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Carbon market regulation and oversight

International experiences
and considerations for
Turkey



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List of acronyms

ABNT	Brazilian Standardization Body
ACER	Agency for the Cooperation of Energy Regulators
AMF	Autorité des Marchés Financiers (France)
BM & F	Commodities and Futures Exchange (Brazil)
BM&F Bovespa	Brazilian Mercantile Exchange
CARB	California Air Resources Board
CDM	Clean Development Mechanism
CER	Certified Emission Reductions
CFTC	Commodity Futures Trading Commission
tCO ² e	Tonne of Carbon Dioxide Equivalent
CRE	Commission de Régulation de l'Énergie (France)
CVM	Securities and Exchange Commission of Brazil
DRC	Development Reform Commission (China)
EEMAC	Environmental Markets Advisory Committee
ERU	Emission Reduction Units
ESMA	European Securities and Markets Authority
ETS	Emission Trading Scheme
EU	European Union
EU ETS	European Union Emission Trading System
EUA	European Union Allowances
FERC	Federal Energy Regulatory Commission
FTC	Federal Trade Commission
GHG	Greenhouse Gas
MAD	Market Abuse Directive
MAR	Market Abuse Regulation
MDIC	Ministry of Development, Industry and Foreign Trade (Brazil)
MidSEFF	Turkish Mid-sized Sustainable Energy Finance Facility
MiFID	Markets in Financial Instruments Directive
MoU	Memorandum of Understanding
NCCP	National Climate Change Policy (Brazil)
NDRC	National Development and Reform Commission (China)
QAS	Quality Assurance Scheme (United Kingdom)
REMIT	Regulation on Energy Markets Integrity and Transparency
SEC	Securities Exchange Commission

Glossary

Carbon credit A tradable unit usually representing 1 tCO₂e. Various types of carbon credits exist, including units created under emission trading or 'cap-and-trade' schemes (often called emission allowances), carbon offsets created under 'compliance' offset mechanisms established under international law, such as the Clean Development Mechanism, and voluntary offsets or credits created under voluntary schemes such as the Verified Carbon Standard.

Carbon market A market on which carbon credits are traded. A carbon market may be created by the establishment of an emission trading scheme together with one or more offset schemes, or may arise from trading in voluntary carbon credits. In this document the term is used generally to refer to all trading in carbon credits in a given jurisdiction (or internationally), and not to any specific trading platform.

Forward trading Trading in carbon credits in which the ownership of the underlying asset is transferred in advance of the asset being created.

Spot trading Trading in carbon credits in which the ownership of the underlying asset is transferred immediately (in contrast with derivatives trading).

Emission exchange A trading platform whose main purpose is the trading of carbon credits.

Origination The identification of GHG emission reduction opportunities by banks, often on behalf of clients, that are suitable for carbon finance.

Executive summary

This paper is part of on-going support to banks regulated in Turkey with their effort to offer carbon market services to their clients. This paper seeks to **support Turkish financial regulators in understanding the multiple options for regulation of carbon market activities by banks in Turkey**. It focuses particularly on four broad categories of services that have been identified as the most attractive for regulated Turkish banks in carbon markets. These are:

1. Origination and project finance
2. Centre of competence
3. Emissions trading
4. Green credit cards

The analysis assesses international carbon market regulation experience in four leading jurisdictions (US, Europe, China and Brazil) and provides a number of lessons that can guide the Turkish regulator in understanding the options available and their implications.

Their key lessons from the analysis can be summarised as follows:

1. Regulation of carbon market services by banks

- a) The countries studied have not sought to introduce tailored legislation regulating the participation of banks in carbon markets.
- b) In several countries banks are required to notify or receive approval by banking regulators when they begin new business activities. Providing clarity on whether approvals are required for beginning to provide carbon market services may provide banks with important assurance.

Options for Turkey

- i. Develop formal guidance for banks on whether their existing licenses permit them to provide carbon market services and in which cases approval from regulators is required before beginning to provide such services.
- ii. Do not develop any guidance, but liaise with banks individually to determine whether their existing licenses permit them to provide carbon market services and whether approval is required.
- iii. Develop tailored legislation or introduce amendments to existing legislation either listing specific carbon market services as distinct services for which new licenses are required, or clarifying that those services fall within existing categories.

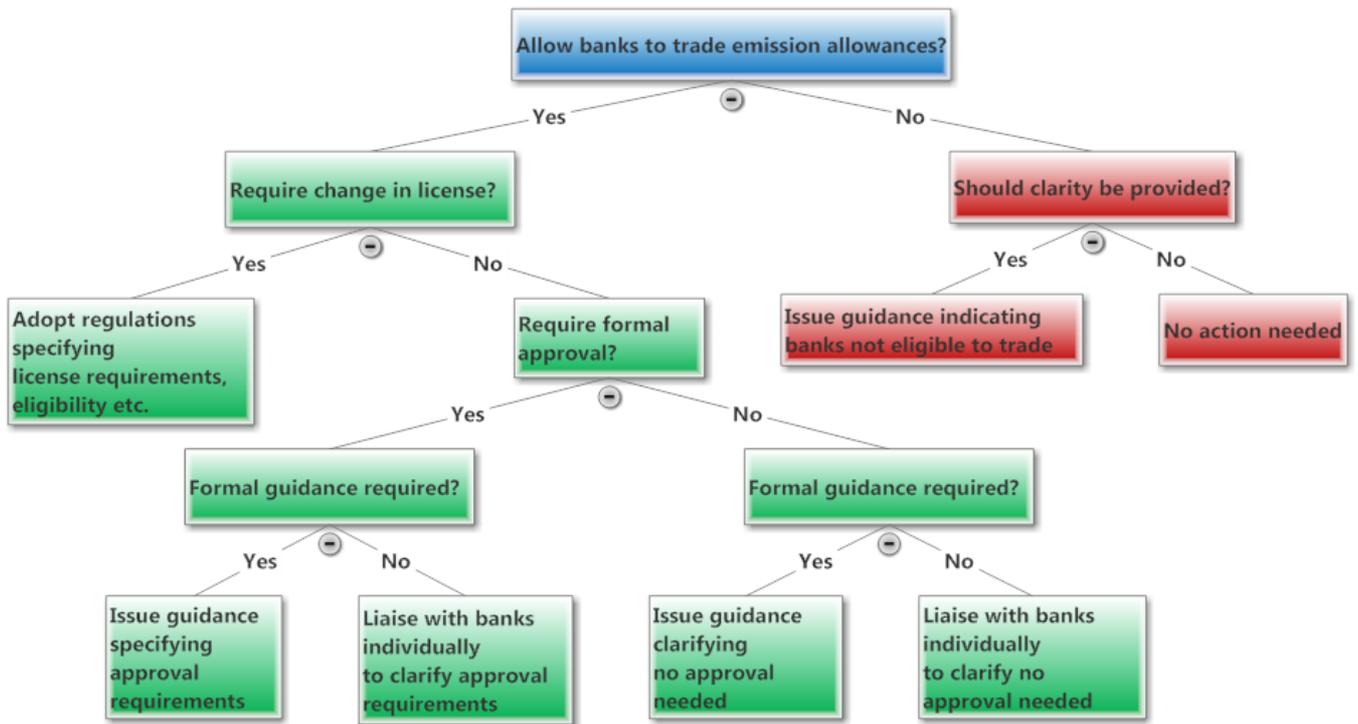


Figure 1: Example decision tree for regulating trading of emission allowances by banks

2. Overall carbon market regulation and classification of emission allowances

- a) Approaches to carbon market regulation vary per jurisdiction and choices are closely related to existing regulatory frameworks and reform processes.
- b) In all study countries emission allowance derivatives are subject to financial market regulations, and there has been little controversy on this point.
- c) Countries differ in their approaches to regulating spot emission allowances, but in most cases some specific regulation is applied.
- d) Application of financial market rules to carbon markets is unlikely to create significant burdens for banks.

Options for Turkey

- i. Clarify the classification of emission allowance spots as energy contracts falling under (and subject to the rules of) the Electricity Markets Law. However, classify emission allowance derivatives as derivatives subject to the capital markets regulation.
- ii. Classify both emission allowance spots and derivatives as financial instruments under the Capital Markets Law, thereby subjecting them both to capital markets regulation.
- iii. Adopt tailored legislation governing the trading of either emission allowance spots only, or also emission allowance derivatives.

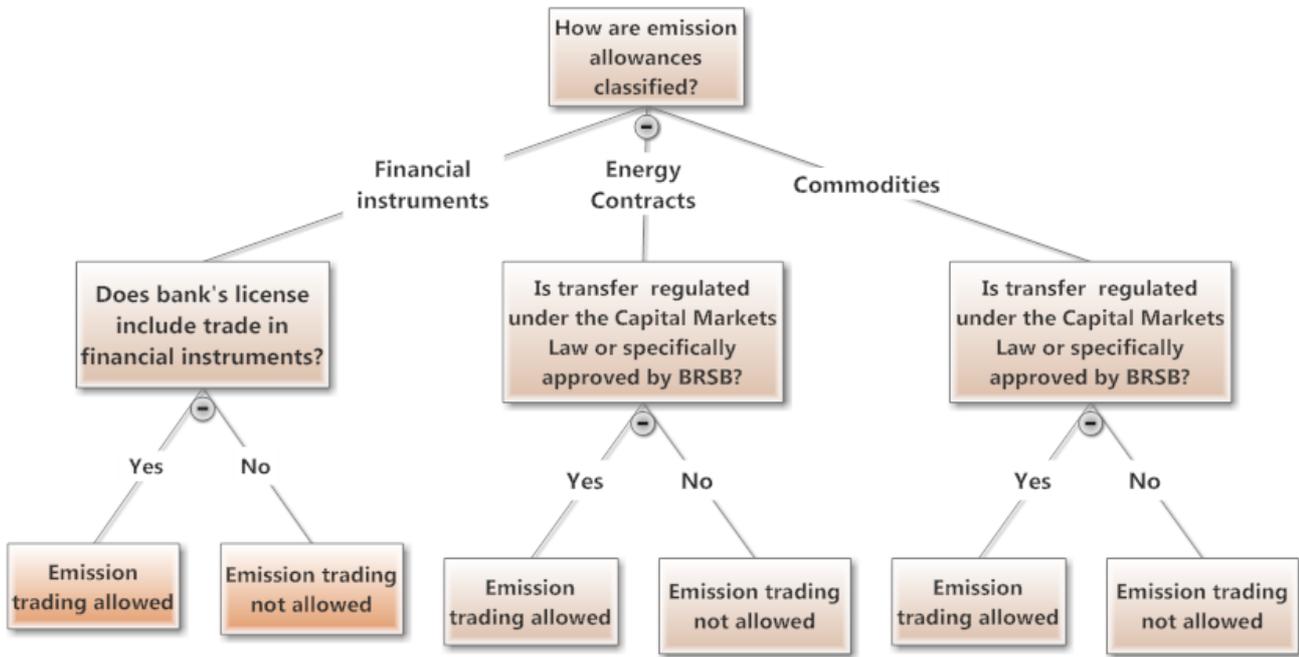


Figure 2: Consequences of regulatory options for emission allowance classification¹

3. Institutional competences

- a) Institutional competence for secondary market regulation is closely tied to the classification of emission allowances.
- b) Regulation often requires cooperation between multiple entities.
- c) Regulation of carbon market services by banks will generally fall under the purview of national banks and financial market regulators, although certain services may be subject to regulation by carbon market regulators.
- d) Trading on emission exchanges is subject to the additional supervision of those exchanges.

Options for Turkey

Overall competences

- i. The Capital Markets Board (CMB), together with Borsa İstanbul A.Ş., regulates emission allowances derivatives and spots alone. Regulation is undertaken with limited cooperation with energy regulators on matters such as information sharing and ensuring coherence between emission and energy markets. This option is more likely to be suitable where both derivatives and spots are classified as financial instruments.
- ii. Energy regulators (EMRA, EPIAS) regulate emission spots and the Capital Markets Board regulates emission derivatives, while both engage in information sharing and take steps to ensure coherence.
- iii. Energy regulators and the Capital Market Board (together with Borsa İstanbul A.Ş.) undertake joint regulation of emission spots and derivatives and clearly define their respective competences.

Supervision of banks

- i. The Banking Regulation and Supervision Agency (BRSA) maintains supervision over providing any authorisations or licenses required for

¹ Based on Hergüner Bilgen Özkeke Attorney Partnership, Memorandum on MidSEFF Turkish Carbon Regulatory Matters, 5 March 2013.

banks to provide carbon market services, while the CMB and/or energy regulators maintain responsibility for supervising emission trading activities and other activities that fall within their mandates.

- ii. Carbon market regulators (CMB/energy regulators) take responsibility for providing specific licenses or approvals for allowing banks to engage in carbon market services.

4. Regulation of voluntary market

- a) Regulators have to-date not sought to subject voluntary markets to substantial regulation, though some countries have introduced guidelines to ensure the quality of voluntary credits.
- b) Some countries have specifically chosen not to regulate voluntary credits, while in others non-regulation appears to be a result of lack of attention.

Options for Turkey

- i. Apply regulations or guidance adopted on carbon markets to both voluntary markets and any future compliance markets. This would include making relevant distinctions and exceptions in cases where rules are not suited to the specificities of the voluntary market.
- ii. Adopt separate rules or guidance for compliance and voluntary markets.
- iii. Only adopt rules and guidance for compliance markets, leaving voluntary markets unregulated.

1.

Introduction

The EBRD is supporting Turkey on its low-carbon development path and the use of carbon markets as a means to reduce greenhouse gas emissions in a cost-effective manner. Through the Turkish Mid-size Sustainable Energy Financing Facility (MidSEFF), EBRD is providing close to EUR 1 billion in credit lines to Turkish banks to finance mid-size investments (EUR 10 – 50 million) in renewable energy, waste-to-energy and industrial energy efficiency. As part of MidSEFF, a dedicated carbon finance programme seeks to develop and promote carbon markets in Turkey.

Activities under the carbon market consultancy includes the **support to Turkish banks in their endeavour to invest in energy efficiency and renewable energy leveraged by carbon market opportunities**. Banks already finance renewable energy and energy efficiency projects and are well placed to assume an important role in the Turkish carbon market. Turkish banks could act as the intermediary party between carbon project developers and the investors and carbon buyers. Four broad categories of services have been identified as the most attractive for regulated Turkish banks in carbon markets:

- (i) **Origination and project finance**. The evolving domestic carbon market creates demand for capital necessary to get new emission reduction projects off the ground. This presents banks with opportunities to identify carbon projects within current client's activities as well as broaden the client base and increase the investment portfolio. Banks seeking direct involvement with the development of emission reduction projects can build expertise within their project finance teams to:
 - identify GHG emission reduction opportunities suitable for carbon finance with their own clients;
 - facilitate preparation and sale of the carbon assets;
 - provide financial support through project finance.
- (ii) **Centre of competence**. A considerable number of Turkish companies are already exposed to emission reduction legislation abroad, mainly those ones operating in the European Union (EU). Furthermore, the number of businesses affected is growing as the EU ETS is expanded its reach (i.e. inclusion of aviation sector) and entered the third phase (started 2013). Also the continuing evolvement of regional and domestic emission offset markets. Although most of these new markets are not operation yet, progress is made making these operational in the next couple of years to come. These banks and these companies both need to understand the risks and opportunities presented by the carbon markets and in general by carbon regulations. Banks can potentially

build internal capacity to assist other banking teams (such as credit) and existing and new clients in:

- **Managing risk:** identifying and managing direct or indirect exposure to carbon legislation
- **Exploring opportunities:** exploring domestic and international carbon markets and possibly provide capital to invest in these opportunities

There is a wide range of advisory themes that bank both as financial intermediaries or credit institutions can take on board, including:

- advising other banking departments and clients on carbon liabilities and risks;
- structuring carbon credit transactions for bank's clients;
- advising on incorporating carbon finance;
- advising clients on new market opportunities;
- preparing bankable agreements for sale of carbon credits with prospective buyers and sellers;
- advising clients on investing in opportunities that the carbon market might give, such as energy efficiency options leading to a reduced need for emission allowance;
- advising on the different carbon standards available.

(iii) **Emissions trading:** Banks are a leading player in providing liquidity for traded assets. A growing domestic carbon market creates opportunities for banks to facilitate transactions between buyers and sellers. This will open up possibilities to build new relationships and establish new clients. Furthermore, access to balance sheet capital gives banks the option to engage in trading for own gain. The main three types of trading services include:

- **Client trading:** Buying and selling activities of carbon assets on behalf of corporate clients directly affected by emissions trading
- **Proprietary trading:** Commitment of own capital for trading for direct gain, also known as trading on own book
- **Brokering:** Facilitating transactions between sellers and buyers

(iv) **Offering green credit cards.** The retail business is a key profit centre of Turkish banks, and domestic credit card use is one of the highest in the world. With each bank in Turkey often offering multiple credit cards to customers, the competition is stiff. Typically a green credit enable carbon offsetting of purchases to clients that value responsible shopping or travelling. Offering such card to clients presents banks with the possibility to introduce a new product on the market, while improving the general image and reputation in this competitive market place.

In March 2013 a study by *Hergüner Bilgen Özeke* law firm entitled “*Legal and regulatory review of carbon market services for banks in Turkey*”² was finalised. This report assessed current and future scenarios for the permissibility for banks to provide the carbon market services listed above. The study concluded that, while it is currently relatively clear which services banks are permitted to provide, several possible scenarios exist for how these services could be regulated in the future. Since the publication of this study the Turkish legislator has enacted a revised Electricity Markets Law, which includes direct reference to emissions trading. However, the legislator did not fully clarify the legal framework applicable to the provision of carbon market services by banks.

² www.turkishcarbonmarket.com

Since the provision of carbon market services by banks may entail risks, both for themselves and for their clients, Turkish regulators have an interest in understanding what regulatory approaches are available to ensure those risks are effectively managed. In this context, Turkish financial regulators have expressed interest in understanding the multiple options to regulatory approaches concerning the exercise of carbon market activities by banks in Turkey.

2.

Objective and methodology

The objective of this study is to support the Turkish regulator in understanding the regulatory approaches that have been pursued in terms of carbon market involvement and carbon market oversight in other jurisdictions. This study also includes the relevance of oversight for banks and the experience that has been obtained so far. The information provided in this report will feed into discussions with the Turkish regulators that will seek to develop an understanding of the options available for regulation of the carbon market in Turkey. This understanding could lead to regulatory guidance for Turkish financial institutions interested in participating in carbon markets.

This report assesses experience in four jurisdictions that are among the most advanced with regard to carbon market regulation:

- Brazil;
- California and the United States (US);
- China; and
- European Union (EU).

In the case of each jurisdiction the report will, after introducing the relevant background and political context, assess its experience with the regulation of carbon market services in each of the following areas:

- Classification of emission allowances/carbon offsets;
- Institutions responsible for regulation/supervision; and
- Regulation/oversight of specific services provided by banks.

Although the structure of the analysis is the same for all four jurisdictions, both in the case of China and Brazil for some of the sections its content might not provide substantial input. In case of China this is due to the recent creation of its regulated regional carbon markets and in the case of Brazil due to the lack of an emissions trading (i.e. Brazil).

This will be followed by an overall comparison and analysis of experience in the four jurisdictions, and the formulation of options for Turkish regulators (National Bank of Turkey, Capital Markets Board, Energy Market Regulatory Authority), which could help with identifying the most appropriate regulatory approach for Turkey.

3.

International experience carbon market regulation

3.1 European Union

Background and political context

The EU's Emission Trading System (EU ETS) is the bloc's flagship climate policy. Established in 2005, it is by far the world's largest GHG emission trading system. In 2012, 7.9 billion allowances were traded with a total value of EUR 56 billion.³

It has similarly seen the creation of the world's most mature and developed secondary and derivative markets for emissions trading. In this market financial intermediaries – including a number of large banks – have come to play an important role. Banks have developed a wide range of derivatives products including futures, options and swaps. Even in 2009, before the spot market was hit by cyber-theft scandals (see below), derivatives trading constituted some 75-80% of European trade.⁴ By 2011 they constituted 88% of trades.⁵ The largest share of trading (49% in 2011) takes place over exchanges, with the remainder taking place through over-the-counter (39%) and bilateral (11%) trades.⁶

Overview of carbon market regulation

Derivative emission allowance contracts are considered regular financial instruments. These contracts have – for several years – been uniformly regulated at EU level under the same rules that apply to other financial instruments, in particular those in the Markets in Financial Instruments (MiFID) Directive. However, Spot carbon contracts have – until recently – been unregulated at EU level. However, several Member States regulated these contracts at domestic level. Luxembourg and Romania, for instance, brought spot trading under financial market regulation prior to MiFID II, while France brought them under the rules applicable to regulated markets (see text box).

Discrepancies between Member States' regulation of the spot market resulted in a certain degree of disharmony and inconsistency with respect to both the extent and type of regulation of spot markets across the Union. The difficulties of this inconsistent regulation began to attain prominence following a series of market abuses that emerged in 2009-2011. Particularly VAT fraud, credit recycling and cyber-theft of emission allowances. For example, the different classification of emission allowances created significant uncertainty in the wake of credit theft. Rules regarding transfer of

³ http://ec.europa.eu/clima/publications/docs/factsheet_ets_en.pdf

⁴ European Commission. Communication from the Commission to the European Parliament and the Council: Towards an enhanced market oversight framework for the EU Emissions Trading Scheme, COM (2010) 796 final.

⁵ World Bank, "The State and Trends of the Carbon Market 2012".

⁶ Ibid.

ownership – which become crucial in determining ownership over stolen property – differ depending on the class of property involved. Other effects included differential treatment for VAT purposes, which facilitated VAT fraud.⁷

Following these events, the EU has gradually sought to harmonise carbon market oversight across the Union. Among the most important moves has been the **integration of the EU trade in spot emission allowances within financial markets regulation**, under the revised MiFID Directive (known as MiFID II). MiFID II brings within its remit all carbon units that are eligible for compliance with EU ETS obligations. These regulated carbon units are the European Union allowances (EUAs), certified emission reductions (CERs) and emission reduction units (ERUs). It does not therefore apply to trade in voluntary allowances, which regulators have not sought to specifically regulate in the Union. In addition to the terms of MiFID itself, the classification of emission allowances as financial instruments brings them within the scope of other EU market regulations. The most notable are (i) the Market Abuse Directive and Regulation (MAD/MAR) and the Central Securities Depository Regulation, which sets time limits for settlement of obligations, and (ii) the EU Benchmarks Regulation, which prohibits the use of non-EU benchmarks by credit institutions and investment firms.

While MiFID II generally applies overall financial regulation to carbon units eligible for compliance with EU ETS obligations, it includes some important **provisions that are tailored to the specificities of spot emissions trading**. It also tries to relieve certain carbon participants and certain operations from the often cumbersome requirements imposed by the financial market regulation. These provisions continue the distinction between emission derivatives and spots, despite both being classified as financial instruments. The most important are as follows:

- **exemptions**: MiFID II contains a specific exemption for entities subject to EU ETS compliance obligations – installations that need to reduce their GHG – and only deal on their own account. Other general exemptions include entities providing investment services as an ancillary activity. However, this provision does not apply to banks or other financial institutions. Member States are also permitted to exempt companies, which exclusively provide investment services regarding emission allowances or other instruments to exclusively local electricity undertakings or EU ETS compliance entities;
- **position limits**: The position limits regime provided for under MiFID to limit exposure of an entity to commodity derivatives does not apply to emission allowances;
- **transparency requirements**: Specific pre- and post-trade transparency requirements will be introduced. These requirements take into account the specificities of emission allowances as an instrument of trade and other carbon market features;
- **market abuse regulations**: The new market abuse regime includes several carbon-specific elements, including a specific definition of inside information, a tailored inside information disclosure duty, and a complete coverage of the primary market (auctioning).

⁷ Commission Staff Working Paper Impact Assessment Accompanying the document Proposal for a Directive of the European Parliament And of the Council on Markets in financial instruments [Recast] and the Proposal for a Regulation of the European Parliament And of the Council on Markets in financial instruments, SEC(2011) 1226 final (hereinafter: “*MiFID II Impact Assessment*”).

In **determining how best to regulate the spot emissions market** the European Commission considered the two following principal options:

1. Integration within financial markets regulation;
2. Creation of a tailor made regime for spot emissions trading.

Despite significant push back from industry stakeholder, the Commission's impact assessment came out strongly in favour of integrating spot trading within financial regulation. The **principle reasons** put forward by the Commission are as follows:

1. Any emerging regime for the spot carbon market would need to be fully coherent with the regulation of financial markets, in particular as the vast majority of the trading (i.e. derivatives trading) is already covered by financial market rules.
2. Coverage by the financial market rules further stabilises the carbon market and ensures its robustness. It also gives a clearer regulatory status to emission allowances.
3. Even a tailor-made regime would have to reproduce the overall approach and most of the technical solutions already found in the MiFID/MAD. This would therefore lead to significant regulatory overlap and additional compliance costs.⁸

The impact assessment ultimately did not consider the option of regulating spot trading under the energy markets regime established under the Regulation on Energy Markets Integrity and Transparency (REMIT). Initially the Commission had suggested – pushed mainly by France – that it would consider this option.⁹ However, the Commission later explained that the EU energy framework would not be appropriate for emissions markets. This was concluded as REMIT contains many highly specific elements that build on past legislation developed exclusively for the energy sector. REMIT would therefore not be suited to carbon market regulation.¹⁰ The Commission has stressed, however, that the relevant parts of financial markets regime are compatible with REMIT, for example as to duties to disclose inside information.

In terms of **institutional responsibilities at the European Union level**, the integration of spot emission trading within MiFID brings it under the remit of the European Securities and Markets Authority (ESMA). This authority will now be in charge of market oversight at EU level. ESMA already cooperates with the Agency for the Cooperation of Energy Regulators (ACER) with respect to supervision of wholesale energy markets. However, MiFID does not foresee any specific role for ACER with respect to emission allowances.

⁸ Ibid.

⁹ European Commission. Communication from the Commission to the European Parliament and the Council: Towards an enhanced market oversight framework for the EU Emissions Trading Scheme, COM (2010) 796 final.

¹⁰ See European Commission FAQ on ensuring the integrity of carbon market oversight, April 2014, available at: http://ec.europa.eu/clima/policies/ets/oversight/faq_en.htm.

Text Box 1: Emission Market Supervision in France

Since 2010, emission markets in France have been jointly regulated by the financial market regulator (Autorité des Marchés Financiers, or AMF) and the energy regulator (Commission de Régulation de l'Énergie, or CRE). Mandated by national legislation, cooperation between the two entities was formalised through a memorandum of understanding and is likely to continue after the entry into force of MiFID II.

The memorandum of understanding between AMF and CRE covers both spot and derivative trading in emission, electricity and gas markets. With respect to emission markets, the AMF is designated as the primary authority for supervising and operating the market in allowances and their derivatives. The CRE, meanwhile, is charged with supervising transactions in emission allowances carried out by energy market participants, and to analyse their coherence with the economic and technical factors underpinning energy markets.

In practical terms, this cooperation will lead to information exchange and mutual assistance between the AMF and the CRE within the framework of their respective responsibilities, thereby combining their respective expertise to identify and address market risks.

Source: Adapted from AMF, Supervision of the Market in CO2 Allowances, December 2010.

Member States, in turn, are to designate 'competent authorities' to govern regulation under MiFID, including licensing and supervision of regulated entities. Member States may designate more than one competent authority, so long as respective roles are clearly defined and they cooperate closely. In principle this means that authority for regulating emission reduction spot trades could be given to a different authority than for regulating emission reduction derivatives. It also keeps the door open for cooperation between financial regulators and energy markets regulators, as has occurred in France (see text box 1).

Regulation/supervision of carbon market services provided by banks

For the most part, the EU and its Member States have not sought to regulate the provision of carbon market services by banks through specific legislation or procedures. The provision of services by banks in the carbon markets therefore remains subject to existing EU and national regulations applicable to the services that banks can provide in Europe under their authorisation as credit institutions.

Generally all the four carbon market services identified earlier tend to fall under one of the categories that credit institutions can exercise in Europe. Several points are however relevant to consider for the Turkish regulator.

1. The provision of **investment services falling within the scope of MiFID II** must be specifically authorised by Member States. Such authorisation must specify the investment services or activities which the investment firm is authorised to provide.¹¹ Any extension of business to additional activities must equally be specifically authorised. Investment services under MiFID II include dealing on own account, investment advice, portfolio management and execution of client orders.

¹¹ MiFID II, Article 6.

This would therefore encompass at least emission trading (whether on own or client account) and any origination or centre of competence services that entail the provision of investment advice. Other activities, such as the provision of project finance or general (non-investment) advisory services are not regulated under MiFID, but may nonetheless be subject to authorisation requirements by Member States.

2. The question of whether to require additional authorisation will be needed for carbon market services – both those covered under MiFID and those not covered – is dependent on the authorisation system in each Member State. Two main regulatory approaches in respect of bank authorisations exist in Member States:
 - a. In several Member States, such as Germany, licenses specify only the broad type of activity permitted (e.g. 'proprietary trading').¹² In these cases it is likely that an authorisation to engage in this activity would be permitted to be provided by a bank, if they have the relevant license. It is nonetheless common for banks to notify competent authorities when they extend their services to new areas. Furthermore, the competent authorities on their turn typically monitor any potential conflicts of interest with clients or other risks that may arise related to the offered service.
 - b. In other Member States, for example the United Kingdom, authorisation is in many cases provided both in respect of a given activity and a given type of instrument.¹³ Where banks wish to extend their regulated services to a new instrument or investment type, they may need to amend their licenses. It is worth noting however that emission allowance derivatives are likely to fall within existing definitions of derivatives. Therefore no new permissions are likely to be required to trade in or provide other services with respect to those instruments. In the case of non-regulated services, which include finance for business development (likely to encompass project finance) and centre of competence services other than investment advice, no authorisation is required in the UK.

Additionally any type of carbon market activities performed by banks most likely will need to be reported annually to the competent authorities (i.e. National Central Bank, Securities Commission) and will be the object of oversight by such authorities.

3. While the EU and its Member States do not generally regulate the provision of green credit cards or the origination of carbon credits directly, some Member States have taken measures to ensure the quality of offsets offered to end consumers. These measures are likely to be relevant to green credit card schemes, where banks essentially offer carbon offsets¹⁴ to consumers, and to certain origination services.
 - a. The United Kingdom introduced a Quality Assurance Scheme (QAS) in 2009 as a voluntary initiative for firms selling carbon offsets to end consumers (both individuals and business

¹² German Federal Banking Act, Article 32 (2).

¹³ United Kingdom Financial Services and Markets Act 2000 and its Regulated Activities Order 2001.

¹⁴ Voluntary carbon offsets are carbon credits acquired voluntarily by companies or individuals generally for reasons of corporate social responsibility or to compensate their GHG emissions.

consumers) to gain quality assurance certification. The scheme helped tackle flaws in the carbon offsetting system and helped to ensure that credits have been 'retired' or cancelled when used. Despite being recognised as successful in this regard, the QAS was discontinued in 2011 due to limited take up by offsetting firms. It is also worth noting that the scheme did not apply to voluntary offsets, which have not been subjected to specific regulation.

- b. The **German Emissions Trading Authority in 2008 published the Guidelines on the Voluntary Offsetting of Greenhouse Gas Emissions**. These provide guidance, inter alia, to persons offering 'carbon neutral' or similar products (e.g. green credit cards) with a view to ensuring standards are met. The guidelines are however, entirely voluntary, and no mandatory standards exist in Germany for voluntary offsetting.

3.2 California

Background and political context

California introduced its cap-and-trade programme in 2012 and trading began in January 2013. The scheme currently covers electric utilities, cement, lime, nitric acid, refineries, and electricity generation. From 2015 fuel distributors (including distributors of heating and transportation fuels) will be added to the scheme. This distinguishes the scheme from most existing trading systems such as the EU ETS, which applies only to those who directly produce carbon emissions. It also has important consequences for the types of entities covered by the scheme, bringing a number of major financial institutions active in energy trading markets within its remit.

Though not the first GHG emission trading scheme in the United States,¹⁵ the California scheme – which from 2015 will cover 85% of the State's emissions – is by far the country's largest and most sophisticated. It is therefore looked upon by US Federal regulators as something of a testing ground for any potential future federal scheme. Thus far the scheme has been relatively successful. Primary market prices have remained steady and a sophisticated and healthy secondary market is beginning to emerge.¹⁶ Trade on derivatives markets has been steadily increasing and is expected to increase further as the first deadlines for surrendering emissions permits near.¹⁷

Overview of carbon market regulation

As a state-level scheme, the California market is subject to a combination of state and federal regulation. The following describes the regulatory framework at federal and state level applicable to derivatives and spot markets, respectively.

Derivative markets

As in the EU, emission allowance derivative contracts in California are considered as regular derivatives contracts. As such they are regulated under the framework applicable to financial markets. In the US these

¹⁵ The Regional Greenhouse Gas Initiative (RGGI) covers nine states in the Northeast and Mid-Atlantic U.S. Its scope is relatively narrow, covering only large electricity generators, and allowance prices have remained low (between USD 1-4/tonne CO₂e) throughout its lifespan.

¹⁶ Katherine Hsia-Kiung, Emily Reyna and Timothy O'Connor, *Carbon Market California: A Comprehensive Analysis of the Golden State's Cap-and-Trade Program (Year One: 2012–2013)*, Environmental Defense Fund, 2014.

¹⁷ *Ibid.*

markets are regulated at federal level by the Commodity Futures Trading Commission (CFTC) and the Securities Exchange Commission (SEC). These institutions therefore retain oversight responsibility for derivatives trading in California emission allowances, and in particular the CFTC. The CFTC does, however, consult with the California regulators on this issue.

Regulation of derivatives markets has recently been subject to a significant overhaul under the 'Dodd-Frank Wall Street Reform Act' of 2010.¹⁸ That Act establishes a comprehensive new regulatory framework for swaps and security-based swaps, including carbon market derivatives. Aside from mandating a study on carbon market regulation (see below), the Act does not contain specific provisions on regulating trade in emission allowance derivatives.

Spot Markets

Almost all specific steps to regulate spot trading have thus far come from the state level, in particular the California Air Resources Board (CARB), which has the primary responsibility for operating the cap-and-trade regime. In terms of market regulation, the most important of these are: (i) the application of holding and purchase limits; (ii) prohibitions on fraud and manipulative trading; (iii) registration requirements for persons wishing to hold allowances; and (iv) the requirement to declare any third persons for whom allowances are purchased. CARB also conducts regular market monitoring together with an independent market monitor to prevent gaming or manipulation of the market.¹⁹

At the Federal level, regulators have for the most part adopted a 'wait-and-see' approach and deferred to CARB on direct regulation of the market. The CFTC established an Environmental Markets Advisory Committee (EEMAC) in 2008 to assess regulatory options. However, this Committee has not been active since late 2009.²⁰ Subsequently, the Dodd-Frank Act mandated an inter-agency working group that included the CFTC and the Federal Energy Regulatory Commission (FERC). This working group is to prepare a study on "the oversight of existing and prospective carbon markets." The study, released in 2011, recommended that the existing derivatives framework remain applicable to emission allowance derivatives. Furthermore, it also recommended that for oversight of the spot markets "appropriate oversight mechanisms" will need to be put in place.²¹

Federal regulators have for the most part not sought to adopt substantial regulation following up on this report. A notable exception however is the clarification by the CFTC, together with the SEC, that spot emission allowances and offsets are to be classified under the Dodd-Frank Act as 'intangible non-financial commodities'. Spot trades are therefore excluded from regulations applicable to derivatives instruments.²² The CFTC's clarification notice indicates that this definition includes both compliance and voluntary credits.²³ However, since the purpose of the notice is in effect to

¹⁸ <https://www.sec.gov/about/laws/wallstreetreform-cpa.pdf>

¹⁹ California Air Resources Board, *Cap and Trade: Market Oversight and Enforcement, Fact Sheet Oct 2011*.

²⁰

<http://www.cftc.gov/About/CFTCCommittees/EnergyEnvironmentalMarketsAdvisory/index.htm>

²¹ *Interagency Working Group for the Study on Oversight of Carbon Markets*, Report on the Oversight of Existing and Prospective Carbon Markets, January 2011.

²² CFTC and SEC, Further Definition of "Swap," "Security-Based Swap," and "Security-Based Swap Agreement"; Mixed Swaps; Security-Based Swap Agreement Recordkeeping, 17 Code of Federal Regulations, Parts 230, 240 and 241, Federal Register Vol. 77, No. 156, p. 48233.

²³ The interpretation states that emission allowances and offsets may be issued by, among others, "private entities", indicating that voluntary allowances are included in the definition. Ibid, footnote 258.

clarify which types of products are not covered by financial markets regulation, further clarity may need to be provided to understand the full implications of this categorisation.

Text Box 2: Different approaches to market oversight in federal cap-and-trade bills

In 2009 both the United States Senate and the House of Representatives debated separate cap-and-trade bills. Notably, the two bills contained markedly different oversight arrangements for the proposed cap-and-trade markets. The bill debated in the House of Representatives (commonly known as the Waxman-Markey bill) split market oversight between the CFTC, which would be carbon futures and derivatives trading, and the FERC, which would regulate spot trading. The Senate bill, by contrast, provided the CFTC full authority over both derivatives and spot markets. Both bills were defeated. Nevertheless, the different approaches they followed serves as a useful illustration of the regulatory options open to regulators.

While for the most part regulation of the California spot market has been left to CARB, tentative **collaboration has been established between CARB and federal agencies** with respect to market oversight. In 2013 a memorandum of understanding (MoU) was entered into between CARB and the FERC.²⁴ The MoU provides for information sharing between the two agencies with respect to (i) transactional and market data and (ii) market oversight activities in the emissions and energy markets, respectively. It also provides for joint discussion of energy issues of “*mutual interest*” and potential joint visits by the two entities. No formal MoU has yet been entered into with the CFTC which, despite having authority to regulate commodities markets, appears to have deferred to CARB on this matter. CARB has, however, indicated that the two agencies are in regular contact concerning matters of market regulation.²⁵

Trading over exchanges

All exchanges in the United States, including environmental or climate exchanges, must be registered with the CFTC. They also have to comply with a variety of rules and regulations. The rules of the exchange itself would apply to any trading of emission allowances on the exchange, in the same way as the rules of a futures exchange apply to trading on that exchange. However, whereas the rules of a futures exchange are created and enforced under the CFTC regulations, rules on a secondary market exchange for carbon allowances and offsets are not subject to specific statutory requirements, and therefore exist only under the direction of the exchange. They are therefore essentially enforced as a contract between the exchange and entities trading on the exchange.²⁶

Regulation/supervision of carbon market services provided by banks

Entities wishing to register as banks in the United States have the choice of applying for either a federal or state charter or license. There is therefore a parallel, or dual, system of bank licensing and regulation in the US, whereby state authorities regulate state banks and federal authorities regulate federal banks. At Federal level oversight is shared between the Office of the Comptroller of the Currency, a bureau of the Treasury Department, and the Federal Reserve. In California, regulation of state banks is under the purview of the California Department of Business Oversight.

²⁴ Available at: <http://www.ferc.gov/legal/mou/mou-carb-2013.pdf>.

²⁵ See <http://www.arb.ca.gov/cc/capandtrade/marketmonitoring/marketmonitoring.htm>.

²⁶ Interagency Working Group for the Study on Oversight of Carbon Markets, Report on the Oversight of Existing and Prospective Carbon Markets, January 2011.

Neither federal nor state regulators have sought to specifically regulate carbon market services offered by banks. The provision of such services is therefore subject to existing regulations and licenses. In practice, several major national (federal) banks have been active in the provision of a range of carbon market services. Banks have in particular engaged in emission trading (on own and client account) and to a lesser extent in the provision of origination, project finance and centre of competence services. Regulators have not required new licenses to engage in these services. There are few prominent examples of banks providing green credit card services.

Since 2009 banks in the US must seek approval before engaging in “new” business activities. This, arguably, applies to emissions trading and potentially some other carbon market services. However, it may not always be clear when an activity is considered “new”. Several banks have already been involved in trading in non-carbon emission trading systems in the US (e.g. nitrogen oxides and sulphur oxides markets). It can therefore be argued that carbon emission trading is not a new activity. Furthermore, banks with compliance obligations in the California scheme (e.g. due to commodity trading activities in fossil fuels) may also argue that emission trading is a corollary of their existing activities, and therefore not “new”. Regulators have thus far not sought to provide formal guidance on these matters, though in practice banks may engage in informal dialogues to determine whether approval is required.

The ability of US banks to engage in emission trading is likely to be significantly affected following the entry into force of the so-called ‘Volcker Rule’ in 2015.²⁷ The Volcker Rule prohibits speculative proprietary trading in financial instruments by banks, their holding companies, subsidiaries and companies controlling them.²⁸ This is likely to prohibit most trading in emission reduction derivatives by banks on their own account. However, there are limited exemptions for trading aimed at hedging, underwriting or market-making. Increasing regulation is also beginning to limit banks’ trade in physical commodities. It is however, as yet unclear what effect this will have on intangible commodities such as emission allowances.²⁹

As in Europe, there has been no direct regulation of green credit cards, but some measures have been taken to ensure the quality of carbon offsets. The Federal Trade Commission’s Green Guides, adopted in 2012, provides guidance on the use of environmental marketing claims and includes a section on marketing of carbon offsets. The guidance states that marketers should: (i) use reliable scientific evidence and accounting methods to support marketing claims; (ii) disclose where offsets will be generated two years or more in the future; and (iii) not advertise offsets that are required by law. The guidance remains non-binding however, as the FTC argues that it is not competent to set environmental policy and any detailed guidance may quickly become obsolete due to quickly changing market.³⁰

²⁷ Dodd–Frank Wall Street Reform and Consumer Protection Act, Section 619.

²⁸ Speculative trading is defined as purchase of financial instruments for the purpose of selling financial instruments in the near-term or otherwise with the intent to resell in order to profit from short-term price movement. There is a rebuttable presumption that trading was for these purposes when the instrument is held for less than 60 days.

²⁹ Reuters, Wall Street banks make legal case for physical commodities trade, 17 April 2014.

³⁰ Federal Trades Commission, Guides for the Use of Environmental Marketing Claims; Final Rule, 16 CFR Part 260, Federal Register Vol. 77, No. 197.

3.3 China

Background and political context

In 2011 the China's macroeconomic management agency, the National Development and Reform Commission (NDRC), announced plans to implement seven pilot emission trading schemes in cities and provinces across China. The final pilot scheme was launched in May 2014, collectively making China the second largest carbon market in the world.³¹ Each pilot is designed with unique characteristics, with the intention of testing a variety of models that can be built upon in developing a national ETS, expected to begin during the period 2016-2020.³²

While the introduction of emission trading is a relatively new phenomenon in China, carbon markets themselves are not. Home to the world's largest number of CDM projects as well as a considerable number of voluntary projects, China has for many years had a large and active market. A multitude of exchanges exist across the country's cities and provinces and at its peak a large number of actors participated in the market.

The market is overwhelmingly dominated by state entities, with private actors playing a relatively minor role. The role of financial institutions, moreover, has been particularly limited. In addition, the markets have almost exclusively been limited to spot trading, with no discernible derivatives market yet in existence. State dominance and the emphasis on spot trading, continues to be evident in the seven pilot schemes. However, signs that greater participation of financial institutions and other private actors are emerging. These are described in more detail below.³³

Overview of carbon market regulation

CDM and Voluntary Markets

The regulation of China's CDM and voluntary markets has until recently been relatively limited. Secondary markets were initially subject to little direct regulation, though there was significant regulation regarding the issuance of CDM credits. Following the proliferation of carbon exchanges and a fast growth in the voluntary market, the NDRC gradually began to introduce a series of regulations to exert greater control over the market. The most important of these are the following:

- (i) In 2011 the China's government, the State Council, adopted the 'Decision of the State Council to Strengthen the Discipline of Various Exchanges to Avoid Financial Risks'. In this regulation the State Council took a strong line on disciplining strengthening central control over local financial markets and establishing market order. Among other measures, the decision requires prior approval of all exchanges from the central government before they can begin trading. Analysts consider this move to be targeted at carbon markets and carbon exchanges.³⁴
- (ii) In 2012 the NDRC adopted the 'Interim Regulation of Voluntary Greenhouse Gases Emission Trading in China'. The regulation affirms:
 - (i) the NDRC as the competent authority for regulating emission trading in China;
 - (ii) establishes a registry for voluntary emission projects; and

³¹ World Bank. 2014. State and Trends of Carbon Pricing 2014. Washington, DC: World Bank.

³² Ibid.

³³ Alex Y. Lo and Michael Howes, Powered by the state or finance? The organization of China's carbon markets, 54 Eurasian Geography and Economics 386 (2014).

³⁴ Ibid.

(iii) sets out technical standards for voluntary projects. Importantly, the regulation also sets out requirements for persons wishing to participate in emissions trading, including the requirement to attain authorisation from the local development reform commission (DRC) and certain capital, risk control and staffing requirements. The NDRC is also given the authority to monitor illegal or irregular activities and suspend licenses where necessary.

Emission trading pilots

In line with the intention to gain experience from a variety of approaches, central regulation of China's pilot emission trading schemes has been relatively minimal. Each pilot has been developed by the respective regional governments, after which they are submitted to the NDRC for approval. Regulations have been developed at the highest level in each regional government. Coupled with overall supervision by the NDRC, this underlines the high level of importance that is being placed on the pilots in China. In the longer term, NDRC intends to develop a comprehensive market oversight system that includes:

1. designating a competent authority to take charge of the daily operation and management of the ETS;
2. establishing a coordination mechanism among government agencies to avoid overlap of functions;
3. establishing an expert committee to provide technical support for decision making.³⁵

Trading in the pilot programmes is to take place on **designated local carbon or environmental exchanges** in each pilot region, ensuring close supervision over trading.³⁶ Smaller trades – the definition of which varies between the pilots – may, however be effected bilaterally.³⁷

As with carbon trading in China more generally, all trading in the pilot programmes is limited to spot trades, since **derivatives of carbon credits have not been approved by the Chinese authorities**. This may change under a future national scheme, however. In May 2014 the State Council issued a high-level policy statement directing the relevant authorities – in particular the People's Bank of China, the China Securities Regulatory Commission, and the China Banking Regulatory Commission – to develop new rules on derivatives. Carbon was specifically included on a list of commodities to be cleared for derivatives trading.

It is expected to take three to five years before any regulation become operational, and no details of how they will look have yet been released. It is predicted, however, that trading in carbon derivatives would take place on designated futures exchanges rather than existing carbon spot exchanges. These exchanges would likely be regulated by financial authorities.³⁸ This could create **dual regulation of spot and derivative carbon markets**, as in California, since to-date financial regulators have not viewed carbon trading as falling under the purview of "finance" and hence have not assumed direct responsibility for its regulation.³⁹

³⁵ Environmental Defense Fund and IETA, *The World's Carbon Markets: A Case Study Guide to Emissions Trading: China*, Briefing Note, June 2013.

³⁶ Simon Quemin and Wen Wang, *Overview of Climate Change Policies and Development of Emissions Trading in China*. CDC Climat Climate and Economics Chair, Information and debates Series n° 30 • March 2014.

³⁷ Point Carbon, *China Carbon Markets Risk Missteps Unless More Open*, 21 January 2014.

³⁸ Point Carbon, *China looks to bolster carbon market with futures trading – experts*, 12 May 2014.

³⁹ Lo and Howes, *supra*.

Several regions – namely Shanghai and Guangdong - have elected to **restrict trading to entities with compliance obligations**. However, Shanghai has indicated it is studying how to allow for institutional investors to participate in the ETS at a 'suitable time'.⁴⁰ Other regions such as Shenzhen and Hubei have, in contrast, opened their markets to a wider range of entities, leading to significant interest for speculative traders.⁴¹ Beijing has taken a compromise approach, requiring prior authorisation for participation of non-compliance entities.⁴² Participation of trade in Chinese Certified Emission Reductions, meanwhile, is open to domestic and foreign entities registered in China, including corporations, not-for-profit organisations and individuals.⁴³

Aside from the initial steps described above, carbon market regulation in China remains at very early stages. There has yet to be developed a comprehensive framework for regulating emission trading and the entities that participate in it. National regulators are following progress in the pilot regions with great interest to inform their thinking on how regulation of a national system may look.

Regulation/supervision of carbon market services provided by banks

As discussed above, the financial sector in China has played a relatively minor role in the country's carbon markets to-date. While state banks have played a major role in climate finance more broadly, the **central government restricted the involvement of Chinese banks** and some other financial institutions in the CDM. It has also indicated similar reticence in allowing them to participate in China's domestic carbon markets.⁴⁴ This appears to arise from the concern that their inexperience may lead them to making risky decisions.⁴⁵ Generally, certain Chinese regulations and policy lack clarity over the regulatory regime applicable to the participation of financial institutions in carbon markets. This has been seen as a key reason for financial institutions to have had limited incentive for engaging in climate and carbon related activities.⁴⁶

Direct participation by banks in emission trading is essentially prohibited at present. This is in line with broader prohibitions on banks trading in commodities, which emission spots appear to be classified as (though this has not been formally confirmed by the Government). Some banks have, however, indirectly engaged in trading through their commodity trading arms. Some large commercial banks have also established carbon asset management services and funds to make direct or indirect investment into emission reduction programs.⁴⁷ Moreover, the recent moves to introduce carbon derivatives trading has been seen by some as an attempt to involve banks in the emerging emission trading schemes, and hence their role may increase substantially in the future.⁴⁸

⁴⁰ IETA, Shanghai Emissions Trading System Pilot, available at:

http://www.ieta.org/assets/Reports/ieta_shanghaietsbriefing_oct%202013.pdf.

⁴¹ Point Carbon, China's Carbon Traders Flock to Hubei in Search of Profits, 21 April 2014.

⁴² China Carbon Forum, Stabilizing Carbon Markets: Lessons learned and applicability for China's promising carbon markets, Event Summary, available at:

<http://www.chinacarbon.info/?p=547>.

⁴³ Jeff Schwartz, A User's Guide to Emissions Trading in China, IETA Brief, Sep 2013

⁴⁴ Lo and Howes, supra.

⁴⁵ Martin Adams, Trials and Tribulations: China experiments with carbon trading, Economist Intelligence Unit, 2013.

⁴⁶ See, The Climate Group, Shaping China's Climate Finance Policy, March 2013.

⁴⁷ The Climate Group, Shaping China's Climate Finance Policy, Insight Briefing, March 2013.

⁴⁸ Point Carbon, China looks to bolster carbon market with futures trading – experts, 12 May 2014.

Banks have been somewhat more active in providing **project finance** for CDM projects, and many have accepted CERs as collateral for loans. They have also been active in providing project structuring services.⁴⁹ These activities do not appear to have been subjected to specific regulation, however.⁵⁰ Moreover, while 'green' lending overall has been encouraged by the China Banking Regulatory Commission through its Green Credit Guidelines, a lack of specific regulation has been identified as giving financial institutions limited incentive for engaging in climate-related financing.⁵¹

Similarly, some banks made inroads into offering **green credit cards**. However, this market did not develop significantly, and as such no attempts were made to specifically regulate it. The interim regulations on voluntary emission trading, insofar as they set out standards for voluntary credits that are sold on the Chinese market, are naturally relevant in this regard.

3.4 Brazil

Background and political context

Brazil approved the National Climate Change Policy (NCCP) in 2009. This policy includes a national voluntary target for the reduction of GHG emission and that translates its international GHG reduction pledges into national law. Apart from the national commitments, subnational entities such as the State of Sao Paulo or the cities of Rio and Sao Paulo have adopted substantial GHG reductions commitments.

Interestingly Articles 5 and 6 of the NCCP mention the use of financial and economic instruments to promote climate change objectives. This has opened the door to the introduction of, among others, carbon markets and emissions trading schemes. The NPCC points to market solutions for compliance with the voluntary national commitment creating the Brazilian Market for Emission Reductions with well-defined characteristics. Currently Brazil has been analysing the prospect of introducing a federal emission trading scheme and other economic instruments such as carbon taxes but has not yet legislated in this respect. Financial actors such as banks and the BM&F Bovespa (Brazilian Mercantile Exchange) are behind the studies that have been developed to establish an emission trading system in the country.

At the state level there have also been remarkable developments. A relevant number of states have approved legislation incorporating provisions for the creation of markets for carbon credits. States such as Rio and Sao Paulo have been studying the possibility of creating state ETSS that could be linked. Another example of a state with interest in financial mechanisms is the State of Acre. There a regulatory framework promoting the development of environmental assets and payment for ecosystem services (including carbon) has been approved.

The strong interest of Brazil in carbon markets is likely derived from the substantial participation of Brazil in the CDM and as originator also of voluntary carbon credits. Interestingly the Mercantile Exchange in Brazil (BMF/Bovespa) has been one of the most active exchanges world-wide in promoting and trading with carbon offsets, both CERs (carbon emissions

⁴⁹ Yuanyuan Ma, Study of Carbon Financing Innovation of Chinese Financial Institutions, 1 Research Journal of Finance, Dec 2013.

⁵⁰ Interview with Jeff Huang, ICE, 12 May 2014.

⁵¹ Ibid.

reductions generated by CDM projects) and carbon offsets from voluntary projects.

Overview of carbon market regulation

The legal nature of carbon units, although not defined specifically in the legislation, has been the object of several doctrinal discussions given that it directly affects relevant legal aspects such as its fiscal treatment or accounting rules. Since the start of the implementation of carbon projects in Brazil, legal instruments have elaborated on the nature of carbon offsets. They have been variously assigned – in a manner that has not always been consistent – to different legal categories such as intangible assets, commodities, credit titles or securities.

Article 9 of the NCCP states that: “The Brazilian Emissions Reduction Market shall be operated in commodities, futures and stock exchanges, and in over-the-counter trading by companies authorised by the Securities and Exchange Commission of Brazil (CVM), where negotiations for securities representing certified avoided greenhouse gas emissions shall take place.” While the Brazilian Emissions Reduction Market, as defined by the NCCP, has yet to be implemented, the development of such a market is contemplated in the law. This clause was interpreted by some as a clear indication that carbon offsets should be considered as securities and as such subject to the Securities Law⁵² and the competence of the CVM. This interpretation was based in a definition contained in a previous law that established that CERs have the legal nature of securities: “As title, CERs have legal nature of securities for purposes of regulation, inspection and sanction by the CVM...”⁵³

However, CVM has concluded differently. As regulator of the securities market, the CVM determines if certain instruments should or should not be classified as securities under Brazilian legislation. In order to provide clarity in respect of Article 9 NCCP, on 21st of July 2009, the CVM issued a legal opinion announcing to the market that the instruments called Certified Emission Reductions (CERs), also known as carbon credits, should not be considered as derivatives or collective investment securities, and therefore could not be characterised as securities. Consequently trading of carbon credits per se do not fall under the securities legal regime.

The understanding of the CVM in relationship with Article 9 clearly introduces an element of **legal uncertainty** between the CVM’s view and the NCCP wording. This issue has been identified as one of the points that the Brazilian legislator needs to clarify in the near future, and highlights the **importance of coordination among relevant regulatory authorities in approaching carbon market regulation.**⁵⁴

The CVM stated though that other instruments related to CERs as certificates representing future purchase and sale of CERs and other derivative or synthetic products, created in Brazil and traded in the country, may come to be characterised as securities. Therefore making these instruments subject to the regime established in the regulations. In each case, the analysis of each of these other financial products derived from carbon credits will be made by the CVM. In conclusion, the CVM is of the

⁵² Law 6.385/1976. The characterisation of an instrument as security has as main purpose the submission processes for issuing, distribution and trading of such an instrument to the jurisdiction of the CVM.

⁵³ Law Project 493 of March 19, 2007, Art 4.

⁵⁴ The confusion provoked by Art. 9 of NCCP made that in 2010 it was proposed in Senate Bill - PLS No. 164/2010 p the abolition of this Article 9. However, this proposal was rejected.

opinion that spot market transactions of allowances or offsets should not be considered as financial instruments while derivative carbon transactions – trading of financial instruments whose value is derived from underlying carbon allowances or offsets – should be.

In terms of institutional arrangements, the lack of a national emissions trading in Brazil implies that there has not yet been a clear process determining the exact institutions and process to participate in such markets. The experience of Brazil in terms of carbon market services has so far been mainly through the commercialisation (i.e. as supplier) of carbon offsets, both of compliance and voluntary character. The major Brazilian environmental assets exchanges are Bolsa Verde do Rio de Janeiro (BVRio) and the BMF/Bovespa environmental assets exchange.

In this context the Brazilian exchange platforms have gained relevance in the trading of carbon assets and the CVM has authorised the participation of such platforms in trading carbon products.

Regulation/supervision of carbon market services provided by banks

Brazilian regulators have not taken steps to specifically regulate the participation by banks in Brazilian carbon markets and so the general supervisory regime of the Brazilian Central Bank applies. Generally, banks in Brazil have no restrictions to participate in these carbon markets. The experiences shows that they can finance carbon projects, as well as buy and sell carbon credits, act as broker, etc. They can also manage investment funds which deal with carbon credits.

Banks can also participate in investment funds, which are vehicles regulated by the CVM. In this case these funds would be under the oversight of the CVM. In the case banks trade with carbon instruments subject to specific regulation by CVM banks' participation must be preceded by the corresponding authorisations.

Text Box 3: Experience of the BMF/Bovespa exchange in carbon trading

The BMF/Bovespa environmental assets exchange has acted as stock exchange for voluntary offsets and it has performed auctions both for CERs and for voluntary carbon credits.

It was originally conceived with the purpose of facilitating the trading of CDM projects and established in as a joint initiative by the Ministry of Development, Industry and Foreign Trade (MDIC), and the Commodities and Futures Exchange (BM & F). Most of the participants have been so far private actors.

It is previewed that the BMF/Bovespa will assume a relevant role in the future of a national emissions trading as Brazil is currently the introduction of an emissions trading system.

Brazil has adopted measures to ensure the quality of carbon offsets from Brazilian voluntary projects. The technical document⁵⁵ from the Brazilian Standardization Body (ABNT) determines that transactions involving voluntary carbon reductions are to be recorded, including the details of the project from which these reductions have been originated. This is all to provide greater transparency and certainty to the market and could therefore be relevant for those banks providing consumers green credit cards that entail carbon offsets.

⁵⁵ ABNT/NBR number 15,948

4.

Comparison, analysis and lessons

This section summarises the international experience in the jurisdictions assessed in section 3 and provides a comparison of their approaches and experiences. It extracts discrete lessons that have been learned through the existing experience, including the respective advantages and disadvantages of respective approaches. Furthermore, it considers the factors that have influenced the decisions of regulators and the outcomes of those decisions. This section also includes indicative regulatory options for Turkey, representing illustrative rather than exhaustive lists.

4.1 Regulation of carbon market services by banks

- a) The countries studied have not sought to introduce tailored legislation regulating the participation of banks in carbon markets. Most of the activities that banks can implement in carbon markets fall under the general banking rules that regulate activities of commercial banks. Regulators have for the most part not seen it necessary to introduce tailored rules for carbon markets. In determining whether banks are permitted to provide carbon market services, it is important to first assess whether they are permitted to provide the same services with regard to analogous products. Table 1 depicts compares to the four carbon market services subject to this report with the general categories of activities that banks can perform.

Table 4: Comparison between carbon market services and general banking services

Carbon market services performed by banks	General banking services
Origination and project finance	Business financing and structuring of financial operations
Emissions trading	Trading in commodities, derivatives or other assets
Centre of competence	Advisory services regarding property investments
Offering green credit cards	Affinity or charitable credit cards

Determining which rules apply in areas such as emission trading and perhaps some advisory services, will generally require first determining how emission allowances are classified in the jurisdiction (e.g. as a commodity or as a derivative). In many countries rules governing banks' activities differ depending on the nature of the assets involved. For example, in the US different licenses and restrictions are applicable to banks trading in commodities and financial instruments, respectively. In China, meanwhile, the direct participation of banks in emission trading has been limited due to a prohibition on commodities or derivatives

trading by banks (though in any case no emission allowance derivatives currently exist in China).⁵⁶

- b) In several countries banks are required to notify or receive approval from banking regulators when they begin new business activities. Providing clarity on whether approvals are required for offering new carbon market services may provide banks with important assurance. Nonetheless, in the jurisdictions studied regulators have often not sought to clarify the extent to which approval is required for carbon market services. Involvement of banks in carbon market activities has continued nonetheless, including in the US and EU. How broad the categories of licensed bank activities are, is a relevant factor to consider. In determining whether new approvals are required – very broad categories (e.g. those in Germany) can be more easily interpreted as already including carbon market services. In jurisdictions where some banks have compliance obligations due to their commodities trading activities (e.g. in the California scheme) banks may also argue that emission trading is a corollary of their existing activities. Where no official clarity has been provided, banks may seek to engage in informal discussion with regulators to determine whether approval is required. As such, regulators should decide whether such an informal process is preferable, or whether providing official guidance would not be more effective.

Options for Turkey

- i. Develop formal guidance for banks on whether their existing licenses permit them to provide carbon market services and in which cases approval from regulators is required before beginning to provide such services.
- ii. Do not develop any guidance, but liaise with banks individually to determine whether their existing licenses permit them to provide carbon market services and whether approval is required.
- iii. Develop tailored legislation or introduce amendments to existing legislation. This could be done by either: (i) listing specific carbon market services as distinct services for which new licenses are required; or (ii) clarifying that those services fall within existing categories.

4.2 Overall carbon market regulation and classification of emission allowances

- a) Approaches to carbon market regulation vary per jurisdiction and choices are closely related to existing regulatory frameworks and reform processes. Despite their singularity, carbon markets share a range of features with other markets. In general, regulators have sought to avoid tailored regulation. They have integrated carbon market regulation into existing legal frameworks. Where broader regulatory reforms are underway in relevant areas, this can present an opportunity to address carbon market regulation. This is the case in the EU where the recent financial market regulation that aimed at increasing transparency and oversight also embedded the trading spot allowances within its remit.
- b) In all study countries emission allowance derivatives are subject to financial market regulations, and there has been little controversy on

⁵⁶ Chinese banks do, however, participate in derivatives and commodities trading through subsidiaries.

this point. Since emission derivatives are very similar to other derivatives, it is generally considered unnecessary to distinguish them. In this case, additional regulation is often not required. In Brazil, California and the EU all trading in derivatives of emission allowances has not been distinguished from derivatives of other financial products and consequently subject to full financial markets regulation. In China, rules, currently being drafted to permit trading in emission allowances derivatives, are also expected to subject them to financial markets regulation.

- c) Countries differ in their approaches to regulating spot emission allowances. However, in most cases some specific regulation to spot trading is applied. Approaches taken include: (i) classifying spot emission allowances as financial instruments (EU); (ii) classification as intangible non-financial commodities and thus not subject to financial markets rules (US federal); and (iii) introducing a tailored set of rules governing trading in emission allowances (California, China). These differences reflect a wide variety of potential regulatory approaches that can be applied depending on country circumstances and regulatory priorities. Table below sets out some of the main pros and cons of the three main options available.

Table 5: Pros and cons of respective regulatory approaches to spot trading

Regulatory Regime	Advantages	Disadvantages
Integration under Financial Market Regulation	<ul style="list-style-type: none"> - increase transparency and oversight - compatible with regulation of carbon derivatives trading 	<ul style="list-style-type: none"> - applying financial regulations to spot trading might impose high burdens to participants - financial market regulations are not designed for spot trading
Ad-hoc regulation	<ul style="list-style-type: none"> - rules tailored to the specificities of carbon trading 	<ul style="list-style-type: none"> - regulatory complexity - risk of rules' overlapping
Integration under Energy Markets Regulation	<ul style="list-style-type: none"> - consistency between energy markets and the emission allowance markets 	<ul style="list-style-type: none"> - not all participants in carbon trading are entities subject to energy markets

- d) Application of financial market rules to carbon markets is unlikely to create significant burdens for banks. Banks tend to undertake operations that are considered as financial market services. As such banks are intimately familiar with the rules, procedures and institutions, and will often already apply them in respect of existing activities.

Options for Turkey

- i. Clarify the classification of emission allowance spots as energy contracts falling under (and subject to the rules of) the Electricity Markets Law. However, classify emission allowance derivatives as derivatives subject to the capital markets regulation.
- ii. Classify both emission allowance spots and derivatives as financial instruments under the Capital Markets Law, thereby subjecting them both to capital markets regulation.
- iii. Adopt tailored legislation governing the trading of either emission allowance spots only, or also emission allowance derivatives.

Table 6: Main areas of carbon market regulation across study countries

	EU	California/ United States	China	Brazil
Provision of services by banks	No specific regulation	No specific regulation	Emissions trading prohibited; other services not specifically regulated	No specific regulation
Classification of spot emission allowances	Financial instruments	Intangible commodities	Tailored regulatory regime (subject to rules of emission exchanges)	Not yet clear
Classification of derivative emission allowances	Financial instruments	Financial instruments	No derivatives yet permitted	Financial instruments
Institutional responsibility for carbon market	Financial market regulators and emission trading scheme regulators; cooperation with energy regulators	Financial market regulators (derivatives) and emission trading regulators (spots); cooperation with energy regulators	Regional governments and emission exchanges	Unclear. Some role for financial market regulators and exchange platforms
Regulation of voluntary market	Voluntary market explicitly excluded from regulation	Non-binding guidelines on sale of voluntary credits	Subject to specific regulation	No distinction made between voluntary and compliance credits

4.3 Institutional competences

- a) **Institutional competence for secondary market regulation is closely tied to the classification of emission allowances.** Regulators frequently have responsibility for oversight of a certain class of product. Therefore, decisions on where responsibility should lie should be closely tied to decisions on the classification of allowances. Where emission allowances are classified as financial instruments, for example, primary regulatory authority is likely to fall to financial market regulators. Where there is no clear classification of allowances, gaps in oversight can emerge (at least in relation to spot allowances). Hence, this is an area where regulation is considered important. In countries establishing emission trading schemes, such as California and to growing extent China, specific authorities may be set up to undertake market oversight. Where no emission trading scheme exists, however, it may be more logical to rely on existing institutions such as financial markets or energy regulators.
- b) **Regulation often requires cooperation between multiple entities.** Where emission allowance derivatives and spots are categorised differently, regulation will typically be split between financial market regulators and

other regulatory entities. In these cases, close consultation between regulators is required, as is the case in California. Cooperation with energy market regulators is also important. This will usually at least include sharing information related to the connections between energy and emission markets, as in California and the EU. It may also extend to empowering energy regulators to analyse the coherence of emission market transactions of energy companies with the economic and technical factors underpinning energy markets, as is the case in France.

- c) **Regulation of carbon market services by banks will generally fall under the purview of national banks and financial market regulators, although certain services may be subject to regulation by carbon market regulators.** National banks or other banking regulators will typically assume responsibility for determining whether amendments to banking authorisations will be required to engage in carbon market services. They will also need to provide such approvals and provide oversight of activities in this area. Financial market regulators will be in control of those activities that banks exercise in carbon markets and can be classified as financial market services. Direct involvement in emission trading schemes, meanwhile, will often also be made subject to the oversight of entities responsible for regulating those schemes. These authorities should therefore cooperate to ensure their activities are coordinated and that clarity is provided to banks with regard to what is required of them.
- d) **Trading on emission exchanges is subject to the additional supervision of those exchanges.** Similarly to derivatives markets, these rules may cover auction procedures, purchase contracts, and the level of transaction fees. Regulators may choose to subject emission exchanges to overall regulations concerning exchanges in the country, as in the United States, or to tailored rules, as in China. In determining whether to classify emission allowances (spots, derivatives or both) as financial instruments, therefore, regulators should take into account the application of the rules of Borsa İstanbul A.Ş.

Options for Turkey

Overall competences

- i. The Capital Markets Board (CMB), together with Borsa İstanbul A.Ş., regulates emission allowances derivatives and spots alone. Regulation is undertake limited cooperation with energy regulators on matters such as information sharing and ensuring coherence between emission and energy markets. This option is more likely to be suitable where both derivatives and spots are classified as financial instruments.
- ii. Energy regulators (EMRA, EPIAS) regulate emission spots and the Capital Markets Board regulates emission derivatives, while both engage in information sharing and take steps to ensure coherence.
- iii. Energy regulators and the Capital Market Board (together with Borsa İstanbul A.Ş.) undertake joint regulation of emission spots and derivatives and clearly define their respective competences.

Supervision of banks

- i. The Banking Regulation and Supervision Agency (BRSA) maintains supervision over providing any authorisations or licenses required for banks to provide carbon market services, while the CMB and/or energy regulators maintain responsibility for supervising emission trading activities and other activities that fall within their mandates.

- ii. Carbon market regulators (CMB/energy regulators) take responsibility for providing specific licenses or approvals for allowing banks to engage in carbon market services.

4.4 Regulation of voluntary market

- a) Regulators have to-date not sought to subject voluntary markets to substantial regulation, though some countries have introduced guidelines to ensure the quality of voluntary credits. In the EU, US/California and China trading of voluntary credits is not subject to specific regulation. Though in the US regulators have classified voluntary credits as “non-financial commodities”. The US and several EU Member States have introduced guidelines addressing aspects such as the quality of credits offered for sale. However, these remain non-binding. The exception in this regard is China. There relatively comprehensive rules for voluntary projects have been introduced. These rules include the assigning of a regulatory authority and establishing authorisation and capital requirements for trading in voluntary allowances.
- b) Some countries have specifically chosen not to regulate voluntary credits, while in others non-regulation appears to be a result of lack of attention. In the EU the regulation of emissions trading has explicitly been directed only to compliance markets. The MiFID only applies to allowances eligible under the EU ETS. This is likely related to the virtual non-existence of derivatives in voluntary credits and the absence of standardised spot market for voluntary trading. In the US, meanwhile, most regulation has been undertaken by the CARB. Their mandate does not extend to voluntary markets. The absence of regulation may therefore be seen as more circumstantial. In jurisdictions, where voluntary trading is a key part of carbon markets such as Turkey, different considerations will come into play. Regulators in those jurisdictions should thus give careful consideration to how to regulate voluntary markets.

Options for Turkey

- i. Apply regulations or guidance adopted on carbon markets to both voluntary markets and any future compliance markets. This would include making relevant distinctions and exceptions in cases where rules are not suited to the specificities of the voluntary market.
- ii. Adopt separate rules or guidance for compliance and voluntary markets.
- iii. Only adopt rules and guidance for compliance markets, leaving voluntary markets unregulated.