June 2010

The carbon market in Japan – An overview of Japan emissions and trading

Reduction targets

In 2005, Japan agreed to a goal of reducing carbon emissions to 6 percent of 1990 levels over the first commitment period 2008-12.

Base year levels were about 1.261 billion tons (CO_2 equivalent). In 2007, emissions levels were 9 percent above this level, at 1.371 billion tons. This was partially due to the substitution of other energy sources following an earthquake that shutdown a nuclear power plant.

Japan greenhouse gas emissions (million tons, CO_2 equivalent)									
1990	**Target**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**
1,261	**1,186**	1,319	1,351	1,356	1,352	1,355	1,337	1,369	1,282

(*Source: The GHGs Emissions Data of Japan*)

The Japanese Government set a goal of purchasing approximately 100 million tons of (CO_2 equivalent) credits, in order to counter a projected shortfall in reductions that would be made domestically to reach the 6 percent goal. New Energy and Industrial Technology Development Organization (NEDO) is the Government body responsible for carbon purchasing.

The purchasing target is close to being achieved, with contracts entered for approximately 96.5 million tons. Green Investment Scheme (GIS) credits are a major component of this, with Czech Republic, Ukraine and Latvia all hosting GIS projects.

Specifically contracts exist to obtain credits from (approximate numbers used):
- Ukraine: 30 million tons
- Czech Republic: 40 million tons
- Latvia: 1.5 million.

Japan has also acquired a further 25 million tons from Clean Development Mechanism (CDM) projects.

The Japanese Government announced in July this year that they will stop purchasing international credits, and therefore any remaining shortfall for the first commitment period will be covered by domestic credits.

What sectors are responsible for emissions?

Industry (factories, etc) is the biggest source of emissions, accounting for 482 million tons of CO_2 emissions in 1990. In 2007, emissions from this sector had decreased to 420 million tons, however, it is still the sector with the largest emissions. In the same period, emissions from both business (office buildings, etc) and households had increased significantly.

CO_2 emissions by sector (million tons, CO_2) (excludes nonenergy-origin CO_2 and other GHGs)		
	1990 (Share)	FY 2008 (Compared to BY)
Industries (factories, etc)	482 (45.5%)	419 (-13.2%)
Transport (cars, ships, etc)	217 (20.5%)	235 (+8.3%)
Commercial and Other (commerce, service, office, etc)	164 (15.5%)	235 (+43.0%)
Residential	127 (12.0%)	171 (+34.2%)
Energy Industries (power plants, etc)	67.9 (6.4%)	78.2 (+15.2%)
Total	**1,059 (100%)**	**1,138 (+7.5%)**

(*Source: National GHGs Inventory Report of Japan [finalised figures]*)

For more details, please see the Greenhouse Gas Inventory Office of Japan website: www-gio.nies.go.jp/aboutghg/nir/nir-e.html

Beyond 2012

At the UN Climate Change leaders meeting on 22 September 2009, (then) Prime Minister Yukio Hatoyama announced that by 2020 Japan would reduce carbon emissions by 25 percent on the 1990 level. This target depends upon other major emitting countries also setting ambitious targets.

Policies proposed by the Democratic Party of Japan in order to achieve this reduction include the introduction of a compulsory Emissions Trading Scheme and a ‘green’ tax. Since January, the Government has also been running the “Challenge 25” campaign to publicly promote emissions reductions and actions that can help achieve this.

Japan Emissions Trading Schemes (J-VETS)

A voluntary emissions trading scheme was launched by the Ministry of the Environment Japan in 2005. The scheme included companies from a number of industries responsible for heavy emissions. The scheme has enabled the development of systems, infrastructure and knowledge required for a broader, compulsory scheme. An overview of the scheme is available on this PDF: http://www.env.go.jp/en/earth/ets/jvets090319.pdf

In the Bill of the Basic Act on Global Warming Countermeasures, the Government has set a deadline of about one year to establish a compulsory system. The Bill was approved by cabinet on 12 March and submitted to Diet. There is some criticism that the Bill potentially allows for unit based caps, and could become difficult to negotiate.

The price of carbon

Japan Bank for International Cooperation (JBIC) and Nikkei began publishing carbon price estimates online from April 2008. These can be accessed at: http://www.joi.or.jp/carbon/h_index.html

Tokyo Cap and Trade Scheme

In the current absence of a national scheme, Tokyo Metropolitan Government has already introduced a compulsory cap-and-trade scheme. This scheme targets approximately 1,110 office buildings and about 300 factories which use energy equivalent to at least 1,500 kilolitres per year (crude oil equivalent). It requires building owners to reduce energy consumption by 6 to 8 percent over the 2010-14 period. Trading is scheduled to begin in 2011. Companies may acquire up to one-third of credits from outside Tokyo. For further information, downloadt his PDF: http://www2.kankyo.metro.tokyo.jp/sgw/tokyo-ws/tokyo-ets_en.pdf

A few other prefectures are also discussing plans for their own prefectural emissions trading schemes.

The carbon offset market

Industry guidelines and emissions verification

In 2008, the Ministry of the Environment published a set of guidelines for offsetting. A number of these have been translated to English and are available at: http://www.j-cof.org/e/index.html

The Ministry of the Environment has also published detailed resources to assist businesses to calculate their own emissions. Some companies are using these schedules to estimate their emissions, then employing the services of environmental consultants to verify the calculations. A list of companies qualified to verify emissions for the Japan Voluntary Emissions Trading scheme is in Appendix 1.

Promotion of offsets
A substantial amount of activity in the offset market to date appears to centre on Corporate Social Responsibility (CSR) activities and promotions. In some instances, these involve promotions of products or services to consumers which are available for a limited timeframe. These may include carbon offset tours or offsets for sporting events.

Some companies have put substantial effort into calculating the actual carbon footprints of products. However, a common form of promotion is to advertise that, for example, 1kg of carbon will be offset for every purchase of a product (regardless of the carbon footprint of the product).

Industries involved
Since credits are often used for 'promotions' and CSR activities, companies from a broad range of industries are purchasing them. Examples include: food retailers or processors (1kg offsets per product), automakers (calculating energy savings from switching to smaller model of car), soft drink maker (offsetting the carbon emitted from vehicles in the distribution process).

Electronics makers have been under pressure for some time in Japan to create energy saving devices and display energy usage on products. Recently ICT companies are also becoming increasingly conscious of the emissions created by their data centres.

The travel industry in other countries has been quick to offer carbon offsets for travel. Japan Travel Bureau (JTB) appears to be the most proactive of the travel companies in Japan. They offer domestic and international carbon neutral package tours, and have set up their own Greenshoes eco-friendly brand, under which they advertise carbon offset tours.

Perhaps because of the popularity of package tours in Japan however, the promotion of offsets for single journeys by the travel trade is not overwhelming. Activity by railway companies also appears to be concentrated on the CSR events, rather than offsetting individual journeys.

Types of credits
CERs are generally preferred to other carbon credits.

One reason for this appears to be that consumers are not well-educated about different types of credits. By purchasing Kyoto credits, companies can use a single phrase in marketing to consumers; namely "UN approved credits".

With a large proportion of credits going into consumer-oriented promotions of products and services, this is convenient for a number of reasons:
- It is a short phrase.
- It easily fits on packaging.
- It carries the United Nations brand and credibility.

- It does not require the cost and effort of having to educate consumers about types of credits, quality, origin, credit retirement systems and other attributes.

Explaining CERs and non-Kyoto credits to consumers, and gaining their trust, would incur a much greater cost. The Japanese like brands and this creates a short-cut to gaining trust.

The Japanese Government cited CDM projects early on as an appropriate source of overseas credits. Other than the Government's GIS imports, AAU's appear to have been imported in only limited quantities. It may be that they are not well-known or potentially tarnished with the 'hot air' image.

There is also caution about credits derived from forestry, and the perception that these credits are temporary in nature; however, some New Zealand forestry-derived AAUs entered Japan for the first time last year.

The origin of credits
For CSR purposes, there is interest in credits which derive from unusual countries or projects. These credits have novelty value or an additional feel-good quality that makes them more marketable. For example, credits from non-BRICs countries have marketing appeal as credits deriving from BRICs countries are common. Also projects which contribute to communities have an additional human dimension which differentiates them for some.

Market trends
The offset market in Japan is young. Consumers are aware of energy-saving electronics and environmentally friendly products, but do not appear to be as well educated in offsets and types of credits. The number of companies and websites offering carbon calculators for individuals to calculate their own emissions has increased recently though.

Demand for offsets is influenced by current events and media coverage. For example, one company reported that demand from companies for credits was relatively high (for Japan) in 2008. This coincided with the Toyoko Summit and media coverage at that time. However, interest decreased rapidly with the credit crisis and apparently bottomed out early in 2009. Demand slowly increased in the second quarter of the year. The company reports that interest increases with high-profile media coverage, such as the coverage that was associated with Obama's Green Plan.

It is likely that over time with the broader introduction of Japanese domestic credits, the market will become more educated and demand will increase. Demand from companies wanting to offset their own emissions, rather than package them for consumer goods, is also predicted to increase. Obviously, this may become compulsory for many firms if a national ETS is introduced.

Carbon credit providers
There are a number of different types of companies selling carbon credits in Japan:
- Japanese trading companies and banks.
- CSR and environmental consultancies.

- Overseas wholesalers/retailers with a presence in Japan.
- Japanese retailers.

Trading companies and banks tend to purchase larger volumes of credits from overseas and profit on the traded margins. The banks have a network of companies which they do business with and can approach or collaborate with on carbon offset campaigns.

Some environmental consultancies have formed partnerships with overseas retailers to provide carbon credits in Japan. These may be exclusive supply arrangements or exclusive to a particular type of credit. Environmental consultancies also source credits from suppliers in Japan, such as banks.

Below is a list of companies active in supplying carbon credits in Japan. It is compiled from a survey by Yano research, a list of members of the Carbon Offset Association and newspaper coverage.

Cmpanies active in supplying carbon credits in Japan

Carbon Free Consulting
http://carbonfree.co.jp/english/index.html

Econos Co. Ltd
http://offset-ecoco.com/

EcoSecurities

E-Square
www.e-squareinc.com/english/index.html

G Conscious
www.gconscious.jp

Japan Carbon Offset (partner with E-Square)
www.co-j.jp/home

ORIX Eco Services Corporation
www.orix.co.jp/eco/index.htm

Pear Carbon Offset Initiative
www.pear-carbon-offset.org/english/index.html

Recycle One
www.recycle1.com/profile/index_english.html

Satisfactory International
www.sfinter.com

TCO2 Co. Ltd

http://tco2.com/app/com/page/CompanyOutline.action?lc=en_US

JP Morgan Climate Care
www.jpmorganclimatecare.com

Mitsubishi Corporation
www.mitsubishicorp.com/jp/en/index.html

Mitsubishi UFJ Lease & Finance
www.lf.mufg.jp/english/index.html

Mitsubishi UFJ Trust & Banking
www.tr.mufg.jp/english

Mizuho Trust & Banking
www.mizuho-tb.co.jp/english

Sumitomo Mitsui Banking Corporation
www.smbc.co.jp/global/index.html

Individual offset market
A number of companies have started offering calculators and carbon credits to individuals who wish to offset their emissions.

Companies of note include Yahoo! Japan and Lawson:

- Yahoo! is the dominant portal site in Japan. The site offers an online calculator and offset purchasing system. Credits are sourced from an environmental consultancy called Recycle One.

- Lawson is a large national chain of convenience stores. In Japan, convenience stores play a variety of roles; for example, individuals can pay their utilities and mobile phone bills at convenience stores, buy tickets to concerts and amusement parks, pay for Amazon purchases and so on. The fact that they have national physical coverage, a quick, simple calculation method and convenient payment means they are well positioned. The credits are CERs which Lawson retire to their Japanese account on behalf of customers. They then provide customers with an offset certificate. Offsets can be purchased in three different denominations. Pricing and quantities listed below (as at July 2010):
  200kg-CO_2 offset： 1,050 yen (incl tax)
  500kg-CO_2 offset： 2,500 yen (incl tax)
  1 ton-CO_2 offset： 4,500 yen (incl tax)

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Associations and useful websites

Japan for Sustainability
www.japanfs.org/en/

Japan Carbon Offset Forum
www.j-cof.org/e/index.html

Kyoto Mechanisms Information Platform
www.kyomecha.org/e/

Japan Carbon Finance
www.jcarbon.co.jp

Carbon Credit Trading Platform
www.joi.or.jp/carbon/index.html

Greenhouse Gas Inventory Office of Japan
http://www-gio.nies.go.jp/ (Japanese)
http://www-gio.nies.go.jp/aboutghg/nir/nir-e.html (English)

Appendix 1

JVETS third-party verifiers phase (2008-2010)

Currently, 20 organisations are on the list of JVETS third-party verifiers:

1. KPMG AZSA & Co.
2. SGS Japan Inc.
3. PricewaterhouseCoopers Arata Sustainability Certification Co. Ltd
4. Deloitte Tohmatsu Evaluation and Certification Organization Co. Ltd
5. Ernst & Young ShinNihon Sustainability Institute Co. Ltd
6. JACO CDM Ltd
7. Japan Quality Assurance Org.
8. Japan Management Assn
9. Japan Consulting Inst., JCI CDM center
10. Det Norske Veritas AS
11. TÜV SÜD Japan Ltd
12. TÜV Rheinland Japan Ltd
13. Nippon Kaiji Kentei Quality Assurance Ltd
14. JIC Quality Assurance Ltd
15. BSI Management Systems Japan K.K.
16. Bureau Veritas Japan Co. Ltd
17. Lloyd's Register Quality Assurance Ltd
18. Perry Johnson Registrars Clean Development Mechanism, Inc.
19. Japan Smart Energy Co. Ltd
20. Environment & Quality Assurance International Certification Center

Source: www.env.go.jp/en/earth/ets/jvets090319.pdf