

CLEANER TECHNOLOGY (POLLUTION PREVENTION) IMPLEMENTATION IN THAILAND: GOVERNMENT MECHANISM

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ABSTRACT

Experience gathered from throughout the world shows that different environmental management mechanisms have their pros and cons. These mechanisms, ranging from emission standards, pollution taxation, cleaner technology (pollution prevention), green product, and sustainable consumption, mix to a certain level depending on local conditions. However, to speed up the change from command and control to more dialogue and incentive-based economic tools need both good cooperation and stimulation from government authorities. Department of Industrial Works (DIW) realises this fact, therefore, establishes a comprehensive Cleaner Technology Policy for Thai Industry. This policy includes many components in order to support the whole chain of Cleaner Technology activities i.e., Industrial Sector Committee (ISC) as an advisory committee regarding CT Codes of Practice for each industrial sector, Technology Verification Committee (TVC) as a special task force to verify the cleaner technology of a project, human resource development and registration system, economic based incentives and knowledge based information system. This scheme will be integrated to industrial sector development in the cleaner technology policy and planning for Thai industries.

Key words: CT Codes of Practice, Industrial Sector Committee (ISC), Technology Verification Committee (TVC), Human Resource Development, Registration System, Economic based Incentives, Knowledge based Information

1. INTRODUCTION

The term “Cleaner Technology (CT) or Pollution Prevention (P2)” might just come across Thai industry in the last decade of 19th century. However, half of the driving force behind this term i.e. economic benefit has long been embedded in entrepreneur’s soul. The other half, environmental benefit, is just recently being revealed and presented in a systematic way. In the early years of development of CT in Thailand, it is solely voluntary and based on individual factory interest. The activities in that period which continue into present time involve three major organizations, the Department of Industrial Works, the Federation of Thai Industries (FTI) and Thailand Environment Institute (TEI) with continual support from Danish Cooperation for Environment and Development (DANCED) and USAEP.

Another milestone of the CT development in Thailand is the setting up a Cleaner Technology Unit (CTU) in DIW in 1997 to implement the project – Cleaner Technology Capacity Building in DIW, which is also under DANCED support. Even though the written objectives of the project was not so clear in the beginning. During the project implementation, the objectives and output of the project have been adjusted and fine-tuned all along. Until now, concrete outputs from the project include human development of DIW staff on CT and CT-Policy for Thai Industry. The outcomes of the project, which are certainly the implementation of such CT-Policy and the point of discussion in this paper, need more evolution. They are also very dynamic, therefore the up to date information should be followed up with DIW. One point to be emphasised here is that the major difference in this phase compared with the early years of CT is the more sector base approach of DIW towards CT implementation.

2. COMPONENTS OF THE MECHANISMS

It is clear that only end-of-pipe and ambient standard regulation by government cannot reach sustainable development. At the same time, CT has proven itself by many case-stories both from around the world and in Thailand, that it is a tool utilised in order to pave the way to sustainable development.

After some private companies have tried and implemented CT in the grassroots level for sometime. It needs government's stimulation and sound mechanism to have CT activities continued. DIW, therefore, had published a comprehensive CT-Policy for Thai Industry in January 2000 to be served as a policy plan (including policy statement, objectives and targets, and action plan). This section will explain the role and necessity of each component and how they are expected to function in the end.

2.1 Industrial sector committees

These committees, one for each sector, will act as advisory committees to DIW on following items:

- CT-criteria. The key issue or index (both environmental and economical aspects) of the sector e.g. % milk loss in case of dairy sector. These criteria will be served as baseline performance the factories in the sector have to meet.
- CT-measures. The CT possibilities available in each sector, some are common in all sector e.g. good practice on softener unit, some are unique for one sector e.g. control of milk mixed with water during cleaning process.

The committees' members are appointed by DIW. In general, for each committee, the members come from relevant stakeholders including government organization, NGO, private organizations, industrial sector experts.

The information input to the committee comes basically from the CT audit team managed by DIW. This team will work closely with factories, industrial sector experts, suppliers of the sector, and other government authorities.

DIW is aiming after sector CT codes of practice, which will be used both by factories in the sector and government authorities. Additional to CT-criteria and CT-measures, the codes of practice will include also other important information such as overview of the

sector, production processes and unit operations, guidelines to preventive maintenance, and list of relevant environment and factory laws. Any CT implementation in the sector will be based on these codes of practice.

For sectors already having CT codes of practices put in use, DIW inspector will follow these codes when issuing and extending operating licenses. DIW may demand CT/P2 annual report (loss report) from the factories in the sector, possibly the large -cale factories only. It needs more discussion on this topic.

DIW had appointed two sector committees namely, dairy and primary rubber (concentrated latex and block rubber). Sector CT codes of practice of these two first sectors are expected in April 2001. Since October 2000, DIW staffs were allocated to four more sectors i.e. canned food, frozen seafood, noodle, and textile/dying. Revision of any codes of practice is needed, possibly 3 years interval, however, time interval depends upon nature of technology and sector condition.

2.2 Technology verification committee

At the beginning, this committee is expected to consider CT content of the project proposed by private companies whereas ISC not yet established. Currently there is no proposal until other mechanisms are ready for example, economic incentives and registration system. The work of this committee is expected to be more important in the future.

2.3 Human resource development and registration system

Qualified human resource is another major component of the success in CT implementation. DIW believes that if CT implementation to be sustained in the factories it has to rely mainly on internal personnel (CT operator). Outside assistance is minimised to some advice from CT auditors and industrial experts.

The classification and job description of personnel in this scheme is under discussion. It will base on three philosophies, simple, robust, and effective.

The registration will base on test and working experience. DIW will register (and withdraw license) persons who already pass the test. Third party will be selected to organise the test for DIW.

2.4 Economic based incentives

In the policy plan, varieties of economic based incentives are proposed. DIW is currently working on the waiving of factory operating fee for factories implementing CT. Others involve outside organisations as mentioned in CT-Policy for Thai Industry.

2.5 Knowledge based information system

There is a wide range of information regarding CT in www nowadays. Most of them based largely on case studies and general knowledge on CT. For DIW information system, we will focus mainly on the activities we do according to the CT-policy and on serving those mechanisms. The structure of the site will be laid out for easy navigation and effective communication. Part of the site will be ready by April 2001.

3. HOW THEY WORK

In this section, workflow and interrelationship among components mentioned in section two will be explained via figure 3.1 to 3.4.

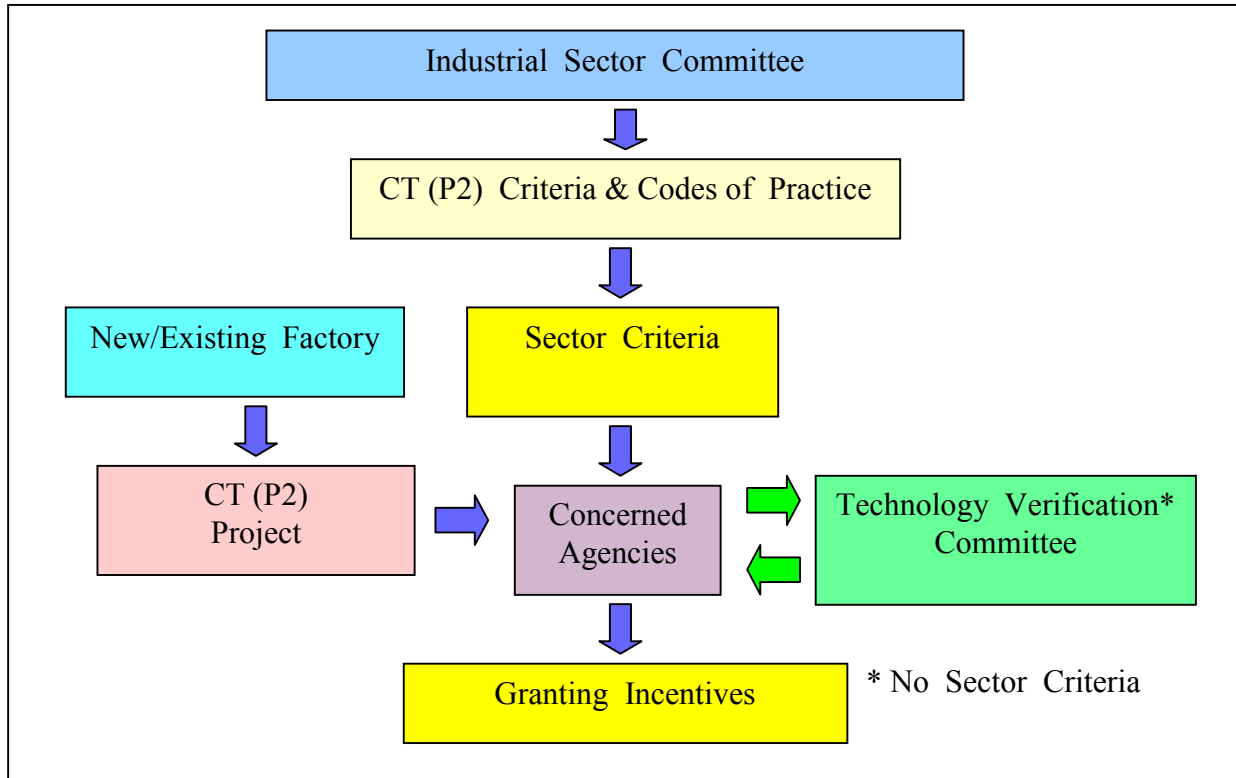


Figure 3.1 Scheme I ISC-TVC-CT criteria-Economic based incentives

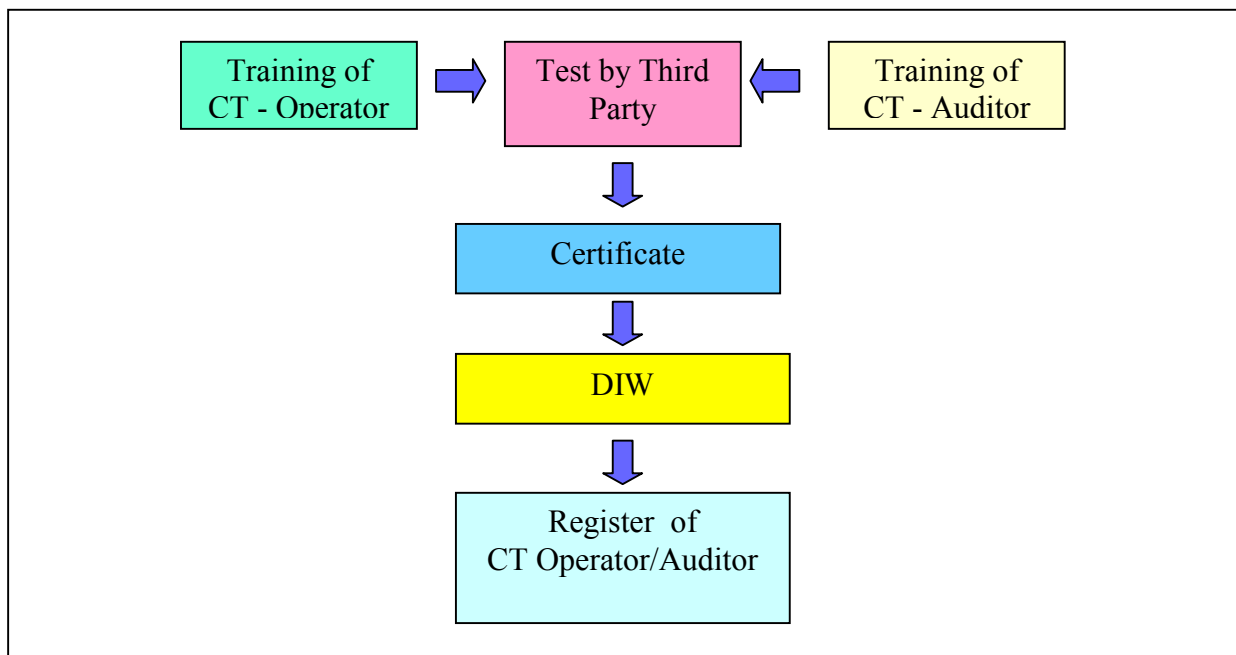


Figure 3.2 Scheme II Human resource development - registration system

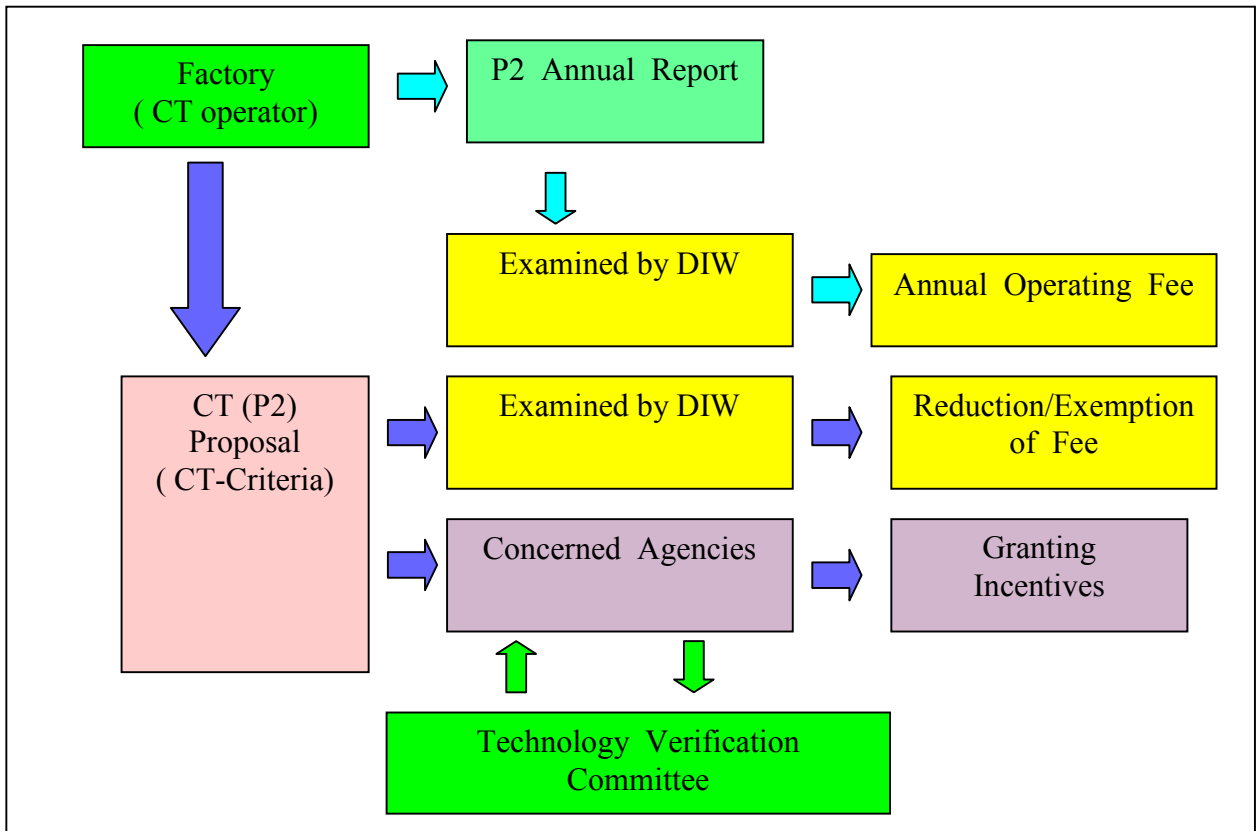


Figure 3.3 Scheme III CT implementation-DIW and factory roles

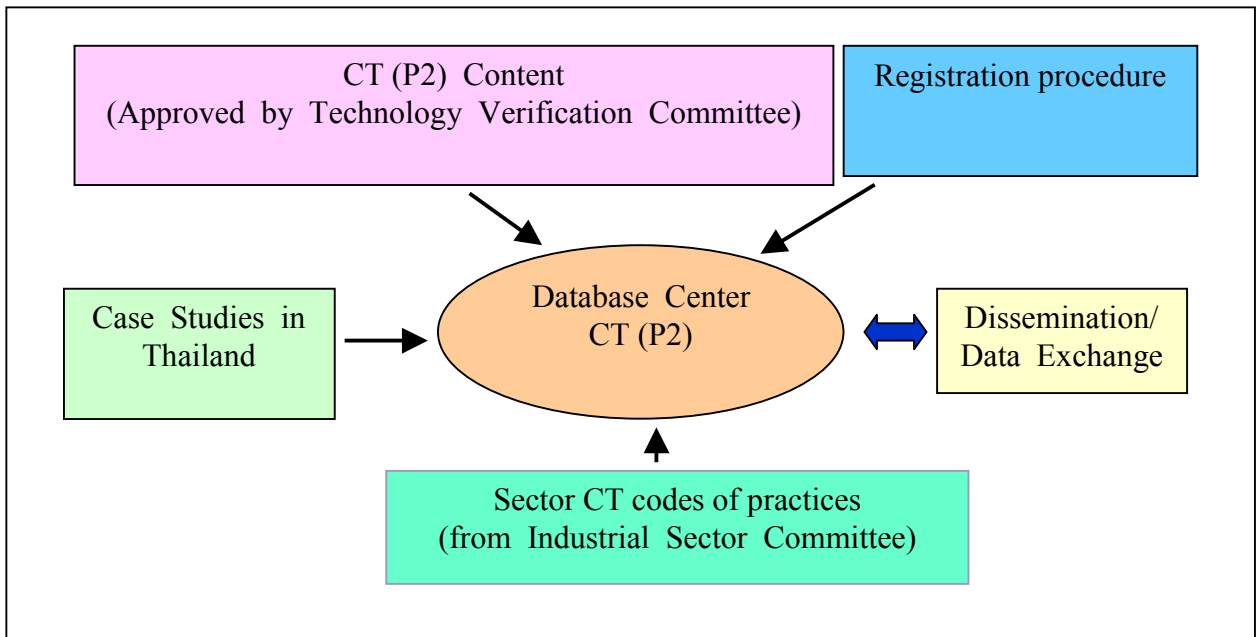


Figure 3.4 Scheme IV Knowledge based information system

4. CONCLUSION

Government roles in CT implementation will base on sectoral approach with participation from all stakeholders. This approach together with individual interest of the factory will support each other. The key to success is the strong and robust network between various organisations involved plus the same sustainable development goal.

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