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Research Report No. 02 - February 2011

THE EUROPEAN UNION, VIETNAM AND THE CLEAN DEVELOPMENT MECHANISM: A MULTI-LEVEL AND MULTI-ACTOR APPROACH

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Belis, David and Hans Bruyninckx. 2011. "The European Union, Vietnam and the Clean Development Mechanism: A Multi-level and Multi-actor Approach." European Studies Review, Hanoi.



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ABSTRACT

The European Union, Vietnam and the Clean Development Mechanism: A Multi-level and Multi-actor Approach studies the relations between Vietnam and the European Union on the Clean Development Mechanism (CDM) from a multi-level and multi-actor perspective. In a first attempt towards a comprehensive mapping of EU-Vietnam CDM cooperation, the paper presents the *CDM Design Classification Tool (CDM-DCT)*, an analytic framework developed to shed light on the intricate web of relationships between the different actors at the local, national and international level. At the moment, the European Union's Emission Trading System (EU ETS) is the main source of demand for Certified Emission Reductions (CERs) resulting from CDM projects. Vietnam, on the other hand, is one of the most potential non-BASIC developing countries engaged in the CDM world-wide. The processes and particulars of EU-Vietnam CDM relations are hence important points of reference for other bilateral CDM relations, for the different business and government actors involved and for international climate governance in general.

KEY WORDS

EU, Vietnam, CDM, Climate Change

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INTRODUCTION

This paper studies the relations between Vietnam and the European Union on the Clean Development Mechanism (CDM) from a multi-level and multi-actor perspective. It aims to map the different actors, processes and dynamics pertaining to EU-Vietnam CDM project development in the context of international efforts to mitigate Climate Change, and to gain basic insights required to understand EU-Vietnam Climate relations.

EU-Vietnam bilateral CDM cooperation is an interesting research area for several reasons. Firstly, the CDM constitutes a significant element of the UN framework to tackle Climate Change, allowing Annex I Parties (developed countries) and non-Annex I Parties (developing countries), as defined by the United Nations Convention on Climate Change (UNFCCC) and its Kyoto Protocol, to undertake activities that reduce emissions in non-Annex I Parties and contribute to sustainable development. Annex I Parties, including all member states of the EU, can use Certified Emission Reductions (CERs) resulting from CDM projects to meet their reduction targets. A second major reason is that both the EU and Vietnam are important players in the CDM and the related global carbon market. The European Union's main climate policy tool, the EU Emission Trading System (EU ETS), is the single largest source of demand for CERs at current. It is, moreover, widely expected to remain so for the foreseeable future (World Bank 2010; Vasa 2010). Vietnam, on the other hand, has been overshadowed by other Asian giants such as China and India and struggled to develop successful CDM projects at first (UNEP 2010; Nguyen *et al.* 2010). After a slow start, however, Vietnam's CDM potential has attracted more and more attention, resulting in a steep rise in CDM project applications and registrations since 2009 (UNFCCC 2010). Finally, EU-Vietnam Climate relations in the Post-Kyoto period tend to become more and more important. Vietnam is one of the key developing countries that does not belong to the BASIC group (Brazil, India, South Africa and China), but offers a considerable potential for emission mitigation (Germany Trade and Invest 2009). Enhancing EU-Vietnam Climate cooperation, including efforts to improve the development of a low carbon economy, might therefore lead to significant mutual benefits. It is thus necessary to study the basic dynamics of *current* EU-Vietnam mitigation EFFORTS IN ORDER TO SELECT THE MOST EFFECTIVE AND ENVIRONMENTALLY SOUND MODES OF COOPERATION IN THE FUTURE.

Part one of the paper presents a summary of the international CDM regulatory framework and introduces a new conceptual instrument, the *CDM Design Classification Tool (CDM-DCT)*, developed to analyze CDM project design from a multi-actor and multi-level perspective. The CDM-DCT has two distinct characteristics. First of all, in and of itself, it clarifies the international rules and pursuant dynamics of the CDM issued by the Conference of the Parties (COP) of the UNFCCC and the CDM's Executive Board (EB). Second of all, it allows for an in-depth, case-by-case investigation of (bilateral) CDM activities leading to a comprehensive insight of CDM project development within a host country and/or CDM relations between a host country and foreign (Annex I) partners. The empirical part of the paper applies the CDM-DCT to all 33 registered projects hosted by Vietnam as of September 16, 2010 (UNFCCC 2010). This analytic breakdown allows for a comprehensive insight in the number and nature of European actors involved, the geographical spread of member state involvement in successful Vietnamese CDM projects thus far, and the most common approaches (unilateral/bilateral; with/without consultant; with/without contracted CER buyer) of CDM project design in Vietnam.

THE CLEAN DEVELOPMENT MECHANISM: REGULATORY AND CONCEPTUAL FRAMEWORKS

The following sections present the regulatory and conceptual 'building blocks' used in part two to conduct the project-level empirical analysis of EU-Vietnam CDM relations. A first section introduces the international regulatory framework of the CDM, established by Article 12 of the Kyoto Protocol and the pursuant modalities and procedures agreed upon in the Marrakech Accords in 2002. A second section presents the conceptual instrument developed to analyze CDM project design: the CDM Design Classification Tool (CDM-DCT). The construction of the tool is based on relevant aspects of international CDM rules, specific features of the global carbon market and observations of CDM project development in practice.

The International Regulatory Framework of the CDM

A clear understanding of the CDM starts from the general definition agreed under articles 12.2 and 12.3 of the Kyoto Protocol:

Article 12

2. The purpose of the clean development mechanism shall be to assist Parties not included in Annex I in achieving sustainable development and in contributing to the ultimate objective of the Convention, and to assist Parties included in Annex I in achieving compliance with their quantified emission limitation and reduction commitments under Article 3.

3. Under the clean development mechanism: (a) Parties not included in Annex I will benefit from project activities resulting in certified emission reductions; and (b) Parties included in Annex I may use the certified emission reductions accruing from such project activities to contribute to compliance with part of their quantified emission limitation and reduction commitments under Article 3, as determined by the Conference of the Parties serving as the meeting of the Parties to this Protocol.

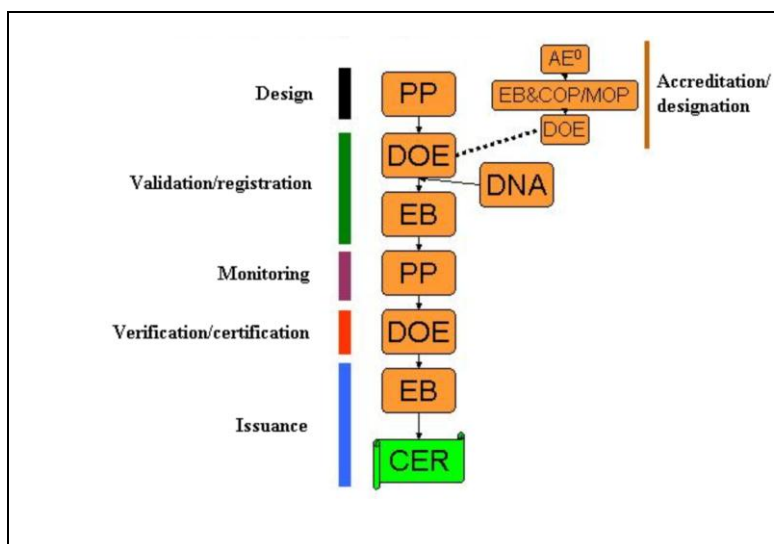
Articles 12.2 and 12.3 define the CDM in a rather flexible way. The definition allows for both unilateral, bilateral as well as multilateral (or portfolio) approaches to CDM projects. The *bilateral approach* involves entities from both Annex I and non-Annex I Parties cooperating in partnership, the *unilateral approach* consists of entities from non-Annex I Parties that undertake CDM activities without foreign partners, and the *multilateral/portfolio approach* refers to the case where an intermediary constructs a range of complementary CDM activities on behalf of others (Yamin 2005:30).

Technology transfer, one of the main goals of the mechanism, can strictly speaking only take place in bilateral and multilateral projects, although the development of specific technologies can be stimulated in unilateral projects as well, through *financial flows* from (future) CER revenues. The establishment of CER sales agreements during the design of a project can to a certain extent ensure this cash flow before the actual issuance of CERs. These 'open' or 'variable' aspects of the definition are to be kept in mind when constructing the conceptual instrument in the next section.

The most important actors, terms and processes involved in the mechanism can be concisely summarized by explaining the CDM Project Cycle (see figure 1). The latter can be divided in five steps: (i) project design, (ii) validation and registration, (iii) monitoring, (iv) verification and certification and (v) CER issuance. The Project

Design Document (PDD) is the key document involved in the first two steps of the Project Cycle. The PDD, written by the Project Participants (PPs), describes all the relevant details of the project, including the baseline (or 'business-as-usual scenario') against which the additionality of the targeted emission reductions is established. An independent third party (a 'Designated Operational Entity' or DOE) validates the project after the PDD has been approved by the Designated National Authority (DNA) of the host country (e.g. Vietnam). The CDM Executive Board (EB), the international body that supervises the CDM, officially registers the project when validation is completed. Monitoring of emission reductions is performed by the PPs themselves, according to the procedures mentioned in the PDD. A second DOE performs verification and certification of the monitoring results, leading to the issuance of CERs by the EB (CDM Rulebook 2010).

FIGURE 1. THE CDM PROJECT CYCLE



Source: UNFCCC 2010.

Before moving on to the classification of projects by project design, it is important to list the classifications by *project type* and *sectoral scope* commonly used in the climate regime to differentiate baseline methodologies, review methods and/or eligibility. The UNFCCC defines five broad project types: (i) large-scale projects; (ii) small-scale projects; (iii) forestry projects; (iv) small-scale forestry projects; (v) and programmes of activities. In the context of this paper's research objectives, it suffices to note that each type differs in scale, content and applicability of baseline/PDD methodologies. The categorization by sectoral scope refers to the eligible sectors and sources for CDM projects contained in Annex A of the Kyoto Protocol and includes (i) energy industries, (ii) energy distribution, (iii) energy demand, (iv) manufacturing, (v) chemicals, (vi) construction, (vii) transport, (viii) mining, (ix) metal

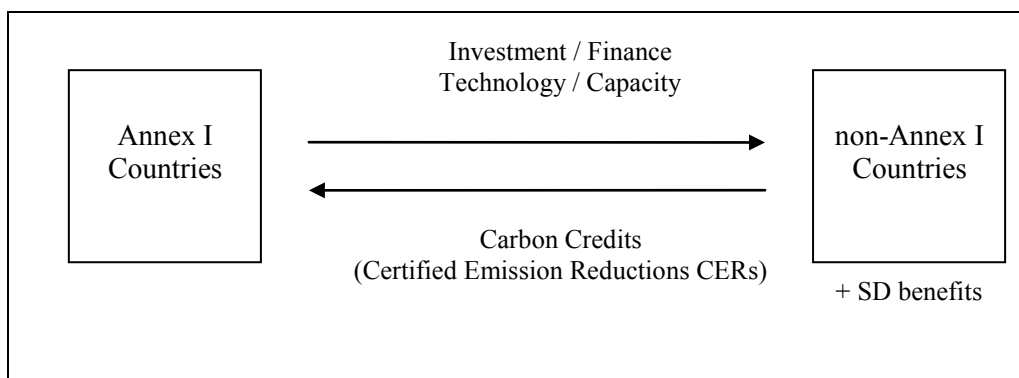
production, (x) fugitive emissions from fuels and (xi) halocarbons and sulphur hexafluoride, (xii) solvents use, (xiii) waste, (xiv) afforestation and (xv) reforestation and agriculture. These 15 scopes play an important role in establishing baseline and monitoring methodologies, and validation and verification procedures. Each DOE needs a valid accreditation for each sector it wants to operate in (CDM Rulebook 2010; UNFCCC 2010).

In opposition to the more or less technological categorizations used by the UNFCCC, the CDM Design Classification Tool developed in the next section focuses on variations in design ‘styles’, based on built-in flexibilities regarding the number and place of origin of Project Participants, CER sale, technology transfer and involvement of consultancy companies in the project development process.

The CDM Design Classification Tool (CDM-DCT)

The basic rationale behind the construction of a tool that classifies projects by project design, arises from the following observation. The CDM is a so-called *flexible mechanism* that allows for the development of emission reduction projects in non-Annex I countries, resulting in a flow of Certified Emission Reductions towards Annex I countries and a flow of investment, technology, capacity and/or finance towards non-Annex I countries (see figure 2). These *flows* are determined by the international CDM rules and vary only with regard to the degree or intensity of the flow, depending on the project. The CDM rules, however, do not establish fixed requirements regarding the *channels* through which these flows arrive at their destination.

Figure 2. Flows between Annex I and Non-Annex I Parties



These channels refer, concretely, to three variables that determine what we will term *project styles*: ways in which the original definition of the mechanism materializes in

terms of Project Participants (variable 1), involvement of a consultancy company (variable 2), and inclusion of a CER buyer in the Project Design Document (variable 3).

Variable 1 follows directly from the flexible formulation of the mechanism in the Kyoto Protocol, namely that projects can be undertaken *unilaterally* (host country entity only) or *bilaterally* (a host and foreign country entity in partnership). In the CDM-DCT, the multilateral approach as defined by Yamin (2005:30, cf. supra) falls in the category of bilateral projects as long as a foreign entity is involved. Variable 2 is based on observations of project development in practice: many project developers hire the support of a consultancy company (*supported* projects) to write the PDD and guide the project through the complex application procedures.¹ *Independently* developed projects are financially more attractive, but can only be developed successfully if the PPs possess enough internal know-how. Variable 1 and 2 combined result in the four main project styles included in the CDM-DCT (see Table 1): Independent Unilateral Projects (IUPs); Independent Bilateral Projects (IBPs); Supported Unilateral Projects (SUPs); and Supported Bilateral Projects (SBPs).

Table 1. The Four Main Project Styles of the CDM-DCT

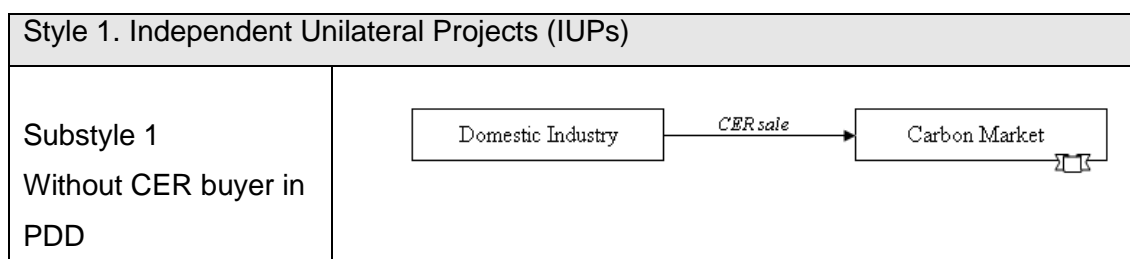
	Domestic Industry Only	Domestic and Foreign Industry
No Consultant	Independent Unilateral Projects (IUPs)	Independent Bilateral Projects (IBPs)
Consultant	Supported Unilateral Projects (SUPs)	Supported Bilateral Projects (SBPs)

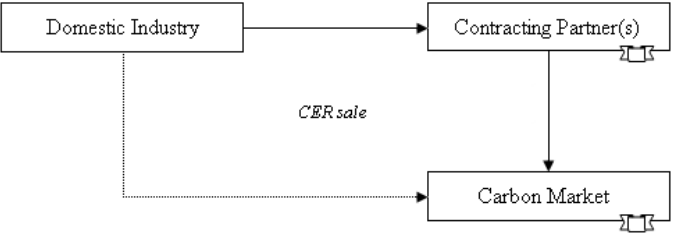

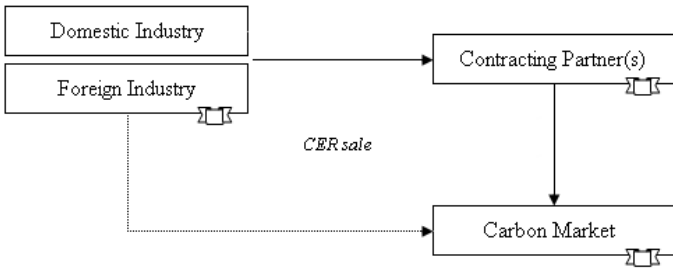
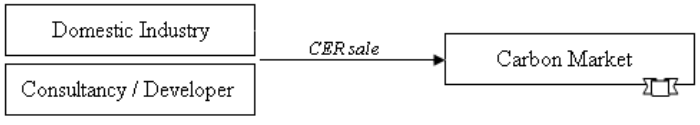
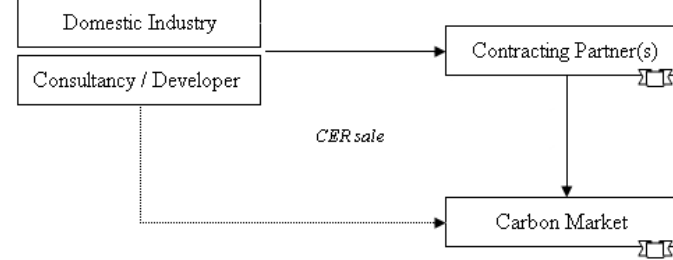
Variable 3 indicates whether or not the PDD of the project includes a *CER buyer*. This leads to the creation of two substyles for each main project style, listed and graphically represented below. All CERs resulting from projects are eventually either sold to other entities or used for compliance with Kyoto targets or other obligations (e.g. EU ETS). The *channels* through which these CERs are sold are highly diverse and difficult to track. The CDM-DCT is therefore limited to buyers known at the time of project design and included in the PDD. All other CER transfers are simply referred to as the 'carbon market'.

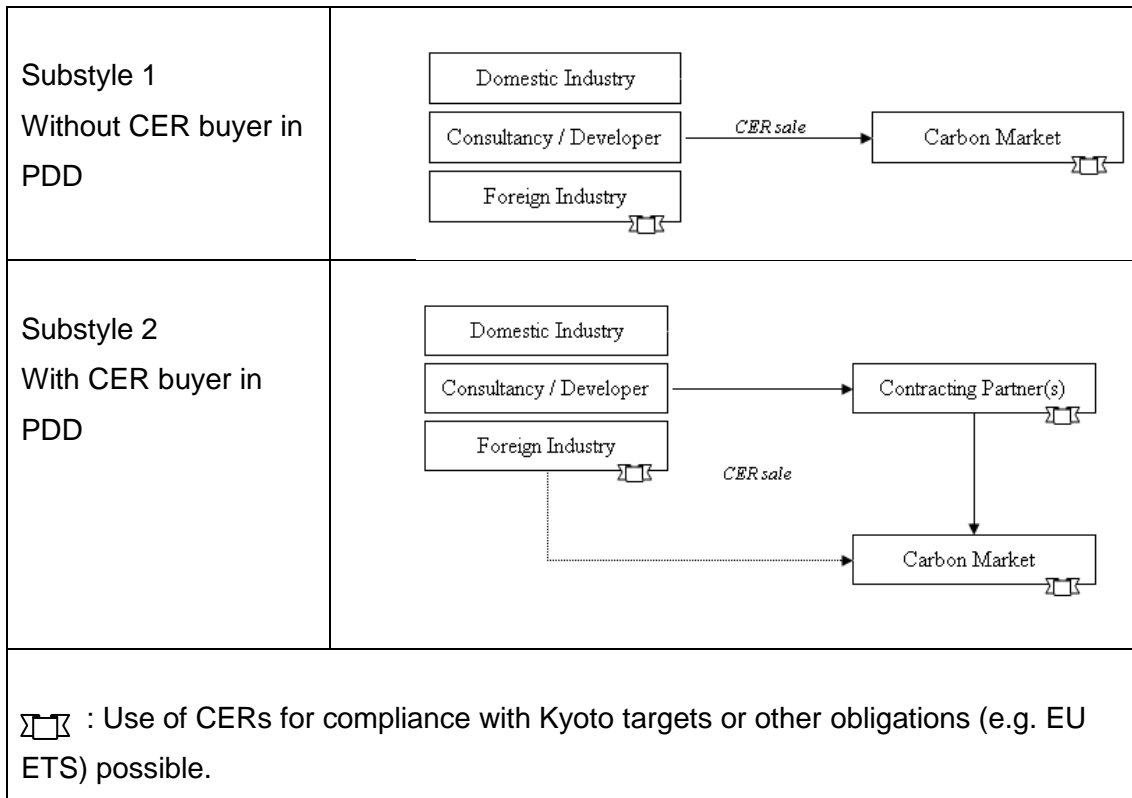
¹ Interviews, 2010.

Table 2. Styles and Substyles of the CDM Design Classification Tool				
Style Nr.	Style and Substyle	Foreign Entity	Consultant	CER Buyer in PDD
1.1	Independent Unilateral Projects (IUPs) Without CER buyer in PDD			
1.2	Independent Unilateral Projects (IUPs) With CER buyer in PDD			x
2.1	Independent Bilateral Projects (IBPs) Without CER buyer in PDD	x		
2.2	Independent Bilateral Projects (IBPs) With CER buyer in PDD	x		x
3.1	Supported Unilateral Projects (SUPs) Without CER buyer in PDD		x	
3.2	Supported Unilateral Projects (SUPs) With CER buyer in PDD		x	x
4.1	Supported Bilateral Projects (SBPs) Without CER buyer in PDD	x	x	
4.2	Supported Bilateral Projects (SBPs) With CER buyer in PDD	x	x	x

Figure 3. Graphical Representation of the CDM Design Classification Tool



<p>Substyle 2 With CER buyer in PDD</p>	 <pre> graph TD DI[Domestic Industry] --> CP[Contracting Partner(s)] DI -.-> CER sale CM[Carbon Market] CP -.-> CM style CP stroke-dasharray: 5 5 style CM stroke-dasharray: 5 5 </pre>
<p>Style 2. Independent Bilateral Projects (IBPs)</p>	
<p>Substyle 1 Without CER buyer in PDD</p>	 <pre> graph LR DI[Domestic Industry] -- CER sale --> CM[Carbon Market] FI[Foreign Industry] -.-> CM style FI stroke-dasharray: 5 5 style CM stroke-dasharray: 5 5 </pre>
<p>Substyle 2 With CER buyer in PDD</p>	 <pre> graph TD DI[Domestic Industry] --> CP[Contracting Partner(s)] FI[Foreign Industry] -.-> CER sale CM[Carbon Market] CP -.-> CM style CP stroke-dasharray: 5 5 style CM stroke-dasharray: 5 5 </pre>
<p>Style 3. Supported Unilateral Projects (SUPs)</p>	
<p>Substyle 1 Without CER buyer in PDD</p>	 <pre> graph LR DI[Domestic Industry] -- CER sale --> CM[Carbon Market] CD[Consultancy / Developer] -.-> CM style CD stroke-dasharray: 5 5 style CM stroke-dasharray: 5 5 </pre>
<p>Substyle 2 With CER buyer in PDD</p>	 <pre> graph TD DI[Domestic Industry] --> CP[Contracting Partner(s)] CD[Consultancy / Developer] -.-> CER sale CM[Carbon Market] CP -.-> CM style CP stroke-dasharray: 5 5 style CM stroke-dasharray: 5 5 </pre>
<p>Style 4. Supported Bilateral Projects (SBPs)</p>	



As the international CDM rules are designed in a very flexible manner, it is also possible that a CER buyer (contracting partner) is at the same time involved as foreign industrial partner or consultancy company.

To sum up, the CDM Design Classification Tool offers 4 main project design styles, each dividable in 2 substyles, leading to 8 options in total. These 8 styles reflect the different possibilities offered by the international regulatory framework of the CDM, since projects can either include or exclude a foreign partner (*bilateral/unilateral*), include or exclude a consultant (*supported/independent*), and include or exclude a CER buyer in the Project Design Document (*with/without CER buyer in PDD*).

A CATEGORIZATION OF VIETNAM'S CDM PROJECTS

Methodology

The empirical part of the paper consists of classifying successful Vietnamese CDM projects using the CDM-DCT. The investigation will be based on the analysis of PDDs, complemented by information from the “CDM Pipeline”, a database compiled

by the UNEP Risoe Centre (UNEP Risoe Centre 2010). The PDDs are publicly available on the UNFCCC website (UNFCCC 2010).

The CDM-DCT allows for the investigation of projects that have at least finished the first step of the Project Cycle (the project design step), taking into account that changes to the PDD can still be made before registration, i.e. during during step two (validation). For the sake of clarity, this paper's focus will be limited to registered Vietnamese projects only. After a careful examination of the Project Design Documents, each project is listed in one of the CDM-DCT's eight categories. The data of the "CDM Pipeline" is used to verify the findings related to variables 2 and 3. The pipeline does not include detailed information to double-check variable 1.

On the basis of these results, a more thorough analysis is presented in a second section. The following three issues will be looked at in particular: (i) the most commonly applied design styles and implications thereof, (ii) the geographical spread of member state involvement and (iii) the number and nature of European actors involved. These basic insights can guide further research into the nature of EU-Vietnam Climate relations.

CDM Projects in Vietnam

As of September 16, 2010, Vietnam hosts 33 successfully registered CDM projects, ranking 11th in the world. It ranks well below the four major players i.e. Mexico (123), Brazil (178) and especially India (537) and China (950), and has a comparable record vis-à-vis other South-East Asian nations such as Thailand or Indonesia. Most remarkable is the fact that the vast majority of these projects (31 out of 33) have only been registered since the beginning of 2009. Moreover, only the two projects registered in 2006 have successfully issued CERs so far (see Table 3). Clearly, Vietnam has experienced a slow start in the CDM market (Nguyen et al. 2010). More recently, however, the Vietnamese DNA has issued more than 90 Letters of Approval (LoAs) to projects that are currently awaiting validation (UNFCCC 2010; UNEP Risoe Centre 2010).

The development of the CDM in Vietnam is summarized in table 3, listing the details of each of Vietnam's registered CDM projects (33), including registration date, project name, type, and issued CERs as of September 2010.

TABLE 3. VIETNAM'S REGISTERED CDM PROJECTS (SEPTEMBER 16, 2010)				
#	REGISTRATION	NAME	TYPE	CERs ISSUED
1	04 Feb 06	Rang Dong Gas Recovery Project	gas recovery	4487 kCERs
2	26 Jun 06	Song Much Hydro Project	hydro	1 kCERs
3	17 Jan 09	Dong Thanh Landfill Gas Project	landfill	0 kCERs
4	06 Apr 09	Binh Thuan Wind Project	wind	0 kCERs
5	28 Apr 09	Cao Phong Reforestation Project	reforestation	0 kCERs
6	05 Jun 09	Phu Mao Hydro Project	hydro	0 kCERs
7	05 Jun 09	Muong Sang Hydro Project	hydro	0 kCERs
8	27 Jul 09	Suoi Tan Hydro Project	hydro	0 kCERs
9	17 Aug 09	So Lo Hydro Project	hydro	0 kCERs
10	05 Sep 09	Nam Pia Hydro Project	hydro	0 kCERs
11	20 Oct 09	Viet Ma Wastewater Project	wastewater	0 kCERs
12	20 Oct 09	Truong Thinh Wastewater Project	wastewater	0 kCERs
13	21 Nov 09	Ta Niet Hydro Project	hydro	0 kCERs
14	25 Nov 09	Phuoc Hiep Landfill Gas Project	landfill	0 kCERs
15	14 Dec 09	An Diem 2 Hydro Project	hydro	0 kCERs
16	21 Dec 09	Nghe An Methane and Biogas Project	methane/biogas	0 kCERs
17	21 Dec 09	Lao Cai Methane and Biogas Project	methane/biogas	0 kCERs
18	21 Dec 09	Nghe An 2 Methane and Biogas Project	methane/biogas	0 kCERs
19	22 Dec 09	Quang Tri Methane and Biogas Project	methane/biogas	0 kCERs
20	22 Dec 09	Yen Bai Methane and Biogas Project	methane/biogas	0 kCERs
21	07 Mar 10	Nam Gion Hydro Project	hydro	0 kCERs
22	12 Mar 10	Nam Khoa 3 Hydro Project	hydro	0 kCERs
23	02 Apr 10	Nam Khot Hydro Project	hydro	0 kCERs
24	08 May 10	Yan Tann Sien Hydro Project	hydro	0 kCERs
25	27 May 10	Ha Rao Quan Hydro Project	hydro	0 kCERs
26	30 May 10	Coc Dam Hydro Project	hydro	0 kCERs
27	17 Aug 10	Lap Vo Rice Husk Biomass Power Plant	biomass energy	0 kCERs
28	20 Aug 10	Chieng Cong Hydropower Project	hydro	0 kCERs
29	27 Aug 10	Pa Khoang Hydropower Project	hydro	0 kCERs
30	28 Aug 10	Dak Ne Hydropower Project	hydro	0 kCERs
31	03 Sep 10	Ea Drang 2 Hydropower Project	hydro	0 kCERs
32	04 Sep 10	Dak Rung Hydropower Project	hydro	0 kCERs
33	11 Sep 10	Suoi Sap 3 Hydro Power Project	hydro	0 kCERs

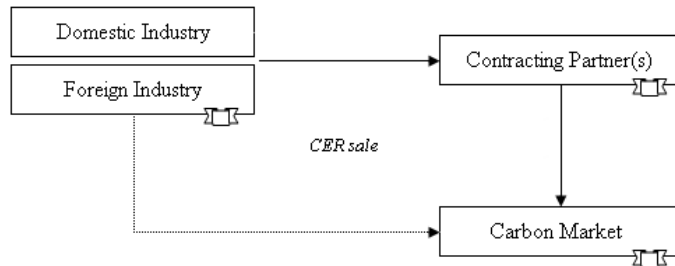
SOURCE: UNFCCC 2010; UNEP RISOE CENTRE 2010.

Design Styles of CDM projects in Vietnam

A careful examination of the Project Design Documents leads to a number of useful and very interesting results. The overwhelming majority, i.e. 32 out of 33 projects are Supported Unilateral Projects (SUPs), while there is only one Independent Bilateral Project (IBP) and no Independent Unilateral (IUPs) or Supported Bilateral Projects (SBPs). 29 of the 32 SUPs include a CER buyer in the PDD, while only 3 of them do not have a CER buyer mentioned in the PDD (see Table 4.1, 4.2 and 4.3).

Table 4.1 Classification of Vietnamese Registered CDM Projects (September 16, 2010)

Independent Bilateral Projects (IBPs) with CER buyer (Style 2.2) – 1 project

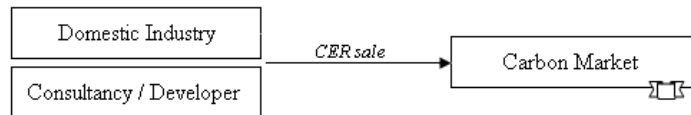


#	Name	Host Industry	Foreign Industry	Consultant	CER Buyer
1	Rang Dong Gas Recovery Project	Petrovietnam	JVPC (Japan)	/	ConocoPhillips (US)

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Table 4.2 Classification of Vietnamese Registered CDM Projects (September 16, 2010)

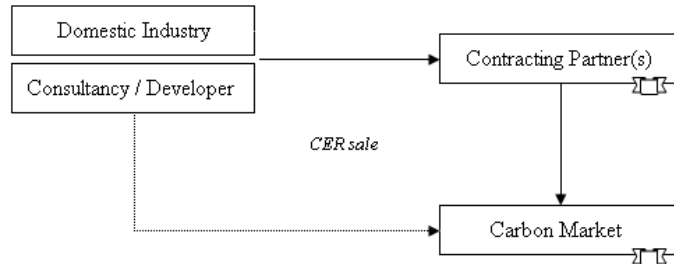
Supported Unilateral Projects (SUPs) without CER buyer (Style 3.1) – 3 projects



#	NAME	HOST INDUSTRY	FOREIGN INDUSTRY	CONSULTANT	CER BUYER
3	Dong Thanh Landfill Gas Project	KMDK Vietnam Co., Ltd.	/	Ecoeye Co., Ltd. (South Korea)	/
5	Cao Phong Reforestation Project	Forest Development Fund	/	Japan Int'l Cooperation Agency (Japan)	/
14	Phuoc Hiep Landfill Gas Project	KMDK Vietnam Co., Ltd.	/	Ecoeye Co., Ltd. (South Korea)	/

Table 4.3 Classification of Vietnamese Registered CDM Projects (September 16, 2010)

Supported Unilateral Projects (SUPs) with CER buyer (Style 3.2) – 29 projects



#	NAME	HOST INDUSTRY	FOREIGN I.	CONSULTANT	CER BUYER
2	Song Much Hydro Project	AGRIMECO	/	Tohoku (Japan)	Tohoku (Japan)
4	Binh Thuan Wind Project	Vietnam Renewable Energy Comp.	/	Carbon Bridge Pty Ltd. (Singapore)	EDF Trading Limited (UK)
6	Phu Mao Hydro Project	Tan An Limited Comp.	/	KYOTOenergy Pte. Ltd. (Malaysia)	Vitol S.A. (Switz/Netherl.)
7	Muong Sang Hydro Project	Muong Sang Hydropower Comp.	/	KYOTOenergy Pte. Ltd. (Malaysia)	Vitol S.A. (Switz/Netherl.)
8	Suoi Tan Hydro Project	Suoi Tan Hydropower Comp.	/	KYOTOenergy Pte. Ltd. (Malaysia)	Vitol S.A. (Switz/Netherl.)
9	So Lo Hydro Project	Mai Chau Hydropower Comp.	/	KYOTOenergy Pte. Ltd. (Malaysia)	Vitol S.A. (Switz/Netherl.)
10	Nam Pia Hydro Project	Lam Son Construction and Trading Comp.	/	EECJ (Vietnam)	Kansai Electric Power Co. Inc. (Japan)
11	Viet Ma Wastewater Project	Viet Ma Co. Ltd.	/	Toshiba (Japan)	Toshiba (Japan)
12	Truong Thinh Wastewater Project	Truong Thinh Co., Ltd.	/	Toshiba (Japan)	Toshiba (Japan)
13	Ta Niet Hydro Project	Ta Niet Hydro Power Comp.	/	RCEE (Vietnam)	Tricorona (Sweden)
15	An Diem 2 Hydro Project	Song Vang Hydropower Comp.	/	EECJ (Vietnam)	MGM Carbon Portfolio S.a.r.l (UK)
16	Nghe An Methane and Biogas Project	Intimex Import Export Corporation	/	AES Climate Solutions (US)	AES Carbon Exchange Ltd. (US)
17	Lao Cai Methane and Biogas Project	Hieu Hung Agricultural Product Processing	/	AES Climate Solutions (US)	AES Carbon Exchange Ltd. (US)

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18	Nghe An 2 Methane and Biogas Project	Vietnam Engine and Agricultural Machinery	/	AES Climate Solutions (US)	AES Carbon Exchange Ltd. (US)
19	Quang Tri Methane and Biogas Project	Quang Tri Trade One Member, LLC	/	AES Climate Solutions (US)	AES Carbon Exchange Ltd. (US)
20	Yen Bai Methane and Biogas Project	Yen Binh Trading and Investment Comp.	/	AES Climate Solutions (US)	AES Carbon Exchange Ltd. (US)
21	Nam Gion Hydro Project	Ha Thao Construction Investment and Trading	/	EECJ (Vietnam)	ORBEO (FR)
22	Nam Khoa 3 Hydro Project	Linh Linh Joint Stock Company	/	KYOTOenergy Pte. Ltd. (Malaysia)	Vitol S.A. (Switz/Netherlands)
23	Nam Khot Hydro Project	Nam Khot Hydropower Comp.	/	EECJ (Vietnam)	ORBEO (FR)
24	Yan Tann Sien Hydro Project	Highland Song Da Hydropower Comp.	/	EECJ (Vietnam)	ORBEO (FR)
25	Ha Rao Quan Hydro Project	Song Cau Joint Stock Company	/	EECJ (Vietnam)	Shell Trading International Ltd. (Netherl./UK)
26	Coc Dam Hydro Project	Hoang Son Construction Comp.	/	EECJ (Vietnam)	Shell Trading International Ltd. (Netherl./UK)
27	Lap Vo Rice Husk Biomass Power Plant	Duy Phat Electricity Comp.	/	INTRACO Co., Ltd (Vietnam)	RWE Power AG (Germany)
28	Chieng Cong Hydropower Project	Lam Son Trading and Construction Comp.	/	EECJ (Vietnam)	Kansai Electric Power Co. Inc. (Japan)
29	Pa Khoang Hydropower Project	Duc Thanh Commercial and Manufacturing	/	KYOTOenergy Pte. Ltd. (Malaysia)	Bunge Emissions Holdings Sarl (US/Bermuda)
30	Dak Ne Hydropower Project	Trung Dong Company Limited	/	INTRACO Co., Ltd (Vietnam)	RWE Power AG (Germany)
31	Ea Drang 2 Hydropower Project	Dak Lak Power Hydroelectric Comp.µ	/	INTRACO Co., Ltd (Vietnam)	ENECO Energy Trade B.V. (Netherlands)
32	Dak Rung Hydropower Project	Viet Nguyen Construction Works Comp.	/	INTRACO Co., Ltd (Vietnam)	RWE Power AG (Germany)
33	Suoi Sap 3 Hydro Power Project	Bac Minh Development Investment Comp.	/	Carbon Bridge Pty Ltd. (Singapore)	EDF Trading Limited (UK)

The fact that almost all successful Vietnamese CDM projects thus far have been of the supported, unilateral kind, is highly significant. On the one hand, it shows the complexity of CDM application procedures and the lack of internal capacities within individual Vietnamese companies to develop a PDD independently. Even the independently developed Rang Dong Gas Recovery Project (2006; IBP), relied on the expertise of the foreign partner (JVPC, Japan) to successfully apply for registration at the EB. It remains to be seen whether or not Vietnamese companies are able to build up sufficient internal expertise to independently develop PDDs and reap the related rewards in the future.

The high share of SUPs shows, secondly, that foreign industries are only very marginally involved in Vietnamese CDM project development. Only JVPC, short for Japan Vietnam Petroleum Company, is actively engaged in project development and implementation in a currently registered CDM project in Vietnam. All other foreign involvement is limited to consultancy companies and CER buyers. Three Vietnamese consultancies, INTRACO, RCEE and EECJ, are active in Vietnam's CDM market, offering their services to 13 of the 33 successful projects. Three Japanese companies (Japan International Cooperation Agency, Toshiba and Tohoku), one US company (AES Climate Solutions), one South Korean (Ecoeye), one Singaporean (Carbon Bridge) and one Malaysian company (Kyotoenergy) complete the list of consultancies (see Table 5). All but three successful projects have sought to include a CER buyer during the design phase of their projects, from a diverse spectrum of (Annex I) countries: EU member states, Switzerland, Japan and the US. 6 CER buyers are headquartered within the EU, 3 in Japan, 1 in Switzerland and 4 in the US. This is rather unsurprising, due to the fact that the EU and especially the EU Emissions Trading System (EU ETS) is the single largest source of demand for CERs worldwide (UNFCCC 2010; Point Carbon 2010). The overwhelming majority of CDM project developers in Vietnam clearly prefer the most risk-free approach in the design of their projects. CER buyers contracted before the actual issuance of CERs reduces the price but also reduces the risks associated to the volatility of the carbon market and guarantees future CER revenues. The inclusion of consultancies, on the other hand, reduces risks associated to passing the complicated domestic and international procedures related to the CDM, including baseline description, monitoring plan, additionality calculations and so forth.² Some project developers, in addition, clearly opt to hire a consultancy that acts as a CER broker or buyer simultaneously (e.g. AES and Tohoku).

² Interviews, 2010.

Table 5. Consultants and CER Buyers in Registered Vietnamese CDM Projects	
Consultants	CER Buyers
EECJ (Vietnam – 8 projects)	EDF Trading Limited (UK – 2 projects)
INTRACO Co., Ltd (Vietnam – 4 projects)	RWE Power AG (Germany – 3 projects)
RCEE (Vietnam – 1 project)	ORBEO (France – 3 projects)
KYOTOenergy Pte. Ltd. (Malaysia – 6 projects)	ENECO Energy Trade B.V. (Netherlands – 1 project)
AES Climate Solutions (US – 5 projects)	Shell Trading International. (Netherl/UK – 2 projects)
Japan Int'l Cooperation Agency (Japan – 1 project)	Tricorona (Sweden – 1 project)
Toshiba (Japan – 2 projects)	ConocoPhillips (US – 1 project)
Tohoku (Japan – 1 project)	Bunge Emissions Holdings (US/Bermuda – 1 project)
Carbon Bridge Pty Ltd. (Singapore – 2 projects)	Vitol S.A. (Switz/Netherlands – 5 projects)
Ecoeye Co. Ltd. (South Korea – 2 projects)	AES Carbon Exchange Ltd. (US – 5 projects)
	MGM Carbon Portfolio (US – 1 project)
	Kansai Electric Power Co. Inc. (Japan – 1 project)
	Toshiba (Japan – 2 projects)
	Tohoku (Japan – 1 project)

The absence of foreign industrial players in Vietnamese CDM project development has different explanations. The single most important reason is unrelated to the Vietnamese situation. It is simply a general observation in the carbon market that the majority of CDM projects are conducted unilaterally.³ It is, further, a sign of the relative immaturity of the Vietnamese CDM market and Vietnam's general economic development that only 1/33 projects actually includes one. The one project that does, moreover, is rather 'special'. It was the first successful Vietnamese project, registered in 2006, and involved a number of major national companies (i.e. Petrovietnam Exploration & Production Company and Vietnam Oil and Gas Corporation) that cooperated with a Japanese giant (Japan Vietnam Petroleum Company), and is thus far from the typical Vietnamese project. The Rang Dong Gas Recovery Project is the

³ Interviews, 2010.

only gas recovery project in Vietnam, while there are 20 hydro projects, 5 methane/biogas projects, 2 wastewater and landfill projects and 1 wind power, 1 biomass and 1 reforestation project (see Table 3). It is, moreover, the only project that has successfully obtained a large quantity of CERs so far.

Geographical Spread, Number and Nature of European Entities Involved

European entities are solely participating in successful Vietnamese CDM projects as CER buyers so far. There are no foreign industrial players or consultancy companies present in the 33 projects listed above. 6 of the 14 CER buyers that are involved in total, however, are European. This demonstrates that the single largest source of finance originates from within the EU. The 4 US companies, moreover, trade CERs from a European registry (United Kingdom, the Netherlands and Switzerland), in accordance with UN rules: individual entities from Parties that have not ratified the Kyoto Protocol are allowed to participate in international emissions trading only when registered in a country that has ratified the Kyoto Protocol. It is likely that these companies sell CERs to either EU member states or EU ETS companies, that use them for compliance with their targets.

The 6 European CER buyers originate from the following member states: the United Kingdom, France, Germany, the Netherlands (2 companies) and Sweden (see Table 6). Sweden is only involved in one project (Ta Niet Hydro Project), the UK in two (Suoi Sap 3 Hydro Power Project and Binh Thuan Wind Project), while the Netherlands (Ha Rao Quan Hydro Project, Coc Dam Hydro Project and Ea Drang 2 Hydropower Project), Germany (Lap Vo Rice Husk Biomass Power Plant, Dak Ne Hydropower Project, Dak Rung Hydropower Project) and France (Nam Gion Hydro Project, Nam Khot Hydro Project, Yan Tann Sien Hydro Project), each buy CERs from three CDM projects. It is remarkable that of the 12 projects with direct EU involvement, 10 are hydro projects, in addition to 1 wind and 1 biomass project. All of them belong to the category of renewable energy projects.

Table 6. Involved European Companies in Registered Vietnamese CDM Projects		
Company Name	EU Member State	Company Type
Shell Trading International (2 projects)	The Netherlands	Energy Company
ENECO Energy Trade B.V. (1 project)	The Netherlands	Energy Company
ORBEO (3 projects)	France	CER Broker / Emission Trader
RWE Power AG (3 projects)	Germany	Energy Company
EDF Trading Limited (2 projects)	United Kingdom	Energy Company
Tricorona (Sweden – 1 project)	Sweden	CER Broker / Emission Trader

As for the number and nature of involved EU companies, we see that there are no government agencies, INGOs or ENGOs involved. Of the six companies in total, four are classical energy companies or wholesale energy traders: EDF Trading (UK), Shell Trading International (Netherlands/UK), ENECO (Netherlands) and RWE Power (Germany). Tricorona (Sweden) and ORBEO (France) are carbon brokers and players on the EU emission trading market. The latter two are interesting cases to take a closer look at. Tricorona is a young Swedish company that is specialized in CDM project development, CER brokerage and emission trading. After a highly successful appearance on the carbon market during the past several years, it attracted the attention of one of the other major players in the global financial and carbon market: Barclays. On June 2, 2010, Barclays, an international bank based in London, bought Tricorona for 112 million euro (Barclays 2010). ORBEO offers another significant example of the current dynamics in the global carbon market. Founded in 2006, the company is actually a joint venture between Rhodia, a world-wide leader in the chemical industry, and Société Générale, another international bank (ORBEO 2006). It is clear that a large part of Vietnamese CERs will be bought either by major energy companies (most likely for compliance purposes or to sell off for profit), or by major financial players whose core business is buying and selling (complicated) financial assets.

It is clear that this first analysis of EU-Vietnam CDM relations only lifts up a tip of the veil. There are numerous elements touched upon that deserve further clarification, such as the tendency towards designing supported, unilateral projects and the limited involvement of European industrial players and consultancy companies. It is also significant to note the engagement of large European energy and financial multinationals as CER buyers and their comparative interest in buying certificates from renewable energy projects. The precise implications of these facts remain unclear at the moment. The CDM-DCT has been an effective “quantitative” tool for the discovery of some preliminary insights in the nature of European involvement in the Vietnamese carbon market, but a number of “qualitative” questions that arise from these observations remain to be addressed.

CONCLUSION

This paper aimed to shed light on the different actors and levels involved in current EU-Vietnam Climate relations, by focusing on the Clean Development Mechanism. In addition to a short overview of international CDM rules and regulations, part one presented a newly developed conceptual tool to investigate CDM project design: the CDM Design Classification Tool (CDM-DCT). Part two applied the CDM-DCT to all successfully registered CDM projects as of September 2010. On the basis of this application, a number of important insights were discovered regarding main CDM design styles in Vietnam, the geographical spread of EU member state involvement and the nature and number of participating European actors.

The classification tool developed in this paper allows for the analytic breakdown of differences in design styles or ‘set-up’ of CDM projects. Three main variables are used to reach this goal: inclusion or exclusion of a foreign industrial partner (bilateral/unilateral), inclusion or exclusion of a consultancy company (supported/independent), and inclusion or exclusion of a CER buyer in the Project Design Document (with/without CER buyer in PDD). The combination of these three variables leads to 4 main design styles for CDM projects: Independent Unilateral Projects (IUPs); Independent Bilateral Projects (IBPs); Supported Unilateral Projects (SUPs); and Supported Bilateral Projects (SBPs); and 8 substyles: IUPs with or without CER buyer, IBPs with or without CER buyer, SUPs with or without CER buyer and SBPs with or without CER buyer.

The theoretical possibilities of CDM project design were then tested empirically by applying the CDM-DCT to Vietnam's 33 currently registered projects. The most important result is that the vast majority (32/33) of the projects belongs to the category of SUPs or Supported Unilateral Projects, i.e. with a consultancy company but without a foreign industrial partner. 29 of these had contracted a CER buyer before project registration. Only 1 project does not belong to the SUP category: the Rang Dong Gas Recovery Project which is an Independent Unilateral Project, without consultancy but with a foreign partner. The most direct conclusion of this observation is that Vietnamese project developers opt for a relatively risk-free approach, with most projects contracting both a consultancy and a CER buyer during project design, while being reluctant towards including a foreign industrial partner.

The empirical part also investigated European (member state) involvement in these 33 projects. In total, entities from 5 EU member states are participating: The United Kingdom, The Netherlands, Sweden, France and Germany. Remarkably, not a single European industrial player nor consultancy company has successfully engaged in Vietnamese CDM project development so far. The 6 companies that were involved were all CER buyers, contracted before project registration. Other European CER sales most likely have taken and will take place, but are very difficult to track and are beyond the scope of the CDM-DCT.

In total, these 6 companies bought CERs from 12 SUPs, most of them hydropower projects. As the development of renewable energy (RE) and the urgent need to reform the global oil-based system of production and consumption are key elements in world-wide efforts to tackle Climate Change, the involvement of European players in RE projects is to be applauded. On the other hand, it is remarkable that European CER buyers present in successful Vietnamese CDM projects so far are limited to major banks (e.g. Barclays, SG) and major energy companies (e.g. Shell, RWE, EDF, ENECO) in addition to one chemical company (Rhodia). In other words, European companies that stem from two of the industries that are at the very centre of the economic system that is responsible for the potentially disastrous effects of global warming, finance and energy, are now important buyers of cheap emission offsets from Vietnam. The consequences of these findings on the viability of the CDM as an effective climate mitigation tool in EU-Vietnam Climate relations are uncertain, and constitute potential topics for further academic research.

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LIST OF INTERVIEWS

In the context of a field study in Hanoi (Vietnam) and Beijing (China), 14 interviews were held with various European, Vietnamese and Chinese officials, business representatives (DOEs, project owners and consultancies) and international organizations (World Bank, UNDP). Strict anonymity rules are applied to all interviewees due to the sensitive economic and political context of the research topic.

Hanoi, May 2010

<i>Affiliation</i>	<i>#</i>
Business representatives	4
Officials	3
International Organizations	1

Beijing, June 2010

<i>Affiliation</i>	<i>#</i>
Business representatives	3
Officials	2
International Organizations	1
<i>Total</i>	<i>14</i>



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