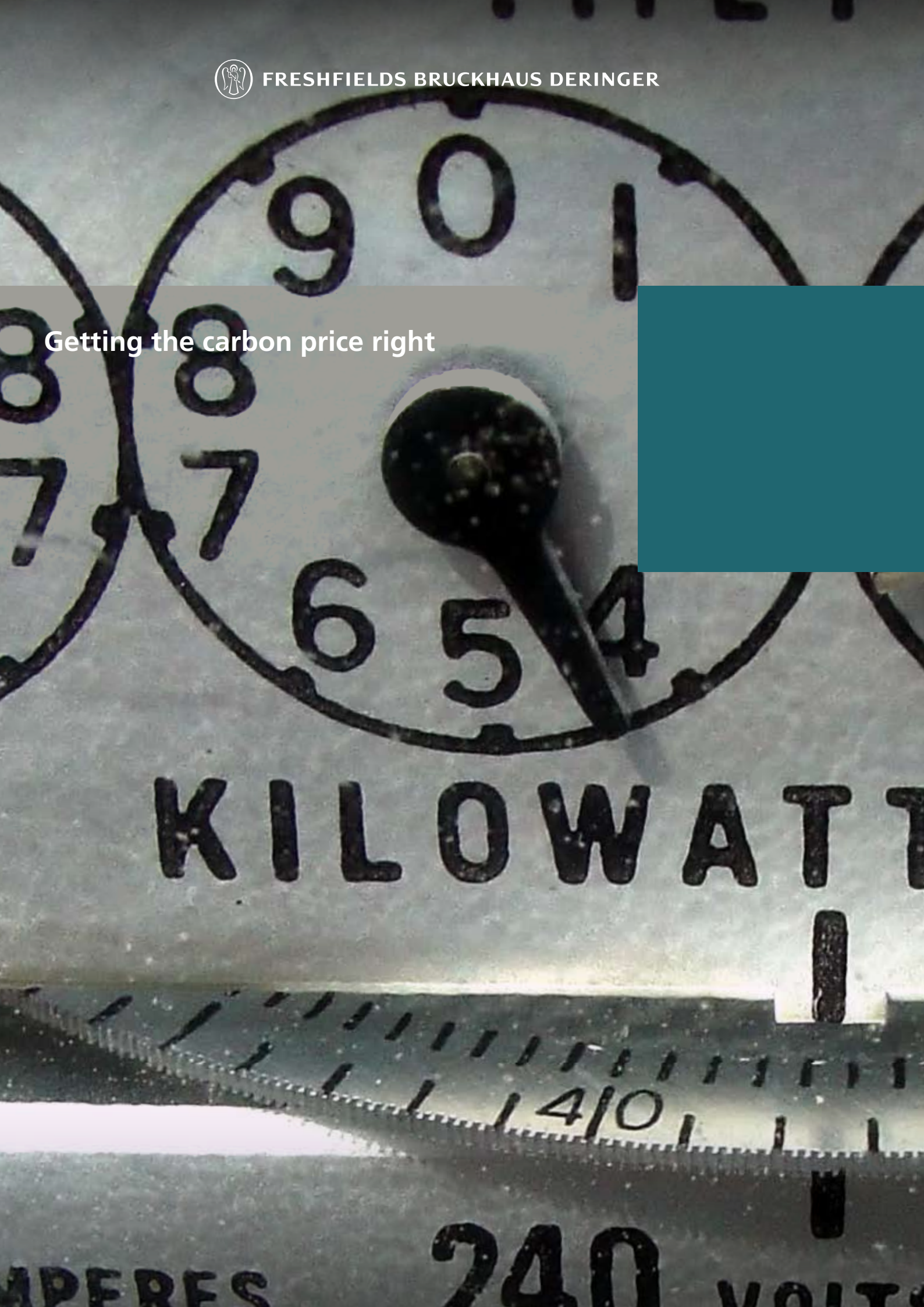




## Getting the carbon price right





The private sector will have to deliver the vast emissions reductions required to achieve the transition to a global low carbon economy.

This briefing aims to uncover the importance of getting the price right and the effects it will have on the market.

## Introduction

The Kyoto Protocol to the United Nations Framework Convention on Climate Change will expire in 2012. Governments around the world are gearing up to meet in Copenhagen this December and negotiate a political agreement about what to do after 2012. Originally, the conference was envisioned as the birth place of a new successor treaty to stem global greenhouse gas emissions. However, this has now been ruled out and Copenhagen has acquired the more modest aim of providing a stepping stone to such a successor treaty. Progress has been slow, not least because the US administration, a key participant in any negotiations leading to a post-Kyoto regime (and the only developed country not to have ratified Kyoto), is hobbled by domestic divisions on the issue of how to tackle climate change.

The only thing that most countries seem to agree on is that the private sector will have to deliver the vast emissions reductions required to achieve the transition to a global low carbon economy. This will be no small feat: the International Energy Agency estimates that \$500bn of additional investment will be required every year from now until 2030 if emissions are to be reduced in line with scientific recommendations.

Governments therefore face the challenge of providing the private sector with strong and consistent incentives. Carbon savings, however valuable to the planet, are valuable to individuals only if the regulation is right. This is the rationale behind capping emissions, dividing the cap into tradeable allowances and letting the market participants decide what it is worth to them to emit one tonne of carbon dioxide equivalent.

## Current carbon markets

Under the Kyoto Protocol, industrialised nations have agreed to legally binding emissions reductions. In accordance with a doctrine of 'common but differentiated responsibility', developing countries have not. The Kyoto Protocol introduced different types of market-based mechanisms to supplement domestic efforts and help drive emissions reductions where they can occur at least cost. One of them is the Clean Development Mechanism (CDM), which allows industrialised countries to gain credits through investment in emissions-curbing projects in developing countries. When successfully verified, projects under the CDM produce certified emission reductions (CERs), each representing the avoided emission of one tonne of carbon dioxide equivalent.

The EU's flagship carbon reduction scheme is the EU Emissions Trading Scheme (ETS), which is a cap-and-trade scheme that has been in operation since 2005. It is in its second phase, the end of which coincides with the end of the Kyoto commitment period. A third phase is due to start in 2013, independently of the successful negotiation at Copenhagen of a Kyoto-successor regime. Although the EU ETS sets a gradually tightening cap on EU emissions in energy-intensive sectors, it also creates demand for CERs by allowing them to be surrendered in place of EU allowances to meet compliance obligations.

In the US, various inter-state alliances are setting up their own cap-and-trade systems without waiting for federal legislation. Although a bill is currently in the Senate (the Kerry-Boxer Bill), it is highly controversial and its fate is unclear.

Australia, Canada, Japan and New Zealand are also all in the process of developing domestic cap-and-trade schemes. India and China, the population superpowers, are considering sector-based intensity targets that may incorporate flexible trading elements.

## The role of global carbon markets going forward

At Copenhagen, the EU's position will be based on strong support for the development of an international carbon market to aid the transfer of funds and technology to developing countries. It will be looking for an agreement that builds on Kyoto and incorporates all the essential mechanisms set up under that regime. Although the sums involved are large, the logic of paying developing countries to reduce their emissions remains strong: the World Bank estimates that reducing one tonne of carbon in regulated jurisdictions generally costs between \$15 and \$100, whereas there are still abundant opportunities in developing countries at a cost between \$1 and \$4.

The EU estimates that developing countries will require about €100bn per annum for carbon reduction and adaptation, and proposes that a substantial portion of that sum (60 to 80 per cent) should come from developed nations. This financial assistance is to be delivered by a combination of private finance channeled through the international carbon market and international public finance (much of which is likely to be raised in allowance auctioning). Given the state of the global economy, it is likely that governments will be keen to keep direct public finance as low as possible. This increases the importance of investor-friendly mechanisms to engage private money through the carbon markets.

## A price that matters

Not all carbon reduction comes at the same price: for example, energy-efficiency measures may actually be economic without a carbon price, whereas development and widespread deployment of new technologies will pay off only if the value of carbon reductions can be reliably monetised in the long term.

Especially in liberal energy markets, where long-term contracts are rare, a low and volatile carbon price is an obstacle to large power generation projects with pay-back periods that can last decades.

For example, carbon capture and storage (CCS) technology allows carbon from coal-fired power stations to be captured and stored underground. Given the continued heavy reliance on coal-based energy by several key emitters – most notably China and the US – this 'clean coal' technology is commonly considered a key component of any comprehensive carbon-reduction package.

However, CCS is expensive. Current demonstration projects are being publicly funded, because the carbon price is nowhere near the level that would make CCS economically viable without more direct subsidies. Estimates of viability vary according to place, technology and various assumptions, but there is a broad consensus that a price of between €40 and €60 will be required in the medium term, with the first generation of projects needing an even greater monetary incentive.

The International Energy Agency estimates that the carbon price in OECD countries would need to be at least \$50 in 2020 and \$110 by 2030 to achieve the investment required for low-carbon growth. By comparison, the EU ETS carbon price has swung between a brief peak at €32 and lows of only a few euros. At the time of writing, it is around €14. In the newly operative US regional greenhouse gas initiative (RGGI), with its more modest reduction goals, the carbon price never exceeded a few dollars.

## Price control through market design

Although a significant carbon price is a necessary condition for markets to drive low-carbon investment, some degree of certainty surrounding the price level is almost equally important.

Like all commodity prices, the carbon price is influenced by many factors. Some are external (such as the price of fossil fuels and economic growth), but market expectations about regulatory trends have an especially prominent role to play, given that the carbon commodity is entirely a creature of regulatory intervention. Investors are experiencing great uncertainty in this regard and it is reasonable to assume that they will always be a little nervous, given governments' general inability to legally bind their successors.

The inherent responsiveness of a free market makes it difficult for regulators to design a framework capable of guaranteeing price stability in any particular range. Advocates of certainty are therefore proposing some more heavy-handed measures. Although such interference might have been controversial a few years ago, especially in the US, the goal of curbing speculation on commodity markets is now part of a popular drive to increase regulatory oversight of financial markets in general.

One way of providing for a minimum carbon price in an ETS with initial allocation by auction is to set a reserve price. This approach has, for example, been adopted in RIGGI (although the reserve price is currently nominal). Another is to implement a price 'corridor', which sets floor and ceiling prices, with the market doing its work in between. The Kerry-Boxer Bill contains such a corridor, with a floor set at \$11 and a ceiling of \$28, and an inflation-plus formula that would increase over time. In this scenario, the government has to act as a kind of central carbon bank, buying allowances when the price hits the floor and selling unlimited allowances at the ceiling price.

Even if a price corridor is too restrictive in the long term or too difficult to administer in a far-reaching, international scheme, it may be an attractive transitional market solution. Regulated entities and other market players could thus start with a period of relative certainty. A related idea suggests a price ceiling in developing countries only. This, again, would require an international regulator to monitor cross-border flows and impose a sort of tailored allowance exchange rate between the jurisdictions.

## Change isn't easy

To be effective, an unmitigated carbon price would entail an enormous and, for some, painful shift in the socio-economic landscape.

The opposition to a high carbon price in developed countries has focused on protecting consumers' high-carbon lifestyles and the jobs that underpin them. For consumers, a significant carbon price means at the very least higher electricity and petrol bills.

If the carbon price were high enough, then energy-intensive, trade-exposed industries in regulated jurisdictions could come under such competitive pressure from their unregulated international competitors that they would be forced to relocate (so-called 'carbon leakage'). The EU's response to this threat has been to promise a continuation of free allowance hand-outs to certain energy-intensive sectors. US legislators have favoured the idea of a border adjustment tariff that would 'level the playing field' for high-carbon imports. If the US pursues this route, it is likely to be only a matter of time before a developing country trading partner challenges the provision as protectionist and contrary to the World Trade Organization's free trade rules.



## Options for a post-Kyoto world

If there is no global deal following the conference in Copenhagen, this is likely to shake the carbon markets. But it does not mean their total demise.

For one thing, the EU is committed, regardless of an international agreement, to continuing with the third phase of the EU ETS. It has expressed strong political will to continue institutional support for flows of finance and technology to developing countries. Therefore, and because European industry relies to some extent on purchasing cheaper CERs to meet its compliance obligations, even if Kyoto mechanisms such as the CDM cease to exist, the projects currently generating credits under those mechanisms would be likely to be subsumed under a new regime.

In addition, sector-specific deals may go some way towards addressing both industrialised countries' concerns about carbon leakage and developing countries' reservations about subjecting their economies to blanket constraints. Such deals might just limit emissions with reference to carbon-intensity targets (carbon emissions per unit of a particular good or per unit of gross domestic product) rather than imposing absolute caps.

The aftermath of Copenhagen may well be a more heterogeneous carbon world, in which the loose international framework of the Kyoto Protocol is replaced by a variety of regional or sectoral schemes.

## Implications

The industries of developed countries would certainly prefer a harmonised approach. To them, a positive outcome at Copenhagen would include a clear political commitment to a broad and transparent carbon market – ideally one in which the price was sufficiently stable to allow investment decisions to be made with some degree of certainty. In the absence of a global agreement, businesses are hoping that the various emerging regimes will be reasonably compatible.

No country is currently putting forward a plan to drive the transition to a low carbon economy purely by incorporating the cost of carbon emissions into fossil fuel prices. Politically, it is far more palatable to subsidise selected low carbon technologies, fund demonstration projects and set technological emissions standards. Governments are legitimately keen to mitigate the social disruption that a sudden increase in the cost of fossil fuels would entail.

However, regulators around the world recognise that for low-carbon growth to be viable in the long term, strong but flexible incentives must be in place to harness private sector cash and innovation. The only solution is to require, by regulatory intervention, an increasing number of economic actors to internalise the cost of carbon.



## Contacts



LONDON  
**Paul Bowden**  
Co-lead partner  
Low Carbon Energy  
T +44 20 7832 7273  
E paul.bowden@  
freshfields.com



BERLIN  
**Wolf Spieth**  
Co-lead partner  
Low Carbon Energy  
T +49 30 20 28 38 91  
E wolf.spieth@  
freshfields.com



HAMBURG  
**Dirk Hamann**  
T +49 40 36 90 62 16  
E dirk.hamann@  
freshfields.com



COLOGNE  
**Juliane Hilf**  
T +49 221 20 50 71 40  
E juliane.hilf@  
freshfields.com



DUBAI  
**Joseph Huse**  
T +971 4 509 9141  
E joe.huse@  
freshfields.com



LONDON  
**Jane Jenkins**  
T +44 20 7832 7280  
E jane.jenkins@  
freshfields.com



LONDON  
**Jonathan Isted**  
T +44 20 7832 7320  
E jonathan.isted@  
freshfields.com



LONDON  
**Sally Roe**  
T +44 20 7832 7277  
E sally.roe@  
freshfields.com

[www.freshfields.com](http://www.freshfields.com)