by around 15%). To support energy investments, the government will need to hike the price of electricity further, to an estimated 7 US cents per kWh by 2005. International donors have been pressuring the government to increase prices in order to raise funds for the development of the industry, but the government has faced resistance from politically influential users, particularly loss-making state-owned enterprises. Local enterprises also want energy costs to remain low in order to maintain competitiveness (EIU, 2003). In the context of the CP services offered by the VNCPC, increased electricity prices would likely result in higher demand for solutions which allow for reducing electricity consumption.

3. ANALYSIS OF THE IMPLEMENTATION

3.1 Relevance

According to the terms of reference for the 2003 VNCPC evaluation, this chapter aims at analyzing the following issues:

- Has there been any development in the demand/need for CP services in the country?
- Is the concept of establishing the Centre as the country's focal point for CP the best strategy to support the application and dissemination of CP?
- Are the chosen strategies and target groups correct or should CP be promoted with different strategies or should other target groups be selected?

3.1.1 Trends in demand/need for CP

The VNCPC evaluation carried in 2000 stated that demand for CP was rather weak. Our assessment is that demand has recently been evolving in specific areas and overall, demand could increase substantially in the mid term. The following observations lead to such a conclusion:

- The gradual opening of the Vietnamese economy has likely resulted in increased demand for CP in specific export oriented companies and companies in supply chains to export or foreign companies.
- Recorded high industrial growth has resulted in growing pressure on the environment and with that the awareness that environmental policy needs to be improved has increased. First signs for this include the preparation of a new environmental strategy, the preparation of a CP Action Plan, the proposal of new economic and financial instruments and the strengthening of environmental authorities. Enforcement of environmental law has apparently picked up recently, according to statements made by companies visited during the evaluation.
- Industrial growth and accompanying increased environmental problems has also resulted in industrial relocation programs, from residential / mixed areas to industrial parks. Companies are reluctant to move because of costs and may only be able to stay if environmental problems are solved. There may well be demand where costs for addressing environmental issues are lower than costs to move.
- In terms of recent economic reforms, the Government is now more open to private sector development and SME development. Especially in Southern Vietnam, these two sectors appear to develop dynamically. They are likely more flexible and market oriented than larger SOEs. Thus, demand for CP will likely be higher. The VNCPC has already worked with private SMEs and the results and implementation were very good. Typically, there are also shorter and less bureaucratic decision making paths in SMEs and private companies than in SOEs.
- We have learned about the existence of so called "black lists" featuring major industrial polluters in a specific region. Several DOSTEs appear to have such lists and focus on addressing environmental problems of these companies. Since these companies are under pressure from authorities, they may have real demand for CP services offered by the VNCPC.

Taking into account forecasts for economic development and started work on environmental management on national level as discussed in chapter 2, the above mentioned trends will likely continue and even pick up during Phase III. We therefore suggest that the VNCPC closely observes and analyses demand development and reorient its services primarily to companies with demand. We also suggest a reorientation towards the emerging private and SME sectors, as companies from these

sectors typically are more flexible and can implement options without going through complicated decision making structures.

3.1.2 Overall strategic and institutional approach

The concept of having a CPC as the country's focal point for CP has been a useful and effective strategy. The following factors support such a statement:

- The CPC has been contracted and used by various donors for specific work (including DANIDA, CIDA, SIDA). One reason for this is that the VNCPC has gained significant institutional weight and expertise.
- Companies visited during the evaluation mission referred to the CPC as an organisation which provides useful expertise and knowledge. The VNCPC has thus a high credibility.
- The CPC offers a quite comprehensive set of services to be completed with CT services and (ideally also) enhanced financing services in Phase III. With these two areas strengthened and the already existing service areas continued, the CPC could truly become a “one stop shop” for CP/CT solutions in Vietnam.

By bundling expertise and know how in one organisation which is designed to continue its operations beyond the seco/UNIDO support, the CPC can be seen as a long term partner for companies and policy makers.

We underline the desirability of opening a regional branch in Southern Vietnam (HCMC) and maybe also Central Vietnam. Of course, the CPC has already been active in the South and Centre of the country, but companies visited in HCMC and Nha Trang indicated, that they would prefer to have more direct access to the VNCPC. An office in HCMC would certainly bring additional benefits and value added, including:

- The Centre would be closer to clients, regional authorities and financing sources of Southern Vietnam.
- Personal contacts could be built and maintained more easily. Networking would be more effective.
- The Centre would have a stronger presence in a region where demand may develop (more) dynamically than in the Northern part of the country.

3.1.3 Strategy and target groups

So far, the CPC has focused on one sector per year (target sectors so far: the textile industry, the pulp and paper industry and the metal finishing sector). We support this approach, as it allows to develop expertise and exchange know how in one sector and focuses resources. The feedback from companies visited was also positive: they found it interesting and useful to meet and cooperate with other companies active in the same sector.

In view of the finalisation of seco support after Phase III (i.e. after 2007) we would suggest that the VNCPC continues with this approach and chooses each year a new sector so that it has solid expertise and a network for up to 7 sectors when seco support will come to an end. This broad knowledge and contact base should contribute to the VNCPC's sustainability after 2007.

It appeared to the evaluation team, that the CPC's strategy to choose companies to be included in a new cycle every year was so far, not guided by entirely clear criteria. As we were told, at the

beginning of a cycle the CPC sends out letters to a multitude of companies. Companies which respond with interest are being visited then and may get selected or not. We would propose to:

- Elaborate a set of selection criteria which allows for more transparent and targeted company selection;
- Get more active in marketing the CPCs services in regions / sectors where demand is emerging or existing (see also section 3.1.1.);
- Refocus on private companies and / or SMEs.

3.2 Efficiency

According to the terms of reference for the 2003 VNCP evaluation, chapter 3.2 aims at analyzing the following issues:

- Has the Centre reached the goals set in the project document and in the business plan?
- Have the inputs provided by UNIDO (expertise, training) been of good quality?
- How useful was the employment of a Chief Technical Advisor?
- Has the Centre benefited from being part of the NCPC programme/network?

3.2.1 Achievement of goals set in the project document and business plan

Table 2 contains a summary of planned and achieved success indicators of the VNCP as featured in the Phase II Business Plan of November 7, 2000, and the project monitoring reports prepared by VNCP for the years 2001 and 2002.

Table 2: VNCP's Annual Targets 2001-2003 (target vs. achieved)

Area	2001 target	2001 achieved	2002 target	2002 achieved	2003 target	2003 achieved	accumulated target	accumulated achieved (end 2002)
1. Direct in-plant assessments	8	5	8	11	10	n.a.	26	16
2. Indirect in-plant assessments	10	25	25	21	45	n.a.	80	46
3. Service providers	5	7	7	7 to 9	10	n.a.	10 ³	-
4. Rapid assessments	10	4	10	10	10	n.a.	30	14
5. Cleaner Technology implementations	2	3	4	5	6	n.a.	12	8
6. Implemented Finance projects	2	2	4	1	6	n.a.	12	3
7. Sector specific training ⁴	210	299	210	433	210	n.a.	630	732
8. Tailored courses for a specific client ⁵	50	582	50	274+120 in Laos	50	n.a.	150	856 + 120 in Laos
9. Special skill training ⁶	90	110	90	64	135	n.a.	315	174
10. University lecturer training ⁷	60	0	60	172	0	n.a.	120	172

³ Not cumulative since all current service providers, old or new, are counted as long as they realize, during the year they are being monitored, a minimum of 5 CP assessments.

⁴ Person days of training.

⁵ Person days of training.

⁶ Person days of training.

⁷ Person days of training.

As can be seen from the table, the Centre has managed to exceed the quantitative training targets already at the end of 2002. The only exception is the special skills training, where the Centre is on track if the 2003 targets can be achieved. The Centre is also on track as regards all other indicators (the work intensity for 2003 is higher, however, as compared to previous years, and achievement of the targets may thus be more difficult), except for “rapid assessments” (item 4) and “finance projects” (item 6).

In case of “rapid assessments”, there has apparently been little interest from company side and the VNCPC has more effective promotional tools.

In case of “financing projects”, the Centre already has assisted with elaborating 8 proposals, based on a standard UNEP procedure (situation March 2003). However, 5 of these proposals are still pending. One proposal was contracted by the Environmental Fund of the HCMC People’s Committee (contract comprises USD 42’800). In the two remaining cases, proposals were elaborated but the respective companies eventually decided to implement these investments with 100% own resources (therefore, these two cases should not be listed in the success indicators, in fact). In sections 3.3.3 and following sections, we will discuss financing services and proposed measures in more detail.

In addition to the quantitative success indicators, the Phase II business plan and the 2000 amendment to the project document also define more qualitative goals. The VNCPC has or is on track to achieve all these goals except for one area, where achievement is not sure. This is the establishment of a market for CP services in Vietnam, which basically works through service providers, and, the provision of support services to service providers. These issues and proposed measures are discussed in more detail in section 3.3.2.

It is important to note that:

- the VNCPC was ISO 9001 and 14001 certified in January 2002;
- the actual income generated both in 2001 and 2002 exceeded the goals set in the business plan;
- apart from overall successful activities in the core areas consulting and training, the VNCPC has also produced good results in information and awareness raising, as well as policy advice.

3.2.2 Assessment of inputs provided by UNIDO

We did not come across any important criticism on UNIDO inputs to the project. The cooperation between VNCPC, the CTA and UNIDO headquarters (including the responsible Project Manager at UNIDO headquarters) apparently is very positive. Cooperation between VNCPC and the UNIDO office in Hanoi appears to be good too. No major problems were reported to us as regards external consultant inputs to VNCPC’s work provided by UNIDO. Mr. Gupta’s work in the textile sector was lauded by several textile companies met.

It appears to us that the presence of the CTA at the VNCPC has reduced somewhat the importance of the Reference Centre to the project (if compared, for example, with the role an RC is playing in other UNIDO/seco CPCs). The bigger part of the RC’s tasks in Phase II still have to be performed, which does not allow for a full assessment of the RC’s input so far. We think that once the RC’s input is more complete and before Phase III is being started, the RC’s input and the role should be assessed and discussed. Necessary amendments on its role in Phase III should then be included in its new TOR for Phase III. These TOR should define the RC’s input as concretely as possible. In line with our recommendations related to financing services, we believe that the RC should ideally provide, among others, also specific inputs to enhance and further develop the VNCPC’s financing services.

3.2.3 Assessment of CTA

In our opinion, the use of the CTA in Phase II can be considered useful and successful. With Mr. Leuenberger, an experienced, and fully committed CTA was available to the VNCPC. Even if (at least initially) some project partners may have had concerns whether the resources needed for the CTA should not better be used for actual project work in companies, we believe that the benefits of the actual work of the CTA has clearly outbalanced the cost argument. A number of these benefits could be summarised as follows: 1., the CTA has been helpful for smooth project coordination with UNIDO; 2., companies apparently tend to get convinced about the usefulness of CP easier by the CTA as compared to Vietnamese experts; 3., the CTA “knew what to do” – no trial and learn phase was necessary, contributing to VNCPC’s credibility from the very beginning; 4., the CTA’s management support was very useful; 5., the CTA helped with smooth communication and coordination with donor representatives; 6., the CTA had the contacts to choose suitable external consultants, and 7., the CTA was helpful in implementing the business plan in time and according to expectations.

In principle, we support the continued use of CTA for Phase III. As we think that in view of the longer term sustainability of the VNCPC, the CTA should not have a too dominant position in project management, we suggest that the CTA is gradually shifting management responsibilities to Vietnamese management members, especially in those areas which are well developed and introduced by now. The CTA should primarily have the task to assist with the establishment of new activities and services of the VNCPC in Phase III, including for example, the establishment of a branch office in HCMC, the proposed new CT services, the proposed CP work in Laos and Cambodia, and the enhancement of the VNCPC’s CT and financing services.

3.2.4 Usefulness of VNCPCs participation in UNIDO’s NCPC network

In principle, the VNCPC benefits from being part of the UNIDO NCPC programme/network, especially by exchanging experience and know how at the regular NCPC network meetings. According to the VNCPC, useful is the presentation of new issues and themes with presentations of experts and discussions at such network meetings. We suggest that VNCPC identifies and formulates specific topics, which would be most interesting for the VNCPC’s work and presents these ideas to UNIDO. UNIDO could then arrange for the discussion of such topics among interested and relevant CPCs (and external experts) including experience and know how exchange.

3.3 Effectiveness

According to the terms of reference for the 2003 VNCPC evaluation, chapter 3.3 aims at analyzing the following issues:

- Which services of the Centre are most used (information, training, technical advice/CP assessment, policy advice, ...)?
- To what degree do the CP assessors trained by the center actually conduct CP assessments?
- After four years of operations, which new/additional services are evolving, especially in the field of transfer of cleaner technology?
- To what degree does the Centre manage to market the CP concept through cooperation with other organizations/consultants/universities,?
- How good is the quality of the services provided by the VNCPC, by the consultants trained by the Centre, and by other institutions providing these services?
- How extensive is the VNCPC’s network in Vietnam?

- How are the services offered by the Centre perceived in comparison to the services given by other service providers?

3.3.1 Service providers trained by the VNCPC

While the consulting services performed by the VNCPC can be assessed as overall very good, very little information was available to us about the quality of services performed by service providers trained by the VNCPC.

While the CPC has trained numerous persons / institutions who could become or be considered as service providers, it turned out to be difficult to oversee the activities of service providers. Some are not willing or interested to share information with the CPC, some see the CPC as competitor, there may be price dumping, the quality of services provided may not always be adequate, etc.

We basically suggest two options to address these issues:

- The VNCPC is developing much stronger networking with service providers, including regular meetings, re-training and support services to service providers (the latter essentially as described in the Phase II business plan). Important is also to formally inform service providers in the first place that they are considered service providers by the VNCPC and that the VNCPC aims to integrate them in its business strategy.
- As option 1 may not be sufficient to resolve the problems, we suggest to VNCPC to consider also subcontracting of service providers. Subcontracting would allow for direct quality control, intervention and may help stabilizing fee policies pursued by the Centre. However, such a subcontracting strategy would require the VNCPC to offer clients to service providers, that is companies with a demand for CP assessments and a willingness to implement CP options. This would be a new function of the VNCPC which may, however, be easily achieved if the proposed reorientation towards demand driven services with focus on private sector and SMEs is being implemented. Inevitably, such a subcontracting strategy would require additional work in preparing, negotiating and servicing contracts.

3.3.2 Emerging new service areas for the VNCPC

In line with the information collected and analysed during the evaluation, we would point out the following emerging new service areas for the VNCPC:

- Services related to CT, whereas we fully support the proposals made related to new CT services in the draft business plan for Phase III.
- Enhancement of financing services with a focus on services which help increasing the number and volume of CP/CT investments in assessed Vietnamese companies.
- Lobbying for and implementation of more CP/CT policy advice projects, now that there appears to be a “window of opportunity” to further develop and strengthen environmental policy, law and management in Vietnam.
- Know how transfer and consulting services abroad, especially through the proposed CP projects in Laos and Cambodia, with a view that the VNCPC can gain experience in working outside Vietnam (future contracts for work abroad will contribute to financial sustainability of the Centre).

- Re-training of selected service providers, the VNCPC staff, maybe also key government officials and university lecturers with a view to continue to transfer latest knowledge and know how to the core members of the “CP family” in Vietnam.

3.3.3 Assessment of the VNCPCs efforts to market the CP concept

Based on the analysis of the information collected during the evaluation, we think that the VNCPC overall is doing a good job in marketing the CP concept in Vietnam.

The annual reports prepared and distributed by the VNCPC are an important product for marketing. The 2001 and 2002 annual reports were well structured, informative and useful for marketing purposes. We have only few suggestions which VNCPC may want to consider when preparing future annual reports, they include:

- There is potential to further improve design and layout of text and graphics
- VNCPC may want to add a few success stories on the implementation of CP in specific companies. This could be done in text boxes.

Other important marketing tools produced and used by the VNCPC are various information leaflets, and the VNCPC’s website. All these are well prepared, but will need to be updated to take account of new services offered in Phase III. The VNCPC’s website may become a more important tool with increasing internet use to be expected in Vietnam. Accordingly, the VNCPC should continue to upgrade and develop its website. On the website too, it may be useful to present continuously success stories on implemented CP options in companies.

The VNCPC was featured already some times in Vietnamese TV. This, of course, is a very positive development and shows the interest in the VNCPC’s work and indicates that the VNCPC has a certain institutional weight by now.

Through its various specific trainings and numerous awareness raising seminars (reported in detail in VNCPC’s annual reports and project progress reports), the VNCPC is marketing the CP concept to numerous specific groups (companies, authorities, VCCI, university lecturers, specialized institutions and consultants). In the period of 1999-2002, a total of some 1150 persons participated in VNCPC awareness raising seminars alone. It was our impression that more awareness raising and promotional training may be useful with key representatives of the Ministry of Industry (specific officials in charge of preparing and allocating subsidies and financing for industrial projects and the Ministry of Industry’s “Investment Consulting Centres”), representatives of the Development Fund under MPI, and emerging new SME and private sector associations and service centres.

In order to have an instrument for maintaining the continuously increasing company network the VNCPC has worked with, and for exchanging latest information and success stories, we suggest that the VNCPC starts preparing a regular CP newsletter (in Vietnamese language), which could be widely distributed within Vietnam. Apart from VNCPC’s own contribution, such a newsletter could also feature contributions from companies (e.g. about their experience and efforts to implement CP), authorities (e.g. news on legislation, strategy and management related to CP) and any other stakeholders of the VNCPC.

3.3.4 Assessment of the VNCPCs network

As regards networking, the VNCPC has managed to build up extensive and good networks in several areas, including:

- A quite extensive network of companies from numerous sectors - this network is constantly increasing with every new company serviced by the VNCPC.
- A comprehensive network with all relevant authorities on national level and many authorities on regional level.
- A network with relevant universities.
- A network with several specialized expert/technical institutions
- A network with the main donors active in Vietnam and interested in CP.

In addition, the VNCPC has built up a service provider network. This network could be further improved (see section 3.3.2).

It will be important to continue these networks in Phase III. In two specific areas we suggest to expand and upgrade networking: 1., cooperation with the Ministry of Industry and its relevant sub-organisations, and 2., cooperation with existing and emerging financing institutions.

The increased networking with the Ministry of Industry and its relevant sub-organizations (e.g. branches dealing with subsidizing schemes for industry or branches dealing with establishing new enterprises, in addition, the Ministry's "Investment Consulting Centres") is proposed because of the increased CT related services proposed for Phase III and because of the expected solid industrial growth which will partially be based on new industrial companies not yet established as of today.

The VNCPC's network with financing organisations offering finance for CP investments is underdeveloped and should be developed so that the VNCPC can offer better services in the implementation of CP options requiring (external) investment. As a first step we propose that the VNCPC elaborates a sourcebook on existing financing sources in Vietnam including a.o. the specific application criteria attached to each source. In a next step, we suggest that the VNCPC establishes cooperation with a number of key sources, so that it can offer financing services to companies in a faster and more predictable way and with higher chances for success in co-financing investments. Such cooperation should also be interesting to the financing institutions as it lowers their finance and cost input to assess proposals – VNCPC may even achieve fee payments by the financing institutions for such lowered transaction costs.

During the evaluation we identified several already existing financing institutions, some of which may be interesting for VNCPC for more close cooperation. They include (note that the identification of a more thorough assessment may result in additional institutions):

- The new National Environmental Fund based in Hanoi and other subsidy lines operated by environmental authorities;
- The ADB sponsored credit facility at HIFU in HCMC – HIFU would be interested in VNCPC preparing investment proposals which satisfy ADB/HIFU criteria;
- The interest subsidy programme at DPI in HCMC (they would be interested in cooperation with VNCPC and showed interest in setting up a new CP related interest subsidy scheme in cooperation with VNCPC – you may want to follow up on this with Mr. Khoi).
- Leasing companies (there is at least one in HCMC);

- Selected commercial banks offering credit to the private and SME sectors – it may be worth to contact branches of foreign banks in HCMC in this respect.
- Financial facilities of donor funded projects, including seco projects (e.g. Mekong Enterprise Fund under MPDF);
- Subsidy schemes of various ministries, as well as earmarked Funds (e.g. Development Fund, subsidy schemes of the Ministry of Industry);
- Emerging SME financing facilities, including the proposed SME credit scheme and credit guarantee scheme (proposed by VCCI); etc.

3.4 Impact

According to the terms of reference for the 2003 VNCPC evaluation, chapter 3.4 aims at analyzing the following issues:

- To what degree do the companies implement the measures resulting from CP assessments?
- To what degree do the companies continue implementing the CP options after completion of the VNCPC intervention?
- What is the economic and environmental impact?
- Is there any evidence of CP in industry/the economy outside of direct VNCPC interventions on company level?
- To what degree has the VNCPC influenced the implementation of CP in environmental policies and laws in Vietnam?

3.4.1 Implementation of measures recommended by VNCPC on company level

Based on the information collected during the evaluation, the results are mixed regarding implementation on company level of CP options elaborated with the VNCPC. According to VNCPC's estimations, in average only about 40% of the total number of elaborated options during the in-plant assessments is being implemented. Most of the implemented options are no- or low cost options in the field of good housekeeping and process control. Typically, companies also try to implement higher cost and more complex options. However, success is limited or the implementation process is very time-consuming. Reasons for this are various: the company management can not be convinced or the management postpones decisions, decision making structures within a large company may be slow and cumbersome, a company may not be able to get access to affordable external finance or unwilling to spend scarce financial resources on CP, personnel in charge may change and the initial momentum lost, etc.

The VNCPC is partially addressing this issue by following up after in-plant assessments with further company visits. We fully agree that this practice is extremely important, since the best options and assessments are worth little if not implemented. In addition to the follow up visits, we suggest that the VNCPC offers its enhanced financing services, once they are developed. In addition, we believe that a company selection, which is based more on real demand (see section 3.1.1.), should help improving the implementation issue significantly. The VNCPC should also try to systematically assess the factors, which lead to a high rate of implementation in a given company and build in such lessons learned in its company identification policy and services.

A factor which needs to be underlined is that through in-plant assessments and trainings provided by the VNCPC, the participating company personnel typically gets sensibilized about pollution issues and saving resources. This may often lead to additional improvements and constitutes an important "side-result" of the VNCPC's work. Indeed, a number of companies visited during the evaluation told

us that after the work with VNCPC, they are much more aware on environmental and resources issues, issues about which they did not think much before.

3.4.2 Sustainability of CP efforts at company level after completion of VNCPCs intervention

All companies met during the evaluation stated that they continue CP activities after finalizing the in-plant assessments. As mentioned in the previous section, most of the companies said that they try to get approval for the implementation of the more costly and complex options. Our impression was, however, that few of the more costly options will get implemented. This underlines our impression, that the VNCPC should more vigorously go for working with companies which have a real demand for CP services.

Once, the in-plant assessments are finalized, the contacts between a company and the VNCPC inevitably decrease. Some of those companies interested in continuing CP activities mentioned, that they would like to keep regular contact with the VNCPC experts and keep updated with latest developments regarding CP practices, BAT, financing options etc. This wish could at least partially be addressed with the proposed CP newsletter.

3.4.3 Economic and environmental impact of VNCPCs work on company level

As part of the CP options elaborated in in-plant assessments, the VNCPC elaborates data on economic savings and environmental and resource use impacts. The briefs which we received from the VNCPC for those companies visited during the evaluation were very good as regards economic and environmental results. The VNCPC also publishes consolidated data in its annual reports. Overall the results are sometimes spectacular and usually at least very good. This underlines the great potential of CP in the Vietnamese industry.

Two caveats needs to be mentioned, however. First, what really matters is whether the identified potential is actually being realized. As mentioned already, the VNCPC should try to do everything to enable as much implementation as possible. In addition, the enabling environment (including environmental policy, legislation, finance and enforcement, and the overall economic development context) needs to be improved to allow for more implementation. Second, continuous monitoring of emissions and resource use is still rather the exception than the standard in Vietnam. Continuous monitoring typically is an important precondition for sustained CP application, and much progress needs to be made yet in the field of monitoring.

3.4.4 Emergence of CP outside of direct VNCPC interventions on company level

Currently there are numerous donor projects dealing with CP directly or having a CP component. Already running and proposed projects include:

- A new DANIDA CP project focusing on the seafood industry (this project will run through 2006).
- According to the Ministry of Industry, the German government is considering support to environmental management in the food industry and there will also be a new CP related project with GTZ.
- The Ministry of Industry also plans to launch activities regarding bio-safety and biotechnology.

- We also heard of plans for a new US sponsored project in the chemical sector, which would include a CP component.
- GTZ is currently running an SME support project with involvement of the VCCI Hanoi office – this project does not focus on CP, but may be useful for the VNCPC when developing the proposed refocusing on the SME sector.
- In CIDA`s Industrial Pollution Management project VCEPII, there is a CP component including CP training and demonstration projects in 6 provinces (via DOSTEs in Hai Phong, Hanoi, Bac Ninh, Hai Duong, Da Nang, Long An). This work is scheduled to be finalized by 2005.
- A UNIDO / SIDA project on Environmental Pollution prevention in HCMC includes CP assessments and policy related work. The project is scheduled to be finalized in 2003.

In addition, there were several donor funded projects in the last 4 years with CP components which were finalized recently. These projects are listed in the VNCPC`s annual reports (section 6 of the annual report).

The VNCPC is actively trying to create as much synergy between all these projects as possible. The VNCPC was contracted to help implement a number of these projects, including CIDA, SIDA and DANIDA projects. This may be taken as an indication of the VNCPC`s quality of work and institutional weight in Vietnam. Working for other donor funded projects will also be an option and potential source of income for the VNCPC in the future and add to the Centre`s longer term financial sustainability.

The existence of a multitude of donor funded CP projects (i.e. subsidized projects), makes it more difficult for the VNCPC to develop a CP market in Vietnam which is based on a business approach. On the other side, it also is an opportunity for VNCPC to gain experience and international profile, which may be useful once donor interest in CP in Vietnam is decreasing. We think that it is important for the VNCPC to continue cooperating with other donor funded CP programmes. When possible at all, the CPC should lobby with donors for project approaches which help catalysing the emergence of a business oriented CP market in Vietnam.

The evaluation team could not collect any specific information on other structured CP activities, e.g. CP initiatives excluding donor involvement. The only exception may be plans of some DOSTE`s to set up CP groups or structures in their provinces, following training and information received from the VNCPC.

3.4.5 Impact of VNCPC work on environmental policies and laws in Vietnam

It is of course very difficult to precisely assess the VNCPC`s influence on the implementation of CP in environmental policies and laws in Vietnam. One area where the VNCPC surely provided a significant input was its assistance to develop the draft 2001-2005 National Action Plan of Cleaner Production. It remains to be seen, however, to what extent this Action Plan will be implemented.

Another important impact is VNCPC`s CP training performed for governmental officials, including MONRS staff, DOSTE staff in various provinces, NEPA staff, EIA specialists and various other officials. During the evaluation we have met with several official who have received such training and overall they showed great interest in the CP ideas and were very satisfied with the information received from the VNCPC. In several DOSTEs, for example, there appear to be plans on having CP groups or structures on regional level. Again, it remains to be seen which concrete activities will develop and materialize.

According to the information we received from the NEA, the VNCPC also prepared a report for NEA on options to introduce economic and financial instruments supporting CP application (including recommendations on devising state budget resources, tax incentives, pricing policies for CP assessments and fines for excessive pollution). From a CP perspective, it would of course be desirable if such instruments would eventually be introduced in Vietnam. Ideally such instruments should be designed properly, taking into account international experience and best practice, before introduction. The VNCPC should lobby for being included in such work, if the opportunity arises.

Other policy advice services implemented by the VNCPC during Phase II (e.g. assistance in developing regional CP Action Plans for DOSTEs) are listed in the annual reports.

An area where the evaluation team sees comparable advantages of VNCPC in policy advice is the preparation of cost functions for estimating industry's compliance costs for environmental legislation. Ideally new environmental legislation in Vietnam should be prepared such that implementation and enforcement of the law is realistic also in terms of costs and financing. For this purpose it is necessary to analyse which costs would arise for industry to achieve a proposed standard. The VNCPC would be in an excellent position to deliver such cost functions during the law design process. Since such practise would be new in Vietnam, the VNCPC should lobby for including such approaches in current and future law making.

3.5 Sustainability

According to the terms of reference for the 2003 VNCPC evaluation, this chapter aims at analyzing the following issues:

- What should be the professional and managerial competence to sustain the activities? Where are the gaps and where are the strengths? What is the quality of the management system? How well are VNCPC staff members trained for their tasks?
- What are the sources of funding and direct income, current and potential?
- What arrangements can be made to strengthen the sustainability of the Centre?

3.5.1 Management and professional capacity in the VNCPC

What we heard and saw during the evaluation from and about the VNCPC's management and staff was only positive. The staff is motivated and obviously doing a good and professional job. The director of the VNCPC, in particular, has vast experience, is well connected, enjoys a high credibility and good reputation among all of VNCPCs stakeholders, is very communicative and has good managerial and motivating abilities. There is no doubt that the good human resources available to the VNCPC have contributed significantly to the overall successful work and record of the VNCPC during Phase II.

Consequently, we only have few suggestions. First, there is room for further improving the English language knowledge of the staff. Second, most of the staff has a technical or engineering background. We think that it would be useful if the VNCPC could take on board a senior financing expert. Finally, in view of the proposed new CT services to be developed and offered in Phase III., the VNCPC staff should of course receive training, where necessary.

3.5.2 Sources of funding and direct income, current and potential

Principal sources of direct income of the VNCPC should be service fees received from enterprises. The VNCPC has managed to receive such service fees in Phase II, although on a level yet which does

not cover costs. Nevertheless, it should be seen as an achievement, as demand is still modest, companies are not used to pay for such advice, and as there are several other donor projects offering CP services at zero or low rate. The VNCPC should continue the more business oriented approach started in Phase II and ideally pursue a policy leading to cost covering fee levels at the end of Phase III. Eventually, fees should also allow for profit. We believe that the reorientation towards real demand should help achieve this target. An improved enabling environment (environmental policy and law, expected macroeconomic developments and further economic reforms towards opening and privatising the economy) would certainly help too.

During Phase III. The VNCPC should continue to seek contracts from other donor funded CP projects, both in Vietnam and if possible, also abroad. The VNCPC is in an excellent position here, given previous work done for CIDA, SIDA and DANIDA.

Taking into account the window of opportunity which seems to open now for upgrading and improving environmental policy and management in Vietnam, it would be highly desirable if the VNCPC managed to get contacted by relevant government institutions for policy advice.

Another area where the VNCPC has earned some income already in Phase II is specific, tailored training. As training constitutes one of the core areas of competence, it would certainly be desirable if the VNCPC managed to increase earnings from training during Phase III.

A new source of direct income could and should be service fees for financing services. We believe that there could be quite a potential in this area. Fees could come from companies for which the VNCPC prepared tailor made co-financing applications, or also from financing institutions which could benefit from lower transaction costs due to VNCPCs work (some more formal cooperation agreement may be necessary to realise the latter).

In terms of other funding sources, continued support, in kind and financial, from the Technical University via INEST is possible, as well as not earmarked contributions from the government or the new Environmental Fund. We would like to stress, however, that the VNCPC should rather decisively follow a policy which allows for full (or nearly full) cost coverage at the end of Phase III based on income, generated through service fees. The achievement of this goal would be a real success and lay the foundation of a truly sustainable future of the VNCPC after 2007.

3.5.4 Proposed measures to strengthen the sustainability of the VNCPC

We propose the following arrangements to strengthen the sustainability of the Centre:

- Introduce bookkeeping of the consolidated accounts (not only UNIDO/seco related) resulting in yearly balance sheet and profit statement following best international practice. This should allow for additional and professional financial management of the VNCPC and in our opinion simply belongs to a business approach. In our opinion, the VNCPC's sustainability also includes that the institution as a whole manages to produce a profit at the end of the year. Auditing should be made on the consolidated accounts, following international practice.
- Continue the policy of offering high quality services, ideally matching international professional standards.
- As already mentioned in the previous section, decisively follow a strategy to further increase service fees, focusing mainly on CP/CT service fees from companies but developing also income generated from contracted work for other donors, policy advice, training services and financing services.

- Focus on responding to demand.
- Develop services for private sector and SME sector.
- Focus on enabling the implementation of options, not just the production of options. We believe it would be useful for the VNCPC to gain a reputation of being an institution which helps resolving the problems (not just analyzing and describing them).
- Finally, we think it would be worth to try to realize the idea which the VNCPC Director has told us, namely, the establishment of a Fund from which CT/CP assessments would be financed (full cost), whereas the assessed company pays the service fees ex post and upon success, and with that replenishes the Fund. The question, of course, is how such a Fund could be capitalised. The VNCPC Director’s idea to bring together a “club” of companies committed to the CP idea to provide the start capital of such a Fund would, of course, be ideal. The Fund could then be located and administered at an appropriate business association and be open to any certified CP assessors (including the VNCPC). An alternative would be to secure capitalization (e.g. ca. 100’000 USD) via donor support.

3.6 Success indicators

According to the terms of reference for the 2003 VNCPC evaluation, this chapter aims at analyzing the following issues:

- What has been the efficiency and utility of the success indicators as applied by the Centre?

3.6.1 Usefulness of the success indicators applied by the VNCPC

The success indicators applied by the Centre include the following (see also section 3.2.1):

1. Number of direct in-plant assessments performed.
2. Number of indirect in-plant assessments performed.
3. Number of service providers trained.
4. Number of rapid assessments performed.
5. Number of Cleaner Technology implementations supported.
6. Number of implemented finance projects supported.
7. Number of person days of training in sector specific training.
8. Number of person days of training in tailored courses for a specific client.
9. Number of person days of training in special skill training.
10. Number of person days of training in university lecturer training.

These indicators are playing an important role in monitoring project implementation, as is obvious from the VNCPC’s yearly project progress reports. Our assessment of the usefulness of these indicators includes the following observations and suggestions:

- All indicators measure quantity and not quality. However, together with the VNCPC’s useful explanations attached to each indicator in the yearly project progress reports, this does not seem to be a disadvantage.
- The indicators related to service providers (items 2 and 3) are not really useful (see also discussion in section 3.3.2). Better would be to include in item 2 only those indirect assessments, for which the Centre actually has sufficient quality control, influence and communication. The proposed reorientation towards more networking with service providers and maybe also subcontracting should help.

- For item 4 (rapid assessments) there apparently has been little/no demand. The VNCPC is more successful with other marketing tools. The indicator could be dropped.
- As regards items 5 and 6, the terms “cleaner technology implementation” and “finance projects” could be better defined, especially in view of the differentiation in both areas to be introduced in Phase III.

In addition to the existing set of indicators, the evaluation team thinks it would be useful to develop indicators and related goals also in the area of strategic financial planning of the Centre (e.g. degree of cost coverage achieved in charging for specific services; profit and turnover goals, etc.).

4. CONCLUSIONS AND FINDINGS OF THE MISSION

The following points are the conclusions and findings of the mission:

- The relevance of the project in the context of the industrial production in Vietnam is still important.
- As pointed out in the previous in-depth evaluation the demand for CP services remains quite weak, in spite of the fact that industry has a strong potential to reduce environmental pollution, achieving substantial economic results through the application of cleaner production.
- Many industries continue to receive substantial subsidies sometimes impeding market-based approaches. The prices for water and energy need to be further increased. Introduction of pollution taxes is being considered.
- The demand for CP services seems to be higher in the south of the country than in the north. Demand is likely to be higher in the private sector and in SMEs (esp. private SMEs).
- The companies to reduce the costs are mainly trying to optimise the input of raw materials and to reduce the energy consumption.
- Privatisation of the enterprises remains to be a Government policy. In the large State owned enterprises 30% of the property is remaining with the Government. The stakeholders are selecting the director and the government nominates the chairman of the Board.
- There are low or non-existing disposal fees for the waste or residues of the industrial production.
- There is a lack of incentives for the enterprises to reduce the negative impact on the environment and be business oriented.
- The enforcement of the law and the system of penalties remain rather weak. Environmental authorities are trying to gradually strengthen enforcement, though.
- There is a proposal to establish a National Governmental Environmental Fund. Among other areas, the Fund is foreseen to provide soft finance for CT.
- Establishing a Centre for CP has been a good strategy to support the application of CP. However, being the country geographically very long, it is necessary to open a branch office in the south, where are located the largest part of the SMEs of Vietnam.
- The visibility of the Centre has been developed successfully. Key marketing instruments include the annual reports, the Centre's well prepared website as well as additional leaflets and documents introducing the Centre and its services.
- The Centre has promoted the CP concept among the enterprises, demonstrating the possibility to reach good results combined with energy efficiency.
- The awareness raising, the training given and the in-plant demonstrations have continued also in this second phase of the project and it has proved to be a good method to sensitize the managers and reduce the pollution generated by the industry.
- As also indicated in the previous evaluation, the national capacity in CP still needs to be built up. Centre's staff and the other trainees, while well trained in concept and methodology, need more practical experience in in-plant assessments.
- The Centre has upgraded its marketing capacity, but has to continue the activity of developing business management capacities also in government institutions and in the companies. This has to be developed combining basic management skills and the identification of incentive schemes for companies, to make CP a valid issue at enterprise level.

- CP services are related to quality management, energy efficiency, end of pipe measures, upgrading and transfer of technology, business development services, financial engineering services for technological improvements.
- According to the methodology followed, the Centre is providing to the companies the appropriate training. Then the companies themselves are conducting the in-plant assessments, nominating a CP team inside the factory. The Centre has only an advisory role in this CP team. The combination of classroom and practical work is a positive advantage of the training offered by the Centre.
- So far, thirty-two companies have paid for the services offered by the Centre.
- The Centre has reached, and in some cases surpassed, the goals set in the business plan.
- The inputs provided by UNIDO, after some problems in the initial phase, have generally been of good quality.
- The presence of a resident Chief Technical Adviser (CTA) has helped in getting a prompt response to the technical needs and has assured a rapid coordination with the Swiss Reference Centre. The resident CTA, a part having a sound engineering background, has played an important role for contacting the relevant sources in Switzerland, managing internationally the Centre and facilitating the communications with the donor and UNIDO.
- Being part of the UNIDO network of Cleaner Production Centres, the activities of the VNCPC have benefited of the facility to access training materials, technical documentation and sharing the experiences with other NCPCs.
- The presence of the international experts has been used to teach at seminars and workshops and to visit some demonstration companies. All the demonstration companies have been visited at least once by the CTA during the CP assessment. Five international experts have accomplished some technical visits to the demonstration companies in the sector of textiles and pulp and paper.
- The Centre is highly reputed in the country. For this reason also other donors [DANIDA (Denmark), CIDA (Canada) and SIDA (Sweden)] have subcontracted the Centre for implementing CP training and in-plant assessments, including a CP project in Laos (DANIDA).
- The companies visited by the evaluation team, have shown interest in continuing the implementation of CP measures, especially when related to the improvement of the productivity of the factory. Apparently less importance has been given to the environmental impact. The weak enforcement of the existing legislation certainly contributes to the scarce attention to this point.
- Implementation of the options elaborated through the VNCPC program has been disappointing in some companies. The VNCPC is following up with companies on a regular basis, though.
- The Centre is considered by the government authorities, both at national and regional level, as a respected advisor for the drafting of environmental policies and laws in Vietnam. The high and well-known reputation in the country of its national director is an additional factor for the visibility of the Centre. Unfortunately, as pointed out before, the enforcement is weak. One visited company indicated to the evaluation team that when a factory is fined twice for not abiding to the laws and regulations, then it is closed down. However, the fines have to be given in the same year, otherwise they cannot be accounted for closing down!!!
- For the time being the Centre is generating some own resources, but it is not financially sustainable, particularly if it has to use international expertise.

- The planned technical assistance to the companies has reached 84% of the target indicators. The training targets for improving the national CP capacity have been widely surpassed.
- Twenty awareness seminars with the participation of 1,367 participants have been organized.
- Two spots of 30 minutes for the national television and one for the radio, concerning the economic and environmental advantages of the Cleaner Production, have been prepared with the technical assistance of the VNCPC.
- Several engineers have completed their training and can be used to promote the CP concept in industries.
- The performance of service providers is mixed: many have worked on own CP assessments with success. However, there is also concern about some low quality and low cost providers. There does not seem to be a network of service providers.
- During the evaluation mission, more than a dozen of specific potential funding sources for co-financing CP/CT investments were identified. Apparently, the VNCPC has created links to few of them only. There does not seem to be a lack of finance for CP/CT, rather the problem lies with demand. In its financing services, the VNCPC has focused on assisting in the elaboration of loan applications following a standardized, uniform procedure. While this work was completed rather successfully, much could be done to upgrade and enhance the VNCPCs financing services.
- To implement CP measures a strong commitment of the top management of the enterprises it is imperative.
- The Centre itself is certified ISO 9001 and ISO 14001 since January 2002.
- The commitment and the support of the host institution, the Hanoi University of Technology and its Institute for Environmental Science and Technology (INEST) have been of paramount importance for the visibility and the promotion of the activities of the VNCPC.

5. RECOMMENDATIONS

1. [to UNIDO and seco] Based on the above-mentioned findings, the evaluation team recommends the extension of the project for an additional third phase. The following are the specific recommendations we suggest:

A. Outreach of VNCPC within Vietnam and abroad

2. [to VNCPC] We strongly support the proposed outreach within Vietnam by establishing a VNCPC office in HCMC. In addition, we call for considering the opening of an additional office in central Vietnam, for instance in Nha Trang (where DOSTE would likely strongly support the establishment of such an office) or Da Nang. While an office in South Vietnam would allow for better presence and easier access to Vietnams largest industrial area of HCMC, an office in central Vietnam could provide for better presence and easier access to industries such as tourism/hotel industry and the seafood industry. Building on some CP training modules already conducted in HCMC during Phase II, the HCMC outreach office could, among others, take on following tasks: assess demand for VNCPC services in South Vietnam and collect project opportunities, especially in the SME and private sector; strengthen cooperation with service providers and key strategic partner institutions in South Vietnam; market VNCPC services in South Vietnam. In addition, the HCMC office could develop a training programme jointly with Universities or Research Institutes in HCMC so that capacity building is not limited to Hanoi only. Note that the DOSTE office in HCMC has indicated to the evaluation team its readiness to co-finance a VNCPC office in HCMC for 2-3 years (staff and equipment) – the necessary procedures to allow such co-financing may take up to one year, however: the VNCPC should follow up on this.

3. [to UNIDO and seco] We support that the VNCPC helps UNIDO in the implementation of the forecasted CP programme activities in Laos and Cambodia. UNIDO will prepare, in agreement with the respective Governments of Laos and Cambodia, the appropriate CP programmes under separate project documents.

4. [to UNIDO] Should a third phase of the project expand its activities also in Laos and Cambodia, as foreseen in the next tentative business plan of the Centre, it is recommended that, in view of the leading role to be assumed by the VNCPC in the regional CP programme, this programme be run under the overall supervision of the UNIDO Field Office in Vietnam.

5. [to UNIDO and seco] It is recommended that the regional programme should be fully defined in one single Business Plan for phase III, for the sake of a clear regional strategy fostering the cross-fertilization of experiences, as well as the cost effectiveness of the programme. The regional programme will eventually develop through UNIDO three distinct technical assistance documents, with separate budgets, to be approved and signed by the respective Governments authorities.

The work plan as it figures in the Draft business Plan for Phase III of the VNCPC, dated 12 March 2003, has been prepared by the CTA in coordination with UNIDO and has to be implemented after the completion of Phase II. It is, therefore, scheduled to commence after the completion of Phase II in April 2004. However, the Laos and Cambodia segments of the programme could benefit from an earlier starting date. Therefore, if the principle of Phase III, with regional coverage of these Cleaner production Centres is approved, it is recommended to the donor to exercise flexibility in the starting dates of the Laos and Cambodia components

B. Enhanced CP/CT demand management

6. [to VNCPC] The VNCPC should be much more responsive to demand for CP and CT services and refocus its strategy accordingly. Demand for CP and CT services may occur in various forms, including for example: a) changes in zone planning, e.g., the current relocation program of SMEs from resident areas to industrial parks in HCMC (where SMEs may be willing to invest in environmental management in order to avoid costs associated to relocation to industrial parks); b) companies in supply chains which need to comply with environmental standards in order to be able to sell their products; c) export requirements related to environmental standards to be fulfilled in order to be able to sell on foreign markets; d) economic and financial incentives of environmental policy which are now emerging in Vietnam; e) companies exposed to environmental law enforcement, following complaints from residents; f) availability of new subsidized finance sources related to environmental management in companies.

7. [to VNCPC and Vietnamese Authorities] In order to respond better to demand, the VNCPC should have a more proactive strategy for company identification and selection, rather than simply inform companies about the program and respond to those who show interest. Targeted and demand based company identification selection could be done via strategic partnerships with key institutions, including for example: DOSTE and inspectorates on regional level (often they have lists of companies with serious pollution problems – the VNCPC could target such companies as they may have demand for the services of the centre); SME business development centres (e.g. the “SME promotion centres” within VCCI and/or “investment consulting centres” under the Ministry of Industry – these centres may have contacts with SMEs demanding support to resolve their environmental problems). VNCPC may also consider to strengthen links with institutions involved with setting up new industries and industrial parks, with a view to provide CP/CT services in the design of new industries (the Ministry of Industry may be a good starting point for this). Several already existing seco programs in Vietnam could also be helpful for assistance in company selection. VNCPC should investigate the potential of realizing synergies with such programs (examples include: SOFI, SIPPO, MPDF).

8. [to Vietnamese Authorities and seco] It appears that one of the most important measures to increase company demand for environmental management services would be to further develop and foster environmental policy and law, including in particular economic and financial incentives supporting the Polluter Pays Principle. Various initiatives are underway in this area, including: new pollution charges are being considered and planned, a new national environmental fund is being considered, electricity prices are raising gradually, enforcement of environmental law is getting stricter according to some of the companies visited, etc. Relevant government authorities in Vietnam (including MONRE and its regional offices) should continue to develop and implement approaches based on the Polluter Pays Principle. In designing pollution charges (we would recommended to consider also product charges), carrying out cost assessments of existing environmental law and policies, preparing environmental financing strategies for achieving key policy objectives and designing operational policies of a new national environmental fund, we recommend to MONRE to request technical assistance from donors as there is large experience with such instruments in other countries. Seco or SDC could consider offering such assistance in a separate TA project. Other donors who may potentially be interested to offer such TA include Denmark and Sweden. As the Ministry of Industry is involved in designing and implementing large subsidy schemes for the industrial sector, VNCPC may also consider to lobby for adequate inclusion of CP/CT concerns in such schemes.

C. Measures to enhance sustainability of VNCPC

9. [to VNCPC] The VNCPC should continue to build its visibility among its key stakeholders in Vietnam (companies, relevant authorities, service providers, specialized technical and financial

institutions) and among the donor community by preparing information material, updating its website and widely disseminating the results of its work.

10. [to VNCPC] Although the SOEs represent the major part of the Vietnamese production, we recommend that the VNCPC generally focuses more on cooperation with SMEs and the private sector for the following reasons: likely private sector and/or SME demand is higher; options can be implemented more easily and quickly (less bureaucratic and hierarchic inertia as compared to large SOEs); as compared to SOEs the private sector responds better to market based solutions; SOEs may be split into smaller companies or disappear entirely during the upcoming privatization. A stronger focus on SMEs and private companies would also be in line with the governments recent policy shift towards stronger support for SMEs and private sector. In order to define a targeted approach to the SME sector, VNCPC (maybe in cooperation with a partner institution) could elaborate a survey on pollution caused by various SME sectors in HCMC and/or Hanoi, including information on: sectors with largest pollution; pollution geography within the city; directory of companies in most polluting sectors; relevant city development plans and policies; specific funding sources for addressing SME pollution.

11. [to VNCPC] Focus on more targeted company selection will likely result in more demand oriented work of the centre, eventually allowing the VNCPC to more successfully charging cost covering service fees. Such a business strategy is more market based and responds better to companies' real needs and differs from VNCPC's current approach. In addition, shifting to more subcontracting of service providers and enhanced networking with service providers (see recommendation number 13), will also lead to better market creation and thus raising sustainability.

12. [to VNCPC] The VNCPC should continue accounting its books following international best practice, comprising all services offered by the VNCPC (including the money transferred by UNIDO). Balance sheet and profit statement could be published in VNCPCs annual report after having been discussed with the Advisory Board and presented to UNIDO. The practice of auditing the accounts should be continued. Implementing this recommendation, the VNCPC will have a better and complete overview and control of its financial activities and performance, which can be seen as a contribution to the Centre's longer-term sustainability.

D. Cooperation with national and international stakeholders

13. [to VNCPC] The VNCPC should continue to seek cooperation with other donor programs, as long as 1) such work is compatible with VNCPCs agreed strategy, 2) such work does not impede the implementation of Phase III, and 3) such work is not in contradiction with companies needs and demand. Even if now donors are the main contractors of the VNCPC, meeting the demand and needs of the Vietnamese companies should always be VNCPCs priority.

14. [to VNCPC] By enhancing demand management and targeted company identification, the VNCPC will likely create numerous demand driven project opportunities for work in companies. The VNCPC will be able to carry out a limited number of such projects only. Current practice of the VNCPC is to pass some of such project opportunities on to service providers (in addition, service providers are expected to create project opportunities themselves). We recommend, however, that the VNCPC should not just passing contracts on to service providers but rather switches to a policy of subcontracting service providers. This would lead to a better quality control of the work of service providers, a limitation of price erosion in the CP/CT consulting sector (companies tend to select the cheapest consultant rather than focusing on quality of the consultant). This would allow creating a network of service providers with improved exchange of experience and results.

15. [to VNCPC and service providers] The evaluation team has noted that some institutions and individuals considered by the VNCPC as service providers did not realize that they are actually considered service providers. The VNCPC should inform its service providers about their status and create a network comprised of the service providers which meets on a regular basis (e.g., once a year – ideally with participation costs covered by service providers themselves) to exchange experience and results of work. At such meetings, specific training could also be provided in order to continuously upgrade service provider's capacity. Such more formal cooperation should help further developing a CP/CT market, increasing overall quality levels of CP/CT services offered throughout Vietnam, limiting unnecessary competition and fostering cooperation.

E. Enhanced financing services of VNCPC

16. [to seco] We do not recommend that seco sets up a new CP/CT soft credit or credit guarantee facility in Vietnam during Phase III. There are already numerous existing financing sources and mechanisms in Vietnam. There does not seem to be a lack of finance for CP/CT. Seco should not crowd out or compete with such emerging financing schemes.

17. [to VNCPC] The VNCPC should develop and agree on strategic partnerships with a number of key financing institutions offering co-finance for CP/CT investments. Such institutions may include, for instance: 1) the CP/CT soft credit program of HIFU in HCMC (they would be interested), 2) the loan interest subsidy program of DPI in HCMC (they would even be willing to consider setting up a new and additional interest subsidy program on CP/CT), 3) a leasing company (there is at least one in HCMC), 4) regional environmental funds under DOSTE in Hanoi and HCMC, 5) one or two private commercial banks (for example banks running specific SME credit lines). A strategic cooperation with such financing institutions would allow VNCPC to elaborate financing proposals with higher success chances. Financing institutions, in turn, would have lower costs and less time spent for credit assessment. Financing institutions may thus be willing to compensate VNCPC for this work. Compensation of VNCPC's financing services may also be via a fee to be paid by the company if the financing proposal is successful. In addition, some already existing seco programs in Vietnam could also be useful for providing finance and VNCPC should investigate potential for cooperation with such programs (examples include: SFF under SOFI and the Mekong Enterprise Fund under MPDF).

18. [to VNCPC] Similarly the VNCPC should consider strategic cooperation with emerging new financing institutions, including for example: 1) the environmental fund to be set up in Hanoi; and 2) a SME credit guarantee facility which may be set up in near future on proposal of Vietnams Chamber of Commerce (VCCI).

19. [to VNCPC] VNCPC's financing services should not just simply be based on a universal, standard model of preparing loan applications. Rather VNCPC should develop capacity to write quality proposals which satisfy specific conditions and requirements of financiers. There is likely a shortage of qualified consultants to do such work and VNCPC may consider to provide specific training on this topic, in order to build a critical mass of expertise.

20. [to VNCPC] The VNCPC should elaborate, then disseminate and continuously update a directory of all relevant financing sources for CP/CT in Vietnam. Such a directory should include local, regional, national and international sources. In addition, specific conditions attached to each source should be included, as well as information on the type and functioning of the various financing instruments.

21. [to VNCPC, Swiss Reference Centre and UNIDO] Continued training of VNCPC staff on CP and CT financing services is needed. For enhancing the financing services as outlined in paragraphs 17-20, the VNCPC will need and should make use of specialized international financing experts.

F. Recommendations on CP and CT services offered by VNCPC

22. [to VNCPC] Once the VNCPC has completed the CP/CT assessments, it may take several months until cost-intensive options can be implemented (if at all). It is very important that the VNCPC follows up with assessed companies in regular intervals, to ensure continuation of efforts.

23. [to VNCPC] In its CP (and future CT) assessments, the VNCPC should elaborate and include information on compliance with relevant environmental law and policies as well as other relevant legislation. This will help companies to understand in which areas they are in compliance and where further efforts are needed. Including compliance analysis in assessments will also help to develop costing functions for existing environmental legislation, which may be useful information for any future legislative work of the MONRE.

24. [to VNCPC] As CP/CT investment proposals typically require approval of the company's management board (e.g. in large SOEs), VNCPC should consider to include in its CP/CT assessments the impact of cost-intensive options on the company's profit statement and balance sheet, for example the impact on key financial indicators such as: profit, assets, liabilities, depreciation, turnover, etc. Company management typically assesses investments by their impact on such financial indicators. Such additional financial indicators would complement the VNCPCs current approach to elaborate economic indicators such as NPV, payback times etc.

25. [to VNCPC] CP and CT assessments conducted by the VNCPC should reflect more the actual needs and specific problems of a company (i.e. be more demand oriented). To achieve this, the VNCPC should discuss with the company its expectations and specific wishes before executing the assessment and take these issues into account during training and in-plant work. For example, in many cases the company may not only be interested in CP issues only. They may rather want to see which solutions help to solve the environmental problem in the cheapest way, which may entail other or additional solutions than just CP.

26. [to VNCPC] In proposing and implementing CT options, VNCPC should give priority consideration to Vietnamese technology suppliers.

27. [to VNCPC] In Phase III, the VNCPC should also focus on building more capacity on specific environmental engineering consulting; i.e. consultants who are qualified to independently advise a company on which technology available on the market can best solve the environmental problem at hand. Such consultants should have a broad overview on the technology market and not just simply favor and promote technologies of one or few suppliers.

28. [to Swiss Reference Centre and VNCPC] A number of companies visited during the evaluation requested more information on BAT/BEAT and cleaner materials (e.g. chemicals substitution). The VNCPC, in cooperation with the Swiss Reference Centre, could elaborate specific databases on BAT, BEAT and cleaner input materials on a demand driven basis. For example, sector specific databases could be developed for a specific set of technology, including basic information on main suppliers and their websites.

29. [to VNCPC] During Phase III, the VNCPC should continue to focus on one industrial sector for a given period of time (e.g. one sector per year). We consider important, that each year a new sector is being selected so that the VNCPC has closely worked with 6-7 different economic sectors by the end of Phase III, thus having a broad base and experience once seco support is finished. This approach will also result in a broad client base of the VNCPC at the end of Phase III.

30. [to VNCPC] The VNCPC should elaborate publish and widely disseminate (via printed and/or electronic version) to all its partners, cooperating parties and companies a newsletter in Vietnamese language on CP and CT. Such a newsletter was requested by a number of interviewed persons during the evaluation mission and could include among others: success stories of implemented CP and CT options, latest information on BAT and BEAT, latest information on technology providers, contributions from companies on their experience with implementing CP/CT, information on new financing sources for CT, update on the VNCPCs activities and programs, etc.

G. Other recommendations

31. [to VNCPC and Vietnamese Authorities] The VNCPC should continue to provide policy advice services on demand basis, with a view to further CP/CT market development and development of economic incentives for companies based on the Polluter Pays Principle. This may include: support to the implementation of the national CP Strategy, support to specific policy and legislation work of MONRE and Ministry of Industry.

32. [to VNCPC] The VNCPC may want to try to work on one or more CDM projects during Phase III. For this purpose, VNCPC may want to establish cooperation with specialized institutes in the energy conservation sector. One example could be the Energy Conservation Centre in HCMC, ENERTEAM (ENERTEAM is an institution funded by the French Agency for the Environment and Energy Management (ADEME) and could allow the VNCPC to expand its visibility to French donors) – in any case, VNCPC should further investigate the “energy scene” to find the best partner.

33. [to VNCPC] The VNCPC should continue to put an emphasis on training young people in CP/CT, so that the younger generation which eventually will assume responsibilities is well aware of the potentials CP offers.

34. [to VNCPC] The VNCPC should try to develop career opportunities for its staff in order not to loose them once they are trained and find a better paid job in another field. It can be examined the possibility to insert a clause in their contracts to motivate them to stay with the Centre after the end of their training.

35. [to UNIDO and seco] In principle, we support the continued use of a CTA for Phase III. The CTA should limit his activities on work that cannot yet fully be done by the Vietnamese staff. He should act more as an advisor. For example, the CTA could take a lead in building up a VNCPC office in HCMC, develop the outreach program to Laos and Cambodia, develop new CT services, strengthen demand management and enhancing financing services. To the extent possible, the CTA should leave the management tasks to the Director of the VNCPC (and other relevant staff) and let the Vietnamese CPC experts do well established CP training sessions to the extent possible. Specific tasks and performance goals could be laid down in the Phase III job description of the CTA. The duty station of the CTA could be in Hanoi and/or HCMC.

36. [to VNCPC, UNIDO and Reference Centre] International experts provided through UNIDO, including FHBB experts, could be deployed more often to perform more concrete work in in-plant assessments (and thus provide more concrete on the job training to selected companies with respective demand). It appears that few international experts in some textiles and pulp and paper factories have so far completed such work. VNCPC could try to start a policy of charging companies for such specific in-plant consulting work of international experts (using Vietnamese consulting rates). Part of the international consultants work would be to provide on the job training for Vietnamese environmental engineering consultants with a view to create a new commercially oriented business field. As per recommendation 29, the VNCPC should extend its activities to other industrial sectors.

37. [to VNCPC and Vietnamese Authorities] The VNCPCs Advisory Board should add also the Ministry of Natural Resources and Environment as member. This Ministry was created recently as a spin off from the Ministry of Science and Technology (MOSTE), who is already member of the Board.

38. [to UNIDO] During the UNIDO NCPC network meetings, which take place every two years, half a day could be dedicated to a workshop on specific CT issues related to one industrial sector (experience exchange, common issues, technology solutions, technology suppliers, etc.)

39. [to seco] Since SDC is representing seco in some meetings related to the activities of the VNCPC, it is recommended a deep cooperation between seco and SDC, particularly in projects where there can be a synergy developed with SDC projects, which have cleaner production as one of their components.

6. COMMENTS ON DRAFT BUSINESS PLAN FOR PHASE III 08/2004 – 08/2007 (VERSION 12/03/03)

Based on the evaluation of phase II (chapters 2- 5), the evaluation team is suggesting the following adjustments to the VNCPC's draft Phase III business plan for the period August 2004 – August 2007. Please note that all suggestions made below refer to the draft Phase III business plan version dated 12 March 2003.

Comments and suggestions on section 1 (Introduction)

- The evaluation team does not support the contents of the last bullet point in section 1.2. It appears that lack of money is not a principal problem. Rather the demand for finance is weak. In addition, project preparation capacity is often insufficient and there are various other specific bottlenecks to financing, differing case by case (see also recommendations 16-21).

Comments and suggestions on section 3 (Basic Concepts)

- VNCPC may want to add a more specific justification for a third phase of the seco support. In the view of the evaluation team, the following elements could be used for the justification of a third phase: 1) At the end of phase II VNCPC is not yet financially self-sustainable; 2) demand for proposed VNCPC services will likely grow in near future (see also section 13.1 on opportunities); 3) further efforts to develop the CP/CT market are still needed; 4) the environmental relevance for phase III is still existing, especially in view of the expected industrial and population growth; 5) there are good prospects that VNCPC will continue to provide good work/results as the performance was so far good (see section 3 of this evaluation report).

Comments and suggestions on section 4 (Mission Statement)

- In the opinion of the evaluation team, the draft Phase III business plan lacks a clear vision on the future of VNCPC after 2007. The VNCPC should assume that seco support will be finished after Phase 3 and the VNCPC should be financially and operationally self sustainable after 2007. Such a vision on the VNCPC's future should explain what kind of institution VNCPC will be after 2007. The CTA has mentioned to the evaluation team, that he sees the VNCPC's future as an institution similar to that of FHBB's environmental branch. What does this mean more concretely? Is this view supported by VNCPC? Is such a plan feasible in Vietnam? Which of the services contained in the draft phase III business plan would be continued after 2007? What character would VNCPC have in the longer term: a consulting company, a training institution, an educational institution, etc, or a combination of these (if yes, how would this combination look like more concretely)? Is it useful to clarify or change the VNCPCs legal status in the longer term (e.g., own capital, organization as a company or a foundation)? The evaluation team believes that it would be important to lay down such a vision or longer term strategy in the VNCPC's phase III business plan, as this may allow for a better focused development of the Centre during phase III.

Comments and suggestions on section 5 (Objectives)

- We suggest that section 5 be revised according to the comments made on sections 7-12 (see below).

Comments and suggestions on section 6 (Strategy)

- We suggest that section 6 is being revised according to our comments made on sections 7-12 (see below).
- Para 5: As mentioned above, the lack of finance does not appear to be the key issue in problems with financing CP/CT investments.
- Para 9 and section 6.1: We recommend applying a subcontracting and networking scheme (see recommendations 14 and 15).

Comments and suggestions on section 7 (Services)

- Section 7.1. Related to the proposed CP services we suggest including recommendations 22-25. Related to the proposed CT services we suggest to incorporate recommendation 26. Related to “financial engineering services”⁸ we suggest to include recommendations 16-21. Related to training services (section 7.1.2) we suggest to apply the following recommendations:
 - I. as regards CP/CT training, recommendations 23-25 and 27;
 - II. as regards financing related training, recommendations 19 and 21;
 - III. recommendations 6, 7 and 10 as regards focus on a demand based approach;
 - IV. recommendation 33 as regards focus on training of young people.

Related to section 7.1.3, we suggest to incorporate our recommendations 14-15.

- Section 7.2. As regards networking, we suggest to incorporate the following recommendations:
 - I. service provider network (recommendations 14-15);
 - II. financing network (recommendations 17-18);
 - III. CP/CT newsletter (recommendation 30).

Related to section 7.2.1, we suggest to incorporate the recommendation 2.

- Section 7.3. As regards outreach of cleaner production services to Laos and Cambodia, we suggest to incorporate recommendations 3-5.
- Section 7.6. As already mentioned we suggest eliminating this proposal, based on recommendations 16-18.
- Section 7.7. As regards information/awareness raising/ marketing, we suggest to include the following recommendations:
 - I. recommendation 9 (website);
 - II. survey on SME sector pollution (recommendation 10);
 - III. guide to financing sources (recommendation 20);
 - IV. BAT/BEAT directory (recommendation 28);
 - V. CP/CT newsletter (recommendation 30).
- Section 7.8. As regards policy advice, we suggest to incorporate the recommendation on compliance benchmarks (recommendation 23). In addition, recommendations 8 and 31 relating to the gradual introduction of the polluter pays principle, could be taken into account.

Comments and suggestions on section 8 (Goals and Targets)

- Any changes made to section 7 (including those suggested above) should be reflected in a revised section 8.
- Section 8.1.1, points 1 and 7: the number of consulting services could be increased as focus is shifted on smaller companies (less time needed to complete the assessment). In addition, the

⁸ We also suggest replacing the term “financial engineering services” with the term “financing services” throughout the business plan.

indicator for financing services should rather be the number of projects, which received finance based on financing proposals facilitated by VNCPC or VNCPCs subcontractors.

- Section 8.1.1, points 2, 4 and 6: service providers should work on subcontracting basis.
- Section 8.1.1, point 11: 20% and 10% reduction goals regarding specific pollutants and energy use appear to be rather low.
- Section 8.1.2, point 4: In the evaluation team's view, continuous upgrading of skills is also necessary in the area of financing services (recommendations 19 and 21), environmental engineering consulting (recommendation 27) and specific aspects of CP/CT assessments (recommendations 23 and 24).
- Section 8.2: Of course, all the revisions suggested in sections 7 and 8.1 will have to be reflected also in section 8.2. As regards "indirect assessments" (2nd and 4th line of table 4), we suggest that only those performed by subcontracted service providers count. As regards proposals for financing CP/CT options (8th line of table 4), we suggest that only those proposals facilitated by VNCPC or its subcontractors count, which actually receive the requested financing (i.e. only successful proposals). The evaluation team also suggests adding some new indicators, for example: specific financial indicators based on the VNCPCs consolidated balance sheet and profit statement (e.g., profit or turnover related indicators, be it on an absolute basis and/or per employee basis, etc.). Another new indicator could be the degree of financial self-sustainability of the VNCPC (see also the comments on section 12 below).

Comments and suggestions on section 9 (Performance Indicators)

- Following recommendation 12, we suggest that VNCPC introduces consolidated accounting of all its activities and following the international best practice. The consolidated accounts should be audited each year. UNIDO and the VNCPCs advisory board should approve balance sheet and profit statement. Once approved it should be published in the VNCPCs annual report.

Comments and suggestions on section 10 (Clients and markets)

- Any change made in section 7 and 8 (including those suggested above) should be reflected in a revised section 10.
- Section 10.1: We suggest introducing a focus on private and SME sectors following recommendation 10. We suggest introducing more demand oriented company selection following recommendations 6, 7 and 25. Finally, we also suggest to incorporate recommendation 29 (economic sector approach).
- Section 10.2: We suggest to incorporate the specific comments made on section 7, for example: CP/CT newsletter; demand oriented company selection; guidebook on financing sources; SME/private sector focus; service provider network, etc.

Comments and suggestions on section 11(Organization)

- We have several comments on Figure 7: 1) the input of international consultants does not seem to be depicted; 2) there may be another office in central Vietnam, if it is so decided; 3) instead of the box on CP Fund, we suggest to have one box called "financing services"; 4) in the box "policy advice, information and marketing" we suggest to add "company selection".
- Section 11.2: If the changes for sections 7-10 as suggested above are incorporated, it may be necessary to have some additional staff for new activities such as: new work in financing services, CP/CT newsletter and other information services, work related to subcontracting and accounting, work related to company selection, etc. Table 5 should be revised accordingly.

Comments and suggestions on section 12 (Finance)

- Naturally, any changes made to section 7-11 (including those suggested above) should be reflected in a revised section 12.
- Section 12.1: As a result of the proposed shift towards SMEs and private sector, as well as the shift to more demand oriented company selection, the evaluation team thinks that subsidies to the VNCPCs service fees could be lowered. This will result in higher income generated from consulting services for Vietnamese clients (section 12.2.1 should thus be adapted accordingly) and higher degree of financial self-sustainability of the VNCPC (section 12.5 should thus be adapted accordingly). We also suggest that an effort be made to find additional measures to increase the VNCPCs financial sustainability during phase III.
- Section 12.5: The evaluation team considers that the financial self-sustainability of the VNCPC should ideally be expressed via internationally used/agreed financial indicators based on VNCPCs consolidated accounts ⁹. In addition, it would be useful to see a scenario on how VNCPCs balance sheet and profit statement are changing once Phase III and seco support is finished. As VNCPC does not have a balance sheet and profit statement at the moment, the implementation of these suggestions may have to be postponed until the first balance sheet and profit statement has been elaborated.

Comments and suggestions on section 13 (Opportunities and risks)

- Section 13.1: We suggest adding a notion on the gradual enforcement of the polluter pays principle to the first point in the list. As a new item in the list could be added that existing financing institutions and other institutions (e.g. institutions which could help with more demand oriented company selection) appear to be ready to cooperate more closely with the VNCPC.
- Section 13.2, first bullet point: Implementation of recommendations 14 and 15 will likely decrease this risk.
- Section 13.2, third bullet point: The suggested changes (e.g., more demand oriented services and company selection, additional information services etc.), the trend towards more realistic and better enforced environmental policy, as well as rising environmental pressures stemming from industrial growth, should help alleviate this risk.
- Section 13.2, fourth bullet point: we suggest incorporating recommendation 34.
- Section 13.2, A new bullet point is proposed: in some cases (especially SOEs) VNCPCs activities may result in little or no pollution reduction at all, because of the lack of market based approaches/incentives in the company's management or in the environment the company operates in.
- Section 13.2, It is proposed a new bullet point: Another risk is that the proposed new economic incentives in environmental policy can be weak (and therefore have little/no effect on demand for CP/CT services), due to the lack of necessary political support or the inappropriate design of the new incentives.

⁹ The exact formulation of such indicators depends on how the VNCPC consolidated accounting will be structured.

7. LESSONS LEARNED

Lessons learned are generalizations, positive or negative, based on evaluation experiences with projects and programs.

The lessons are derived from the evaluation conducted and they abstract from specific circumstances to broader situations. Frequently the lessons highlight strengths or weaknesses in formulation, design and implementation that can affect performance and results. Therefore, the lessons can be retained for improving the quality and effectiveness of the assistance in the future.

However, it has to be pointed out that some lessons learned from a project may not be applicable to countries with very different industrial and socio-economic conditions.

The Evaluation Team derived the following lessons from the evaluation of the VNCPC:

A. Relevance

- A long-term approach is needed to achieve full application of the CP concept. The concept is a useful approach towards sustainable development. It is an effective tool for identifying and promoting technological changes, which result in environmental and economic benefits.
- It is crucial that a CPC responds to demand for CP services. In reality, however, there may be little demand, because of unrealistic or incomplete environmental legislation, insufficient law enforcement, unrealistic environmental policies, the lack of economic incentives, etc. (Other factors, including economic, financial and social factors, may influence demand too, but a CPC typically cannot contribute to changing such demand drivers).
- A CPC should offer its services on a demand oriented basis, including:
 - 1) by proactively and continuously analyzing the market with the aim to identify sectors, regions or specific companies which have a real demand,
 - 2) by offering its services proactively to such companies,
 - 3) by offering flexible services, which can be adapted to the specific needs/demand of a company,
 - 4) by conducting policy advice which helps strengthening demand. It should be noted that usually the mere provision of subsidized finance for CP investments raises demand only artificially: such demand typically disappears once the subsidy is spent.
- A more sustainable strategy is to increase demand by strengthening the environmental management framework, which, if done properly, results in an increased supply of finance.
- The opportunity of belonging to a network with the possibility of sharing experiences with the other Centres of the UNIDO/UNEP network programme, is very much appreciated by all the concerned parties (individually and in the framework of the annual meetings of directors of the centers). However, the networking with other centers is rather inexistent. The centers are busy with their own activities and problems and engage in common activities only if they find a benefit. UNIDO should identify more vigorously areas where real synergies exist and then encourage more real networking in these areas.
- Introducing the concept of CP in SOEs is difficult and may not always be possible, since SOEs do not necessarily respond to the instruments offered by the CPC (e.g., they may not respond to CP instruments which are based on market based approaches). The chance for successfully implementing CP is greater with private companies (now emerging in Vietnam) and SMEs (which are more flexible). Initially a strong emphasis is needed on awareness raising about the benefits of CP in both private and SME sectors.

B. Strategy

- The CPC attempts to receive revenues from the following sources: foreign sources (bilateral and/or multilateral assistance, international organizations, private foreign companies); Vietnamese enterprises; national or regional governmental organizations (e.g., ministries, specialized agencies, regional authorities); Vietnamese consultants (for trainings, seminars etc.). While it is good to minimize risks by diversifying potential “clients”, it is important to always maintain credibility among Vietnamese enterprises.
- CP is not only a technological concept but also a managerial one. To effectively introduce the CP concept in developing countries the following strategic elements have to be considered:
 - Promote CP as a continuous improvement of quality management system or of environmental management system.
 - To the extent possible, orient CP services along compliance with existing environmental legislation and policies.
 - The promotion of CP services should also point out effects on key economic and financial indicators of a company (e.g., key indicators of balance sheet and profit statement)
 - The CP concept should be included in technical education (CP curricula in the universities) and in business development training (quality management and environmental management system).
 - A competent and multi-disciplinary team has to be organized to promote and implement the CP concept. The NCPC has proved in several countries to be a good focal point to create such expert teams.
- A Cleaner Production Centre can be created within an existing organization or as an independent body. Evaluating this project, it seems that the first option it has been the most suitable. Locating the Centre in a well-established institution facilitates the public relations of the Centre. However, the option to be chosen depends on:
 - The conditions of the country, especially on the existence of a suitable institution to host the Centre.
 - The willingness of the Government to support the Centre and to establish an appropriate framework.
- In addition to simply measure and plan the Centre’s financial sustainability by comparing income from national sources with basic expenses, it is extremely useful if the Centre also has a regular accounting system in place. An accounting system based on best business and international practice allows for strategic financial planning and controlling and helps defining financial goals.

C. Project concept and design

- The project document for the NCPC should always include precise indicators for the outputs to be produced, in order to facilitate the monitoring of the achievements.
- Hosting the NCPCs at universities, ideally helps for the diffusion of the CP principles in the universities curricula and can be an important means of disseminating the CP concept.
- It may be difficult to achieve a widespread and sustainable application of the CP concept in project duration of 3-5 years. Wide scale application may be reached in longer term only.
- The purpose of CPC projects should be to “contribute to creating a conducive policy framework and a critical mass of awareness and expertise, to allow for a sustainable application of CP”.

D. Implementation, Ownership and Networking

- Services should not be provided free of charge to the enterprises, except in well-justified, exceptional cases. To the extent possible, a cost covering policy should be followed, which eventually allows for profit too.
- Integration of national counterparts from the beginning of the activities of a Cleaner Production Centre is a precondition to get commitment. The choice of committed and competent counterparts at public and private level plays an important role for the successful development of the Centre.
- A sustainable application of CP in enterprises requires adequate legal, policy and financial incentives to be in place. It is important that a CPC works towards the creation of such a system by cooperating with government agencies in a proactive way.
- By accepting to establish a NCPC, a Government shows its interest to support the improvement of environmental management in companies by giving support to the application of appropriate approaches. The Government is committing itself not only to logistical support but also to use the NCPC in devising new policies and legislation which are needed for a sustainable application of CP. Ideally, Government bodies compensate a Centre for such services.
- Promoting the CP concept requires intensive networking. In large countries, the creation of branch offices with dedicated teams may be needed, in order to achieve a better diffusion of the concept and its advantages. Normally, small regional units have easier access to institutions and enterprises in their areas.

E. Monitoring and reporting

- As the CP Centres are linked to a worldwide network, the executing agency should offer instruments which allow for the CPCs to be continuously informed about new technological developments and for receiving periodical methodological guidance. On the other side, the Centres should periodically formulate their needs and expectations, and request related services to the executing agency.
- Regular monitoring by the executing agency of the activities of the Centre and its resources is of paramount importance for assuring guidance, control and steady development of the network.

F. Awareness rising

- Awareness rising in cleaner production should be followed by a training. This may be a key precondition for the success of in-plant assessments.
- In order to achieve a sustainable and lasting application of the CP concept in a company, it may be necessary that the company management is fully aware of the concept and dedicated to its continuous implementation. In this way, the management can transpose the corresponding spirit to the employees.
- Similarly important is that following the CPCs intervention, company employees develop a full understanding and appreciation of saving resources and limiting pollution where ever possible and affordable. Such thinking should become standard business practice.

G. Technology transfer and financing

- Implementing technological transfer and preparing related investments of enterprises can be very time consuming. Once transfer and investment has been made, corresponding environmental and economic effects may come with an additional delay. The time factor has to be well assessed and planned.
- While foreign expertise may be needed to ensure the most appropriate choice of new technology, it is necessary that foreign experts know the country and the local entrepreneurial culture.
- Transfer of technology requires genuine willingness for cooperation between the two parties.
- In assisting companies with the financing of CP investments, it is fundamental that the NCPC offers comprehensive assistance, including:
 1. advice on which of the existing co-financing sources may be most suitable,
 2. advice on writing successful and specific applications to relevant co-financing sources,
 3. advice on the internal planning of the investment,
 4. advice on convincing the company management about the need and benefits (including financial, economic and compliance benefits) of the investment, etc.

The NCPC should diffuse and distribute such specific knowledge by providing appropriate training to local consultants and relevant staff (of large companies).

- Normally NCPCs are dominated by a technological approach and run by technology experts and engineers. Environmental financing services, in turn, appear to be not well developed and there is limited expertise available in the NCPC. There should be a critical mass of financing expertise available in NCPCs in order to not only preparing investment proposals but also realize them. In addition, on company level, a NCPC needs to address not only staff responsible for technology and processes, but also staff responsible for implementing investments.

TERMS OF REFERENCE

SECOND IN-DEPTH EVALUATION
Vietnam National Cleaner Production Centre
US/VIE/96/063

1. THE PROJECT

1.1. Key data

<i>Executing Agency:</i>	UNIDO, in cooperation with UNEP
<i>Host Institution:</i>	Institute for Environmental Science and Technology (INEST) of the Hanoi University of Technology, Ministry of Education and Training
<i>Donor Agency:</i>	State Secretariat for Economic Affairs (seco), Bern, Switzerland
<i>Project document signed:</i>	22 April 1998
<i>Duration:</i>	5 years (official starting date: 17 November 1998)
<i>Budget:</i>	<u>UNIDO</u> : 2,549,343 USD (excluding Agency support costs) <u>Host Institution</u> : in-kind contribution (including office space, local staff, and some local expenditures)
<i>UNIDO expenditures:</i>	2,275,459 USD (31 December 2002)
<i>VNCPC Director:</i>	Dr. Tran Van Nhan
<i>Chief Technical Advisor:</i>	Prof. Heinz Leuenberger
<i>International Counterpart Institution:</i>	Institute of Environmental Technology, FHBB, Switzerland

1.2. Brief description of the project

Background:

The NCPC in Vietnam was conceived in much the same manner as all the other NCPCs that UNIDO has established. However, it does differ in several important ways. It is the only centre where the funding institution has changed during the project. It was originally established with Swiss Development Corporation (SDC) funding but after an internal agreement among Swiss institutions the responsibility for funding the centre was transferred to seco in 1999. This resulted in some changes in the expectations of the donor of the project and, more significantly, a greater emphasis being placed on the business aspects of establishing a centre. Unlike all of the other projects establishing centres, the project for the establishment of the NCPC in Vietnam (VNCPC) foresees the use of a Chief Technical Advisor, thus meaning *inter alia* that it has a much weaker relationship with its international counterpart institution than is the case in other centres (a CTA was employed upon request of the-then funding agent SDC). It is also different from the latest centres that UNIDO has established, especially those established with Swiss funding, in not having an Executive Board, but an Advisory Board composed of 11 members. Finally, it differs from many other centres in that it operates in a market that is still very much centrally planned, with a still weak presence of free market precepts.

The VNCPC has been the subject of an earlier evaluation in 2000, which evaluated the results achieved from the start of the project until the end of 1999. On the basis of the evaluation, the Business Plan for the centre was revised, as was the budget.

Overall Objective:

The overall objective of the project is to disseminate Cleaner Production concepts and to promote its applications in order to reduce industrial pollution in Vietnam.

Immediate objectives and outputs:

Phase I (November 1998-March 2001)

The immediate objective of Phase I was to establish the basic infrastructure necessary to ensure satisfactory capacity building in the country in preparation of activities in phase II. This would involve the following outputs:

1. Establishment of the centre, including setting up an Advisory Board, hiring staff and procuring equipment;
2. Development of human resources for strengthening the capacity of the VNCPC for subsequent delivery of capacity building services;
3. Promotion of coordination and collaboration with other projects and organizations in Vietnam;
4. Delivery of capacity building services in order to build up the CP strategy in the major industrial areas of Vietnam (North, South and Centre);
5. Creation of the basic knowledge about CP in the policy-making circles and promotion of policy change;
6. Creation of awareness about CP in industry circles, which includes information dissemination on CP, extensive translation of CP documents into Vietnamese, creation of a library and a marketing and public relations team;
7. Provision of technical support for establishing financial mechanisms for high cost CP investments (funded directly by UNEP)
8. Encouragement of the adoption of CP strategies in new areas like environmental impact assessment and industrial estate management.

Phase II: (three years, April 2001- April 2004)

The immediate objective of phase II was for the VNCPC to make use of its human resources, CP network, CP information system, and marketing concepts to facilitate a shift from demonstration to large-scale application of CP in Vietnam. This would involve the following outputs:

1. Undertaking of in-plant demonstration projects;
2. Training of industry staff, new consultants (especially outside the VNCPC) and officials in the CP concepts;
3. Development of self-financed activities and long-term strategies to ensure sustainability of the centre;
4. Dissemination of CP successes in Vietnam and influencing of key stakeholders to take action to promote the application of CP in industrial enterprises;
5. Identification of new ways to increase financial commitment from industries to increase the commitment from the banking system;
6. Continuation of the policy dialogue efforts;
7. Provision of training and consultancy services on issues related to CP such as environmental management systems (EMS), Life-cycle design, and industrial ecology.

In addition, and to quantify some of these outputs, the VNCPC was to fulfill the concrete targets defined in the Business Plan.

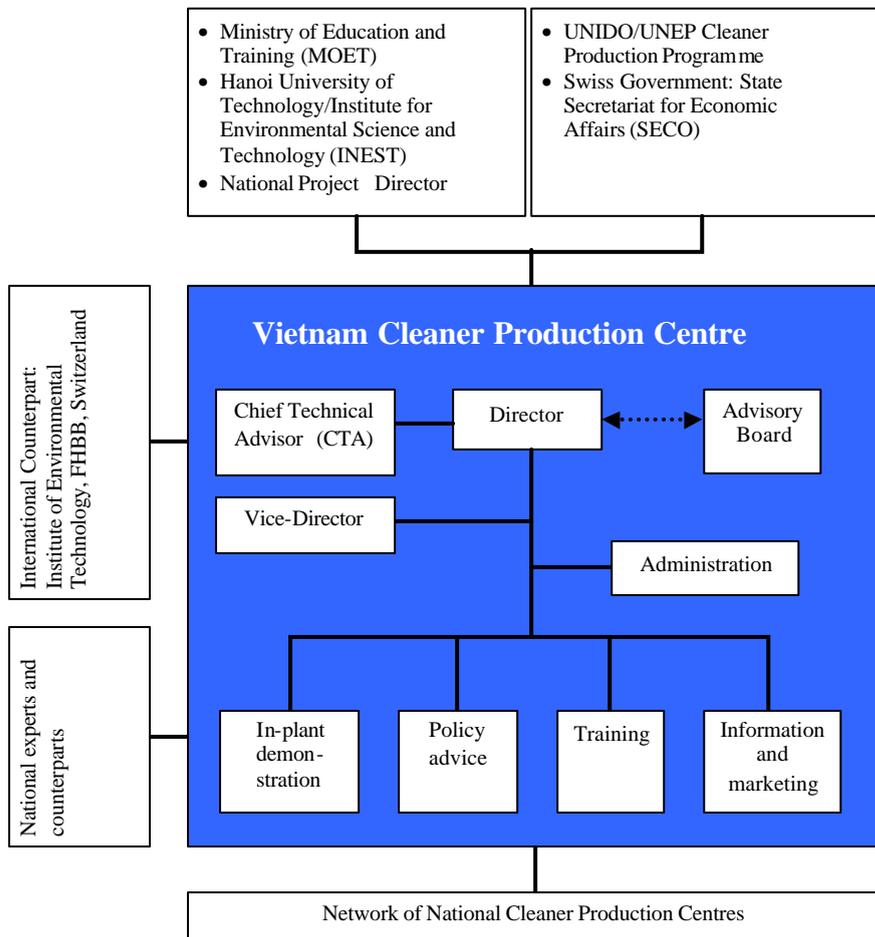
Organizational arrangements:

Advisory Board

The Centre has an Advisory Board consisting of 11 members at managing levels of relevant ministries and organizations: the Ministry of Education and Training (MOET), the Ministry of Industry (MOI), the Ministry of Science, Technology and the Environment (MOSTE), the Ministry of Finance (MOF), the Ministry of Planning and Investment (MPI), the Vietnam Chamber of Commerce and Industry (VCCI), the Hanoi University of Technology (HUT), the Institute for Environmental Science and Technology (INEST), Ho Chi Minh City National University, UNIDO and seco/SDC. The Vice-Minister of Education and Training is Chairman of the Board.

Organizational Structure

The organizational structure of Vietnam Cleaner Production is shown below.



2. THE IN-DEPTH EVALUATION

2.1 Purpose

The purpose of this in-depth evaluation is to enable the stakeholders to take decisions on the future orientation of the VNCPC's programmes and to learn lessons from the experience in Vietnam for planning new programmes. For this purpose, the evaluating team will review *inter alia* the draft Business Plan prepared for the third phase of the project and give any suggestions on eventual modifications to the draft.

This second in-depth evaluation was proposed by the Swiss donor and agreed upon prior to start-up of implementation (a first in-depth evaluation took place in March 2000).

2.2 Scope

An in-depth evaluation is an activity in the project cycle that attempts to determine as systematically and objectively as possible the relevance, efficiency, effectiveness, impact and sustainability of the project. The evaluation will assess the achievements of the project against its objectives, including a re-examination of the relevance of the objectives and of the project design. It will also assess to what degree the assumptions/risks as identified in the project document held true/occurred and identify other factors that have facilitated or impeded the achievement of the objectives. While a review of the past is in itself important, the in-depth evaluation is expected to lead to detailed recommendations for the future orientations of the Centre and lessons learned for the future.

In particular, the in-depth evaluation will pay attention to the following issues:

Relevance

- Has there been any development in the demand/need for CP services in the country?
- Is the concept of establishing the Centre as the country's focal point for CP the best strategy to support the application and dissemination of CP?
- Are the chosen strategies and target groups correct or should CP be promoted with different strategies or should other target groups be selected?

Efficiency

- Has the Centre reached the goals set in the project document and in the business plan?
- Have the inputs provided by UNIDO (expertise, training) been of good quality?
- How useful was the employment of a Chief Technical Advisor?
- Has the Centre benefited from being part of the NCPC programme/network?

Effectiveness

- Which services of the Centres are most used (information, training, technical advice/CP assessment, policy advice...)?
- To what degree do the CP assessors trained by the centres actually conduct CP assessments?
- After four years of operations, which new/additional services are evolving, especially in the field of transfer of cleaner technology?
- To what degree does the Centre manage to market the CP concept through cooperation with other organizations/consultants/universities...?
- How good is the quality of the services provided by the VNCPC, by the consultants trained by the centre, and by any other institution providing these services?

- How extensive is the VNCPC's network in Vietnam?
- How are the services offered by the Centre perceived in comparison to the services given by other service providers?

Impact

- To what degree do the companies implement the measures resulting from CP assessments?
- To what degree do the companies continue implementing the CP options after completion of the VNCPC intervention?
- What is the economic and environmental impact?
- Is there any evidence of CP in industry/the economy outside of direct VNCPC interventions at company level?
- To what degree has the VNCPC influenced the implementation of CP in environmental policies and laws in Vietnam?

Sustainability

- What should be the professional and managerial competence to sustain the activities? Where are the gaps and where are the strengths? What is the quality of the management system? How well are VNCPC staff members trained for their tasks?
- What are the sources of funding and direct income, current and potential?
- What arrangements can be made to strengthen the sustainability of the Centre?

Other

- What has been the efficiency and utility of the success indicators as applied by the Centre?

The conclusions of the Evaluation Team on these points will be reflected where appropriate as recommendations for additions to, or modifications to, the draft Business Plan for the third phase of the project.

2.3 Method

The evaluation team will:

- Study basic project documentation prepared by UNIDO on the project.
- Be briefed by the UNIDO Evaluation Services Branch on evaluation methodology.
- Interview UNIDO staff that has been involved in the management of the project.
- Interview the Director and staff of the centre as well as the Chief Technical Advisor and members of the Advisory Board.
- Study documentation available in the centre.
- Visit and interview some persons that received training from the Centre, and some companies that were the subjects of in-plant assessments undertaken by the Centre.
- Interview other stakeholders and cooperating organizations or beneficiaries, such as ministries, universities, regional or local administrations, funding agencies, consulting companies, etc.

Although the evaluation team should feel free to discuss with the authorities concerned all matters relevant to its assignment, it is not authorized to make any commitment on behalf of UNIDO or the donor.

2.4 Composition of the Evaluation Team

The evaluation team will be composed of the following:

- One nominee of the donor with experience in Cleaner Production. Knowledge about the industrial and political situation of Vietnam would be an asset. He/she should have good knowledge of English.
- One nominee of UNIDO with knowledge of project evaluation and the NCPC programme.
- One nominee of the Government of Vietnam with a technical background and with a good knowledge of the industry-related institutional and policy framework of the country. He/she should have a good knowledge of English.

The members of the evaluation team should not have been involved in the design or implementation of the programme.

2.5 Timetables and Report

3 March 2003:	Beginning of the evaluation, analysis of all relevant background papers
10-11 March 2003:	Briefing at UNIDO Headquarters
14 March 2003:	Meeting with Swiss donor (seco), Bern, Switzerland
17-31 March 2003:	Field mission to Vietnam, with final meeting with local stakeholders to present draft conclusions and recommendations
9 April 2003:	Presentation of draft conclusions and recommendations at the offices of seco in Bern, Switzerland
25 April 2003:	Advisory Board Meeting, Vietnam, with discussion of, and possible comments on, draft conclusions and recommendations
15 May 2003:	Submission of the draft report to UNIDO, seco, and the Government of Vietnam
31 May 2003:	Comments on draft report by UNIDO, seco and the Government of Vietnam sent to the Evaluation Team
16 June 2003:	Submission of Final Report

On the basis of the preliminary analysis of the activities, it will be decided which institutions and companies will be visited. The respective project authorities will provide substantive, administrative and logistical support in the field.

The evaluation report should follow a standard structure. In order to ensure that the report considers the views of the parties concerned and is properly understood and followed up by them it is required that:

- The main conclusions and recommendations be presented to and discussed with the development partners in the field;

- The main conclusions and recommendations be presented to and discussed with representatives from the donor and UNIDO at a meeting to be organized in Bern, Switzerland, after the mission.

As the report is the product of an independent team of persons acting in their personal capacities, it is up to them to make use of the comments made by the parties involved and to reflect them as they think best in the final report. However, the evaluation team is responsible for correcting any factual errors brought to their attention prior to the finalization of the report.

The final joint report is to be submitted in 6 hard copies and the full text on a diskette (in Word) to the Evaluation Branch by 16 June 2003 at the latest.

AGENDA with Persons met
Joint in-depth evaluation mission of Project VIE 96/063
Vietnam Cleaner Production Centre (VNCPC)- March/April 2003

Updated: 30 March, 2003

Time	Agency/Person/Position	Contact telephone/address
11 March 2003 Vienna / Austria 09:00-16:00	Briefing at UNIDO -Mr. Edward Clarence-Smith, Senior Industrial Development Officer, Cleaner Production and Environmental Management Branch, Programme Development and Technical Cooperation Division	Vienna International Centre, A-1400 Vienna / Austria Tel: 43 (0)1-26026-5079/3660 Fax: 43 (0)1-26026 6819
13 March 2003 Bern/Switzerland 14:00-16:30	Briefing at seco (State Secretariat for Economic Affairs) - Mr. Hans-Peter Egler, Head Trade and Clean Technology Cooperation - Ms. Ariane Sotoudeh, Programme Manager Trade & Clean Technology Cooperation - Mr. Heinz Leuenberger, Chief Technical Advisor of VNCPC-Hanoi	Effingerstrasse 1 CH-3003 Bern / Schweiz Tel: 41 (0)31-3240898 Fax: 41 (0)31-3228630
From 17 to 31 March 2003 in Vietnam		
Day 1: 17/03/03 (Monday in Hanoi)		
Morning 9:30-12:00	Working with VNCPC Mr. Tran Van Nhan, Director of VNCPC Ms. Ngo Thi Nga, Deputy Director VNCPC Mr. Dinh Van Sam, retired Director of INEST Meeting with the staff of the Centre	Room 400, 4th floor, C10 DHBKHN 1 Dai Co Viet, Hanoi Tel/Fax: 04-868 1618
12:00-13:30	Lunch break	
Afternoon 13:30-15:00	Working with the Hanoi University of Technology (HUT) Mr. Hoang Ba Chu, Vice Rector of HUT	DHBKHN 1 Dai Co Viet, Hanoi
15:30-16:30	Working with the Ministry of Education and Training (MoET) Mr. Bui Cong Tho, Deputy Director of International Relations Department	Ministry of Education and Training 49 Dai Co Viet, Hanoi Tel: 04-869 4795 (274) - Ms. Le Fax: 04-8693243
Day 2: 18/03/03 (Tuesday in Hanoi)		
Morning 8:30-10:00	Working with UNIDO Mr. Philippe R. Scholtes, UNIDO Representative in Vietnam	UNIDO Office 25-29 Phan Boi Chau Tel: 04-822 4490 (Ms. Van: 0913223341)
12:00-13:30	Lunch break	
13:30-15:00	Working with the Environmental Protection Agency (EPA) Mr. Nguyen Ngoc Sinh, Director of EPA Mr. Chu Thi Sang, Director Environmental technology and Environmental Impact Assessment Division, NEA (National Environment Agency)	Environmental Protection Agency 67 Nguyen Du, Hanoi Tel: 0913210914
15:20-16:30	Working with the Ministry of Natural Resources and Environment Mr. Truong Manh Tien, General Director Department of Environment	85 Nguyen Chi Thanh, Hanoi Tel: 04-7734244
Day 3: 19/03/03 (Wednesday in Hanoi)		
8:15-9:15	Working with the Ministry of Planning and Investment (MPI) Ms. Phan Thu Huong, Director of Science Education and Environment Department Mr. Ngo Tuan Dung, coordinator UNEP project Ms. Pham Kim Oanh, environmental officer Mr. Nguyen Trang Trung, Environment and Science officer.	Ministry of Planning and Investment 2 Hoang Van Thu, Hanoi Tel: 08043310 (Ms. Oanh)

Time	Agency/Person/Position	Contact telephone/address
9:20-10:15	Working with the Ministry of Planning and Investment (MPI) Mr. Nguyen The Phuong, Deputy Director of the External Economy Department Coordinator ODA resources utilization	Ministry of Planning and Investment 2 Hoang Van Thu, Hanoi Tel: 04-823 7950 Fax: 04-823 6918
10:30-12:00	Working with the Ministry of Industry (MOI) Mr. Nguyen Gia De, Deputy Director of Technology and Product Quality Management Department	Ministry of Industry 54 Hai Ba Trung, Hanoi Tel: 04-934 7275 Fax: 04-826 5303
12:00-13:30	Lunch break	
13:30-14:45	Working with the Vietnam Textile Corporation (VINATEX) Mr. Cao Huu Hieu, Department of Technology and Investment Mr. Dung, Technical and Investment Dept.	VINATEX 25 Ba Trieu, Hanoi Mobi: 0913 596 982 Tel: 04-9349 607 Fax: 04-8262 269
15:15-16:30	Visiting the Hanoi Garment Textile Company (Hanosimex) Mr. Tran Cao Le, Deputy Director General Mr. Vu Duc Hieu, Deputy Director of Technical Department Interview Ms. Dang Bich Phuong from Hanosimex, VNCPC trainee and responsible for Cleaner Production in the Company	Hanosimex 1 Mai Dong, Hai Ba Trung, Hanoi Tel: 04-8621 223 Fax: 04-8622 334
17:00-19:00	Meeting at Hotel Guoman with Mr. Mr. Tran Van Nhan, Director of VNCPC Discussion on achievements of the Centre.	
Day 4: 20/03/03 (Thursday in Nam Dinh, 120 kms.from Hanoi)		
8:00-16:30	Visiting Nam Dinh Textile Company. Belonging to the Vinatex Group. Mr. Ha Van Vinh, Deputy Director of the Dyeing Mill Dept.	43 To Hieu, Nam Dinh City Mobi: 0912138166
Day 5: 21/03/03 (Friday in Nha Trang)		
6:30-8:30	Airport - Flight to NhaTrang	
9:30-12:00	Visiting Rang Dong Paper Company Mr. Dao Vu Lam, Director Mr. Tran Hoang Ngoc Thao, Technical Manager Mr. Pham Thai Son, Deputy Director (Accompanied as interpreter by Mr. Ho Van Trung Thu, of Marine Protected Area, Pilot Project of Danida.)	An Dinh, Dien Phuoc, Dien Khanh Tel: 058-780 914 Fax: 058-780 123 Mobi: Director Vu Lam: 0903507979
12:00-13:30	Lunch break	
13:45-16:30	Working with DOSTE Dept.of Science, Technology and Environment of Khanh Hoa Province Mr. Nguyen Van Huot, Director Interview Mr. Huynh Nguyen Anh Kiet, VNCPC's trainee and Vice Director Environmental Dept.	1 Tran Phu, Nha Trang Tel: 058-829 849 Fax: 058-824 676
Day 6: 22/03/03 (Saturday in Nha Trang)		
Day 7: 23/03/03 (16:00-17:30 Flight from Nha Trang to Ho Chi Minh City -HCMC)		
Day 8: 24/03/03 (Monday in Ho Chi Minh City)		
Morning 8:00-9:30	Assisted by Mr. Nguyen Le Truong of ENERTEAM (Energy and Technology Engineering) as interpreter. Working with Ho CHI MINH CITY DOSTE Ms. Doan Thi Toi, Chief Department of Environmental Management Ms. Do Hoang Oanh, Environmental Expert Mr. Tran Nguyen Hien, Deputy Manager Environment management Dept. Mr. Khuat Duy Vinh Long, Chief Administrative Officer	244 Dien Bien Phu, District 3, HCMC Tel: 08-932 6709 Fax: 08-932 0122
10:30-12:00	Visiting the Dyeing Mill - 28 Enterprise Agtex (Army Textile Factory) Mr. Nguyen Tran Luat, Deputy Director Mr. Ho Thi Huyen, Manager Technical Dept.	3 Nguyen Oanh, Ward 10, Go Vap District, HCMC Tel: 08-8-943 831 Fax: 08-8-944 980 Mobi: 0903701917
12:00-13:30	Lunch break	
Afternoon 14:00-16:30	Visiting Viet Thang Textile Company (Vicotex) Mr. Nguyen Huu Thung, Deputy General Director	Linh Trung, Thu Duc, HCMC Tel: 08-8-969 337

Time	Agency/Person/Position	Contact telephone/address
	Mr. Du Kien Trung, Deputy Director of Investment, Technology Department	Fax: 08-8-969 319
16:45-18:00	ENERTEAM (Energy Conservation Research and Development Center) Consulting Company Mr. Nguyen Tran The, Director Mr. Le Hoang Viet, Deputy Director	237, Dien Bien Phu – District 3 HCMC Tel :08-9307350 Fax :08-9307350
Day 9: 25/03/03 (Tuesday in HCMC)		
Morning 8:00-9:00	Working with the Centre of Environmental Technology (ECO) Mr. Tran Ung Long, Director	Tel: 08-8-425760 Fax: 08-8-425 763 Mobi: 09080 7427
9:30-10:30	Visiting Nhat Tri Dyeing Enterprise Mr. Nguyen Van Vien, Director (Meeting cancelled due to misunderstanding, when mission team was there, for unforeseen circumstances)	3A Bis 1, Lac Long Quan, Ward 15, District 11, HCMC
11:00-12:15	Ho Chi Minh City DPI (Department of Planning and Investment) Mr. Lam Nguyen Khoi, Chief Economic Development Planning division	32, Le Than Ton St. Distr.1 tel: 8.299194 fax: 848.8295.008
12:15-13:30	Lunch break	
Afternoon 14:00-16:30	Visiting the Dong Nai Paper Company (COGIDO) Mr. Tran Xuan Ky, Deputy Director and Cleaner Production Team Leader Mr. Vu Minh Ky, Technical Department, Deputy Supervisor of Paper Making Workshop	Bien Hoa Industrial Zone Tel: 061-836 201 Fax: 061-836 231
14:00-16:00	Ho Chi Minh City Investment Fund for Urban Development (HIFU) Mr. Hoang Dinh Thang, Director R&D Department Ms. Trinh Thi Xuan Dung, Expert – Credit Department	33-39 Pasteur, District 1, HCMC Tel : (84.8)8214244 Fax : (84.8)8214243
Day 10: 26/03/03 (Wednesday in HCMC)		
Morning 8:00-10:00	Victory Hotel Interviewing trainees of VNCP Mr. Truong Thanh Can Technical Director DOSTE HCMC Environment and Technology Centre Mr. Ton That Lang , Consultant of Binh Giang, Private Enterprise in Technology and Environment. Trained in CP by the VNCP	Tel: 08-990 7511 Mobi: 0903 983932 Mobile: 0903.752917
10:30-12:00	Working with the Institute for Environment & Natural Resources (IER) National University of Ho Chi Minh City Mr. Lam Minh Triet, Director Mr. Le Thanh Hai, Head of Environmental Management Department Ms. Nguyen Thi Truyen, Mr. Do Hong Lan Chi, Mr. Nguyen Phuoc Dan,	142 To Hien Thanh, Dist.10, HCMC Tel: 08-865 1132 Fax: 08-865 5670 Mobi: 09039 51051
12:00-13:30	Lunch break	
Afternoon 14:00-15:00	Working with Chamber of Commerce and Industry of Vietnam - HCMC Branch Mr. Le Binh Hung, Deputy General Director in charge of SMEs Promotion	171 Vo Thi Sau, Dist. 3, HCMC Tel: 08-932 5170 Fax: 08-932 0033 Mobi: 090390 8511
17:15-19:30	Flight to Hanoi	
Day 11: 27/03/03 (Thursday in Hanoi)		
Morning 8:00-9:15	Working with VCCI (Chamber of Commerce and Industry of Vietnam – Hanoi Branch Small and Medium Enterprise Promotion Center) Mr. Nguyen Ngoc Tuan, Managing Director SMEs Promotion Center	9 Dao Duy Anh, Hanoi Tel: 04- 5742022, ext. 310 Fax: 04-5742020
9:30-10:30	Working with the Royal Danish Embassy Mr. Lars Mikkel Johannessen, Counsellor, Development and Cooperation Section Mr. Dao Nhat Dinh, Programme Officer	19 Dien Bien Phu, Hanoi Tel: 04-823 1888 Fax: 04-823 1999 Contact person: Mr Dinh
10:45-12:00	Working with VCEP (Vietnam – Canada Environment Project) Mr. John Patterson, Chief Technical Advisor & Project Manager	8th floor, Cong Doan Hotel 14 Tran Binh Trong, Hanoi Tel: 04-8224840 Fax: 04-822 4850

Time	Agency/Person/Position	Contact telephone/address
		Mobil: 0913206101
12:00-13:30	Lunch break	
Afternoon 13:30-14:45	Working with UNDP (UNITED NATIONS DEVELOPMENT PROGRAMME) Ms. Nguyen Ngoc Ly, Senior Sustainable Development Advisor, Head Social Equity and Environmental Sustainability Unit	25-29 Phan Boi Chau, Hanoi Tel: 04-942 1495, Ext. 249 Fax: 04-942 2267
15:00-16:00	Working with Swiss Embassy – SDC (Swiss Agency for Development and Cooperation), Regional Coordination Office - Mr. Walter Meyer, Regional Coordinator, Counsellor, Development & Cooperation - Ms Dang Mai Dung, National Programme Officer, Swiss Agency for Development and Cooperation (SDC)	Swiss Embassy 16 th floor, Central Building 44B Ly Thuong Kiet, Hanoi Tel: 04-934 6627 Fax: 04-934 6591
16:00-17:00	Swiss Embassy Ms.Dominique Jordan, First Secretary Financial and Trade Cooperation	Swiss Embassy 15 th floor, Central Building 44B Ly Thuong Kiet, Hanoi Tel: 04-934 6589 Fax: 04-934 6591
Day 12: 28/03/03 (Friday in Hanoi)		
Morning 8:00-8:45	University of Hanoi Technology Department Interviewing Ms.Hoang Thi Linh Deputy Director Textile Garment Technology Dept. Textiles/Chemistry Faculty Trained in Cp in 1999 by VNCPC as Trainer of Trainers	Tel: 04-869 2401 04-868 1714
9:15-10:30	Working with the Embassy of Sweden/SIDA Ms. Do Thi Huyen, National Program Officer	2 Nui Truc, Hanoi Tel: 04-726 0403 Fax: 04-823 2195
11:00-12:00	Document review and preparation of draft Conclusions and Recommendations	
12:00-13:30	Lunch break	
13:30-18:30	Document Review and preparation of draft Conclusions and Recommendations Meeting with the Director of the Centre Mr. Tran Van Nhan, Director of VNCPC and Mr. Heinz Leuenberger, Chief Technical Advisor of VNCPC	
Day 13: 29/03/03 (Weekend in Hanoi)		
Day 14: 30/03/03 (Weekend in Hanoi)		
Day 15: 31/03/03 (Monday in Hanoi)		
8:00-12:00	Presentation at VNCPC by the evaluation team of the draft of the Preliminary conclusions and recommendations Invited to the presentation the staff of VNCPC and the CTA, representatives from INEST, HUT, MoET, MPI, UNIDO, Swiss Embassy and SDC	Room 400, 4th floor, C10 DHBKHN 1 Dai Co Viet, Hanoi Tel/Fax: 04-868 1618
12:00-13:30	Lunch break	
13:30-16:30	Presentation by the evaluation team of the draft of the Preliminary conclusions and recommendations (Cont.)	
9 April 2003 at seco in Bern Switzerland 10:00-16:30	Presentation to seco (State Secretariat for Economic Affairs) by the evaluation team of the draft of the Preliminary conclusions and recommendations Mr. Hans-Peter Egler, Head Trade and Clean Technology Cooperation Ms. Ariane Sotoudeh, Programme Manager Trade & Clean Technology Cooperation	Effingerstrasse 1 CH-3003 Bern / Schweiz Tel: 41 (0)31-3240898 Fax: 41 (0)31-3228630

VALUATION OF THE ANSWERS GIVEN BY THE COMPANIES TO THE QUESTIONNAIRE

The questionnaires were sent to 31 enterprises, which have been cooperating with the VNCPC. Of these, 22 enterprises answered to the questionnaire, of which 8 enterprises have less than 200 employees, 9 enterprises have between 200 and 1000 employees, and 5 enterprises have more than 1000 employees.

Question 1-2. How did you learn about the existence of the VNCPC?

- 90% through the promotion made by the Centre; 10% through information received from friends.

Question 3. Which services have you received from the Centre?

- Out of the 22 enterprises, some companies received more than one service and the percentage of the services received is as follows:
 - 86% training
 - 81% full in-plant technical assessments
 - 18% rapid technical enterprise assessments
 - 13% information on possible financing sources

Question 4. How many times did you meet the Centre's consultant?

- The number of meetings ranged from 3 up to 40. The reason for this spectrum is that the questionnaire was sent to companies which received not only technical in-plant assessments or training from the Centre. The division is as follows:
 - 4 companies did not remember how many times
 - 10 companies had an average of meetings from 3 to 8
 - 7 companies from 10 to 20
 - 1 company indicated 40 meetings

Question 5. After the training and the visit of the consultant, did your company learn how to write the technical reports?

- All the companies answered yes.

Question 6. Your appreciation of the services received?

- All companies found the services received useful or very useful, except one who found them not very useful.

Question 7. How do you assess the technical knowledge of the advisers or of the trainers?

- 68% rated very good; 32% rated good or satisfactory.

Question 8. Will you further utilize the services offered by the Centre?

- 82% answered yes; 18% answered no.

Question 9. Which improvements did you make or intend to realize, after the advice or training received by the Centre?

- 9% answered none.
- 40% have already applied the operational improvements suggested.
- 27% are planning to apply the operational improvements suggested.
- 54% already realized investments needed to implement the options suggested.
- 54% are looking for financial assistance/loans to apply the measures suggested
- It should be noted that these figures are also containing companies, which already applied some operational improvements, and companies which already invested in some new technologies (but are still looking for loans to apply further improvements). Most of the companies expressed interest for realizing operational improvements (mainly for saving water, energy and raw materials).

Question 10. What did you like best of the services of the Centre?

- The services offered have been generally appreciated, particularly:
 - the good technical training method and the enthusiasm showed,
 - the advice given for energy and raw materials saving,
 - the competent and valuable technical analysis made and the effective new techniques applied or suggested to improve the production processes
 - the good housekeeping practices learned at convenient price,
 - the access to the information,
 - the awareness raised on CP and the subsequent respect for the environment

Question 11. What did you not like of the services of the Centre?

- 20 companies did not answer to this question. The two companies, which answered, stated that the service was too costly and that if they are paying for the training, they do not understand why their staff should prepare the technical report. Another company stated that the Centre is located too far away and therefore it is very difficult to organize meetings.

Question 12. Has the Centre made some follow up regarding the proposals made for operational changes or investments?

- 86 % answered yes and 14 % answered no.

Question 13. Do you know other institutions in the country, which offer assistance in cleaner production?

- 72 % of the enterprises stated that they do not know other similar institutions. 28 % mentioned yes, indicating the Centre for Labour and Environment in the Can Tho province and the Department of Science, Technology and Environment (DOSTE) in Ho Chi Minh City. In one answer it was indicated that, however, DOSTE applies higher fees for consultancies than the Centre.

Question 14. Suggestions given, regarding future activities of the Centre.

- Expand the activities to more companies in other sectors.
- The Centre should have its own technical equipment to help companies in monitoring the required parameters.
- More advice on financing investments and related financing assistance
- More updated information and assistance on new and advanced technologies
- Use of environmental friendly chemicals for improving the production processes and to protect the environment
- Consolidate and expand the local CP networking

Question 15. In case you have applied the recommendations proposed by the Centre, which specific benefits has obtained your enterprise?

- Answers included:
 - Less operational costs and environmental contamination.
 - Optimization of the operations and better production quality with lower production costs. Through some equipment modification, improvement of the working environment (better ventilation).
 - Reduced consumption of resources, energy, fuel and raw materials.
 - Reduction of 50% of the waste.
 - Production expansion and increased profit, while decreasing the pollution load and the volume.
 - Reduction of the waste water and less consumption of water
 - Improved CP awareness in the enterprise, minimizing the environmental impact and achieving higher competitiveness.
 - Better planning and better quality and production management.
 - Received ISO certification, meeting also the requirements of the environmental standards in Vietnam.
 - Updated BAT in the textile-dyeing industry
- It should be noted that the companies indicated that their main interest in realizing the suggested improvements, is to increase the competitiveness of their products, with only in few cases specific interest for less contamination or cleaner production.

All the answers of the enterprises have been an additional valuable input for the conclusions drawn by the evaluation team. A copy of the questionnaire sent to the companies is provided in Annex IV.

Questionnaire for Companies assisted by the VNCPC

Name of company: _____
 Year of establishment: _____
 Type of activity: _____
 Number of employees: _____

1. How did you first learn about the CPC and its services?
 Approached by Centre Through Media (Press etc.) Colleagues / Friends, Other Firms
2. When did you first learn about the Centre? Month Year.....
3. Which services did you receive and at which cost?
 Training of your Staff Rapid Technical Assessment
 Full in-plant assessment Assistance and information on funding sources Cost \$:
4. How many times did you meet the adviser of the Centre?
5. Did your Company learned how to write a Cleaner Production Assessment? Yes No
6. How do you rate the usefulness of the services received?
 Very useful Satisfactory, useful or normal
 Not very useful Useless
7. How do you rate the professional knowledge of the adviser?
 Very good Satisfactory
 Not very good Poor
8. Do you plan to use the Centre's services again in the future, (under roughly the same cost conditions) Yes No
9. What improvement steps did you take or do you plan, as a consequence of the advice received by the Centre (energy savings, environmental improvements, etc.)?

	Action taken (Amount \$ & year)	Planned (Amount \$ & year)
Nothing		
Operational improvements		
Investments		

10. What did you like concerning the services of the Centre?
11. What did you not like concerning the services of the Centre?
12. Did the CP Centre do any follow up regarding implementation of the proposals made for changes in operations or investments? Yes No
13. Are there other institutions offering Cleaner Production services at similar conditions in the country? Yes No Name:
14. Do you have any suggestions for the future of the Centre in your country?
15. In case you have applied the recommendations proposed by the Centre, which specific benefits you have obtained in your enterprise?

Information on the proposed National Environmental Protection Strategy 2001-2010

Note: Information provided by Mr. Tran Minh Chi, member of the evaluation team

The National National Environmental Protection Strategy (NEPS) 2001–2010 was developed by the Ministry of Science, Technology and Environment (MOSTE) with the participation of a large group of scientists, government managers working in various fields, as well as contributions of international organizations and funding agencies such as World Bank, UNDP, SIDA, etc. The NEPS is based on the following two documents: the National Socio-economical Development Master Plan 2001 – 2010, and the National Environmental Action Plan 1991 – 2000. The NEPS was issued by MOSTE in 6/2000.

Main content

The NEPS stated that during the last decade, the quality of the environment in Vietnam continued to degrade despite various efforts and successes. The main issues were:

- Deforestation.
- Degradation of biodiversity.
- Degradation of water resources quality.
- Urban and industrial pollution.
- Degradation of rural environment.
- Indoor industrial pollution and occupational health problems.
- Increase of environmental accidents/risks etc.

It also referred to various impacts of global environmental issues such as the basin management of the Red river and the Mekong river, border forests, acid rain, greenhouse gas effects and depletion of the ozone layer, marine pollution and pollution shift from developed countries, etc.

The NEPS stated its general principle as to protect and improve the environment, to improve the people's health and quality of life and to achieve a sustainable development in the country. The NEPS has set three strategic objectives:

- Pollution prevention;
- rational and sustainable use of natural resources, biological diversity conservation, and,
- environmental quality improvement.

The NEPS consists of 13 main contents/components:

- water environment protection and sustainable use of water resources;
- protection and sustainable use of land and mineral resources;
- conservation of biological diversity;
- protection of the air environment;
- protection of the environment in industrial zones and urban areas;
- protection of the rural environment;

- protection of the marine, coastal and island environment;
- protection of wetlands;
- protection of the natural and cultural heritages;
- cleaner production;
- protection of the environment associated with regional socio-economic development;
- environmental protection associated with the development of economic sectors;
- scientific and technological research on environment.

Implementation and priorities

To implement the NEPS, the following 9 programs were planned:

- promoting environmental education and raising environmental awareness;
- strengthening the role of the communities and enterprises in environmental protection;
- enhancing and diversifying environmental protection investment;
- strengthening state management capacity in environmental protection;
- extending international cooperation and attracting foreign support;
- integrating the NEPS into socio-economic development strategy;
- selecting actions of priority;
- responsibility assignment among implementing agencies;
- monitoring and evaluating the implementation of the strategy.

Since each item was divided into a number of programs, altogether NEPS includes 77 programs. Among these, 7 programs were selected to be of top priority, 21 programs as of high priority and the remaining 49 programs as priority. The 7 top priority programs include:

- Work out and implement a comprehensive plan for sustainable industrial development covering the entire process of from resource exploitation, production and waste management.
- Develop a strategy and a landfill plan for solid wastes and hazardous wastes treatment in the urban areas with a high density of population.
- Continue with the promulgation of regulations and standards for the protection and sustainable use of water resources, especially in the river basins, reservoirs and groundwater aquifers.
- Upgrade the environmental management system and strengthen the capacity of environmental management agencies at every level and of the ministries and branches.
- Combine environmental education in the curricular of the school and universities
- Promote environmental movement of mass organizations such as the Fatherland Front, the Trade Union, the Youth League, the Woman Union, the Veteran Association, the Farmer Association, etc.
- Consolidate the system for sustainable use and management of forestry resources through community participation.

Evaluation Report: Follow-up form for the Recommendations proposed

Project No.: US/VIE/96/063
 Project Title: Vietnam National Cleaner Production Centre
 Project Manager: Mr. Edward Clarence-Smith
 Evaluation Report: prepared in June 2003

<i>No.</i>	<i>Recapitulation of recommendations</i>	<i>Reference to recommendation Nr.</i>	<i>Responsibility for implementation</i>	<i>Suggested Timing or deadline for implementation</i>	<i>Action taken, if any, by responsible parties at expiration of suggested deadlines</i>
A	<u>To UNIDO and seco</u>				
A1	Project extension for a third phase	1	UNIDO, seco	August 2004	
A2	Preparation of Laos and Cambodia CP programs	3	UNIDO PM and UNIDO Field Representative, seco	Beginning of 2004	
A3	Laos and Cambodia extension of activities on phase III of the Business Plan and prepared under distinct project documents	5	UNIDO PM and UNIDO Field Representative, seco	Beginning of 2004	
A4	Continued use of CTA and of his services	35	UNIDO PM, seco, CTA	August 2004	
B	<u>To the VNCPC</u>				
B1	New VNCPC office in HCMC and maybe also Central Vietnam	2	UNIDO PM CPC Director, CTA	End of 2004	

B2	More demand driven CP/CT services	6	CPC Director, CTA	Immediately	
B3	Continue to build visibility among key stakeholders	9	CPC Director, CTA	Immediately	
B4	Refocusing on private sector and SMEs. Survey on pollution caused by SME sectors.	10	CPC Director, CTA	August 2004	
B5	Focus on demand	11	CPC Director, CTA	Immediately	
B6	Consolidated accounting as a financial planning instrument	12	CPC Director, CTA	Immediately	
B7	Seek cooperation with other donor programs	13	CPC Director, CTA	Immediately	
B8	Shift to subcontracting policy with “service providers”	14	CPC Director, CTA	Immediately	
B9	“Service provider” network	15	CPC Director, CTA	End 2004	
B10	Develop strategic partnerships with key financing institutions	17	CPC Director, CTA	Immediately	
B11	Develop strategic partnerships with emerging financing institutions	18	CPC Director, CTA	End 2004	
B12	Enhance services on preparing investment proposals	19	CPC Director, CTA	Immediately	
B13	Directory of financing sources for CP/CT investments	20	CPC Director, CTA	End 2004	
B14	Enhance training related to CP/CT financing services	21	CPC Director, CTA	End 2004	
B15	Ensure follow up with firms after CP/CT assessments	22	CPC Director, CTA	Immediately	

B16	Add compliance assessments to regular CP/CT assessments	23	CPC Director, CTA	End 2004	
B17	Enhance economic/financial assessment in regular CP/CT assessments	24	CPC Director, CTA	End 2004	
B18	In work with companies, react to specific requests of the company	25	CPC Director, CTA	End 2004	
B19	Give priority to Vietnamese technology providers	26	CPC Director, CTA	Immediately	
B20	Build more capacity on environmental engineering consulting	27	CPC Director, CTA	End 2004	
B21	Maintain sector approach during project phase III	29	CPC Director, CTA	Immediately	
B22	Develop/disseminate a CP/CT newsletter in Vietnamese language	30	CPC Director, CTA	End 2004	
B23	Consider working on Clean Development mechanisms during phase III	32	CPC Director, CTA	End 2005	
B24	Emphasis on training young people in CP/CT	33	CPC Director, CTA	Immediately	
B25	Develop career opportunities for VNCPC staff	34	CPC Director, CTA	Immediately	
B26	Add MONRE to Advisory Board	37	CPC Director	Immediately	
C	<u>To UNIDO</u>				
C1	Expansion of CP activities in Laos and Cambodia under separate project documents	4	UNIDO PM and FR	Beginning of 2004	
C2	Workshops during UNIDO NCPC network meetings	38	UNIDO PM	Beginning of 2004	
D	<u>To UNIDO, the VNCPC, seco and Vietnamese Authorities</u>				

	<u>Authorities</u>				
D1	Strategy for company identification and selection, strategic partnerships with key Vietnamese institutions	7	CPC Director, CTA, UNIDO FR, seco	End 2004	
D2	Develop and foster policy framework for sustainable application of CP/CT concepts	8	CPC Director, CTA, seco, MONRE, MoI	End 2004	
D3	Policy advice	31	CPC Director, CTA, MONRE, MoI	on demand basis	
E	<u>To UNIDO, Swiss RC and the VNCPC</u>				
E1	Provide technology information on demand	28	CPC Director, CTA, RC, UNIDO PM	End 2004	
E2	Use foreign experts more often for in-plant work	36	CPC Director, CTA, RC, UNIDO PM	Immediately	
F	<u>To seco</u>				
F1	At present no need for a new seco CP/CT soft credit facility	16	seco	Immediately	

Note: UNIDO PM = UNIDO Project Manager; UNIDO FR = UNIDO Field Representative