KPMG

Accounting for carbon

The impact of carbon trading on financial statements

KPMG LLP (UK)

AUDIT ▪ TAX ▪ ADVISORY

Providing insight and strategies to help organisations understand and manage the business implications of climate change

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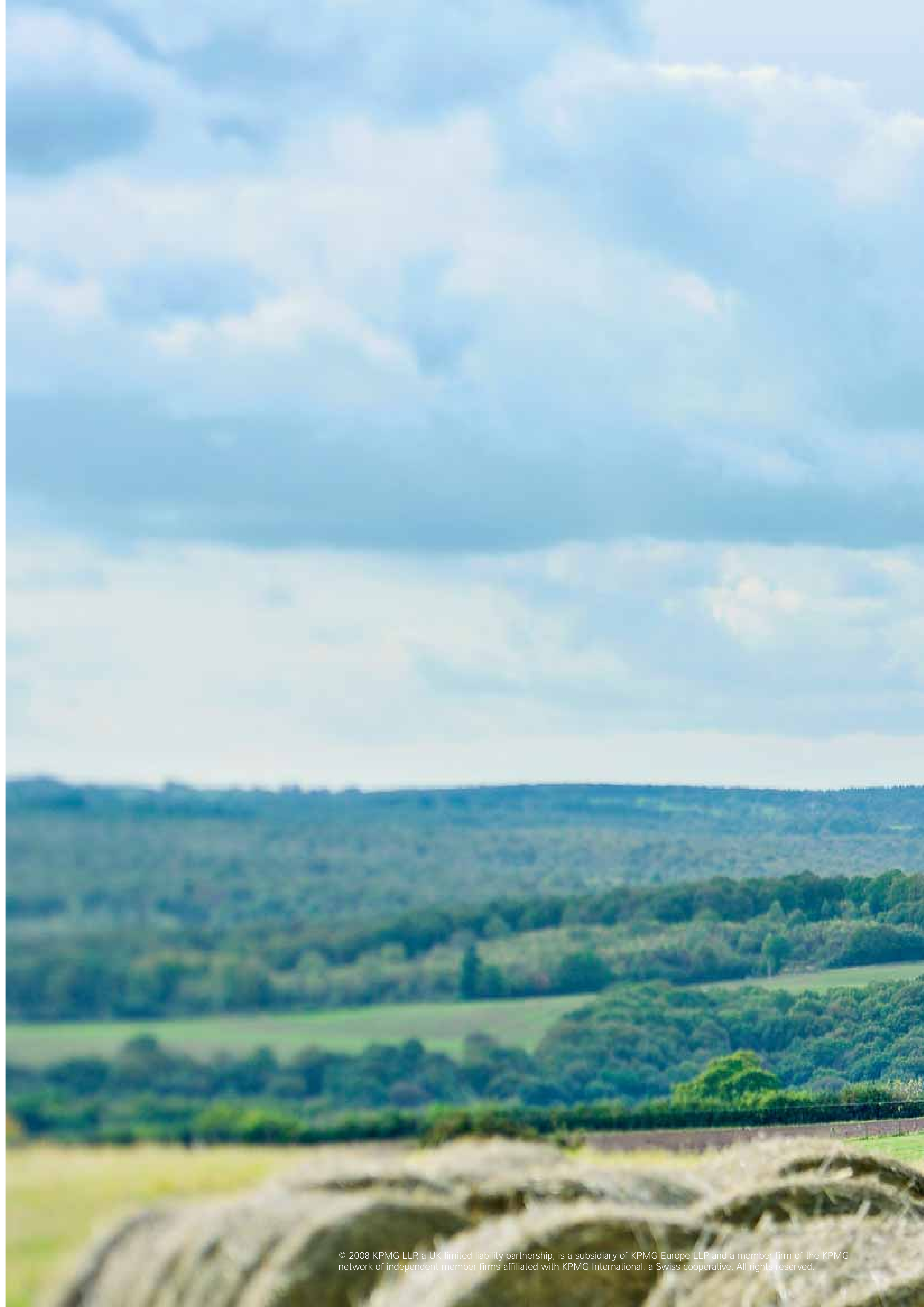

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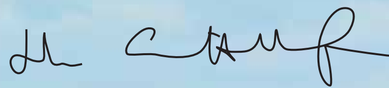
Chairman's foreword

Welcome to the fifth in a series of white papers from KPMG's Carbon Advisory Group. This paper outlines the accounting and reporting questions that businesses involved in the rapidly expanding market for carbon emissions allowances and credits will need to address to implement their carbon strategy effectively.

The various trading and emissions schemes around the world can offer significant benefits of capital allocation for this scarce resource. For the first time carbon will become a real input cost for many businesses and managing the risks and opportunities of that input will become an important business priority. Accounting for carbon emissions will take many companies into entirely new territory for which no specific accounting standard currently exists.

Communicating your objectives, policies and results to investors and analysts and explaining how they are reflected in the financial statements could be a significant challenge.

This paper offers a guide to some of the key accounting issues to consider when transacting in the carbon market. It is essential that the accounting for these items is considered early to avoid any surprises in the financial statements.



John Griffith-Jones, Chairman and Senior Partner KPMG LLP (UK)

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What is the issue?

The recognition of climate change as a significant issue continues to grow and commercial activity is well underway, but, in the absence of authoritative accounting guidance, a diverse range of accounting treatments has evolved. This in turn has led to a lack of consistency in financial reporting that could undermine investors' confidence in a company's strategy and approach to carbon transactions including trading.

The possible accounting approaches could lead to volatility and material and/or counter-intuitive effects on your financial statements in matters such as:

- Timing of recognition of assets, liabilities, profits and losses
- Measurement of balance sheet items at nominal value, cost or fair value
- Current and deferred tax and VAT implications
- Presentation and disclosure

With many more UK organisations about to be included in the Carbon Reduction Commitment Scheme, the question is: Do you know how your company's activities in the carbon arena and the accounting policies you have chosen will affect your financial results?

"Carbon will be the world's biggest commodity market and it could become the world's largest market overall"

Louis Redshaw,
Head of Environmental Markets,
Barclays Capital

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Who needs to consider the impact of carbon accounting?

Broadly speaking, the following business categories are already active within the carbon markets:

- **Emitters (under the EU Emissions Trading Scheme)** – Certain companies are allocated emission allowances – they must either reduce emissions to remain within their allowance or buy additional allowances to cover total measured emissions.
- **Emitters (under the Carbon Reduction Commitment (CRC))** – Organisations spending £0.5m or more on electricity in the UK annually are likely to be included in the scheme and will need to buy emission allowances.
- **Creators (under the Clean Development Mechanism)** – Companies can invest in or develop emissions-reducing projects overseas within production processes or produce 'green energy' products. Reductions must be certified to receive Certified Emission Reductions (CERs) which can then be sold or used to fulfil the organisation's own emission obligations.
- **Traders/brokers/aggregators** Dealers may buy and sell CERs and allowances or derivatives based on the underlying asset.
- **Investors/Consultants** Consultants who assist others to reduce emissions and/or claim CERs may receive their fee in CERs or options to buy CERs. Investors may invest specifically in carbon related activities in return for CERs.

These categories are not mutually exclusive. Some emitters also have in-house traders buying and selling for the company's own use or for profit. Some also act as creators of emission reductions and/or consultants. There are also examples of companies running their own exchanges.
We consider some of the accounting implications for each category in the following pages.

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Which accounting standards currently apply?

At the moment, there is no authoritative accounting guidance within International Financial Reporting Standards (IFRS) explicitly for transactions involving carbon allowances. Previously issued (but withdrawn) guidance provides some insight into the initial views of the International Accounting Standards Board (IASB):

- The IASB issued IFRIC 3 on 'Emission Rights' but it was withdrawn in June 2005. Based on other IFRSs in issue at the time, IFRIC 3 concluded that:
  - Rights (allowances) are intangible assets (IAS 38 Intangible assets)
  - Where allowances are issued by governments for less than fair value, the difference between fair value and the amount paid, if any, is a government grant
  - Provisions for emissions-related liabilities should be recorded (IAS 37 Provisions, contingent liabilities and contingent assets)
- The main reason for withdrawal was the potential volatility arising from recognising changes in the value of revalued allowances (intangible assets) in equity but movements on the provision for emissions in the income statement.
- Despite the withdrawal of IFRIC 3 there remain a number of existing standards that provide authoritative guidance on relevant accounting on which companies must draw in forming their policies for carbon-related transactions (including IAS 2, 20, 37, 38 and 39).
- The IASB and the Financial Accounting Standards Board (FASB) have launched a joint project on carbon emission accounting models but have not yet published a conclusion.
- In May 2008 the IASB scope discussion confirmed that the project will cover all tradeable emission rights and obligations under emissions trading schemes. It will also address how activities undertaken in anticipation of receiving tradeable rights in future periods (e.g. CERs) will be accounted for.

In the meantime companies must interpret the existing standards based on the fact pattern of their particular business model, strategy and transactions.

This will include providing relevant disclosures of policies, transactions and balances included in their financial statements.

In the UK in most cases we expect the corporate tax treatment to follow the accounting rather than to generate significant timing differences.

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Principal Mechanisms

Kyoto Protocol

The Kyoto Protocol (1997) is an international treaty binding those developed nations that ratified it to reduce their emissions of the six most harmful greenhouse gases (GHGs). Each country is committed to a target, designed to lower overall global emissions by 5.2 percent compared with 1990 levels by the end of 2012. Under the treaty there are two main ways of trading and pricing carbon emissions – cap and trade schemes and rate-based schemes. These are both part of the regulated trading environment and should not be confused with the voluntary/unregulated sector which is part of the corporate and social 'greening' phenomenon of the past ten years.

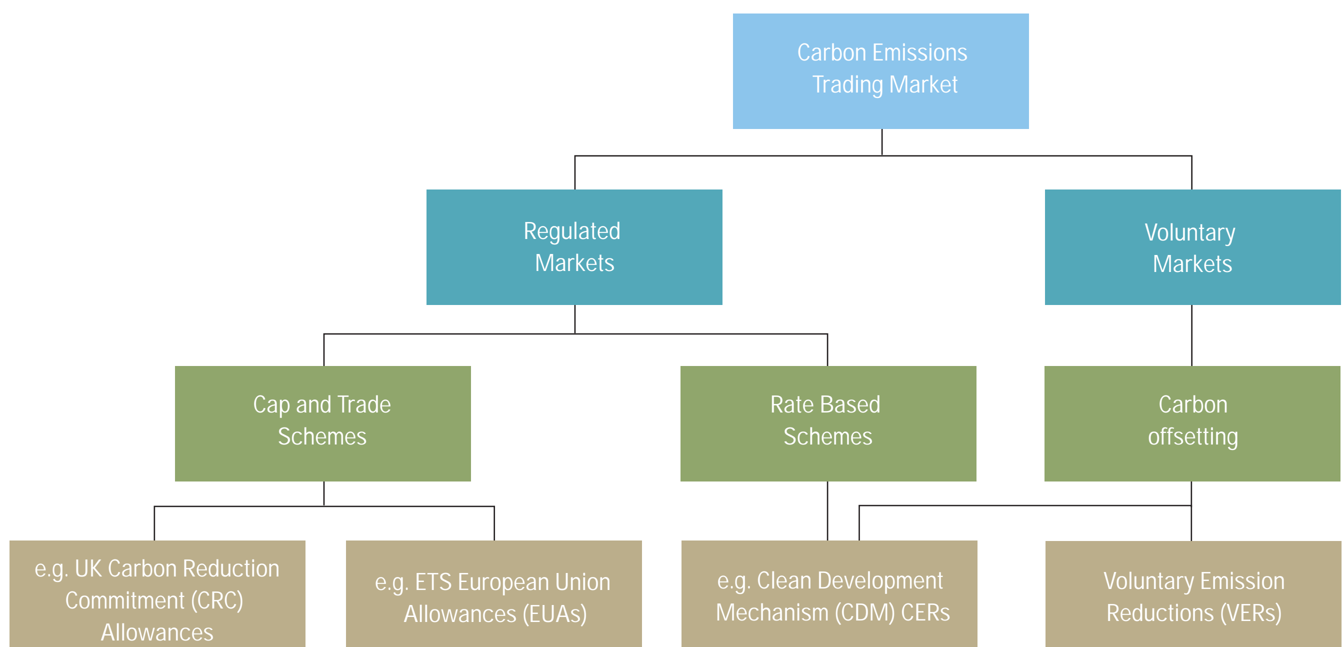
Cap and Trade

EU Emissions Trading Scheme

An example of a cap and trade scheme is the EU Emissions Trading Scheme (ETS), under which the EU has set emissions targets that reduce over time. Member states develop a National Allocation Plan (NAP) determining how allowances will be allocated to emitters in their territory.

Each year, member states distribute these allowances to organisations in certain industries under their National Allocation Plan. In some cases companies pay the government for the allowances, through an auction system or at a nominal rate, while in others the government may issue them free of charge.

At the end of each year each emitter surrenders to the government sufficient allowances to cover their actual emissions for the period. A company that has a surplus of allowances can sell the excess, while a company that exceeds its allocation must purchase more allowances from the market. Under most schemes, including the EU ETS, allowances can be rolled over from year to year but not from phase to phase (the current phase ends in 2012).



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Organisations included in the scheme can trade allowances with others not in the scheme, allowing third parties to join the market. The EU ETS provides a market for trading and valuation purposes – the market price of December 2012 EUA settlement was around €19 per tonne of CO2 at 19 November 2008, CER around €15 per tonne (source: europeanclimateexchange.com or www.pointcarbon.com)

UK Carbon Reduction Commitment

In addition to the EU scheme the UK government has introduced the Carbon Reduction Commitment (CRC), a mandatory cap and trade scheme targeted at large companies. Phase I is April 2010 to March 2013, with companies qualifying in 2008, depending on their usage.

The CRC is similar to the EU Emissions Trading Scheme but it will apply to large, non-energy intensive organisations. Allowances will be sold to participants in a sealed bid uniform price auction.

Those included in the scheme will need to buy allowances to cover expected total CO2 emissions for each year. The minimum cost of allowances, before any potential penalty, for companies just falling within the emission levels of the scheme, is estimated at £38,000.

Additional or excess allowances can be bought and sold through a secondary market but the market price will be uncertain. At the end of the year allowances for all emissions must be submitted.

Each year league tables ranking participants by their energy efficiency and success in reducing energy consumption will be prepared. This determines how much of the original cost of allowances is returned to the participants with a higher payments allocated to those at the top of the table.

Rate-Based schemes

Under a rate-based scheme, emission credits (certificates or allowances) are issued to companies that reduce their emissions from an agreed level per unit of output. Emissions above the agreed level may result in an obligation to buy allowances.

These credits are valuable as they can be used by emitters to settle an obligation to remit allowances under some cap and trade schemes.
For example, eight percent of any shortfall of participants in the ETS Cap and Trade scheme can be met with allowances issued under a rate based scheme.

An example of a rate based scheme is the Clean Development Mechanism (CDM). Within the CDM emission reductions can be earned through activities such as the generation of renewable energy or other projects that reduce overall carbon emissions from an existing production process per unit of output. Companies register their schemes or projects with the UN for accreditation. In some cases the emission reductions are subject to confirmation before the credits are issued.

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1. Emitters

Certain industries are included in the EU Emissions Trading Scheme, which is currently in Phase II (2008-2012), many other UK organisations are already included in the CRC.

The governments of EU member states each draw up a National Allocation Plan representing the total emission allowances that will be made available for each year to emitters in their territory.
Each entity, to which the scheme applies, is allocated its share of the total emission allowances. At the end of each period each emitter surrenders sufficient allowances to cover their emissions. A company that has a surplus of allowances can sell the excess allowances while a company that exceeds its allocation must purchase more allowances from the market.

As the EU ETS and other schemes mature and are refined we expect the following developments to increase the potential impact on performance reported in the financial statements.

CRC

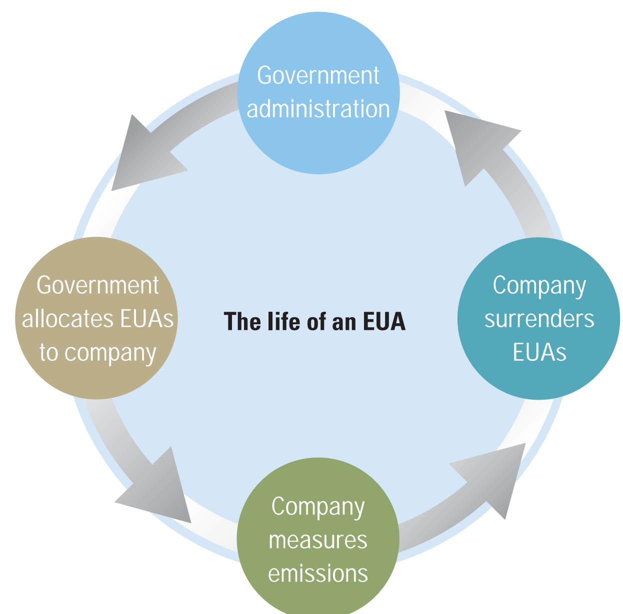
Accounting for the CRC scheme will give rise to many of the same questions as for other cap and trade schemes, such as timing of recognition of the allowances purchased and the liability arising from emissions, the value initially attributed to them, subsequent re-measurement (if any)
as well as the recognition of the repayment to be received.
However an important difference will be that the organisations will have to pay cash out upfront and await subsequent measurement before any is returned.

- Some allowances are now being auctioned, so the cost is not zero which may result in a balance sheet and income statement impact

- Many companies during Phase II will need to acquire additional allowances resulting in a cost to the company that needs to be recorded in the financial statements

- Stakeholders are more informed and aware of climate change, and want companies to provide information on this area of their operations

In the meantime, management decisions, based on the company's objectives and strategies concerning whether (and when) to buy, hold or sell allowances based on projected emissions, will affect reported financial performance. In addition, the accounting policy choices that currently exist for carbon-related transactions can also impact financial performance and investor's perception of management's strategy. A number of these choices are highlighted below.



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Some of the key accounting issues for emitters

Issue	Description	Comment
What are emission allowances for accounting purposes?	Different types of asset are subject to different accounting requirements. It is therefore important to decide what allowances are. Accounting standards which contain relevant definitions include: • Intangible assets (IAS 38) • Inventory (IAS 2) • Financial assets and derivatives (IAS 39)	In our view the EU allowances are intangible assets. In some cases the intangible asset may itself be inventory and certain companies may hold that inventory as a broker/trader (see page 11). In practice both intangible and inventory classifications are used. Some entities recognise financial assets in respect of allowances. In our view, contracts to acquire allowances may be derivatives even when the allowances are not financial assets.
How are the allowances received and when should they be recognised?	Where allowances are received from a governmental body, they may be received in the form of a government grant. When should an allocation that is received by grant be recognised? • On announcement of allocation • At the beginning of the compliance year when the emitter becomes entitled to receive them • On receipt • On settlement • On another date? If advised of an irrevocable five-year allocation subject only to continuing to operate, can the entire allocation be recognised on day one?	In our view, the allocation should be recognised when there is reasonable assurance that the entity will comply with any conditions and the allowances will be received. In respect of an annual allocation this is likely to be no later than the beginning of the compliance year, but may be earlier. If advised of the full five year allocation, full recognition may be possible depending on the reasonable assurance test and based on going concern assumptions. This would have most impact if the allowances were measured at fair value (see below). Accounting policies should clearly describe the treatment for allowances received from the government and those purchased separately.
What amount should be attributed to an asset received as a government grant?	Two accounting policies are currently acceptable: nominal value i.e. cost (which may be nil) or fair value (based on market price). The amount of any grant is recognised as deferred income and released to the income statement over the period to which it relates.	In practice most companies adopt a nominal value approach. Once recognised, the grant is not re-measured as a result of changes in fair value of the allowances
If allowances are purchased on market what amount should be attributed to the intangible asset?	Purchased intangible assets are recognised at cost (less impairment if applicable)	
Should intangible assets be re-measured at each period end? What about inventory?	• Two accounting policies are acceptable for intangible assets: cost or revaluation (in each case less any amortisation and impairment). Revaluation is permitted only to an active market valuation (as defined in IAS 38) • Intangible assets recognised at revaluation are measured at their fair value with the movement in value recognised directly in equity • Intangible assets have a definite life, (unless the UN allows allowances to be carried forward into Phase III). Unless the estimated residual value is below carrying amount, no amortisation would be expected as the asset is not being 'consumed' over time • Inventory is only revalued by commodity broker/traders who recognise inventory at fair value less costs to sell though the income statement	• A consistent policy should be adopted. • Impairment should be considered if carrying amount exceeds market value

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Issue	Description	Comment
Recognition and measurement of a liability for emissions	When should a liability be recognised and how is it measured? • As emissions occur? • When actual emissions exceed allowances held? • Measured at fair value or the carrying amount of allowances?	In our view, a provision should be recognised as emissions occur as an expense in the income statement not as a linear charge based on estimates. The liability and expense should be measured at the best estimate of the expenditure required to settle the obligation. To the extent allowances are held, the best estimate may be the carrying amount of the allowances. To the extent emissions exceed the allowances held, the fair value of an allowance (re-measured at each balance sheet date) may be the best estimate. This approach, together with the measurement of the allowances at nominal amount (i.e., nil) has resulted in a number of companies recognising a provision of nil until emissions exceed allowances held, at which point the 'top slice' of the liability is recognised at best estimate. Additional liabilities for penalties may need to be recognised.
Can the best estimate of the provision take account of allowances not yet received?	A number of schemes permit an obligation to surrender allowances to be partially met (e.g., 10% of total) from the following years' allowance, within each 5-year scheme period. Can the following or previous year's allowances be taken into account?	Where the allowances for the following period have already been recognised because there is reasonable assurance that the entity will comply with any conditions and the allowances will be received (see above), we believe that the provision can be based on the carrying amount of those allowances. In some circumstances, there may be sufficient assurance that they will be received and available to meet the obligation that they can be considered in estimating the emission liability.
Where in the income statement should the release of deferred income from a government grant and the expense recognised for emissions be shown?	IFRS include general requirements for expenses to be presented by nature or function and the disclosure of individually material items. In respect of carbon related amounts, there is diversity in practice.	In our view, the most appropriate presentation will depend upon the company's particular transactions and its strategy. A consistent and transparent approach will enable investors to understand the impact and any individually material items should be separately disclosed.
Forward purchases and sales	How should forward purchases or sales of allowances be accounted for?	Many companies enter into contracts to buy or sell forward. Such contracts may be derivatives and careful consideration will be needed.
Business combinations	In a business combination, the fair value of allowances acquired should be recognised on acquisition under IFRS 3 Business Combinations in most cases	Post acquisition actions may affect the usage of the allowances.

Your accounting treatment should reflect the business practice of your company.

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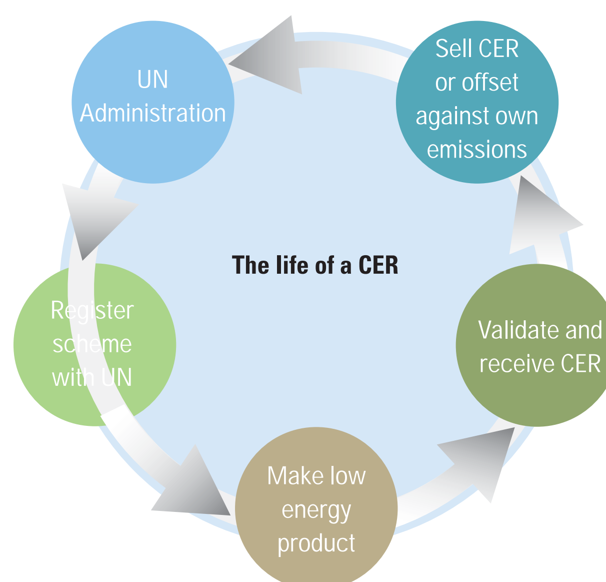
2. Creators/green energy

Companies can gain credits by implementing certain 'green' projects, for example to reduce emissions or to produce products that are considered carbon efficient.

These schemes are required to be registered with the UN and emission reductions must then be verified in order to receive CERs. As this can take some months it may span the year end or interim reporting date. CERs can be sold or retained to cover obligations under emissions schemes. In some cases they may be sold to a bank or trader and bought back within a specified time period.

With the full introduction of the CDM, and the increasing number of projects being accredited, this has become more significant for some companies. As more projects commence operating, the number of CERs in the market will increase. Combined with the smaller number of EU ETS allowances that have been allocated in Phase II, more companies are looking to supplement their granted allowances with CDM allowances.



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Some of the key accounting issues for creators/green energy projects

Issue	Description	Comment
Should the CER be recognised as an asset?	Allowances received under a CER scheme generally are an intangible asset arising from a government grant.	In the case of a CER the entity may be able to identify costs that are directly attributable to the intangible asset. This 'cost' together with the impact of any government grant will result in measurement at nominal or fair value. There may be an immediate gain on recognition as opposed to deferred income if the compliance conditions of the grant have all been met.
If so when and at what value?	Recognition of a CER that is received as a government grant occurs when there is reasonable assurance that the entity will comply with any conditions.	Timing of recognition will vary from project to project depending on whether the scheme is registered and the nature of the process or other conditions of receipt. The intention to sell or use the allowances links into the questions regarding provisions and assets in the books of emitters or traders.
How should forward sales before the CER is received be accounted for?	Timing of recognition of income must be considered. The instrument of sale may be a derivative depending on the existence of a recognised or regulated market.	Accounting treatment will depend on specific circumstances and the terms of contracts involved (see page 11).

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Accounting for contracts to buy or sell allowances/CERs

Companies may enter into contracts (e.g., options or forward purchases or sales) with third parties to buy or sell allowances and/or CERs. A distinction should be made between the accounting for the underlying allowances/CERs and for any contract to buy or sell such assets.

The accounting for allowances/CERs is discussed in the previous pages and generally is determined independent of the existence of contracts over those allowances/CERs. The next section discusses the accounting for contracts over allowances/CERs.

Contracts over allowances/CERs may be entered into for a variety of reasons, including:

- Purchase contracts by entities requiring allowances/CERs to settle their own emission obligations
- Sales contracts by entities with excess allowances or generators of CERs
- Purchase and/or sales contracts by entities speculating on price changes

3. Traders/Aggregators

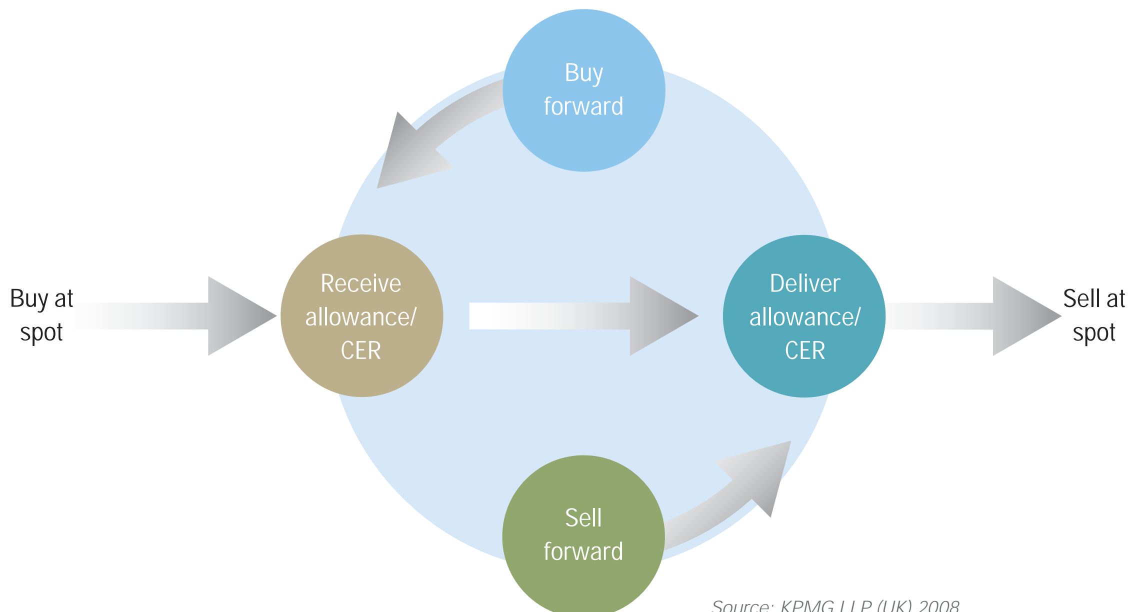
Traders and brokers may trade emissions allowances in both current and future contracts. Trading has two main aims:

1 Management of the company's own-use portfolio to minimise the cost of certificates to the business, based on expected needs

2 Speculative trading for profit

An internal trading desk may buy and sell EUAs and CERs for both of these purposes.

These transactions may be facilitated by trading houses, banks and other facilitators.



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Some of the key accounting issues for traders/aggregators

Issue	Description	Comment
How should contracts over allowances/CERs be accounted for?	When should a contract be recognised as an asset/ liability and how is it measured? Are the contracts derivatives and are there any other factors that should be considered?	If the contract is priced so as to be transacted at an amount other than market value then the contract should be fair valued unless an exemption from derivative accounting exists. An example is the so called 'own use' exemption which can be a difficult requirement to meet and if initially met it then requires subsequent monitoring for continued compliance. Contracts entered into by emitters or creators may be eligible for the own use exemption, however contracts entered into by traders/ aggregators are unlikely to be. If the own use exemption is met the contracts are accounted for as executory contracts and do not need to be fair valued prior to exercise.
Allowances/CERs held by traders/aggregators	How should allowances/CERs held that may or may not have written contracts over them be accounted for?	The accounting for allowances/CERs is generally determined independently of contracts over them. As the trader/aggregator is likely to be holding the allowance/CER for the purposes of short term gains the allowances/CERs would probably meet the definition of inventory. In addition the trader/ aggregator is likely to meet the broker/trader requirement in IAS 2 for the inventory to be measured at fair value with changes in value taken through the income statement.

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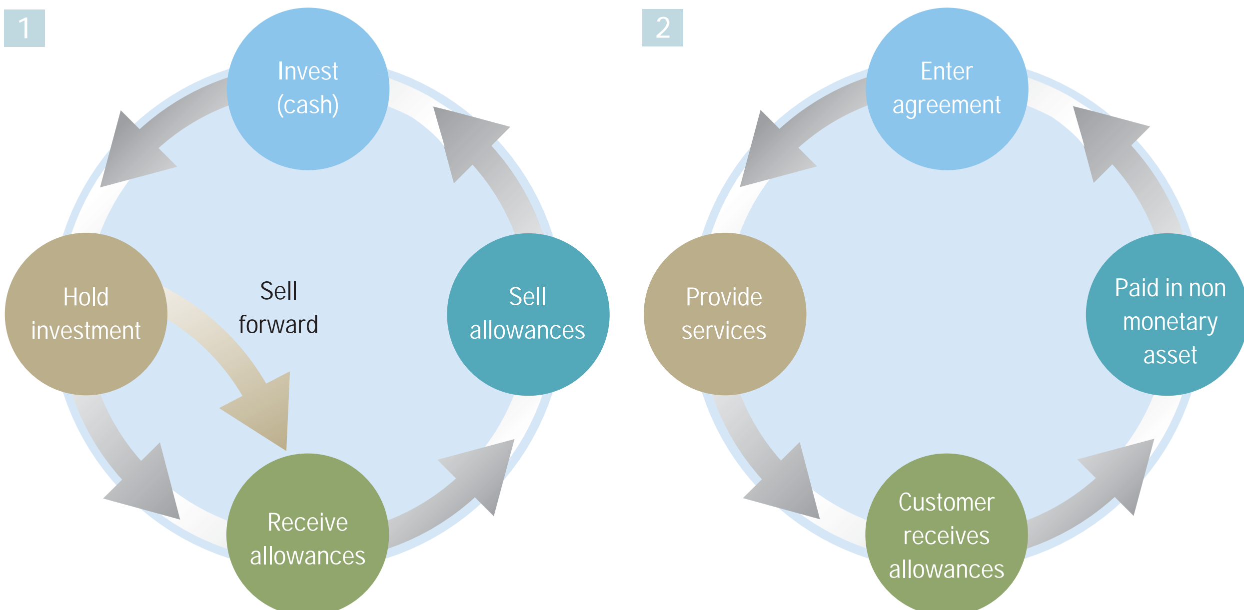
4. Investors/Consultants

An investor may provide cash or other assets in return for a right to receive a potentially variable number of CERs.

In other cases an entity may provide services such as consulting, to a third party in respect of the design and implementation of carbon efficient processes and registration and verification processes in the CDM.



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The service provider may receive CERs, or options to buy CERs at a certain price, as payment for its services. These CERs may be sold forward by the investor or consultant

Some of the key accounting issues for investors and consultants

Investor:

- What is the investment and how should it be reflected in the balance sheet?
- The accounting for the investment depends on the type of investment structure which is not specific to green energy companies
- It could be an equity interest, jointly controlled operation, a financial asset or a subsidiary if governance of operating and financial policies is such that the investor is deemed to have control of the entity. The investor would then need to consolidate the results and balance sheet of the subsidiary
- When and how should the CERs be accounted for in the financial statements of the investor?
- Does the arrangement contain a derivative?
- How should the investor account for its own forward sales of allowances it expects to receive?
- The supply of an asset may constitute a lease.

Consultant:

- How should the supply of services or assets, including the related costs, revenue and CERs/financial instruments be accounted for by the consultant?
- When services are rendered in exchange for dissimilar goods or services (for example consulting services in return for a non-monetary asset), revenue is generated. The amount of revenue usually is based on the fair value of the assets received or receivable
- Consulting costs may be recorded as work-in-progress until the related services are delivered and revenue is recognised
- The forward sale of CERs or of the right to receive CERs may result in derivative financial instruments
- The sale of CERs may result in additional gains and losses where the sales proceeds, less costs, differ from the carrying amount of the allowance.

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Where next?

- The market price of EUAs and CERs is uncertain and could either peak or plummet towards the end of 2012 depending on supply and demand. Some analysts predict that European carbon prices will surge to €79 by 2020 as the region strives to reach its current targets.

- Until recently confidence in the carbon markets appeared to be steadily increasing however the recent turmoil in the world's financial markets and weakening energy commodity prices may have an adverse effect.

- The potential for a windfall tax on profits made in Phase I of the ETS has been raised on the assumption that allowances were over-allocated and retail electricity prices were based on a higher estimated price for purchased credits than was actually the case.

- The UK has recently taken a significant step towards its eventual goal of auctioning all carbon allowances to industries covered by the EU ETS with the completion of the first auction, to be undertaken in Europe under Phase II of the scheme. Four million EUAs were sold paving the way for a series of further auctions in 2009.

- Possible scenarios for Phase III (ETS) – January 2013 onwards could be:

  – A reduction in total allowances

  – Potential to roll forward Phase II surplus allowances to Phase III

  – Central allocation by an EU body – i.e. no more national allocation plans

  – Auction process rather than free allocation

  – Inclusion of other greenhouse gases

  – Inclusion of other industries such as airlines

- An increase in the overall market seems likely following the introduction of other cap and trade schemes/tradeable certificates such as RTFO (Road Transport Fuel Obligation) certificates and the CRC (Carbon Reduction Commitment) which will affect all businesses spending £500k or more per annum on electricity

  – Sustainability and verification may become more of an issue, with potential for price differentials for higher degrees of certification

  – US President elect Barak Obama has committed to some form of trading scheme increasing the market potential further. If the US were to implement a cap and trade scheme before 2012 and accepted CERs and EUAs into the scheme then the demand dynamics of the market could change significantly

  – The results of FASB/IASB project on accounting will be released which could change current thinking

  – Increased disclosure of carbon related information may soon be encouraged. For example, the Climate Disclosure Standards Board is a consortium of business and environmental organisations which aims to promote and advance climate change related disclosure in mainstream reports through the development of a global framework for corporate reporting.

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Accounting for Carbon Checklist

- [ ] Do your operations include any of the activities described above?
- [ ] Have you considered the accounting and other financial implications of activities in the carbon arena and can you explain it to investors/analysts? They can impact on:
  - [ ] Income statement and volatility of results
  - [ ] Balance sheet/equity
  - [ ] Cash flow and liquidity
  - [ ] FX exposure
  - [ ] Reporting KPIs/ratios
  - [ ] Planning for long/short position at 2012
- [ ] Have you thought through and drafted the relevant accounting policies?

  Are your accounting policies:
  - [ ] Transparent?
  - [ ] In line with industry best practice?
  - [ ] In line with current accounting standards?
- [ ] Are your systems and controls for measuring your emissions sufficiently robust?
- [ ] Do you know how to value your carbon-related assets and liabilities at each balance sheet date?
- [ ] Are you using your credits as efficiently as possible?
- [ ] Are you buying and selling your credits at the right time, based on up-to-date information?
- [ ] Have you considered the tax planning implications of the above?

KPMG's commitment

Climate change is forcing companies of all sizes to re-think the way they do business. Making the transition to low-carbon operations is far from straight forward.

KPMG's Carbon Advisory Group has been brought together to help organisations make sense of and respond to the economic challenges of climate change. Combining skills from across the Audit, Tax and Advisory practices we believe we are the only professional services firm able to offer truly multi disciplinary dedicated climate change support to our clients.

For further information or to contact one of our team please see contact details on the back of this document.

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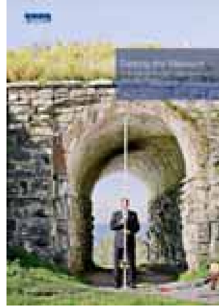
Other KPMG Thought Leadership

As the climate change debate continues and the impact of increasing carbon emissions becomes more evident, it is essential for companies to understand the risks and opportunities and more importantly to know how to manage those risks. KPMG's original thinking can help lead the way in addressing those areas of concern and can provide insight into some of the key questions that businesses may be asking.

To receive electronic copies or additional information about any of the documents below please log on to www.kpmg.co.uk/advisory or contact your local KPMG office.

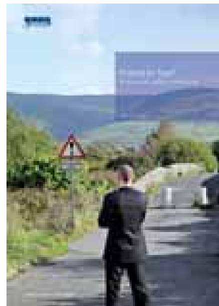


Getting the Measure - a focus on carbon measurement and reporting

Helping companies understand the requirements and processes.

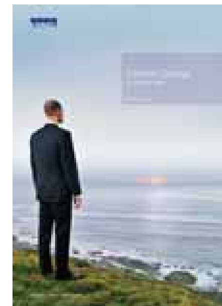
Step by Step

A guide to the Carbon Reduction Commitment (CRC).



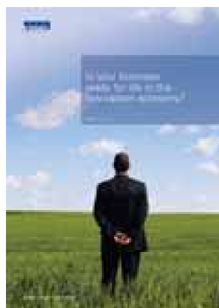
Friend or foe? – a focus on carbon offsetting

Looking at the options, benefits, risks and purchasing checklist that may be required when entering into an offsetting agreement.



Climate Change – a clearer view

A practical snapshot of the market place, providing a summary of the facts and answering some key questions an organisation might be asking. The first in a series of white papers.



Is your business ready for life in the low carbon economy?

An introduction to the range of different issues facing companies and a brief look at how these can be approached in order to reap economic benefit.

Climate Change Business leaders Survey II

Reviewing the market place 6 months on. How is business responding?

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Contact us:

Richard Sharman
Lead Partner
richard.mas.sharman@kpmg.co.uk
+44 (0) 20 7311 8228

Keith Bannister
Sustainable Technology
keith.bannister@kpmg.co.uk
+44 (0) 20 7311 6558

Jonathan Coltman
Restructuring
jonathan.coltman@kpmg.co.uk
+44 (0) 20 7694 3747

Naseem Walker
Carbon Management
naseem.walker@kpmg.co.uk
+44 (0) 20 7694 4274

Anna Burman
Carbon Accounting
anna.burman@kpmg.co.uk
+44 (0) 20 7694 5238

Ben Wielgus
Carbon Reduction Commitment
ben.wielgus@kpmg.co.uk
+44 (0) 20 7694 8573

Trevor Wiles
Trading and Offsetting Investigations
trevor.wiles@kpmg.co.uk
+44 (0) 20 7311 3785

Adrian Wilcox
Carbon Industry
adrian.wilcox@kpmg.co.uk
+44 (0) 20 7694 5165

Frank Sangster
Environmental Tax and Incentives
frank.sangster@kpmg.co.uk
+44 (0) 20 7311 2448

Andrew Cox
M&A Transaction Services
andrew.f.cox@kpmg.co.uk
+44 (0) 20 7311 4817

Tim Jones
Carbon Efficient Supply Chain
timothy.jones@kpmg.co.uk
+44 (0) 20 7311 2657

Lynton Richmond
Carbon Accounting and Assurance
lynton.richmond@kpmg.co.uk
+44 (0) 20 7311 4701

David Simpson
Corporate Finance and Renewables
david.r.simpson@kpmg.co.uk
+44 (0) 20 7311 8909

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