Working Paper on
The Voluntary Carbon Market: Current & Future Market Status, and Implications for Development Benefits

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Background to research

To establish an understanding of the current project-based voluntary carbon market characteristics, operation and issues a questionnaire was sent to market intermediaries (retailers) worldwide. 35 responses were obtained from an identified worldwide population of 53 retailers (sample of 66%) including nine interviews, supported by secondary data from retailers' websites.

Current market characteristics

Market participants

Still in early stages of development, the voluntary market consists of a small but growing number of retailers located predominantly in Europe, notably the UK. The USA is also increasingly important. Small, exclusively focused retailers dominate the market comprising approximately half of all intermediaries, though larger brokers offering more sophisticated services are becoming active in this market. Illustrating its evolving status, a voluntary offset fund (Climate Wedge) has recently been established by a well known hedge fund manager, Cheyne Capital. The intention is to significantly upscale volumes and promote a market infrastructure.

Business dominates demand principally to offset operational activities but also through a growing trend to offset products and services (Fig. 1). In all instances individuals are important, generating some primary demand in offsetting their own lifestyles and purchasing 'neutral' products and services and by inspiring companies to offset operational activities, presenting a positive corporate image.

Project characteristics

Typically projects are micro to small scale (Fig. 2), a manifestation of low demand but also of the prevalent project types; forestry dominates current project numbers (Fig. 3), skewed by a number of retailers exclusively focused on these offsets, though renewable energy and demand side energy efficiency are growing in importance. These projects typically support strong additional benefits such as development or conservation/ecosystem services. Retailers' websites provide an indication that a number of projects are located within the home country (Fig. 4), supporting a perception by retailers that some customers prefer projects situated more locally. This appears to be a much greater trend in the US than in Europe (Fig. 5), perhaps unsurprising given the desire by retailers in Kyoto countries to avoid their projects being double counted under the country's Kyoto commitments.

Forestry projects have lent themselves to marketing efforts, with strong and familiar associations such as conservation helping make the product more tangible. However, it has been suggested that a trend to more technical projects exists. Some businesses are apparently choosing technologies they are familiar with in their own line of work or that relates in some way to their product or services line. This is being fuelled by controversy currently surrounding forestry sinks projects

related to questionable science, impermanence, distractions from core issues (such as widespread behavioural and technological change) and possible negative social ramifications, such as the apparent eviction of locals from plantation projects[1].

Credit types and price

Emissions reductions dominate the market, although other credits are in use including certified emissions reductions (CERs) from the clean development mechanism (CDM) Chicago Climate Exchange (CCX) offsets and renewable energy credits (RECs). The latter are largely traded in the US, where there is a notable conflation between the RECs and offsets markets – a factor in the prevalence of locally situated projects in this region.

A market price does not exist for voluntary offsets, and specific pricing information is generally considered by retailers to be sensitive. Nevertheless, a price range has been established from less than £0.50 to over £20 per tonne of CO_{2eq} (significantly higher than in the CDM at about £13/t. However, prices are generally in the lower ranges, suggested by the Ecosystem Marketplace to be US$5 - $12/t (c. £2.73 - £6.45)[2]. Volume purchased is a key determinant for variation, with smaller volumes increasing price, whilst strong sustainable development benefits are also thought to command a premium.

Market standards

Operating outside formal regulations, no common set of rules applies universally in the market. This has lead to the evolution of a wide array of processes and standards (Fig. 6). Many retailers attempt to gain more formalized status through support by credible organizations such as charities, NGOs and universities, with over two thirds of retailers using an externally established set of processes (or 'standard'). Almost a third of retailers use procedures internal to the organization, although secondary research indicated over two thirds of these have some form of verification processes in place, though the quality was not established. A widespread lack of transparency means it is possible significantly less rigorous procedures may be followed, which has created doubt regarding credibility, exacerbated by the possibilities of double counting in the absence of a widely used registry.

In efforts to impose accepted and rigorous processes the Gold Standard recently launched their voluntary market version (V-GS). The Climate Group in association with the International Emissions Trading Association (IETA) are also in the process of developing the voluntary carbon standard (VCS), which they hope will be a benchmark in the market ensuring additional, real, quantifiable and permanent offsets. Although over half of current retailers questioned suggest they are likely to apply the standards, there is not universal intention to do so.

Market size and growth

Despite significant reluctance to reveal commercially sensitive information, a market sample of 23 retailers (c. 2/5 of population) did provide market volumes for 2005, giving a figure of just over

[1] Bachram, H. (Bachram, H. (2004) Climate Fraud and Carbon Colonialism: The New trade in Greenhouse Gases. *Capitalism Nature Socialism,* 15(4).

[2] Ecosystem Marketplace (no date d) *Backgrounder: Non-Kyoto.* Katoomba Group, California, USA. [Online] Available from: http://ecosystemmarketplace.com/pages/marketwatch.backgrounder.php?market_id=11&is_aggregate=0 [Accessed: 4th July 2006].

two million tonnes of CO_{2eq}. This is broadly consistent with an estimate by Capoor & Ambrosi[3] of six million tonnes. To put this figure in context, the CDM is estimated to be 346M tCO_{2eq}[3] itself only meeting a small proportion currently of needed reductions. Nevertheless, the market is growing with an averaged historical rate of 150% (2002 – 2005) with some retailers reporting recent individual growth rates of up to 1000%. A market size in the high tens of millions of tonnes or even in the hundreds of millions of tonnes in the foreseeable future is therefore not unreasonable. Such growth projections are supported by The Climate Group suggesting a market size of 100Mt in 2007 or more[4] and Molitor of Climate Wedge estimating 500Mt over the next three years[5]. At such figures this market would begin to make an important contribution in tackling climate change.

Development benefits in the evolving market

Given its early stage of development, flexibility in use of standards and high price range, the market is currently relatively accessible for projects with additional development attributes. That micro- to small-scale forestry projects, followed by energy efficiency and renewables projects dominate the market is testimony to this, in marked comparison to compliance markets. This trend has been supported by a perceived strong customer preference for projects with additional benefits. Individuals are notable in this regard, although businesses for operational activities and NGOs/charities are also thought by retailers to favour such projects. Businesses, when offsetting products and services on behalf of customers, and events/conferences are not thought by retailers to display a preference for additional attributes. However, retailers themselves indicated that they consider additional attributes to be important, although this is necessarily alongside wider considerations including aspects such as risk and price.

With the market expected to grow considerably, there is substantial future potential for projects with development benefits. However, changes in market operation could impact on the application of such projects. In particular, projects with additional benefits tend to be micro- or small-scale. As strict standard requirements can impose far larger transaction costs, particularly on small projects where the proportionate burden is greater, the final standard content could affect the feasibility of such projects. However, without such rigorous market standards the market growth opportunity may be limited.

A widely applied standard may also further commoditize the market, placing greater focus on a market price over other attributes. This kind of environment tends to favour projects meeting the standards at lower cost - probably larger, more industrial projects. As companies begin to buy in greater volumes, price may also become increasingly important. Large volumes may be more difficult to supply from projects with additional attributes, which are often very small, particularly at the price demanded. Therefore portfolios are likely to comprise a large share of cheaper credits from bigger projects without additional benefits.

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[3] Capoor, K. and Ambrosi, P. (2006) *State and trends of the Carbon Market 2006*. International Emissions Trading Association (IETA) and The World Bank, Washington DC, USA.

[4] Reuters (2006) *Bank of NY Spawns Voluntary CO2 Registry*. Reuters News Service. [Online] Available from: http://www.planetark.org/dailynewsstory.cfm/newsid/36873/story.htm [Accessed: 2nd August 2006].

[5] Molitor, M. (2005) Carbon Volunteers. *Carbon Finance,* [Online] (23),. Available from: http://www.climatewedge.com/download/CW-CarbonFinance_0511.pdf [Accessed 22nd June 2006].

However, given public scrutiny, large companies may want to deflect negative consumer associations by investing in a more diverse portfolio that includes some credits from projects with additional attributes. It is therefore unlikely that the demand for such projects from large companies will dissipate completely, particularly as these projects allow strong marketing messages, important for business. Furthermore, for those more sceptical about the value of offsets themselves, the benefits provide added value. As Michael Schlup of The Gold Standard states, the presence of such projects in the market is vital, as the market may only ever be a 'zero-sum game'[6]. Projects meeting any established market standard and possessing strong additional benefits could therefore command a considerable premium.

Additionally, the current market standard consultations appear to be driven by larger participants, both supply and demand-side[7]. For smaller participants the desire to apply a market benchmark may not be as strong, implied by the varied response of existing retailers in intentions to apply the standards. Therefore a niche market may remain, aimed at individuals and NGOs/charities (considered by retailers to have a strong preference for projects with additional benefits) and at smaller organisations. Given the trend in the US to situate projects locally, particularly given the conflation with RECs, the European market appears more conducive in this respect. The existing model of generating trust through endorsement by respected third parties could continue to be applied, although it is likely expectations will still rise requiring, for example, much greater transparency.

Summary

This market is currently relatively accessible for projects with additional benefits, due to a current focus on small scale forestry, renewables and demand side energy efficiency projects, a perceived customer preference for additional attributes to pure carbon mitigation and relative flexibility through existence of a wide array of processes and standards.

However, judged on the basis of volumes, the market has so far been insignificant in tackling climate change. This may not always be the case with large growth rates recently experienced by the small but expanding body of existing retailers. To attract continued large investment, doubt regarding credibility must be removed through wide application of a rigorous market standard.

Although, at present, projections of market direction are speculative, such a standard could substantially affect market operation, further commoditising the product driving a greater focus on price over other project attributes. This could favour large, more industrial project types over the prevalent forestry and renewables project focus, particularly as increasing volumes are required.

Despite this market trend, indicators suggest a market will remain for premium priced projects that display strong additional benefits and are able to meet strict standards. A group of retailers are also likely to continue supplying project credits using more flexible standards and processes, outside a market benchmark. Smaller projects with additional benefits, unfeasible under strict market rules, would therefore continue to have a niche, particularly in Europe, focused on individuals and smaller organisations.

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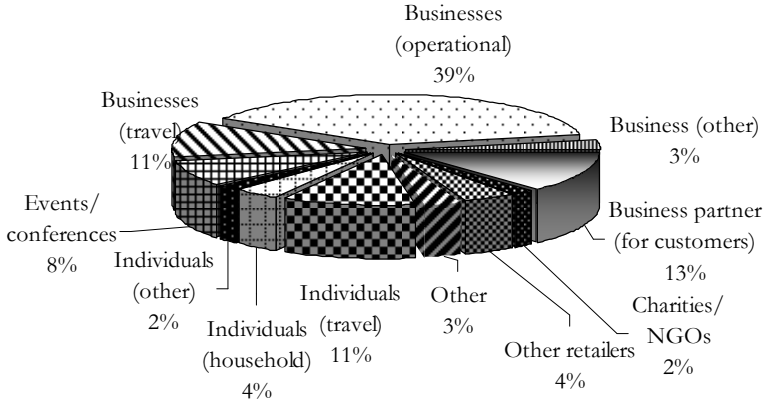
[6] Schlup, M. (2006) (2006) *The Gold Standard: Premium quality carbon credits*. The Gold Standard, Basel, Switzerland. [Online] Available from: http://www.cdmgoldstandard.org/uploads/file/GS_Newsletter1_06.pdf#search=%22zero%20sum%20game%20michael%20schlup%22 [Accessed: 30th August 2006].

[7] Binello, A., Imperial College research (Personal Communication, 2006).

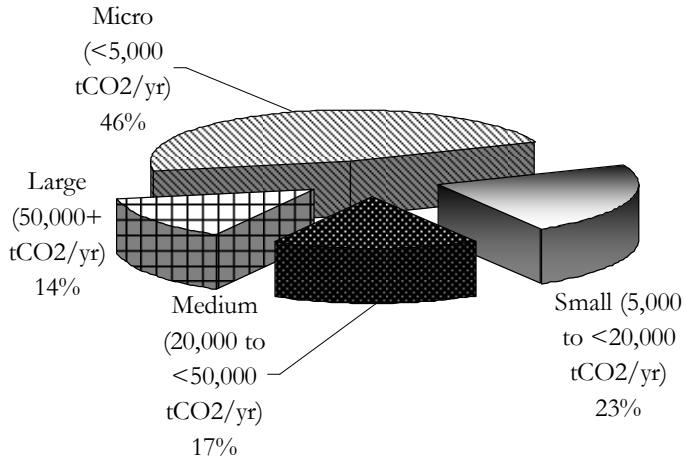
Supporting Data



Customer information given as a share of retailer's customer base, averaged across sample. This data is not given as proportions by volume. Business partner = offsetting by cos. of products & services on behalf of customers.

Sample: 24 (45% of total population).

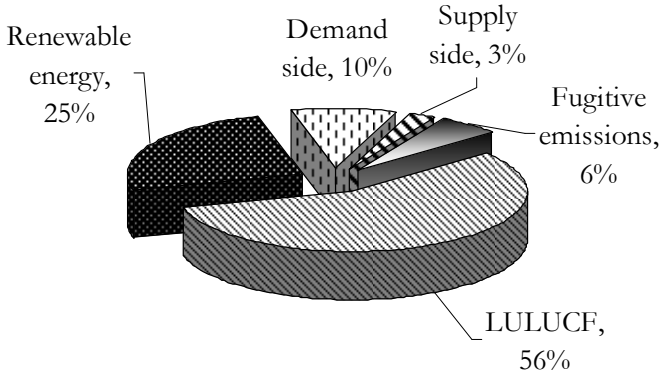
Figure 1: Customer groups



Information provided by number of projects.

Sample: 14 (26% of total population).

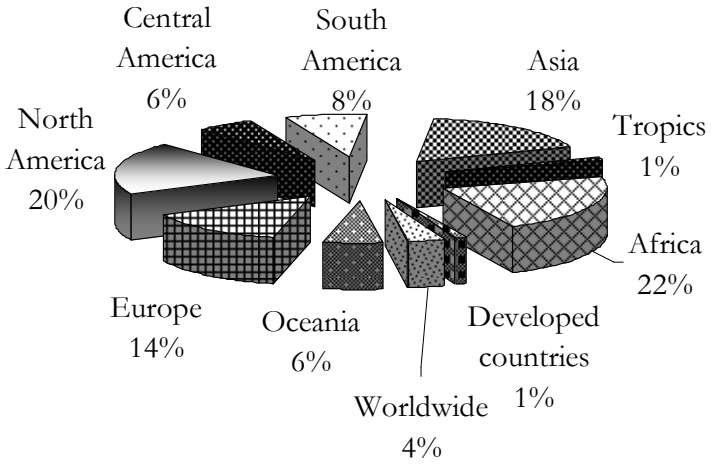
Figure 2: Project size (by number of projects)



Information given as a share of retailer's project portfolio by project numbers and averaged across sample. LULUCF – land use, land use change and forestry. Demand & supply side = energy efficiency.

Sample: 26 (49% of total population).

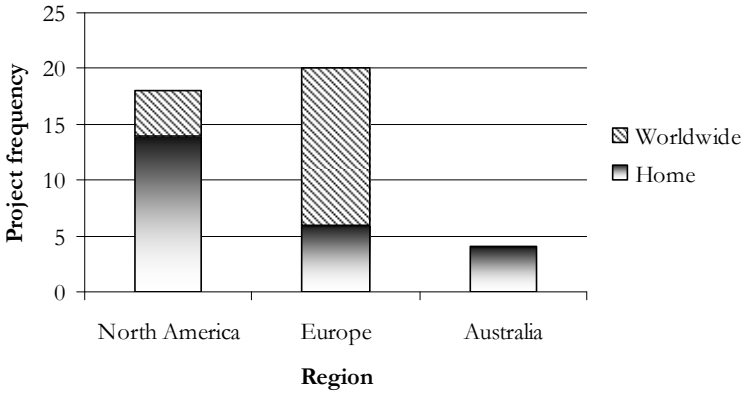
Figure 3: Project types (averaged share by number of projects)



Number of websites mentioning specific project locations was tallied for all retailers to give an indication of important locations. This does not provide location by number of projects or by volume.

Sample: 43 (81% of total population).

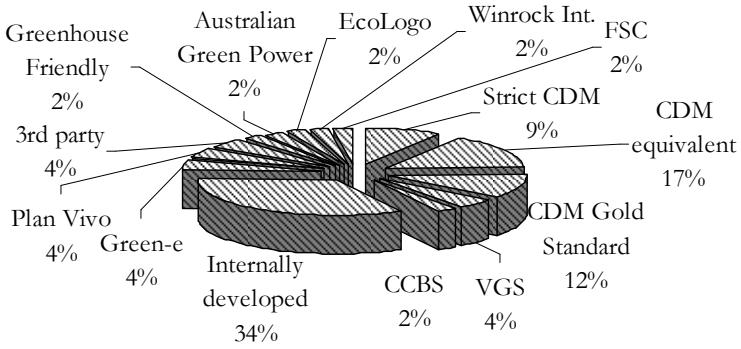
Figure 4: Project locations



Information given in Fig. 4 was compared with the retailer location to establish how many retailers prefer to locate projects in their home country. Note: project locations were recorded by mention on each retailer's website, not by volume or project number.

Sample: 42 (79% of population).

Figure 5: Proportion of projects located in home country



Data as a proportion by number of retailers applying each standard. FSC = Forestry Stewardship Council; Greenhouse Friendly – operated by Australian Government; CCBS = Climate, Community and Biodiversity Standard; VGS = Voluntary Gold Standard.

Sample: 30 (57% of total population).

Figure 6: Market Standards

Full details of research results and findings are available through the International Institute of Environment and development (IIED).