

CONSULTATION PAPER
CERTIFIED EMISSION REDUCTION FUTURES

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Hong Kong Exchanges and Clearing Limited
香港交易及結算所有限公司

TABLE OF CONTENTS

	Page No.
INTRODUCTION	3
PART A: BACKGROUND OF CARBON TRADING	4
PART B: POTENTIAL DESIGN FOR CER FUTURES	11
PART C: MARKET OPINIONS	13
PART D: CONSIDERATIONS & CONSULTATION QUESTIONS	14
PART E: NEXT STEPS AND TIME FRAME	16
APPENDICES	
APPENDIX I: BACKGROUND INFORMATION OF THE KYOTO PROTOCOL AND THE EU EMISSION TRADING SCHEME	17
APPENDIX II: CLEAN DEVELOPMENT MECHANISM & THE CARBON REGISTRY SYSTEM	21
APPENDIX III: PERSONAL INFORMATION COLLECTION AND PRIVACY POLICY STATEMENT	23

INTRODUCTION

Based on the international treaty United Nations Framework Convention on Climate Change (UNFCCC) reached in 1992, it has been a common goal for nations around the world to implement policies aimed at reducing emissions of greenhouse gases (GHGs)¹ to contain the effect of global warming that may cause global climate changes. Under the Kyoto Protocol adopted by the UNFCCC parties in Kyoto, Japan, in 1997 and entered into force in 2005, developed countries, with commitments to cap their national GHGs emission levels, have developed or are developing emission trading schemes based on the allocated carbon emission credits. Carbon emission credits called European Union Allowances (EUAs) became tradable by European entities under the European Union Emission Trading Scheme (EU ETS).

Under the Clean Development Mechanism (CDM) of the Kyoto Protocol, clean development projects located in developing countries are issued with tradable carbon emission credits, known as Certified Emission Reductions (CERs), as an incentive for developing countries to implement projects to reduce GHG emissions. CERs may be purchased as a substitute for the EUA carbon credits.

Since 2005, there has been a rapid development in the global carbon emission market. Currently, Europe is the major centre of carbon emission trading under EU ETS, while China is the major supplier of CERs. More background on carbon emission trading is set forth in Part A to give readers an understanding of the rationale, mechanism and market environment regarding carbon emission trading.

HKEx commissioned a consultancy study in 2007 on the strategies it could consider in relation to participating in the growing carbon emissions market. Based on that study, HKEx is exploring the feasibility of developing a CER futures market in Hong Kong.

The product concept of CER futures under consideration aims to provide trading and risk transfer opportunities to CER market participants in the Asian time zone. The potential contract design for CER futures would be a deliverable contract based on the European Union delivery standard for CERs, as Europeans are the major compliance buyers of CERs and the EU ETS is the most developed carbon emission market. The potential contract features for CER futures are discussed in Part B of this paper.

This public consultation seeks views and comments from all persons interested in carbon emission markets (including financial intermediaries, investors, CDM project participants, academics, and public policy makers) on the feasibility of developing an carbon emission trading platform in Hong Kong and the product concept of CER futures. Initial market opinions collected and considerations in relation to this initiative are set forth in Part C and D respectively for reference.

To facilitate public responses to this initiative, a list of questions is set forth in Part D for consideration. Your attention is drawn to our personal information collection and privacy policy statement set out in Appendix III.

Any parties interested in responding to this consultation paper are invited to submit their comments via the channels indicated in Part E. The deadline for submission is 31 August 2009.

¹ GHGs include Carbon Dioxide (CO₂), Methane (CH₄), Nitrous Oxide (N₂O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulphur Hexafluoride (SF₆). As CO₂ is the major component of GHGs, GHG emissions are measured in terms of CO₂ emissions equivalent.

PART A: BACKGROUND OF CARBON TRADING

What is Emission Trading?

1. Conceptually, there are two basic forms of market based approaches for reduction of GHG emissions:
 - a) “Cap and trade” – The cap and trade system allocates allowances to regulated participants by which participants in the scheme may emit, while the overall amount of emissions of regulated participants is capped at an aggregate level. The emission allowances for each regulated participants are determined on the basis of their historical emissions and the emission reduction targets. Participants may implement measures that reduce emissions freeing up emission allowances for sale to buyers who need them. The European Union Emission Trading Scheme (EU ETS) is a cap and trade system, in which regulated EU participants trade the emission allowances called European Union Allowances (EUAs).
 - b) “Baseline and credit” – The baseline and credit system allows participants to obtain emission credits by reducing emissions below a specific baseline which is derived from historical emissions or from a performance standard that specifies the permitted ratio of emissions to output. Emission credits are allocated to Participants only after the emission reductions are performed. Participants can extract economic values from these emission credits by selling them to other participants. The Clean Development Mechanism under the Kyoto Protocol is a baseline and credit system, which allows creation of emission credits, i.e. CERs, for clean development project owners upon the fulfillment of emission reductions below the specified baseline for their projects.

Under the Kyoto Protocol ratified in 2005, both approaches are employed as a means to reduce carbon emissions.

Kyoto Protocol

2. The Kyoto Protocol adopted a principle of “common but differentiated responsibilities” under which developed countries should take up a higher commitment in reducing GHG emissions relative to those of the developing countries. Developed countries which agreed to take the lead in adopting national measures to control or reduce GHG emissions are known as “Annex I Parties”. Developing countries which ratified the Protocol but did not commit to quantified GHG emission targets are known as “Non-Annex I Parties”. They are required to report and communicate on their GHG emissions. The lists of Annex I and Non-Annex I Parties are set forth in Table A and B of Appendix I.
3. Most Annex I Parties have committed carbon emission reduction targets for the first commitment period of the Kyoto Protocol from 2008 to 2012 and their respective carbon emission reduction targets are set forth in Annex B of the Protocol. Annex B Parties committed to reduce GHG emissions by an average of 5.2% below 1990 levels. Failing to meet their carbon emissions reduction targets during the first commitment period, Annex B Parties will be liable for penalty of additional 30% carbon emissions reduction, to be made up in the post-2012 period.

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4. Countries with emission reduction targets are allocated national quotas (i.e. Emission Reduction Units, ERUs) for carbon emission under the National Allocation Plan based on their emission level in 1990 and their committed percentage of emission reduction.
 5. European Union has a collective carbon emission reduction target of 8% below the 1990 levels during the first commitment period of the Kyoto Protocol (i.e. 2008 to 2012), which is redistributed among EU member states. The European Union implemented the European Union Emission Trading Scheme (EU ETS) in 2003, which is a mechanism allowing its member countries to trade carbon emission credits, called European Union Allowances (EUAs), representing emission of 1 metric ton of carbon dioxide equivalent (CO₂e) each. In fact, EU is committed to GHG emission reduction beyond the first commitment period of the Kyoto Protocol, as the European Council has endorsed an initiative in March 2007 to further reduce EU's GHG emissions by 20% in 2020 compared to 1990 levels.
 6. The first commitment period of the Kyoto Protocol will expire in 2012 and a new international framework for a second commitment period is under negotiation with a target completion in the Copenhagen meeting in December this year.

Clean Development Mechanism

7. As noted, the Kyoto Protocol also introduced CDM applicable to those developing countries ratifying the Kyoto Protocol, but who have not committed any carbon emission reduction target, namely, Non-Annex I Parties. Under CDM, clean development projects implemented in Non-Annex I Parties and certified by the Designated National Authority under the UNFCCC may obtain credits called CERs, which represent the emission of 1 metric ton of carbon dioxide equivalent (CO₂e) each. CDM project owners can sell CERs to Annex I Parties for compliance with emission offsets within a certain limit². The proceeds become additional financial incentives for developing countries to implement clean development projects. As such, EUAs and CERs are closely linked in valuation. Kyoto Protocol also provides a similar mechanism among Annex I Parties called Joint Implementations (JI)³.
8. All UNFCCC certified carbon credits are recorded under an on-line registry system. Each Annex I Party has an on-line national registry to record the carbon credits holding of its participants. Under the UNFCCC, an International Transaction Log (ITL) is built to register and facilitate the transfer of carbon credits among countries. There is also a Community Independent Transaction Log (CITL) under the EU ETS, facilitating the trading and transfer of carbon credits among EU countries.
9. Regarding CERs generated via CDM, the UNFCCC will credit CDM project owners' holding accounts in the CDM Registry after the projects are approved and become eligible for CERs. CERs in the CDM Registry can be transferred to the buyers' holding accounts in the national registries of Annex I Parties via the ITL for the purpose of carbon emission offset.

² Under Directive 2004/101/EC of the European Council dated 27 October 2004, EU Member States may allow operators to use CERs up to a percentage of the allocation to each installation, to be specified by each Member State in its national allocation plan. The limit varies among different EU Member States from 8% to 38% with an average about 10% of allocations. EU also restricts the uses of CERs generated from forestry, nuclear projects as well as hydroelectric projects below 20 MW.

³ JI is similar to CDM, except that the emission reduction credits come from projects undertaken in other Annex I Parties. The credits that are created under this mechanism are called ERUs which can be used for meeting emission reduction targets. More details of JI are available from: <http://ji.unfccc.int/index.html>

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10. For more information regarding the Kyoto Protocol / EU ETS and the Clean Development Mechanism, please refer to Appendix I and II respectively.

Development of Carbon Emission Markets

Annex I Parties

11. Currently, carbon emission trading is most active in Europe due to the existence of a compliance market under the Kyoto Protocol and EU's own initiative in reduction of GHG emissions. Carbon credits commonly traded in Europe are EUAs and CERs, which are traded in both over-the-counter (OTC) markets and exchange-traded market.
12. Although the US is one of the largest emitters of CO₂, it did not ratify the Kyoto Protocol. The present US President Obama has promised to implement a US emission trading scheme and law makers are working on the relevant legislation. Currently, there is a small carbon emission trading market in the US operating on a voluntary basis.
13. In Asia, Japan is one of the Annex 1 Parties committed to reducing GHG emissions. Japan's Environment Ministry indicated that they are working on a cap and trade system similar to the EU ETS, but the timing of launch is still uncertain. Japanese entities participate in CDM projects and purchase CERs from Non-Annex I Parties. Japan is the second major compliance buyer of CERs, following the EU.
14. Similar to the US, Australia's government initially refused to ratify the Kyoto Protocol. Under the leadership of Labour Party, Australia has ratified the Kyoto Protocol and become a full member of the Kyoto Protocol on 11 March 2008. Australia has committed to limit its GHG in the first commitment period of 2008-2012 to 108% of its carbon emissions in 1990 and has set a long term target to reduce GHG emissions by 60% on 2000 levels by 2050. It is also planning to introduce a cap and trade system called the Carbon Pollution Reduction Scheme with a target implementation date in 2011⁴.

Non-Annex I Parties

15. Non-Annex I Parties in Asia, in particular China, India, Indonesia and South Korea are relatively active in CDM projects and dealing in CERs. Japan is the only Asian country among the Annex I Parties.
16. At present, the carbon market in Non-Annex I Parties is an OTC market, mainly focused on CERs. European and Japanese companies or intermediaries participate in CDM projects by providing project finance and expertise. They also agree with CDM project owners to make forward purchases of CERs on a bilateral basis. In turn, they sell CERs to their home market users for the offsetting of emissions reduction requirements.
17. According to the World Bank, China has been the world's leader in CDM projects and CER supply in recent years, with a 84 per cent market share in terms of 2008 transacted volume, compared with a 73 per cent market share in 2007. We understand that CDM project owners are required to have forward CER sale agreements in place with foreign entities before their projects

⁴ For a timetable of Australia's Carbon Pollution Reduction Scheme, please refer to the webpage of the Department of Climate Exchange, Australia, below: <http://www.climatechange.gov.au/emissionstrading/timetable.html>

are approved to be eligible for CERs. At present, there is no secondary CER trading market in China.

18. There are a number of new initiatives in China concerning emissions trading. The Beijing Environment Exchange, Shanghai Environment and Energy Exchange and Tianjin Climate Exchange were all formed in 2008. They have various plans aimed at trading a number of pollutant credits including CERs, subject to local regulatory approvals.
19. Hong Kong-based CDM projects are eligible to apply for issuance of CERs under the oversight of the National Development and Reform Commission (NDRC) of China, though the sizes of local CDM projects are relatively small. Some Hong Kong listed companies are investing in CDM projects in China and South East Asian region. In addition, some intermediaries are using Hong Kong as a business centre to access the Mainland for origination of CERs.

Voluntary Carbon Market

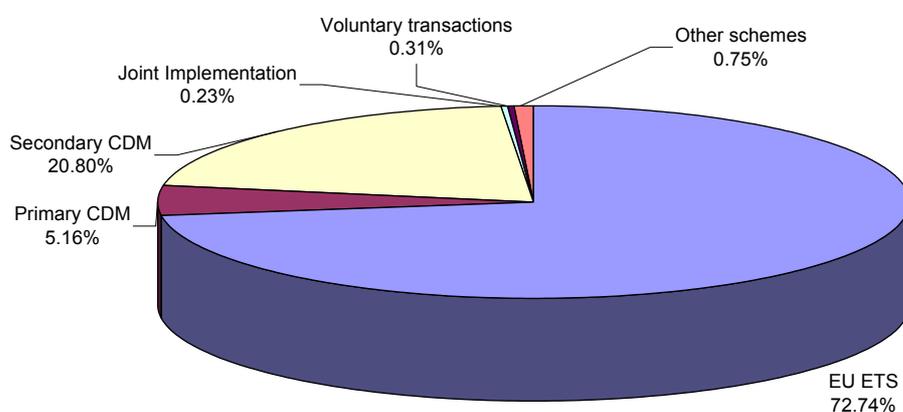
20. Apart from the Kyoto Protocol, voluntary carbon markets are also developed by concerned entities to meet environmental responsibility goals. These voluntary carbon markets are not regulated by governments and the offset products, known as Voluntary Emission Reductions or Verified Emission Reductions (VERs), vary in quality in terms of sustainable technology, baseline setting, calculation of reduced emissions, and their procedures for validation, verification and registration. There is no commonly accepted standard for VERs and participants may choose to use various types of VERs for carbon offset. In the US, Chicago Climate Exchange trades Carbon Financial Instruments and its derivatives which are derived from voluntary offset products.
21. Voluntary carbon credit buyers are mainly businesses, non-governmental organisations, government agencies, international conferences, and individuals. Most of them are based in the EU, North America or Australia and to some extent Asia. Many VERs come from projects in renewable energy, efficiency improvements or conservation projects. Voluntary carbon offset trading is project-based transactions and is mainly an OTC market. For example, HSBC announced in 2004 that it would go carbon neutral by 2006. It achieved carbon neutrality in 2005 by offsetting its emissions through the purchases of VERs from projects around the world. Cathay Pacific also launched a carbon emissions reduction project for their customers to offset their carbon footprint via a VER purchase programme.

Growth and Prospects

22. According to World Bank statistics, the transaction values in carbon emissions markets have been growing at impressive rates, highlighted by expansion of 187.5 per cent in 2006, 101.7 per cent in 2007 and 100.5 percent in 2008. In 2008, the total transaction value was reported to be US\$126 billion, with trading of EUAs and CERs accounting for 72.7 per cent and 25.96 per cent respectively. The breakdown of the transaction value by credit types in 2005 to 2008 is in Table 1 and the distribution of market shares is in Chart 1. The breakdown of the carbon emission credit transactions in terms of MtCO₂e in 2005 to 2008 is in Table 2.

Table 1: Global Carbon Emissions Trading: 2005 to 2008 (US\$ million)

Market	2005	2006	2007	2008
	US\$ million	US\$ million	US\$ million	US\$ million
EU ETS	7,908	24,436	49,065	91,910
CDM	2,638	6,249	12,884	32,796
Joint Implementation	68	141	499	294
Voluntary transactions	n.a.	146	263	397
Other schemes	250	263	296	949
Total:	10,864	31,235	63,007	126,346

Chart 1: Market Share of Carbon Emissions Trading in 2008 (in terms of USD)**Table 2: Global Carbon Emissions Trading: 2005 to 2008 (MtCO₂e)***

Market	2005	2006	2007	2008
	MtCO ₂ e	MtCO ₂ e	MtCO ₂ e	MtCO ₂ e
EU ETS	321	1,104	2,060	3,093
CDM	351	562	792	1,461
Joint Implementation	11	16	41	20
Voluntary transactions	n.a.	33	43	54
Other schemes	27	30	48	183
Total:	710	1,745	2,984	4,811

*MtCO₂e : million metric tonne carbon dioxide equivalent

Source: World Bank

23. UNFCCC estimates that the total number of CDM projects in the pipeline between now and 2012 would be 4,200 and the total supply of CERs will be about 2.9 billion metric tons⁵. According to UNFCCC's long term estimate of the size of the international carbon market, the compliance demand by Annex I Parties for Kyoto credits by 2030, at the low-range, would be with an underlying value of US \$5-25 billion a year. The compliance demand at the high-range will be with a value of around US \$100 billion a year⁶. In comparison, the average daily trading value at the New York Stock Exchange in March 2009 was US\$81.1 billion.
24. The growth prospect of the carbon emissions markets depends in largest part on the post 2012 Kyoto Protocol negotiation, which could lead to tighter emission cap commitments among Annex I Parties, new Annex I Party signatories and expansion of industry coverage to shipping and airlines. Developments in the US have the potential to increase the worldwide demand for carbon emission credits dramatically.

Trading Activities in the Carbon Emission Derivatives Markets

25. With the commencement of the EU ETS, the earliest derivatives markets in OTC and exchange-traded carbon emission credits took off in Europe in 2003 and early 2005 respectively, with trading in EUAs under the EU ETS. Trading of CER derivatives started later because CDM projects under the Kyoto Protocol needed time to develop. The earliest exchange-traded CER derivatives were launched in mid-2007 in Europe.
26. As the end of 2008, there were eight major derivatives exchanges offering carbon emission futures and/or options trading, mainly EUA and CER products. There were large increases in trading of carbon emission derivatives products in 2007 and 2008, when growth rates were 124 per cent and 169 per cent respectively.
27. Among the eight major exchanges, four European carbon exchanges and two US exchanges trade CER futures. In Asia, CER futures are traded at two Indian commodity exchanges. The total number of CER futures traded last year was 603,431 contracts (1000 metric tons-equivalent per contract), which accounted for 19.4 per cent of total carbon contract trading.
28. The carbon emission futures markets were more active than the carbon emission spot markets in 2007 and 2008, when the average daily volume in EUA futures was 8.6 times the average daily volume in the EUA spot market, and the average daily volume in CER futures was 41.4 times the average daily volume in the CER spot market (see comparison table below).

Year	Average Daily Volume in EUA		Average Daily Volume in CER	
	Spot (contracts)	Futures/Forwards (contracts)	Spot (contracts)	Futures/Forwards (contracts)
2007	93	4,193	N/A	96
2008	975	8,380	57	2,357

⁵ See http://unfccc.int/resource/docs/publications/08_cdm_in_brief.pdf

⁶ Refer to Potential of Carbon Markets, UNFCCC, November 2007 (http://unfccc.int/files/cooperation_and_support/financial_mechanism/application/pdf/potential_of_carbon_markets.pdf)

(Note: One contract = 1,000 tons of CO₂ emission)

29. During the period from the first quarter of 2008 to the first quarter in 2009, the CER futures market was volatile. The CER futures prices dropped from €24 per tonne in the middle of last year to €8 per tonne early this year (see chart below) due perhaps to the turmoil in the world's financial markets.

CER Futures Contract Price (Dec 09 Maturity)



Source: European Climate Exchange

PART B: POTENTIAL DESIGN FOR CER FUTURES

Potential Design for CER Futures

1. Based on the market environment discussed in Part A, the potential contract design for CER futures and corresponding clearing and risk management arrangements are set forth in this part for consideration.
2. The potential contract design for CER futures, which is based on the European standard, is set forth below:

Contract Features	Potential Contract Design	Remark
Underlying Instrument	Certified Emission Reduction Units (CERs) issued under Article 12 of the Kyoto Protocol. Each CER represents an entitlement for one metric tonne of carbon dioxide (CO ₂) emission.	Common standards for emission trading.
Contract Multiplier	1,000 Units of CERs.	
Trading and Settlement Currency	Euro or USD.	As a regional trading product, the trading and settlement currency of the CER futures should be an international currency, either Euro or USD. Euro suits end users' needs better. USD is a compromising choice, due to operational considerations in Hong Kong.
Quotation Method	Price per unit of CER.	International standard of quotation.
Contract Months	December contract months up to 2012 (Introduction of any further contract months will be decided by the HKFE Chief Executive).	Only December contract months are popularly traded in European exchanges; The compliance requirement in EU is measured once a year only.
Trading Hours	8:30 am to 5:00 pm (Asian time zone).	Matching operations of the financial market in Hong Kong.
Business Days	Hong Kong business days.	Matching operations of the financial market in Hong Kong.
Last Trading Day (LTD)	The first Hong Kong Business Day of the Contract Month.	
Final Settlement Day	The third Hong Kong Business day after the Last Trading Day.	Three business days are required to handle receipt and delivery of CERs.
Settlement Method	Delivery and receipt of CERs.	A deliverable CER futures contract would satisfy end users' needs for CERs to fulfil emission offset obligations. At present, no well-established fixing prices is available for normal cash settlement purposes.
Delivery Standard	CER units issued pursuant to Article 12 of the Kyoto Protocol with the exception of allowances generated by hydroelectric projects with a generating capacity exceeding 20MW, activities relating to land use, land-use change and forestry and nuclear facilities.	The European Commission imposed a directive in 2004 restricting member states from using CERs generated from certain types of projects, which might have negative impact to the environment, including large hydroelectric projects, land use, land-use change and forestry projects and nuclear projects. The proposed delivery standard will ensure that EU countries can use the CERs delivered.
Delivery Method	Delivery of CERs between the delivering and receiving participants' directly and guaranteed by HKEx	Other alternatives include: i) Via HKCC's holding account in an overseas national registry; or

Contract Features	Potential Contract Design	Remark
		ii) Via an agent appointed by HKEx to handle delivery between buyers and sellers. The choice of delivery method would depend on market demand and cost and complexity.
Final Settlement Price (FSP)	The volume-weighted average traded price of all trades in the expiring contract month executed during the 15 minute-interval on the Last Trading Day in which the last trade in the expiring contract month was executed. If no trade in the Contract Month is executed on the Last Trading Day, the FSP shall be determined based on the last available spot price of the underlying market at or before the close of futures trading on the Last Trading Day.	The FSP will be the cash amount for payment versus delivery of CERs. This arrangement is to ensure that the FSP reflects the latest traded prices on the last trading day.

PART C: MARKET OPINIONS

Market Opinions Received

1. HKEx executives discussed the proposed CER futures contract with emission market players in Hong Kong, Singapore, Australia and the UK regarding their trading needs and preferences and to gauge their interest in participating in the proposed CER futures market in Hong Kong. Some often repeated views and comments on the CER futures are set forth as follows:
 - a) The general feedback is that the carbon emissions market in Asia is an OTC market only, mainly focused on bilateral deals in the primary market of CERs. Various European and Japanese players, including brokers, participate in CDM projects under the Kyoto Protocol. They provide a broad range of services from project finance to comprehensive consultancy services in CER origination. In most cases, they have also forward purchased the CERs originated from the CDM project owners on a bilateral basis. Hence, most of the CER supplies in the primary market are already engaged. European corporations and brokers make use of the secondary CER spot and futures markets in Europe in managing their trading needs and risk exposures. Japanese buyers are using the primary market via bilateral deals to satisfy their compliance needs and seldom get involved in secondary market trading.
 - b) China is the major supplier of CDM projects and CERs under the Kyoto Protocol. However, China's CER trading is restricted to the primary market only. Under the administration of the National Development and Reform Committee (NDRC), CERs will only be issued to CDM project owners if they have forward CER sale agreements with foreign participants. As such, there is no secondary CER trading market in China so far. HKEx has yet to identify any sign of policy change in the Mainland to encourage CER trading in spot or futures markets.
 - c) Currently, no carbon emission trading desk has been set up in Hong Kong among our interviewed market participants, though a few have sales staff in Asia including Hong Kong, Singapore and Australia, who mainly work on CER origination in the primary market. It appears that Asian players so far are confining themselves to bilateral deals and would not therefore be likely users of the proposed CER futures market.

PART D: CONSIDERATIONS & CONSULTATION QUESTIONS

Considerations on the CER Futures Market

1. There are views that HKEx should strategically consider to develop a carbon emission trading market in Hong Kong given the rapid growth in the global carbon emission market. With the CER futures trading platform set up at HKEx in the Asian time zone, regional carbon emission market players might be attracted to use Hong Kong as a regional carbon emission trading centre.
2. However, there are also views that there is no business case at present for developing a carbon emission trading market in Hong Kong as the environmental policies among most Asian countries (except for Japan) do not require a trading platform to support emission trading schemes both locally and regionally. Unless trading liquidity of CER futures is built up, a CER futures trading platform in the Asian time zone might not be able to attract emission market players from other time zones.
3. In light of the rapid development of global carbon market and the present limitations in Asia, the HKEx is considering its role in relation to carbon emission trading, the business need for a carbon emission trading platform and the appropriate pace of development of a carbon emission trading platform in Hong Kong. Public views are sought in relation to this carbon emission trading initiative. HKEx also welcomes respondents to provide any further information in relation to the development of the carbon emission markets which may be useful for HKEx to consider. A list of questions is set forth below. Please refer to Part E for the procedures and time frame for submission of your views.

List of Consultation Questions

1. The first commitment period of the Kyoto Protocol will expire in 2012. The continuity of CERs as recognized carbon emission offsetting credits under the Kyoto Protocol is subject to a new international framework for the second commitment period under negotiation with a target completion in the United Nations Climate Change Conference in Copenhagen in December this year. Meanwhile, the US appears to be committed to develop a US emission trading scheme, but the details of the scheme are subject to further announcement and the relevance of CERs is uncertain. Against this background, do you think CERs should be the core carbon emission product to pursue in Hong Kong now or in a few years' time?
2. At this stage, the global CER market is dominated by European participants connected to the EU ETS and the delivery of CERs is based on the EU standard. Mainland China is the major supplier of CERs, which focuses on clean development projects and CER origination. Under Mainland China's policy, CERs are usually engaged by foreign investors based on forward sale agreements before they are issued by the United Nations. As such, the secondary CER trading market is not developed. European participants are using CER markets in Europe to manage their carbon emission trading needs and risk exposure. Under the existing market conditions, in what way can Hong Kong add value to the business process of the CER market and attract carbon emission trading participants to the Hong Kong marketplace? What are the success factors for Hong Kong to develop a commercially viable CER trading platform that can attract trading activities and develop trading liquidity? Do you think Hong Kong

possesses the success factors? Please explain your view.

3. Do you consider Hong Kong investing communities have sufficient knowledge in carbon emission trading and are they ready to participate in trading CERs products? Please explain your view.
4. If you are a financial intermediary, please respond to the following questions:
 - a. Do you see any potential in the asset class of carbon emissions and how would you rank the priority of carbon emission trading business among your other business initiatives? (high, medium or low)?
 - b. How would you assess your clients' interest in carbon emission trading? Do you have the know-how and expertise in handling carbon emission trading related operations and providing advisory services to your clients?
 - c. Are you located in Hong Kong and if so are you an Exchange Participant of Hong Kong Futures Exchange?
5. Are there any other issues regarding the introduction of CER futures not mentioned in this consultation paper that we ought to consider? Please explain your view.
6. Do you have any other comments in relation to the overall development of emissions or pollutants trading markets in Hong Kong?

PART E: NEXT STEPS AND TIME FRAME

1. HKEx invites comments from any interested parties on the introduction of a CER futures contract together with the proposed clearing and risk management features set out in this consultation paper.
2. Please submit your comments to the address below on or before 31 August 2009 to:

Hong Kong Exchanges and Clearing Limited
12th Floor, One International Finance Centre
1 Harbour View Street
Central
Hong Kong

Re: Consultation Paper on CER Futures

Comments may also be sent by fax to (852)2524-0149 or by e-mail to response@hkex.com.hk.

This consultation paper is also available on HKEx website at <http://www.hkex.com.hk>. For enquiry, please call (852) 2840-3844.

3. HKEx may request that certain personal data (e.g. name, identity card number, telephone number, address, email address) be provided with the consultation response for administrative purposes. In this connection, please read the Personal Information Collection Statement and Privacy Policy Statement in Appendix III. Failure to provide the personal data requested may render the response ineligible for consideration. Any response together with the name of the respondent may be published, in whole or in part, in document form, on the HKEx website or by other means. In general, HKEx will publish the name of the respondent only and will not publish his/her other personal data unless specifically required to do so under any applicable law or regulation. If the respondent does not wish his/her name to be published or his/her opinion to be published, please state so when responding to this paper. It is the policy of HKEx to post all consultation conclusions and responses on the HKEx website for seven years, unless HKEx deems it necessary to keep them posted for a longer period of time.
4. Following consideration of market responses, HKEx will issue a consultation conclusion based on the comments received.

APPENDIX I: BACKGROUND INFORMATION OF THE KYOTO PROTOCOL & THE EU EMISSION TRADING SCHEME

Kyoto Protocol

The United Nations Framework Convention on Climate Change (“UNFCCC”), an international treaty, was reached in 1992 to consider actions that can be done to reduce global warming by reducing Greenhouse Gases (GHG) emissions that might lead to climate changes.

The Kyoto Protocol was adopted by the UNFCCC parties in Kyoto, Japan, in 1997, which was designed to give concrete commitments in the UNFCCC. The Kyoto Protocol did not enter into force until the countries responsible for at least 55% of the world’s total GHG emissions had ratified it, which occurred on 16 February 2005.

As developed countries are principally responsible for the current levels of GHG emissions as a result of their industrial activities in the last two centuries, the Protocol adopted a principle of “common but differentiated responsibilities” that developed countries should take up a higher commitment in reducing GHG emissions relative to those of the developing countries.

Developed countries, known as “Annex I Parties” under the Kyoto Protocol, agreed to take the lead in adopting national measures to control or reduce GHG emissions; and developing countries, known as “Non-Annex I Parties”, did not commit to quantified GHG emission targets but agreed to report and communicate on their GHG emissions. Most of the countries in the world have agreed to the Kyoto Protocol. A list of the Annex I and Non-Annex I Parties are set forth in Table A and Table B.

The Kyoto Protocol established quantified targets for the emission of GHGs by industrialized countries. These amounted to an average of 5.2 per cent against 1990 levels over the five-year period 2008-2012, though each country’s reduction target is different. These countries are Annex I Parties and are listed in Annex B to the Kyoto Protocol. A list of the Annex B Parties and their emission reduction targets are set forth in Table C.

Under the Kyoto Protocol, all of the countries listed in Annex B receive an allocation of Assigned Amount Units (AAUs) corresponding with the amount of GHGs they are allowed to emit based on the emission reduction target. Each AAU represents one tonne of carbon dioxide equivalent (tCO₂e) emitted. The global warming potential of each of the six GHGs are measured on the basis of the “carbon dioxide equivalent” or CO₂e.

At the end of the Kyoto compliance period (2008-2012), countries in the Annex B are required to surrender allowances or credits to cover its total actual GHG emissions for that period. These may be either AAUs from its original allocation; AAUs that it has purchased from other countries; or credits from projects that have reduced GHG emissions in other countries that have ratified the Kyoto Protocol.

The Kyoto Protocol provides the following three flexible mechanisms to facilitate countries to meet their emission reduction targets:

(i) Emissions Trading: Annex I Parties may acquire AAUs from other Annex I Parties and use them for meeting emissions targets. Only countries that have a GHG emission target under the Kyoto Protocol can issue Emission Reduction Units (“ERUs”). For each ERU transferred, an AAU has to be cancelled.

(ii) Clean Development Mechanism (“CDM”) – Annex I Parties can use project-based emission reduction credits from projects that are undertaken in Non-Annex I Parties to meet their emissions reduction targets. The credits that are created are called Certified Emission Reductions (“CERs”). These projects must assist developing countries in achieving sustainable development. This mechanism attracts participation of the private sector to reduce GHG emissions through implementation of clean technologies in developing countries.

(iii) Joint Implementation (“JI”) – The mechanism of JI is similar to CDM, except that the emission reduction credits come from projects undertaken in other Annex I Parties. The credits that are created under this mechanism are called ERUs which can be used for meeting emission reduction targets.

Under the Kyoto Protocol, countries’ actual emissions are monitored and recorded. Parties are required to submit annual emission inventories and national reports at regular intervals. A compliance system is in place to ensure that parties are meeting their emission reduction commitments. The UN Climate Change Secretariat, based in Bonn, Germany, keeps an international transaction log according to the rules of the Kyoto Protocol.

The Kyoto Protocol also assists countries in adapting to climate change by facilitating the development and deployment of techniques. An adaptation fund was established to finance adaptation projects and programmes in developing countries that are Parties to the Kyoto Protocol.

European Union Emission Trading Scheme

Under the Kyoto Protocol, the European Union (EU) has a collective emission reduction target of 8% below the 1990 levels, which is redistributed among EU member states. Based on the emission reduction targets, EU countries allocate emission allowances to large CO₂ emitters within their territories and emitters are required to monitor and report their CO₂ emissions on an annual basis. By the end of the compliance year, emitters are required to surrender an amount of emission allowances to the government equivalent to their CO₂ emissions in that year. Emitters may surrender the emission allowances allocated by the governments, or may purchase them from others. If the emitter has more allowances than it needs, it may sell them to anybody.

In January 2005, the European Union Greenhouse Gas Emission Trading System (EU ETS) commenced operation to facilitate trading of emission allowances, which is based on Directive 2003/87/EC entered into force on 25 October 2003. The emission allowances being traded are called European Union Allowances (EUAs), representing emission of 1 metric ton of carbon dioxide equivalent each.

There is a Community Independent Transaction Log (CITL) under the EU ETS, facilitating the trading and transfer of carbon emission credits among EU countries. The CITL is linked to the International Transaction Log (ITL) of the UNFCCC.

EU is committed to GHG emission reduction post 2012 and the European Council has endorsed an initiative in March 2007 to further reduce EU's GHG emissions by 20% in 2020 compared to 1990 levels and by 30% provided other developed countries commit themselves to comparable reduction targets. EU member states are undertaking legislative process on this initiative.

Table A. Annex I Parties (Developed Countries)

1. Australia	9. Denmark	17. Ireland	25. Netherlands	33. Slovenia
2. Austria	10. Estonia	18. Italy	26. New Zealand	34. Spain
3. Belarus	11. Finland	19. Japan	27. Norway	35. Sweden
4. Belgium	12. France	20. Latvia	28. Poland	36. Switzerland
5. Bulgaria	13. Germany	21. Liechtenstein	29. Portugal	37. Turkey
6. Canada	14. Greece	22. Lithuania	30. Romania	38. Ukraine
7. Croatia	15. Hungary	23. Luxembourg	31. Russian Federation	39. United Kingdom
8. Czech Republic	16. Iceland	24. Monaco	32. Slovakia	40. United States of America *

* The United States of America has not ratified the Kyoto Protocol

Table B. Non-Annex I Parties (Developing Countries)

1. Afghanistan	31. Congo	61. India	91. Mozambique	121. Seychelles
2. Albania	32. Cook Islands	62. Indonesia	92. Myanmar	122. Sierra Leone
3. Algeria	33. Costa Rica	63. Iran (Islamic Republic of)	93. Namibia	123. Singapore
4. Angola	34. Cuba	64. Israel	94. Nauru	124. Solomon Islands
5. Antigua and Barbuda	35. Cyprus	65. Jamaica	95. Nepal	125. South Africa
6. Argentina	36. Côte d'Ivoire	66. Jordan	96. Nicaragua	126. Sri Lanka
7. Armenia	37. Democratic People's Republic of Korea	67. Kazakhstan *	97. Niger	127. Sudan
8. Azerbaijan	38. Democratic Republic of Congo	68. Kenya	98. Nigeria	128. Suriname
9. Bahamas	39. Djibouti	69. Kiribati	99. Niue	129. Swaziland
10. Bahrain	40. Dominica	70. Kuwait	100. Oman	130. Syrian Arab Republic
11. Bangladesh	41. Dominican Republic	71. Kyrgyzstan	101. Pakistan	131. Tajikistan
12. Barbados	42. Ecuador	72. Lao People's Democratic Republic	102. Palau	132. Thailand
13. Belize	43. Egypt	73. Lebanon	103. Panama	133. Timor-Leste
14. Benin	44. El Salvador	74. Lesotho	104. Papua New Guinea	134. Togo
15. Bhutan	45. Equatorial Guinea	75. Liberia	105. Paraguay	135. Tonga
16. Bolivia	46. Eritrea	76. Libyan Arab Jamahiriya	106. Peru	136. Trinidad and Tobago
17. Bosnia and Herzegovina	47. Ethiopia	77. Madagascar	107. Philippines	137. Tunisia
18. Botswana	48. Fiji	78. Malawi	108. Qatar	138. Turkmenistan
19. Brazil	49. The former Yugoslav Republic of Macedonia	79. Malaysia	109. Republic of Korea	139. Tuvalu
20. Burkina Faso	50. Gabon	80. Maldives	110. Republic of Moldova	140. Uganda
21. Burundi	51. Gambia	81. Mali	111. Rwanda	141. United Arab Emirates
22. Cambodia	52. Georgia	82. Malta	112. Saint Kitts and Nevis	142. United Republic of Tanzania
23. Cameroon	53. Ghana	83. Marshall Islands	113. Saint Lucia	143. Uruguay
24. Cape Verde	54. Grenada	84. Mauritania	114. Saint Vincent and the Grenadines	144. Uzbekistan
25. Central African Republic	55. Guatemala	85. Mauritius	115. Samoa	145. Vanuatu
26. Chad	56. Guinea	86. Mexico	116. San Marino	146. Venezuela (Bolivarian Republic of)
27. Chile	57. Guinea-Bissau	87. Micronesia	117. Sao Tome and Principe	147. Viet Nam
28. China	58. Guyana	88. Mongolia	118. Saudi Arabia	148. Yemen
29. Colombia	59. Haiti	89. Montenegro	119. Senegal	149. Zambia
30. Comoros	60. Honduras	90. Morocco	120. Serbia	150. Zimbabwe

* Kazakhstan has not ratified the Kyoto Protocol

Table C. Countries Included in Annex B to the Kyoto Protocol and Their Respective Emission Reduction Targets for 2008 to 2012

Country	Emission Reduction Target Based on Level in 1990
EU-15*, Bulgaria, Czech Republic, Estonia, Latvia, Liechtenstein, Lithuania, Monaco, Romania, Slovakia, Slovenia, Switzerland	-8%
US**	-7%
Canada, Hungary, Japan, Poland	-6%
Croatia	-5%
New Zealand, Russian Federation, Ukraine	0
Norway	+1%
Australia	+8%
Iceland	+10%

* EU members redistributed their targets among themselves.

** The US has not ratified the Kyoto Protocol

APPENDIX II: CLEAN DEVELOPMENT MECHANISM & THE CARBON REGISTRY SYSTEM

Clean Development Mechanism

The Clean Development Mechanism (CDM) is a mechanism to provide incentives for the private sector to invest in clean technology in developing countries which have ratified the Kyoto Protocol. Annex I Parties can use emission reduction credits, CERs, from CDM projects that are undertaken in Non-Annex 1 Parties to meet their emissions reduction targets. The CDM was launched in November 2001. The first project was registered by the UNFCCC in November 2004 and the CDM Executive Board (EB) issued the first carbon emission credit in October 2005.

To ensure that the CDM projects meet the UNFCCC requirements and emission reductions actually take place, the CDM EB regulates and supervises CDM projects, including the procedures for the accreditation of third party verifiers and their verification processes.

The CDM EB authorises a number of technical service providers known as accredited designated operational entities (DOEs) to verify CDM projects and to ensure that projects actually reduce emissions of GHGs according to the project plan.

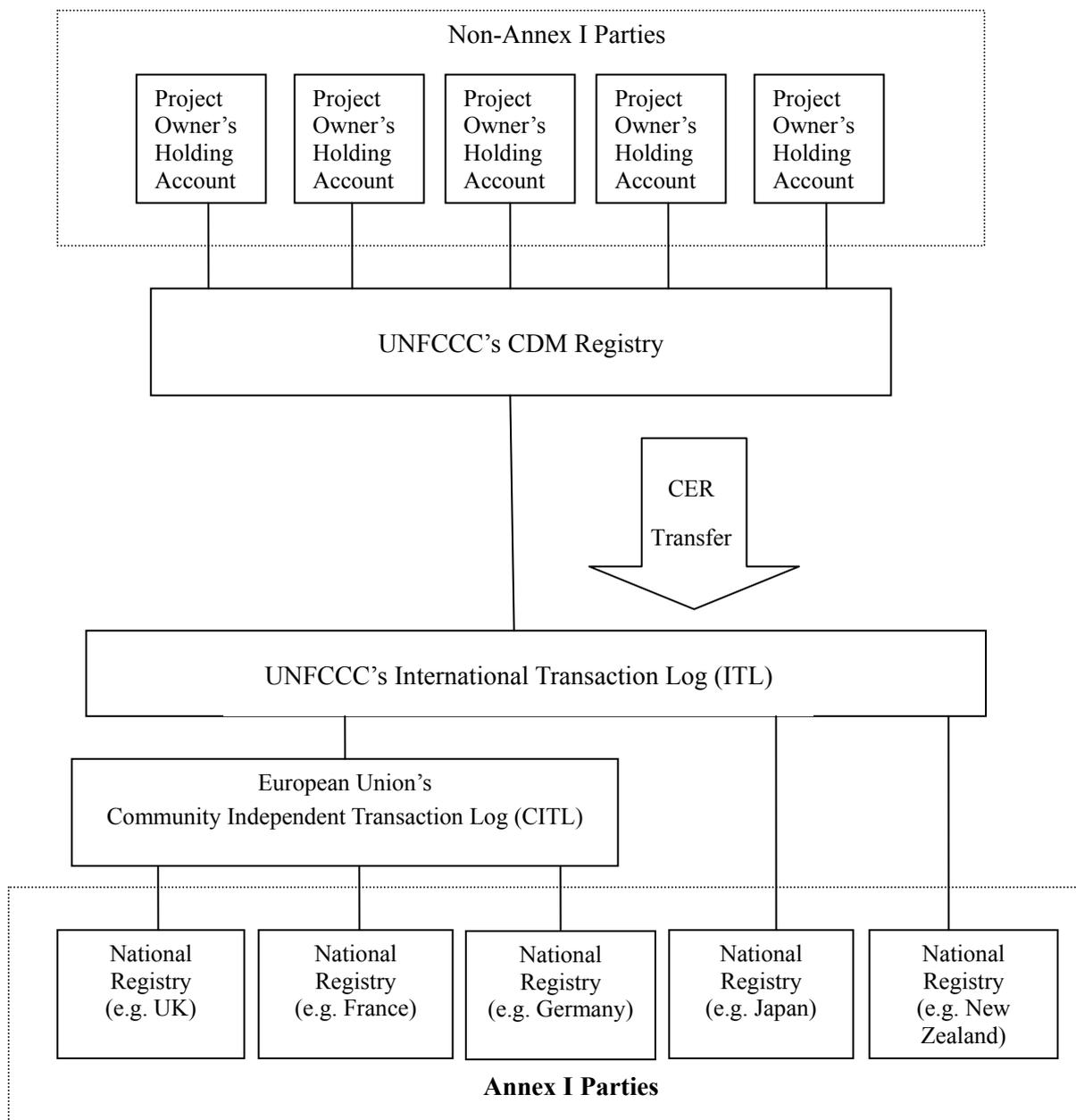
In a general CDM project development cycle, a project owner has to submit a Project Design Document (PDD) to the EB, which includes a calculation of the emission reduction, a description of how the emission reduction will be monitored and an explanation of why the project is additional to the “business as usual” scenario and would not have happened in the absence of CDM credits. Under the CDM, the methodology that is used for calculating the emission reductions to be achieved must be approved by the EB. Non-Annex I Parties must designate a national authority (DNA) that will confirm that the project contributes to the country’s sustainable development.

DOE will then validate the PDD and checks whether the project meets all CDM requirements and whether the emission reduction calculation is correct. It also publishes the PDD for public comments and conducts site visits. Upon validation, the project is submitted to the EB for registration. Once the CDM project is registered, it can start generating emission reductions.

Annual monitoring reports must be prepared and then verified by another, independent DOE, which must certify the project implementation according to the descriptions in the PDD and the achievement of emission reductions.

The project developer can then request the EB to issue the CERs. Under the Kyoto Protocol, CERs are generated by the EB and issued into a holding account in the CDM Registry administered by the UNFCCC. The CDM Registries keeps track of the creation, transfer and retirement of CERs. Each CER is given a unique number to facilitate identification and tracking. The transfer of CERs from CDM holding account to buyers’ holding account in their national registries is conducted through the International Transaction Log (ITL).

Graphical Illustration of the Carbon Registry System



APPENDIX III: PERSONAL INFORMATION COLLECTION AND PRIVACY POLICY STATEMENT

Personal Information Collection and Privacy Policy Statement

Provision of Personal Data

1. Your supply of Personal Data to HKEx is on a voluntary basis. “Personal Data” in these statements has the same meaning as “personal data” in the Personal Data (Privacy) Ordinance, Cap 486, which may include your name, identity card number, mailing address, telephone number, email address, login name and/or your opinion.

Personal Information Collection Statement

2. This Personal Information Collection Statement is made in accordance with the guidelines issued by the Privacy Commissioner for Personal Data. It sets out the purposes for which your Personal Data will be used after collection, what you are agreeing to in respect of HKEx’s use, transfer and retention of your Personal Data, and your rights to request access to and correction of your Personal Data.

Purpose of Collection

3. HKEx may use your Personal Data provided in connection with this consultation paper for purposes relating to this consultation and for one or more of the following purposes:
 - administration, processing and publication of the consultation paper and any responses received;
 - performing or discharging HKEx’s functions and those of its subsidiaries under the relevant laws, rules and regulations;
 - research and statistical analysis; and
 - any other purposes permitted or required by law or regulation.

Transfer of Personal Data

4. Your Personal Data may be disclosed or transferred by HKEx to its subsidiaries and/or regulator(s) for any of the above stated purposes.
5. To ensure that the consultation is conducted in a fair, open and transparent manner, any response together with your name may be published on an “as is” basis, in whole or in part, in document form, on the HKEx website or by other means. In general, HKEx will publish your name only and will not publish your other Personal Data unless specifically required to do so under any applicable law or regulation. If you do not wish your name to be published or your opinion to be published, please state so when responding to this paper.

Access to and Correction of Data

6. You have the right to request access to and/or correction of your Personal Data in accordance with the provisions of the Personal Data (Privacy) Ordinance. HKEx has the right to charge a reasonable fee for processing any data access request. Any such request for access to and/or correction of your Personal Data should be addressed to the Personal Data Privacy Officer of HKEx in writing by either of the following means:

By mail to: Personal Data Privacy Officer
Hong Kong Exchanges and Clearing Limited
12th Floor, One International Finance Centre
1 Harbour View Street
Central
Hong Kong

Re: Consultation on Certified Emission Reduction Futures

By email to: pdpo@hkex.com.hk

Retention of Personal Data

7. Your Personal Data will be retained for such period as may be necessary for the carrying out of the above-stated purposes.

Privacy Policy Statement

8. HKEx is firmly committed to preserving your privacy in relation to the Personal Data supplied to HKEx on a voluntary basis. Personal Data may include names, identity card numbers, telephone numbers, mailing addresses, e-mail addresses, login names, opinion, etc., which may be used for the stated purposes when your Personal Data are collected. The Personal Data will not be used for any other purposes without your consent unless such use is permitted or required by law or regulation.
9. HKEx has security measures in place to protect against the loss, misuse and alteration of Personal Data supplied to HKEx. HKEx will strive to maintain Personal Data as accurately as reasonably possible and Personal Data will be retained for such period as may be necessary for the stated purposes and for the proper discharge of the functions of HKEx and those of its subsidiaries.

