

**The Voluntary Carbon Market (VCM) and the implications for community forestry projects in Thailand:  
A case study of the agreement between Inpang Community Forest Network and  
the Chicago Carbon Exchange (CCX) 2010.**

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**Abstract**

Nowadays climate change and global warming are important issues for research and study around the world. A part of an attempt to solve the climate problem is a market mechanism adopted by the Kyoto Protocol called the “carbon credit” The carbon credit trade sponsored by the Kyoto Protocol is classified as carbon dioxide decreasing procedure with Clean Development Mechanism (CDM) which is legally bound under the Kyoto Protocol. However, out of the Kyoto Protocol also emerged another mechanism called, the Voluntary Carbon Market (VCM) which is not legally recognized by participating member countries. The purpose of this study is to examine how the Voluntary Carbon Market is introduced into Thailand and to evaluate how the community forestry project should deal with this novel environmental mechanism.

It is evident that first and foremost is the need to develop the people’s knowledge of carbon credit market because this is the modern topic which obviously cannot be easily understood by outsiders. Private and public organization in negotiating should also seek further information and better understanding so they can properly assist rural people in negotiating for fair price settlement. Otherwise adopting VCM may prove disadvantageous to Thailand as a whole

To conclude, the resolution of climate change and global warming should be the responsibility of everybody. The writer insists that industrialized countries have to come up with new clean technology to reduce the greenhouse gas emission and to adopt the agreement verified by the Kyoto Protocol rather than adopting the VCM because as suggested by the experiment in Thailand. This mechanism tends to favor polluters and proves unfair to most developing countries.

**Keywords:** VCM, community forestry projects, Inpang Community Forest Network, Chicago Carbon Exchange (CCX)

**1. Introduction**

Nowadays climate change and global warming are important issues for research and study around the world. It is an open that human and animal activities release greenhouse gases, (consisting of water vapour, carbon dioxide, methane, nitrous oxide, chlorofluorocarbons and ozone) are the main cause of global warming [1]. As a result, the planet’s temperature has increased gradually year by year leading to the melt down of the glacier throughout the pole. With the earth’s temperature rising every year, natural disasters like flood, oceans warming and storms, for example, are bound to follow.

Needless to say, as agricultural products are extremely susceptible to weather condition, farmers themselves will have to adapt. Since carbon storage is in the soil itself greenhouse gas emission necessarily is inherent in agriculture from the very beginning. Lobell and Field [2] observe that warm weather has to some extent offset the fertilization effects resulting in increased carbon dioxide(CO<sub>2</sub>) levels and lead to more combination of greenhouse gases.

Moreover, Johnson and Ward [3] discover that methane is an unexpected more potent greenhouse gas than carbon dioxide, and animals are principal source of methane emission. Livestock like cows, sheep and goats are herbivore animals and during their normal digestion process they create large amounts of methane; so animals do contribute to global warming as well. Of course, animals have always produced methane and it is far more difficult to rectify this problem. Human activity, on the other hand, is something we can control, and what humans do is generally more harmful than animals. To successfully tackle global warming and climate

change, international agreement should be created and both public and private organizations should collaborate to make it work.

Evidently, the global warming problem is the global issue that can only be solved at international level. A part of an attempt to solve the climate problem is the market mechanism proposed by the Kyoto Protocol [4] according to which something positive can be substituted for greenhouse gases emission. For example, afforestation which is the main space for carbon dioxide and greenhouse gases must be compensated by the increase in green areas. Understandably, when the earth has a lot of green areas, it will absorb carbon dioxide and reduce greenhouse gases in the atmosphere. An agent or a country responsible for the creation of green areas is thus entitled to a certain amount of “Carbon Credit” to be used to offset the damaging emission of greenhouse gases industrial or otherwise.

Furthermore, carbon credit is also given to users of alternative or renewable energy since using fuel or coal energy is the main cause of the carbon dioxide build up. So in 1997 under the United Nation Framework Convention for Climate Change, the Kyoto Protocol to reduce carbon dioxide emission and the idea of carbon credit were born.

It should also be noted that the carbon credit trade in the Kyoto Protocol is strictly limited to carbon dioxide decreasing procedure with Clean Development Mechanism (CDM) and this is the only mechanism which is legally bound.

## **2. Research Objectives**

However, out of the Kyoto Protocol also emerged the Voluntary Carbon Market mechanism with its emphasis on the voluntary agreement between air polluters and those who help create green areas. The purposes of this essay are first to study the Voluntary Carbon Market, to specify both advantages and disadvantages of the Voluntary Carbon Market and to evaluate how the Voluntary Carbon Market affects the community forestry projects in Thailand.

## **3. Methods**

The researcher used systematic literature review process to collect the data and information about the Clean Development Mechanism (CDM) and the Voluntary Carbon Market (VCM). The methodology can be divided into 2 steps as the follow: first the research preparation and the second research execution.

This research used a combination of primary and secondary data. First, the researcher used secondary data by collecting data from internet-based resources, articles, journals, video and voice recording and textbooks. The researcher then collected primary data by conducting a field research which included in-depth interview with key informants. This process was then followed by focus group discussion with 5-7 people. The focus group interviews were particularly useful for getting the story behind a participant’s experiences. Furthermore, the researcher also organized the workshop to provide basic knowledge and essential understanding of the Carbon Credit Market for 50 people in Inpang Community Forest Network.

## **4. Literature Review**

### **Carbon Credit Market and the Kyoto Protocol**

There are two kinds of carbon credit trade. The first one is the carbon credit market established under the Kyoto Protocol agreement. It is a regulated market, such as, the one in Europe which is under the Clean Development Mechanism Project.

The second kind is the Voluntary Carbon Market (VCM) which, as already said, is basically the voluntary agreement between air polluters (buyers) and owner of green areas (sellers) is the so called “carbon credit” trade.

### **The goals of Clean Development Mechanism (CDM)**

The Clean Development Mechanism (CDM) aims at avoiding the greenhouse gas emission and at the same time to absorb the greenhouse gases in the atmosphere.

The requirements of Clean Development Mechanism are as follows: First, the quantities of greenhouse gases reduction have to be in accordance with the standard set by the United Nation Framework Convention for Climate Change (UNFCCC) on the Kyoto Protocol. Secondly, each country member has to join on the voluntary basis and needs to be approved by every country member. Thirdly, the quantity of greenhouse gas reduction must bring real benefits and can be measured. This requirement is to be understood that it is above and beyond the business as usual both in terms of greenhouse gas reduction and absorbing more greenhouse gases. Moreover, this whole process has to conform with sustainable development policy of developing country. Finally, the transparency, efficiency and accountability of the whole enterprise (through auditing and verification) is to be expected.

Evidently, the Clean Development Mechanism is a very complex process requiring each participant to pass through many procedures. More importantly, the cost of management and production of the new clean air technology has made it more easy for industrialized countries to purchase carbon credit in substitute of their share in decreasing the greenhouse gas emission. The new alternative of carbon credit trade emerged not under the Kyoto Protocol is the Voluntary Carbon Market (VCM).

### **The Voluntary Carbon Market (VCM) and the Carbon Credit Market**

According to the voluntary Carbon Market(VCM) system. The buyers, which are mostly industrialized countries, can directly buy carbon credit from sellers which are mostly developing countries. Therefore, the Voluntary Carbon Market (VCM) is opening the opportunity for industrialized countries to have easy access to carbon credit [5]. But while the carbon credit's free trade makes a gain-it is unfortunately detrimental to the environment as a whole because according to the environmental principle of Polluter Pays Principle (PPP) [6] whoever pollutes natural and environmental resource, must pay higher tax. Thus, if developing countries release more greenhouse gases, they should decrease the greenhouse gas emission in their own countries and pay the high value tax for the damage they cost. If they can easily find the solution through the Voluntary Carbon Market, they will not reduce the greenhouse gases. This is certainly not fair to all living organism on this planet. Hence, the Voluntary

Carbon Market has both of the advantages and disadvantages [7].

### **Advantages and disadvantages of the Voluntary Carbon Market (VCM)**

*The Voluntary Carbon Market has the following advantages:*

**The first benefit** is that it helps to raise awareness among the pollution producers that if they do not strictly adhere to the regulations, it will have negative impact on the economy in the future.

**The second advantage** is that of the Voluntary Carbon Offset Program, especially in the forestry sector. This is because the changes in land use and energy efficiency adopting this mechanism can take place with the low transaction costs. In other words, seller can sell carbon credit at relatively low cost. All the seller needs to do is first of all to take care of the forest for 15 years' duration without cutting down trees, although they can be used for other benefits as normal. When the time is up 15 years, the carbon credit can they be sold to the purchaser. The opposite is the case of the CDM, since it needs huge sum of budget to invent new technology. Moreover, the CDM participants need to pass complicated process and requirements according to the Kyoto protocol. Therefore, with the low cost of voluntary carbon credit, it might encourage the expansion of voluntary carbon market which will thereby help reducing greenhouse gases emission.

**The third advantage** is that it provides sustainable development opportunity in the community especially for those mini projects that release greenhouse gases less than 15,000 tCO<sub>2</sub>e per year. This arrangement should benefit sellers from the sale of carbon credit/carbon offset, because normally there are only a few major traders in the carbon market. In developing countries the reforestation project is usually considered an effective way to reduce greenhouse gases permanently much more effective than other activities such as using wind power, tidal and solar energy to produce electricity. If there is a good forestry management together with the integration of local knowledge, the forest will last till to the next generation, while the industrial activities normally live only 20-30 years.

**The fourth advantage** is that it provides opportunity for consumers to participate in climate change problem solving through the purchase of the products with label indicating that they are manufactured with the greenhouse gases control or have symbol indicating that the products and services are under the Carbon Offset program.

**The fifth advantage** is that the voluntary carbon market serves to support uncertified carbon credit. The carbon credit in this process is called “Verified Emission Reduction (VERs), and the price of VERs is lower than CERs. In addition, the voluntary carbon credit market also serves to support carbon credit from reforestation especially in local communities in undeveloped country because the clean development mechanism is too strict to be effectively applied.

**The sixth advantage** is that while there are many working certified standards of Voluntary Carbon Market, it is still better than CDM under the Kyoto protocol in terms of flexibility. The Voluntary Carbon Market clearly motivates local people to reduce greenhouse gas emission. The reasons are generated as the followings; the voluntary carbon market project requires small budget in reforestation for the purpose of the sale of carbon credit. Therefore, the selling price is totally lower than CDM thus bringing about the incentive for the purchaser to buy. Naturally, industrial countries prefer to invest in voluntary carbon credit rather than CDM project because CDM project requires a lot more administrating budget including advanced technology for greenhouse gas reduction. Consequently, voluntary carbon credit leads to the greenhouse gas reduction even though the quality measurement of voluntary carbon market is still far from certain.

In conclusion, the voluntary carbon market aims at sustainable development rather than technological or innovation development. As such, it is more flexible; it needs less transaction cost and it certainly gets a lot more attention from the media.

*Nevertheless, the voluntary carbon market suffers some disadvantages which can be summarized as follow:*

**The first disadvantage** is that the greenhouse gases reduction resulting from the voluntary carbon credit market involves various ways of measurement of greenhouse gases. Therefore, the reliability and quality of carbon credit is still questionable. Too

many organizations involved in price and quality of carbon credit, standard makes the universal standard a still much needed goal.

**The second disadvantage** may be sub-divided into the 5 following setbacks:

(A) The question of whole is really the carbon credit owner (this problem occurs in CDM project too).

The law has to be clear on the ownership issue between the right of the land owner the investor’s right (after reforestation, for example) the right of the buyer of carbon credit

(B) The reforestation project is a long term commitments so the land owners cannot use the land for other purposes during that period. The land owner may face problem in developing the land surrounding such as road and dam constructions. This may affect the land expropriated by the government. It is still unclear whether the wood cutting from the old land to plant in compensates for the expropriated land create carbon.

(C) The payment of carbon credit/carbon offset in the voluntary carbon market is usually done before the greenhouse gases reduction activity takes place. While it might benefit the project owner to use that money to build up this project. Yet it may create risk for the carbon credit purchaser. In this case, risks are associated with the difficulty in making carbon footprint report.

(D) The assessment of reforestation project may face a dilemma. Though, the transaction cost of reforestation is less than other greenhouse gases reduction project, but it may face with prevention negative externalities cost. These problems have occurred in the undeveloped countries that are hired from multinational enterprise to reforest.

(E) The carbon credit and carbon offset from the reforestation is the halt or delay for developing greenhouse gases reduction technology because the reforestation cost is relatively less compared with R&D cost. Therefore, there is no incentive to invent new technique to reduce greenhouse gases

**The third disadvantage** is that the voluntary carbon credit expansion, in effect, helps to reduce greenhouse gases to a certain extent. It, however, is not a truly gas reduction mechanism since the greenhouse producer might probably turns to purchase more carbon credit. The efficient and

effective method to genuinely reduce greenhouse gas is to change habit less energy consumption. In other words, the acceptance of carbon credit from Carbon Offset activity is simply the way developed countries taking advantages of developing countries by spending a little more money to purchase carbon credit or carbon offset thereby avoiding the responsibility of the activities which are going on at their production plants.

**The fourth disadvantage** is that the voluntary carbon market is not the only way to reduce greenhouse gases. There are other projects such as the changes in vehicle technology, the use of renewable and alternative energy which can implement without having to wait for the budget from carbon offset sale. However it takes more funding and government support for R&D of any country to develop efficient and effective technology.

**The fifth disadvantage** is that the advantages of the voluntary carbon market are limited to only those actively involved in the deal while outsiders are actually always part of the whole clean air problem. To put the same thing differently, there are many people involve in greenhouse gases emission but voluntary carbon credit do not address those people involved.

## 5. Discussion

Since industrialized countries would continue to buy carbon credit in the Voluntary Carbon Market, it is imperative that international organizations should help developing countries ready to enter the Carbon Credit Market capable of negotiation fair prices for the people in rural areas. Governments in developing region should also provide their own people with sufficient knowledge regarding the Voluntary Carbon Market. Particularly, those who are potential sellers in the Voluntary Carbon Market system.

In Thailand the Inpang Community Forest Network, Kudbag District, Sakon Nakorn Province [8] is the first to enter the voluntary carbon market. Its partner in the Carbon Credit trade is the Chicago Carbon Exchange (CCX). Conducting acting research in 2010, the researcher discovered that local leaders of Inpang Community Forest Network did not have enough information nor understanding to make

right decision regarding the idea of taking Community Forest into the voluntary carbon market.

As a result, the carbon credit they sold may not be a fair price and this unfortunate affair certainly calls for proper governmental intervention. It is the recommendation of this research that a government agency should be assigned the with responsibility of providing information and understanding to local people regarding the suitable prices in the voluntary carbon credit market.

It is my belief that right information and proper understanding will in the future enhanced the possibility that the people of Inpang Network would negotiate for themselves a better deal with the Thai Airways International Public Company Limited.

## 6. Conclusion

This paper has tried to introduce the Thai public to the world of carbon credit market. The development of both the Clean Development Mechanism (CDM) and the Voluntary Carbon Market has been discussed. The writer highlights the advantages and disadvantages of both the Voluntary Carbon Market and the Voluntary Carbon Market in relation to community forestry projects in Thailand. It is the conclusion of this researcher that while the lack of information and understanding of the issue makes it next to impossible for the local people to negotiate for a fair price Voluntary Carbon Market may be right for a country like Thailand, yet.

The next move will be up to government agencies to step in to rectify this imminent problem.

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