

CARBON JIGSAW BRIEFING

Carbon Law



The Carbon Jigsaw

Increasingly, ACCA members will need to understand what is happening globally in order to report emissions, monitor reductions or increases, and purchase or sell carbon offsets under emerging trading regimes. ACCA members will need to understand how the carbon crisis will affect businesses, and whether there are investment opportunities to exploit.

The Carbon Jigsaw is a new Web-based initiative to provide ACCA members with the tools to enable them to assess these new risks and opportunities. It aims to keep ACCA members updated on the key issues in the field of climate change and the low-carbon economy. ACCA has worked with several well-established partners in the relevant field to develop content for *The Carbon Jigsaw*, and material will be added regularly.

The Carbon Jigsaw covers the following topics:

- the science of climate change – an overview
- the Stern Review – what it is and its significance
- carbon law – different national legislative frameworks and trading regimes
- the world of carbon business – the market mechanisms and opportunities explained
- carbon in accounting – how the evolving market will affect business accounts and taxation
- carbon reporting and assurance – the increasing requirements and demands for credible carbon disclosures
- the low-carbon future – visions of future businesses.

We encourage you to use the site as an education resource. As this is a rapidly developing field, the content will be updated regularly.

www.accaglobal.com/carbonjigsaw

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INTRODUCTION TO CARBON TRADING

Carbon trading schemes are generally created by laws that restrict the total quantity of greenhouse gases (GHGs) that can be emitted by companies, and then allow those companies to trade units of emission reductions among themselves. Companies that pollute beyond their allocated amount are required to purchase credits, which represent emission reductions occurring elsewhere in the economy – generally, from companies emitting less than their maximum allowance.

HOW DOES AN OFFSET DEAL OCCUR?

Some carbon trading schemes allow for trade in 'offsets'. An offset credit represents an emission reduction that occurs in a sector where reductions in emissions were not required under the scheme. For example, an offset credit may be generated by planting trees which will absorb one tonne of CO₂-e, or by flaring methane gas equivalent to one tonne of CO₂-e from an underground coal mine or landfill site. Company B in the scenario above has the option to purchase offset credits (instead of Company A's emission allowances) to comply with its regulatory obligations. Ultimately, this decision will be a commercial one for Company B based on the prices of each type of credit.

Example

Two companies may each be permitted to emit 50 tonnes of carbon dioxide equivalent (CO₂-e) in a given year. With minimal investment in new technology or the implementation of low-cost energy-efficiency strategies, Company A can reduce its emissions to 40 tonnes of CO₂-e in one year. Company B, by contrast, may have sunk investments in large-scale infrastructure, making it prohibitively expensive to reduce its emissions below 60 tonnes of CO₂-e in the same year.

Under a carbon trading scheme, Company A would be entitled to sell its excess emission allowances to Company B at the prevailing market price, permitting Company B to meet its regulatory obligations without reducing its own on-site emissions. Company A thereby profits from its investment in emission-reducing strategies. The overall objective of having just 100 tonnes CO₂-e emitted by the two companies has been achieved, but with minimal cost to the economy or the competitiveness of the two firms involved.

INTERNATIONAL LEGAL FRAMEWORK

UNFCCC AND THE KYOTO PROTOCOL

The United Nations Framework Convention on Climate Change (UNFCCC) is a multilateral convention aimed at stabilising greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Rather than setting binding targets, the UNFCCC sets an overall framework for intergovernmental efforts. It enjoys near-universal membership, with 192 countries having ratified it, and entered into force on 21 March 1994.

The Kyoto Protocol came into being on 11 December 1997 at the third Conference of the Parties to the UNFCCC, and entered into force on 16 February 2005. It places binding emission reduction targets on 37 developed countries (known as Annex I Parties), each of which is required to reduce its emissions by an average of 5.2% below 1990 baseline levels between 2008 and 2012. Details and rules about implementation of the Kyoto Protocol are contained in the Marrakesh Accords, which consist of decisions made by the Conference of the Parties in its seventh session, held at Marrakesh, Morocco in 2001.

FLEXIBLE MECHANISMS UNDER THE KYOTO PROTOCOL

At the 'apex' of the carbon market system is the compliance market created by the Kyoto Protocol. The Protocol creates three flexible mechanisms for use by countries in meeting their emissions targets:

- emissions trading
- Clean Development Mechanism (CDM) and
- Joint Implementation (JI).

EMISSIONS TRADING

The emissions trading mechanism is essentially a cap-and-trade system which allows for trading of allowances between countries with reduction targets. Only Annex I Parties to the Kyoto Protocol with reduction commitments may participate in such trading. The units that may be transferred, each equal to one tonne CO₂-e, may be in the form of:

- an assigned amount unit (AAU) issued by an Annex I Party on the basis of its assigned amount pursuant to articles 3.7 and 3.8 of the Protocol
- a removal unit (RMU) issued by an Annex I Party on the basis of land use, land-use change and forestry activities under articles 3.3 and 3.4 of the Protocol
- an emission reduction unit (ERU) generated by a JI project under article 6 of the Protocol, or
- a certified emission reduction (CER) generated from a CDM project activity under article 12 of the Protocol.

Annex I Parties may also authorise legal entities (eg companies and non-governmental organisations) to participate in emissions trading.

CLEAN DEVELOPMENT MECHANISM (CDM)

According to article 12 of the Kyoto Protocol, the CDM has the purpose of:

- assisting developing countries in achieving sustainable development and in contributing to the ultimate objective of the UNFCCC, and
- assisting developed countries in achieving compliance with their quantified emission limitation and reduction commitments.

It allows entities from Annex I (developed) Parties to develop emission-reducing projects in non-Annex I (developing) countries and generate CERs corresponding to the volume of emission reductions achieved by that project. Those CERs can then be traded in the global market or used for compliance under the Kyoto Protocol.

Project activities under the CDM must be:

- hosted by non-Annex I Parties that have ratified the Kyoto Protocol and established a designated national authority (DNA)
- developed by public or private entities authorised by the relevant host Party and Annex I Party involved in the project activity
- validated by a designated operational entity (DOE) in accordance with the CDM project eligibility and participation requirements, including the use of an approved baseline and monitoring methodology

- registered by the CDM Executive Board after review by a Registration and Issuance Team to ensure compliance with the international rules, and
- once commissioned and operational, verified and certified by a DOE as resulting in real, additional, measurable and verifiable reductions in greenhouse gas emissions below an approved business-as-usual baseline.

CERs issued by the Executive Board are sold and purchased under private commercial arrangements between the project participants and transferred between Annex I Parties via the international transaction log (ITL).¹

The largest proportion of CERs are generated in Asia. South America and Africa (particularly South Africa and Egypt) also account for some project-based credits, but these regions remain significantly underrepresented.

Although the Kyoto Protocol itself binds nation states only, the private sector is currently the dominant buyer in the project-based market. In addition to those entities, frequire credits to satisfy their own compliance obligations, other private market buyers include carbon procurement funds, banks and other financial institutions.

1 For further details about the CDM rules, please see the CDM Rulebook at <http://www.cdmrulebook.com>.

JOINT IMPLEMENTATION

The JI mechanism allows industrialised countries with greenhouse gas reduction commitments to fund emission reduction projects or projects that enhance removal of greenhouse gases by sinks in other industrialised countries, as an alternative to reducing emissions in their own countries. An Annex I Party can also authorise companies to participate in JI projects. The purpose of Joint Implementation is twofold:

- to enable the transfer of activities, technologies and techniques to countries hosting the projects; this contributes to sustainable development and to those countries' commitments under the Kyoto Protocol, and
- to reduce the costs of emission reductions for countries funding the projects, bearing in mind that the global environmental impact of emission reductions is the same irrespective of their origin.

Article 6(1) of the Kyoto protocol requires that:

- all parties to a JI project approve the project
- the reductions or removals achieved by the project are additional to those that would have otherwise been achieved in its absence (in other words, the project would not be financially viable without carbon revenue streams and is not required under any law that is widely enforced), and

- JI activities are only supplemental to emission reduction initiatives in the investor country.

Parties that participate in JI projects generate emissions credits known as ERUs. ERUs can be purchased by a country to ensure compliance with its Kyoto targets or for further sale on the international emissions trading market. ERUs generated by JI projects are not 'new' carbon assets, but rather are converted from AAUs. This means that, before a country decides to host a JI Project, it needs first to be sure that it is not going to need the AAU for its own compliance purposes.

Ukraine and Russia dominate the JI market, each responsible in 2007 for approximately one third of the market share.² Other countries – and not only in Eastern and Central Europe, but also New Zealand for instance – have also taken part in the market, although to a lesser extent.

POST-2012 INTERNATIONAL AGREEMENT

The first commitment period of the Kyoto Protocol expires in 2012. It is important to note, however, that the Protocol itself (including the CDM and JI) will not cease to exist after 31 December 2012. As an international agreement it has no sunset date, although post-2012 targets have not yet been established.

The Bali Action Plan devised at the thirteenth Conference of the Parties lays the groundwork for negotiations, to be concluded in Copenhagen in 2009 (at COP 15), on a future international agreement to commence after 2012. The Bali Action Plan gives some clues as to the nature of a post-2012 agreement. For instance, the document refers specifically to 'cooperative sectoral approaches and sector-specific actions', indicating that the first stage of emissions commitments by developing countries may be restricted to specific sectors (the steel or energy industries, for example). It was hoped that further progress towards a post-2012 plan would be made at the 2008 Poznan conference, but few significant developments emerged and the international community now awaits the results of the Copenhagen negotiations.

² The World Bank, State and Trends of the Carbon Market 2008, <http://siteresources.worldbank.org/NEWS/Resources/State&Trendsformatted06May10pm.pdf>.

DOMESTIC LEGISLATIVE AND POLICY FRAMEWORKS

EUROPEAN UNION (EU)

EU ETS

The EU-15³ took on a joint target under the Kyoto Protocol to reduce their collective emissions by at least 8% below 1990 levels in the Protocol's first commitment period (2008–2012). Within this overall target, each EU-15 member state has a differentiated reduction target; some are required to reduce emissions while others are allowed a limited increase. New member states have individual targets.⁴

In June 2000, the EU launched its European Climate Change Programme (ECCP), which aimed to identify and develop all the necessary elements of an EU strategy to implement the Kyoto Protocol and achieve the EU-15 joint target. The centrepiece of the ECCP is the EU Emissions Trading Scheme (EU ETS), which covers carbon dioxide (CO₂) emissions from some 11,500 heavy emitters in the power generation and manufacturing sectors (accounting for approximately 40% of the EU's annual emissions). In June 2008, the EU agreed to extend coverage of the EU ETS to include aviation, beginning in 2012. The EU ETS, which has operated since 2005, has essentially functioned as a trial market for the global carbon trading regime.

The EU Directive that implements the EU ETS⁵ requires that each participating country propose a National Allocation Plan. The Plan sets caps for those facilities (called 'Installations') that are caught by the Scheme. Installations are allocated 'EU Allowances' (EUAs) up to the level of the cap, with each EUA representing the right to emit one tonne of CO₂-e. For Phase III of the EU ETS (2013-20), the use of NAPs will be replaced by a single EU-wide cap, distributed according to harmonised rules. Under the trading scheme, excess allowances held by Installations, as well as some credits generated through CDM and JI projects, are eligible to be traded and ultimately surrendered for compliance. Installations that exceed their individual limit are able to buy unused allowances from firms that have taken steps to cut their emissions. Each year, the Installations must surrender (essentially give back to the government) a number of emission allowances equivalent to their greenhouse gas emissions. Those Installations that exceeded their limit and did not buy spare allowances were fined €40 in the first phase (2005–7), and this penalty has increased to €100 for every excess tonne of CO₂-e emitted for the second phase of the Scheme (2008–12).

³ The 15 Member States in the EU before the enlargement in 2004: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom. Note that the EU-27 does not have any formal, joint target.

⁴ Except Cyprus and Malta, which have no targets.

⁵ Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC (as amended).

Despite encountering some fairly significant teething issues, the first phase of the Scheme experienced explosive growth and demonstrated to the international business community that significant opportunities are available in carbon markets. In 2007, the European market was worth over US\$50 billion (€37 billion).

On 17 December 2008 the European Parliament adopted a proposal to amend the EU ETS Directive as part of a package of climate and energy proposals (the 'Green Package'). The adopted package includes agreed text for a Directive governing Phase III of the EU ETS, which provides for a number of substantial amendments to the emissions trading scheme.⁶ The Phase III changes include, most notably, the expansion of the EU ETS to cover new sectors and gases, the harmonisation of allocation rules among member states and the adoption of auctioning as the primary method of allocation of allowances. The proposed changes are already having a significant effect on the CDM market, and may lead to long-term changes in the demand for CERs (and ERUs) in the EU ETS. Under the Green Package, the EC's target for 2020 will vary depending on whether a 'satisfactory' post-2012 international agreement is reached.

If such agreement is reached, the EC will adopt a target of a 30% reduction in emissions below 1990 levels by 2020; if not, pledged reductions will be limited to 20% below 1990 levels. The Phase III ETS Directive will be formally adopted as European legislation in 2009 upon publication in the EU Official Journal. Member states will be obliged to implement certain (reporting) provisions in the Directive by the end of 2009, with further implementing measures required before the commencement of the third phase of the EU ETS in 2013 (which is expected to continue for eight years, until 2020).

Other EU policy/legislation

The EU has also developed a policy and regulatory framework designed to encourage the uptake of renewable energy. It has issued legislation requiring member states to implement national indicative targets for the generation of electricity from renewable energy sources⁷ and for the use of biofuels.⁸ Currently, an indicative EU-wide target is set which aims to facilitate the generation of 12% of gross national electricity consumption for each member state from renewable energy sources by 2010.

In response to the EU-level renewable energy policy, most member states (such as the UK, as discussed below), have developed their own renewable energy policy instruments.

Although recognising that many of the tools that promote energy efficiency, such as grants and tax incentives, fall within the domain of member states, the EC has taken a lead in developing strategies and legislation to achieve further energy efficiency in the region. On 17 December 2008, the European Parliament adopted a new Directive on the Promotion and use of Energy from Renewable Sources (New Renewables Directive) as part of the Green Package. This Directive, which will initially replace parts of, and eventually fully repeal, the existing Renewables Biofuels Directives, will enter into force 20 days after publication in the Official Journal of the EU. The new Directive aims to facilitate the achievement, by 2020, of an overall EU renewable energy target of 20% of electricity consumption and a 10% binding minimum renewable energy target for transport.

⁶ See European Parliament legislative resolution of 17 December 2008 on the proposal for a Directive of the European Parliament and of the Council amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading system of the Community (COM(2008)0016 - C6-0043/2008-2008/0013(COD)).

⁷ Directive 2001/77/EC of the European Parliament and of the Council of 27 September 2001 on the promotion of electricity produced from renewable energy sources in the internal electricity market (Renewables Directive).

⁸ Directive 2003/30/EC of the European Parliament and of the Council of 8 May 2003 on the promotion of the use of biofuels or other renewable fuels for transport (Biofuels Directive).

UK

EU ETS

Each EU member state has put in place its own domestic legislation and policies that build on the ECCP measures or complement them, in order to enable them to meet their national targets. The UK's Climate Change Programme, revised in 2006, sets out policies and priorities for action within the UK and internationally to enable the UK to achieve its legally binding national target of cutting greenhouse gas emissions by 12.5% from 1990 levels in the period 2008 to 2012. With the approval of the EU Green Package, the UK (like other EU member states) will be required to implement new domestic measures before the start of Phase III of the ETS in 2013.

Climate Change Act

On 26 November 2008, the UK Climate Change Act 2008 received Royal Assent. The Act creates a long-term legal framework to enable the UK to reduce carbon emissions and adapt to climate change. Among other things, the Act introduces a carbon budgeting system to cap emissions for five-year periods and sets a long-term emission reduction target to reduce emissions by at least 26% below 1990 levels by 2020 and at least 60% below 1990 levels by 2050.

Carbon Reduction Commitment (CRC)

The Act also enables the UK government and devolved administrations to introduce new domestic emissions trading schemes through secondary legislation. The Act introduces a mandatory emissions trading scheme, known as the Carbon Reduction Commitment, which is aimed at reducing emissions from large, non-energy intensive organisations in the private and public sectors that fall outside the scope of the EU ETS. Organisations to be included in the scheme include large businesses and public sector organisations, such as government departments, universities, retailers, banks, water companies, hotel chains and local authorities. This will cover approximately 10% of economy-wide emissions.

Organisations will qualify for the CRC depending on whether they meet a defined threshold of electricity use. Participants will be required to monitor and report electricity use, and to purchase and surrender CRC allowances to cover emissions equivalent to that use. The scheme is scheduled to begin in April 2010, with a three-year introductory phase (involving simple fixed-price auctioning of allowances). The first capped phase will begin in 2013.

Other UK policy/legislation

To meet its obligations under the EU Renewables Directive, the UK government has introduced the 'Renewables Obligation', which requires licensed electricity suppliers to source an increasing proportion of electricity from renewable sources. The government has recently announced its intention to extend the Renewables Obligation from its current end date of 2027 to at least 2037, as part of its new Renewable Energy Strategy. The immediate aim of the Strategy is to meet the UK's target of 15% total renewable energy contribution to all electricity supplies by 2020 proposed by the EU in its Green Package. Other recent developments in renewable energy in the UK include the introduction of feed-in tariffs for small-scale electricity generation and financial incentives for renewable heat, both introduced with the passage of the Energy Act 2008. The UK has also implemented its obligations under the EU Biofuels Directive through the Renewables Transport Fuel Obligations Order. Under the Order, refiners, importers and any other suppliers of hydrocarbon oil are required to source a percentage of renewable transport fuels, which increases from year to year.

UNITED STATES

State and national action

The United States is one of the largest emitters of greenhouse gases in the world, and the only major developed nation that has not ratified the Kyoto Protocol. Shortly before finalisation of the Protocol in 1997, the US Senate unanimously passed the Byrd-Hagel Resolution, forcefully rejecting Kyoto and any other multilateral treaty that sought to impose mandatory caps on its domestic GHG emissions. The US position at the time was that to do so would be inequitable in circumstances where developing countries were not required to take on similar commitments. This policy line, which continued to be held under the Bush administration, has affected the reach of the Kyoto Protocol and the potential for US businesses to participate in global carbon markets. It has not, however, deterred American States from taking individual and collective action on climate change, with a number of voluntary and legislative regimes emerging at State/City level over the past ten years. More than half the states of the USA are now involved in 'state to state' carbon trading schemes.

The most significant of these include the following:

Chicago Climate Exchange (CCX): a voluntary cap-and-trade scheme launched in 2003, under which companies, municipalities and other participants adopt a voluntary, but legally binding commitment to meet annual GHG emission reduction targets (which aim to reduce aggregate emissions by 6% below a set emissions baseline by 2010). To date, the exchange has more than 350 members, ranging from corporations such as Ford, DuPont and Motorola, to states and municipalities, educational institutions and farmers and their organisations.

Regional Greenhouse Gas Initiative: a regional cap-and-trade programme between ten north-east and mid-Atlantic states initially covering carbon dioxide emissions from power plants in the region. The initial target is to cap CO₂ levels at 1990 levels by 2015 and reduce CO₂ emissions by 10% by 2019. The scheme was formally launched on 1 January 2009.

Western Climate Initiative: a collaboration between the western states, including Arizona, California, New Mexico, Oregon, Utah, Washington and Montana, and certain Canadian Provinces to develop regional strategies to address climate change. The partner states set an overall regional goal to reduce GHG emissions by 15% below 2005 levels by 2020, and work on the market-based scheme design is currently underway.

Californian State Initiatives: in 2006, California enacted the Global Warming Solutions Act 2006, which requires the California Air Resources Board to develop regulations and market mechanisms that will ultimately reduce California's greenhouse gas emissions by 25% by 2020. Mandatory caps will begin in 2012 for significant sources and ratchet down to meet the 2020 goals. The scheme further aims to reduce emissions to 80% below 1990 levels by 2050.

Outside these state- and city-based initiatives, over recent years there has been an ever-growing impetus, at industry and political levels, towards the federal regulation of GHG emissions in the US. Corporations and industry bodies, such as the US Climate Action Partnership (which includes many of the world's largest companies, including Shell, Rio Tinto, GE, Alcoa, Ford Motors) are increasingly calling for real action on climate change, recognising the economic opportunities and competition benefits that emissions trading has to offer for lowest-cost abatement and technological initiative.

With the election of the Obama administration the US stands at the brink of significant change in relation to the climate change issue. President Obama has committed his government to the introduction of climate change legislation, including mandatory emission reduction targets and a national emissions trading scheme. As part of the ten-year, \$150 billion, Obama–Biden 'New Energy for America Plan' President Obama has proposed the implementation of an economy-wide cap-and-trade programme to reduce greenhouse gas emissions by 80% below 1990 levels by 2050.

Given the change in administration, it appears inevitable that the United States will enact a federal climate change law that sets nationwide emission reduction targets and makes provision for the establishment of a national emissions trading scheme. The more pressing question for corporations is when such a scheme will be put in place. Depending on the targets established, a national emissions trading scheme is likely to create a significant market for carbon, and significant opportunities for American companies to achieve least-cost abatement and to commercialise new, efficient or alternative technologies.

Other US policy/legislation

In addition to the proposed cap-and-trade scheme, other features of the Obama–Biden 'New Energy for America Plan', include:

- the provision of short-term relief to American families to address rising petrol prices
- assistance in the creation of five million new jobs by strategically investing \$150 billion over the next ten years to catalyse private efforts to build a clean energy future

- plans to eliminate the United States' dependency on Middle Eastern and Venezuelan oil imports by 2019, including through the promotion of biofuels
- a plan to put one million Plug-In Hybrid cars on the road by 2015
- the development and deployment of clean coal technologies, and
- setting targets to ensure that 10% of the country's electricity comes from renewable sources by 2012, and 25% by 2025.

CHINA

Participation in the Kyoto markets

Recent estimates suggest that China has overtaken the US to become the largest emitter of carbon dioxide in the world. Under the Kyoto Protocol, China does not have a mandatory emissions reduction target. It is, however, an active participant in the global Clean Development Mechanism market. In late 2007, China launched a CDM Fund, to support trading of carbon emissions under the Kyoto Protocol. The fund aims to raise money for new projects and generate revenue from existing projects to support energy efficiency and clean power initiatives. According to recent United Nations data (January 2009), 1,314 projects have been registered under the Clean Development Mechanism (CDM), with annual average CER production of 244.7 million and expected CER tonnage of approximately 1.4 billion by 2012. In addition, 117 projects with expected CER production of 870 million tonnes await registration.

Other Chinese policy/legislation

Despite not being bound by emission reduction targets under Kyoto, China has set its own climate change targets. In June 2007, China released its National Climate Change Programme, which adopts binding targets for renewable energy and energy efficiency.

By 2020, China aims to achieve:

- 20% reduction of energy consumption per unit GDP
- 10% increase in the proportion of renewable energy (including large-scale hydropower) in primary energy supply, and
- 20% improvement in energy efficiency.

China's central government has also given some indication that it may currently be considering introducing a national emissions trading scheme. On 6 March 2008, Mu Huaipeng, director of the Central Bank's financial market department, said that 'China has attained the necessary conditions for setting up a trading exchange for pollutant discharge permits'. On 6 June 2008, the Central Bank released a tentative draft emissions-trading proposal that could apply to various pollutants, including greenhouse gases. The draft emissions trading proposal suggests that China should determine a national goal for reducing pollution, have regional authorities determine quotas for businesses and put in place a system with controls at the national, provincial and city levels.

Several provincial and city-level governments have developed sulphur dioxide emissions trading schemes in order to achieve domestic air pollution

abatement, and a number of exchanges have been set up to accommodate trades under these schemes. On 23 December 2008, the first Internet-based trade of a sulphur dioxide emission right was concluded on the Tianjin Emissions Exchange.

China has also developed a Renewable Energy Law, which came into effect on 1 January 2006. The law aims to boost China's renewable energy capacity to 15% by 2020 and outlines a commitment to invest US\$180 billion in renewable energy over this period. The law requires power grid operators to purchase all the electricity generated by approved renewable energy facilities located in its service area, and to provide grid-connection services and related technical support. To overcome the high costs of renewable energy power generation, compared with conventional power, the law establishes price support mechanisms, which vary for each type of renewable energy, and cost sharing arrangements. Additionally, the law offers financial incentives, such as a national fund to foster renewable energy development, and discounted lending and tax preferences for renewable energy projects. The PRC government has also set a national target to improve energy efficiency by 20% over 2005 levels by 2010, and several other individual targets to encourage the uptake of renewable energy technologies and energy efficiency measures.

JAPAN

Emissions trading

Japan is the latest country to announce the proposed introduction of a mandatory domestic cap-and-trade emissions trading scheme. Voluntary emissions trading has been taking place in Japan for a number of years under schemes operated by the Japanese Ministry of Environment and the Japan Federation of Economic Organisations (the latter known as the 'Keidranan Scheme'). In June 2008, the Japanese Prime Minister announced that Japan would introduce mandatory emissions trading on a trial basis as part of Japan's announced policy plan to cut greenhouse gas emissions by between 60% and 80% by 2050. An outline of the emissions trading scheme was published in July 2008 and participants are now being solicited. At present, participation in the Trial ETS is completely voluntary, and no penalties will be imposed on participants that fail to achieve their emission reduction targets.

Independently of the national government's coordinated efforts to combat global warming, the Tokyo metropolitan government has recently passed legislation⁹ that will introduce a

mandatory ETS within the capital in April 2010. The cap-and-trade programme will impose carbon dioxide emission reduction targets on entities that consume 1,500 kilolitres of crude oil equivalent per year. This is likely to affect approximately 1,300 large local business establishments. Through the Scheme's introduction and strengthening of complementary policy measures, the Tokyo metropolitan government aims to achieve its target of cutting annual CO₂ emissions in the capital by 25% – or 15 million tonnes – from 2000 levels by 2020.

The Japanese government has also recently enacted specific legislation to allow financial institutions to participate in emissions trading (which was not previously permitted under Japanese law), opening up significant opportunities for financial institutions in Japan's growing carbon market.

Other Japanese policy/legislation

On the policy front, Japan has announced a 'Low-carbon Technology Plan', through which the country will invest US\$30 billion over the next five years, as well as the establishment of a financial mechanism called the 'Cool Earth Partnership' under which Japan will provide US\$10 billion to assist the

implementation of energy efficiency measures and renewable energy technologies in developing countries.

Once world-leader in the development of solar technologies, Japan has also set ambitious (though non-binding) solar energy generation goals that aim to achieve a tenfold increase in present generation by 2020 and an increase of forty times present levels by 2030. It is anticipated that meeting these targets will require the installation of a number of mega solar power generation facilities as well as uptake of solar technologies in more than 70% of newly built, privately owned homes. Japan has also committed to a number of demand-side abatement measures, including its pledge to replace all incandescent light bulbs with energy-efficient globes by 2012, create incentives for the development and use of energy-efficient technologies, and introduce mandatory energy efficiency requirements for residential and commercial buildings. The Japanese government also intends to consider the prospect of introducing tax incentives for restricting CO₂ emissions from cars, household appliances and housing construction.

⁹ Which will revise the Tokyo Environmental Security Ordinance.

AUSTRALIA

Carbon Pollution Reduction Scheme

Australia is currently undergoing a significant legal and political shift in its approach to climate change and the reduction of greenhouse gas (GHG) emissions. One of the Labor government's first official acts when elected to power in late 2007 was to ratify the Kyoto Protocol, thereby drawing Australia into the existing Kyoto Protocol framework of mandatory emission reduction targets and flexible mechanisms with which to meet those targets. Australia is now required under international law to comply with its Kyoto target, which allows for an 8% increase in Australia's greenhouse gas emissions above 1990 levels. It has also committed itself to a long-term target of reducing greenhouse gas emissions to 60% of 2000 levels by 2050. Although a recent assessment indicates that Australia is on course to comply with its 2012 Kyoto target, achieving compliance is dependent upon the success of a number of domestic greenhouse gas reduction measures.

The centrepiece of Australia's greenhouse gas reduction strategy will be the introduction of a domestic cap-and-trade emissions trading scheme, which is scheduled to commence on 1 July 2010. Detailed design features of the ETS, which will be known as the Carbon Pollution Reduction Scheme (CPRS), are set out in the Federal government's Carbon Pollution Reduction Scheme: Australia's Low Pollution Future White Paper (the White Paper) which was released on 15 December 2008. The White Paper sets out the Federal government's policy position in relation to a mid-term target

range for national emissions (a 5% to 15% reduction below 2000 levels by 2020) and outlines the scheme architecture, including the assistance that will be provided to certain particularly affected industries and households to smooth the transition to a lower-carbon economy.

The White Paper confirms that the Scheme will have broad coverage, capturing approximately 75% of Australia's emissions and imposing obligations upon around 1,000 entities in the stationary energy, transport, industrial processes and waste sectors. Fugitive emissions from oil and gas production will also be covered, with forestry covered on an opt-in basis. The agriculture sector will be considered for inclusion in 2013. Those facilities in covered sectors whose Scope 1 emissions are greater than 25,000 tonnes of CO₂-e will be required to acquire and acquit permits under the Scheme. The government has indicated that legislation implementing the emissions trading scheme will be tabled in Parliament around mid-2009, following a public consultation on an exposure draft of the legislation which was released in March 2009. Early forward trades of emission reductions are already occurring in Australia in anticipation of the Scheme's commencement.

The CPRS will be underpinned by data collected under the National Greenhouse and Energy Reporting Act 2007 (Cth) (NGER Act). This Act, passed on 28 September 2007, imposes mandatory registration and reporting obligations on companies whose greenhouse gas emissions, energy consumption or energy production meet certain

thresholds. The reporting year is based on a financial year, with the first reporting year having commenced on 1 July 2008.

Other Australian policy/legislation

The uptake of renewable energy is promoted in Australia in several ways, both at the national and state level. The primary national incentive is a renewable energy target with tradeable renewable energy certificates. Australia has committed to ensuring that 20% of the country's electricity supply comes from renewable energy by 2020. To fulfil this commitment, the government is establishing an expanded National Renewable Energy Target (NRET) scheme in cooperation with state and territory governments. Draft legislation to expand the existing Mandatory Renewable Energy Target (which had a goal of 9,500 gigawatt hours (GWh) of new renewable energy generation) was released by the Federal government and the Council of Australian Governments for public consultation in December 2008.

The changes set out in the draft legislation are proposed to take effect from 1 July 2009, with a proposed scheme end date of 1 January 2031. The proposed legislation sets out annual targets for renewable energy, expressed in gigawatt hours (GWh). The targets ramp up slowly each year from 2010, and more quickly from 2015 to 2020. The targets then plateau at 45,000 GWh until 2024, before ramping down to 23,000 GWh by 2030. There are no specific targets proposed for different types of renewable energy. Once developed, the Scheme will replace the existing Mandatory Renewable Energy Target and various state targets.

Other initiatives designed to complement the NRET Scheme include a \$500 million Renewable Energy Fund, which will develop, commercialise and deploy renewable energy in Australia; \$150 million for solar and clean energy research; and more than \$500 million for the Solar Cities, National Solar Schools, and Green Precincts initiatives. To promote the uptake of solar energy, feed-in tariffs have recently been adopted by a number of state governments.

Energy efficiency regulation is another (relatively recent) development in Australian jurisdictions. Victoria and South Australia both have energy efficiency targets that are underpinned by legislation, while other states are in the process of developing such schemes. The Commonwealth, New South Wales, Victoria and Queensland all have energy efficiency reporting schemes underpinned by legislation.

NEW ZEALAND

Emissions Trading

Shortly after the election to power of the National Party in November 2008, the incoming Prime Minister agreed to pass legislation immediately putting the nation's forthcoming cap-and-trade carbon trading scheme on hold, pending a review of all proposed carbon reduction measures. The government has now announced that no such legislation will be passed. Instead, the Emissions Trading Scheme established under the previous Labour leadership (NZ ETS) will continue in its current form while a special select committee conducts a review of the scheme. Although the select committee review is considering alternatives to an ETS, post-election comments by the Prime Minister, John Key, and senior party members strongly suggest that the newly elected government intends to proceed with an ETS. The government has indicated that any amendments to the NZ ETS arising from the review will be passed into law by September 2009.

The cap-and-trade scheme as currently proposed covers all six greenhouse gases, but will be phased in sector by sector over five years, starting in 2008 with the forestry industry (which has been covered retrospectively as from January 2008). The stationary energy sector (which includes emissions from fuel consumption for electricity generation, fuels consumed in the manufacturing, construction and commercial sectors, and other sources like domestic heating) and industrial processes sector will be brought under the scheme in 2010, and it is proposed that a generous free allocation of

permits be awarded to major industries that cannot pass on their emissions costs to cover price increases in electricity, gas and coal. Liquid fossil fuels (mainly transport) were originally intended to be brought into the scheme in 2009, however this date has been pushed back to 2011. There will be no free allocation of permits to the transport industry, as price increases will be passed through to consumers. Controversially, agriculture, waste and other emissions will not be covered until 2013. Agriculture alone is responsible for 49% of New Zealand's total emissions, but the late start date is because the government is honouring previous representations to the sector that it would not tax agriculture before 2013. The proposed penalty for non-compliance is NZD 30 for each unit that is not surrendered by the due date.

It is intended that the NZ ETS will allow both sales to, and purchases from, international trading markets. There are some exceptions on acceptable unit types, for example, the proposed legislation specifically excludes CERs from nuclear projects, and temporary CERs from forestry CDM projects. There are also restrictions on the surrender of any imported AAUs after 2012. According to the nation's climate change minister, linking the scheme will widen the market for carbon offsets available to local industry and help reduce carbon prices.

ABOUT THE AUTHORS

Baker & McKenzie is the world's leading global law firm. We provide sophisticated, commercially realistic legal advice and services to many of the most dynamic and successful organisations in the world.

With more than 3,900 lawyers, supporting professionals and staff – located in 39 countries – we have the knowledge, resources and technology to consistently and seamlessly deliver the broad range of quality legal services required for international and local business activities.

Baker & McKenzie was the first law firm to recognise the importance of global efforts to address climate change and the importance of such legal developments to our clients. The future will be increasingly carbon constrained requiring major technological shifts and creating not only serious liabilities but presenting tremendous opportunities. For more than ten years, we have worked on numerous pioneering deals, including the first carbon contracts and the largest CDM transaction to date. From governments to financial and multilateral institutions — including the World Bank, EU, and UN — we continue to advise the world's climate change policy and market makers.

We have assisted on the most number of climate change deals around the world, earning us the Top Legal Advisor on CDM/JI award from New Energy Finance in 2007 and 2008. Ours is the only firm repeatedly recognised by Environmental Finance as a legal leader in the carbon market, naming us the Best Law Firm for GHG Emissions Kyoto Project Credits (JI and CDM), Best Law Firm GHG Emissions Voluntary Markets and Best Law Firm GHG Emissions Australasian Markets in 2008. With our exhaustive knowledge and successful track record, Chambers Global Directory of Leading Lawyers 2008 and 2009 ranks our practice at the top.

Our firm has been at the forefront of global climate change law. And with deep local roots in 80 percent of the world economy, we understand how it interacts with existing domestic policies. Our fluent knowledge enables us to help regulators and institutions develop tools to build capacity and market infrastructure, including the United Nations Environment Program's CDM legal guidebook and the EU Commission's carbon trading registry.

We employ a holistic approach to carbon transactions, combining our capabilities in securities, finance, tax, M&A and public law to ensure efficient solutions for clients. Our more than 300 environment lawyers seamlessly collaborate across borders and practices, delivering innovative yet pragmatic advice on voluntary carbon and joint implementation markets. From development and financing of carbon projects, creation and purchase of voluntary emissions reductions to carbon credit actions, acquisitions and other transactions, we help first-to-market clients on creative and pioneering deals.

Our team has unparalleled legal knowledge on renewable and clean energy projects, from ethanol and biodiesel, to wind, solar and other renewables. Our unique insights and industry experience help clients efficiently and confidently address all aspects of project development and finance. With 69 offices in 39 countries, we advise developers, lenders and investors on the most intricate and market-defining deals in established and emerging markets around the world.

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