

Carbon Offset Watch

2008 Assessment Report



Total Environment Centre Inc



UNIVERSITY OF
TECHNOLOGY SYDNEY





CARBON OFFSET WATCH

2008 Assessment Report

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Tips for buying carbon offsets

- > Before you consider buying offsets, try to reduce your carbon footprint as much as possible. For tips on reducing your carbon footprint see Global Warming Cool it.
www.environment.gov.au/settlements/gwci
 - > Only buy offsets from offset retailers who provide detailed information about their products and services, and the projects they use to generate offsets. Projects may be in Australia or overseas. Ask for more information if you need it.
 - > Choose retailers that help you estimate your carbon footprint and explain how the footprint is calculated.
 - > Choose offsets that are independently accredited by a recognised scheme or standard. Of those included in Carbon Offset Watch, we consider offsets accredited under the international Gold Standard and Clean Development Mechanism to be the best quality. Offsets accredited by VCS, VER+ and Greenhouse Friendly are also of a very high quality. Many voluntary carbon retailers are flexible and can source different kinds of offsets on request.
 - > Choose offset projects that change or prevent the underlying activities that create greenhouse gases. These are best for combating climate change in the long-term. Such projects include those that:
 - > improve energy efficiency
 - > increase renewable energy
 - > prevent waste going to landfill
 - > protect existing forests.
- Other types of projects, like tree planting projects, can have different benefits (such as restoring ecosystems or rehabilitating land).
- > Get documentary evidence of your offset purchase. Ensure that the retailer guarantees to 'retire' the offset from the market on your behalf, or transfers ownership of the offset to you so that you can retire it yourself. This is the best way to be sure that the emissions you have saved aren't claimed by someone else.
 - > Choose offsets that are listed in a registry that tracks ownership of the offset and records that the offset has been removed from the market. This helps to ensure that the offset you bought is not sold again.

Useful sources of information

Consumer guidance on buying offsets

The ACCC has produced consumer guidance on carbon offset selection:

<http://www.accc.gov.au/content/index.phtml/itemId/833197>

The Carbon Offset Guide, an initiative of Global Sustainability at RMIT and EPA Victoria, provides a directory of Australian carbon offset retailers and brokers:

<http://www.carbonoffsetguide.com.au>

CHOICE's green consumer guide:

<http://www.choice.com.au/choicegreen>

Glossaries of terms

The Carbon Offset Guide provides a detailed glossary of terms:

<http://www.carbonoffsetguide.com.au/glossary/8>

The ACCC guidance includes common carbon terms:

<http://www.accc.gov.au/content/index.phtml/itemId/833217>

A report by the Stockholm Environment Institute and WWF includes a useful glossary:

http://assets.panda.org/downloads/vcm_report_final.pdf Appendix D

Information on specific offset schemes and standards included in Carbon Offset Watch

The Gold Standard: <http://www.cdmgoldstandard.org>

Clean Development Mechanism: <http://cdm.unfccc.int>

Voluntary Carbon Standard: <http://www.v-c-s.org>

VER+: https://www.netinform.de/KE/Beratung/Service_Ver.aspx

Greenhouse Friendly: <http://www.climatechange.gov.au/greenhousefriendly>

Greenhouse Gas Reduction Scheme (GGAS): <http://www.greenhousegas.nsw.gov.au>:

Mandatory Renewable Energy Target: <http://www.climatechange.gov.au/renewabletarget>

Reports about the voluntary carbon market and offset schemes and standards

Hamilton, K. Bayon, R. et al, 2007. State of the Voluntary Carbon Markets 2007, Picking Up Steam. Ecosystem Marketplace and New Carbon Finance,

http://ecosystemmarketplace.com/documents/acrobat/StateoftheVoluntaryCarbonMarket18July_Final.pdf.

Kollmuss, A., Zink, H., Polycarp, C., 2008, Making Sense of the Voluntary Carbon Offset Market, A Comparison of Carbon Offset Standards, prepared by the Stockholm Environment Institute and Tricorona for WWF Germany,

http://assets.panda.org/downloads/vcm_report_final.pdf

Total Environment Centre, 2007, Carbon Neutral Watch: Corporates, Consultants and Credibility,

http://www.greencapital.org.au/index.php?option=com_docman&task=doc_download&gid=85.

Lynch, M. et al, 2007, Neutral & Beyond, A Review of Carbon Neutrality and Offsets. Green Capital, an initiative of Total Environment Centre,

http://www.greencapital.org.au/index.php?option=com_docman&task=doc_download&gid=86.

Carbon Offset Watch Summary

As public concern about climate change has grown, many individuals and organisations are looking for ways to take action to reduce their own greenhouse gas emissions. Emissions can, and should, be reduced directly by, for example, improving energy efficiency or buying accredited renewable energy (i.e. GreenPower). Where these options have been exhausted or are not cost-effective, an alternative is for consumers to voluntarily pay for an emission reduction elsewhere. This is done by buying and removing (retiring) voluntary carbon offsets from the market so they cannot be re-sold. Often sellers of such credits will retire them from the market on behalf of the offset buyers. The process of buying and retiring carbon offset credits is known as carbon offsetting and a voluntary carbon market has emerged to supply carbon credits for this purpose. There are now more than 50 carbon offset providers operating in Australia.

For consumers, the task of understanding and choosing between the diverse carbon offset products on offer can be daunting. There are many different ways in which a carbon credit can be generated, several competing standards under which those credits can be certified and many different voluntary carbon product and service offerings. The Australian Competition and Consumer Commission (ACCC) recently raised concerns 'that consumers may be facing misleading and deceptive conduct associated with this emerging market'.¹

Responding to these concerns, Carbon Offset Watch is the first independent assessment of the quality of products and services offered in the Australian voluntary carbon market. The assessment is a partnership between the Institute for Sustainable Futures (an academic research institute at the University of Technology, Sydney), the Total Environment Centre (representing environmental interests) and CHOICE (representing consumer interests). Carbon Offset Watch aims to provide consumers (individuals and businesses) with information to inform their offset purchasing decisions and encourage them to demand quality and transparency in offset retailer services and products. This report should be used in conjunction with other sources of information, including information provided by offset retailers on their products. A list of useful sources of information is provided at the beginning of this report.

Assessment of carbon offset retailers

The assessment focuses on carbon offset retailers, i.e. organisations who sell carbon offsets, usually online, to

individuals or organisations for the purpose of offsetting the buyer's emissions. These organisations usually own a portfolio of carbon offset credits, often generated from a number of offset projects. It is important to note that while all Carbon Offset Watch participants sell carbon offsets, this may not be the only, or even the primary, service they offer. It is not uncommon for industry participants to occupy several positions in the offset supply chain. Many retailers also offer broader consultancy or energy services.

Carbon Offset Watch considers:

- > aspects of the offset retailer's services, particularly how the retailer encourages customers to reduce carbon emissions before offsetting and how they estimate customer carbon footprints (19.5% of the total score); and
- > the quality and reliability of the offset itself, largely based on the features of the independent accreditation it has obtained (73% of the total score); and
- > the desirability of the underlying projects used to generate the offsets from a long-term sustainability perspective, based on the project type (for example energy efficiency, renewable energy or forestry) (7.5% of the total score).

It is important to note that we are primarily interested in the contribution of the voluntary carbon market to climate change mitigation – additional project benefits, such as contributions to ecosystem restoration or land rehabilitation, are not included in the assessment. **For some consumers, these additional benefits will be important and should be considered separately when deciding what to buy.**

Over fifty voluntary carbon market participants were invited to take part in the first Carbon Offset Watch assessment and twenty carbon offset retailers chose to participate. They have been assessed according to a methodology that represents our considered opinion on the important features of retailer products and services. Retailers have been assessed using information about their products and services for the 6 month period ending April 2008. **The voluntary carbon market is dynamic and consumers should always request the most recent information from offset retailers (see also 'Tips for buying carbon offsets' above).**

Offset prices fluctuate and are often dependent on the volume purchased. Price was not used in the Carbon Offset Watch assessment. Consumers should compare

¹ Australian Competition and Consumer Commission, 2008, Issues Paper: The Trade Practices Act and carbon offset claims, 16 January 2008.

Carbon Offset Watch Summary

current market prices themselves when buying offsets. It should also be noted that the total cost of offsets will depend on how accurate the carbon calculator is, and consumers should take care not to have their emissions significantly under-estimated or over-estimated.

The results of the assessment are presented in Table 1 below. Retailers are ranked in four performance categories reflecting the score the retailer achieved in the assessment. Within each performance category retailers are listed in descending order according to the score they achieved – retailers with the same score are listed in the same row in the table.

Performance category definitions

Outstanding (scored 90% or more): Retailers in this category performed well in all or most assessment categories and during the assessment period they sold a high proportion of offsets accredited by high-scoring

standards – Gold Standard, CDM, VCS and Greenhouse Friendly. They also had a high proportion of offsets from projects that change or prevent the underlying activities that create greenhouse gases, such as energy efficiency, renewable energy and diversion of waste from landfill. There is a very high likelihood that an offset purchased from these retailers will deliver real, additional greenhouse gas emission reductions.

Good (scored 75% to 89%): Retailers in this category performed well in most assessment categories but during the assessment period sold a proportion of offsets accredited under lower-scoring schemes and standards, such as GGAS and MRET (Renewable Energy Certificates (RECs) converted to offsets). There is a high likelihood that an offset purchased from these retailers will deliver real, additional greenhouse gas emission reductions.

Outstanding (scored 90% or more)	Website
Climate Friendly	www.climatefriendly.com
Cleaner Climate, Climate Positive, Southern Metropolitan Regional Council (SMRC)	www.cleanerclimate.com www.climatepositive.org www.smrc.com.au
Carbon Reduction Institute	www.noco2.com.au
Good (scored 75% to 89%)	
Fieldforce Environmental	www.fieldforce.net.au
Neco	www.neco.com.au
Coolplanet	www.coolplanet.com.au
Ark Climate, Carbon Planet	www.arkclimate.com www.carbonplanet.com
Green Pass, Low Energy Supplies and Services (LESS)	www.greenpass.com.au www.lowenergy.com.au
Greenpig	www.greenpig.com.au
AGL, Enviro-friendly, Origin Energy	www.agl.com.au www.enviro-friendly.com www.originenergy.com.au
Landcare CarbonSMART	www.carbonsmart.com.au
Adequate (scored 60% to 74%)	
CO2 Australia	www.co2australia.com.au
COzero, Global Carbon Exchange	www.cozero.com.au www.gcx.com.au
Not recommended (scored less than 60%)	

No Carbon Offset Watch participants in this category. This does not imply that all Australian carbon offset retailers perform well – we are not able to comment on the likely performance of those offset providers who were invited and chose not to take part in Carbon Offset Watch.

Table 1 Carbon Offset Watch assessment results

Carbon Offset Watch Summary

Adequate (scored 60% to 74%): Retailers in this category performed well in most assessment categories but during the assessment period sold a high proportion of offsets accredited under lower-scoring schemes and standards, such as GGAS and MRET, and/or sold a high proportion of offsets generated from projects that do not change or prevent the underlying activities that create greenhouse gases. While it is likely that an offset purchased from these retailers will deliver real, additional greenhouse gas emission reductions, they represent a higher degree of risk for the consumer.

Not recommended (scored less than 60%):

Retailers in this category performed poorly in several key assessment categories or sold primarily unaccredited offsets. There is little certainty that their offsets would deliver real and additional reductions. No retailers who participated in Carbon Offset Watch fell into this category. This does not imply that all Australian carbon offset retailers perform well. We are not able to comment on the likely performance of those offset providers who were invited and chose not to take part in Carbon Offset Watch.

Independent accreditation

As part of the assessment of retailers, Carbon Offset Watch undertook an assessment of the accreditation standards used by retailers. All Carbon Offset Watch participants performed well in the assessment, primarily because the overwhelming majority of offsets they retail are independently accredited. Offset quality was the single most important aspect of the assessment, and independent accreditation is generally a good indicator of offset quality.

Scheme/standard	Score out of 60
CDM and Gold Standard	60
VCS, VER+ and Greenhouse Friendly	57
GGAS non-forestry/forestry	53/50
MRET	42

Table 2 Independent accreditation standard/scheme scores

The independent accreditation schemes and standards included in the Carbon Offset Watch assessment scored points as follows (ranked in descending order):

GGAS lost points in the assessment for having less stringent additionality requirements than other schemes (that is, demonstrating that the project would not have happened anyway).

MRET also lost points for additionality and for processes for verifying emission reductions. This is largely because MRET is not designed to accredit carbon offsets. Deficiencies in the reliability of the offset credits generated under MRET (RECs) are not deficiencies from the perspective of MRET's objectives, which is generation of new renewable energy in Australia. The issue lies with selling credits created under a scheme designed for renewable energy regulation in the voluntary carbon offsets market, which has a different set of requirements. Spatial and temporal variations in how grid electricity is produced make it difficult to accurately convert units of renewable energy generation under MRET to units of carbon offset. To rectify this problem, MRET could be revised to include, for example, specific rules for conversion of RECs to carbon offsets. Further improvements would be needed to address issues such as additionality tests and auditing. Until these issues can be resolved, we do not recommend buying offsets accredited under MRET.

Participation

More than 50 organisations were invited to complete the Carbon Offset Watch survey. Only the 20 listed in Table 1 responded and met the criteria for inclusion. The reasons for not including specific organisations are as follows:

- > Australian Carbon Traders, Carbonza and LMS Generation are carbon offsets retailers that responded to the Carbon Offset Watch survey but did not provide sufficient project information for the assessment.
- > Several offset providers that responded to the Carbon Offset Watch survey have a business model that appears to be primarily brokerage/consultancy rather than retail. These were therefore excluded. The organisations are: Australasian Carbon Credits, Australian Energy Consultants and Carbon Balance.
- > Carbon Neutral responded to the survey initially and then withdrew.
- > 30 organisations identified as voluntary carbon market participants were invited to participate and did not respond to the Carbon Offset Watch survey. These are:
 - > ANZ
 - > Auscarbon International
 - > Balance Carbon
 - > Bendigo Bank
 - > Canopy

² For example, Total Environment Centre, Carbon Neutral Watch: Corporates, Consultants and Credibility, May 2007 at www.tec.org.au

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- > Carbon Conscious
- > Carbon Neutral Cars
- > Carbon Pool
- > Carbon Trading International
- > Climate Care
- > Easy Being Green
- > Elementree
- > Emit Environmental Brokers
- > Future Climate Australia
- > Greenbank
- > Greenfleet
- > Greenhouse Balanced
- > Greening Australia
- > Greenpath
- > Hatch
- > Hydro Tasmania
- > Insignis Forestry Services
- > My Clean Sky
- > Offset Emissions
- > Perenia
- > Planet Neutral
- > Project Andromeda
- > Todae
- > TreeSmart
- > Veolia Environmental Services.

We do not know the reasons why these organisations chose not to participate. It is possible that some may not fit into the category of offset 'retailer' and therefore did not participate because the survey would not have been relevant for their business model.

Apart from these, we think it is reasonable to expect that responsible organisations selling carbon offsets in the voluntary market should be willing to participate in this kind of independent assessment process. This is particularly the case given the current absence of specific legislated standards for the market. We are unable to recommend any of these organisations as carbon offset retailers due to lack of information.

Also excluded are:

- > Retailers of other products who offer either 'carbon neutral' products or through whom a consumer can offset the carbon associated with the specific product - for example, an airline company, like Virgin Blue, that sells offsets along with flight tickets to neutralise the carbon associated with the flight. These organisations were excluded simply because

it was necessary to limit the scope of the first Carbon Offset Watch. Ideally, they would be included in future assessments.

Issues in the voluntary carbon market

Many of the complexities, challenges and uncertainties in the international and domestic voluntary carbon offset market are already well-documented.

We do not repeat the discussion in full here. However, Carbon Offset Watch does highlight some specific issues of concern in the voluntary carbon market that can be addressed through industry and government action.

Lack of a comprehensive standard

There is currently no specific independent or mandatory standard that covers the elements of the voluntary carbon offset retail chain described below (although they are generally covered by the Trade Practices Act in relation to misleading advertising).

Product claims and offset acquittal

- > **Retail offset 'product' claims** and verification of product claims: we define an offset product as a retail offset offering, comprising credits from one or more underlying abatement projects and the estimation of customer carbon footprint.

- > **Acquittal and verification of acquittal:** we define acquittal as the process whereby a carbon offset retailer buys or holds in a portfolio a volume of offsets (offset supply) that matches to the volume of offsets it has sold to customers in any given period (offset demand), and transfers ownership of the offsets to the customer, or retires the offsets from the market on behalf of the customer.

Where product standards and verification of product claims do not exist there is a risk that retailers could make invalid product claims. In the absence of acquittal standards and verification of acquittal there is a risk that offsets could be double-sold.

Carbon footprint calculators

There is no legislated methodology, generally accepted standard, or consensus on, appropriate estimation of customer emissions exists. ACCC consumer guidance on carbon offsets notes: The most credible footprint calculators should take into account indirect, as well as direct emissions. Indirect emissions may include those produced during *the manufacturing and disposal of a product, as well as those created over its life...*³ The Australian Government has developed a carbon footprint calculator, Climate Clever that accounts for life

³ <<http://www.accc.gov.au/content/index.phtml/itemId/833217> (accessed 15/08/2008)

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cycle emissions. However, the calculation methodology is not available as a guide to offset retailers and while most retailers provide carbon footprint calculators, their methods and results vary greatly. There are no widely adopted standard calculation factors for inclusion of life cycle emissions in customer footprints. This undermines consumer confidence in the reasonableness of carbon footprint estimation and limits opportunities for comparison of calculator accuracy.

Double-counting of voluntary offsets generated from Australian projects

The Australian Government has now ratified the Kyoto protocol and is obliged to meet a national emissions target (108% of 1990 emissions by 2008-2012). At present, all emission reductions that happen in Australia are counted in the national emissions inventory and contribute to the achievement of this target. What this means in practice is that the voluntary actions of offset purchasers are currently contributing towards Australia's achievement of its Kyoto Protocol target, which the Government is obliged to achieve, rather than reducing emissions below the target level. As the target is obligatory, these emission reductions would happen whether or not the voluntary projects occurred – in other words, they are arguably not additional and they are double-counted. While individuals and organisations may still wish to reduce their own emissions through the purchase of offsets, wider knowledge of the lack of regulatory additionality may significantly dampen demand.

We have excluded this issue from the scoring process for the first Carbon Offset Watch. However, the issue needs to be quickly resolved and it should be included in future Carbon Offset Watch assessments. This would mean that all Australian voluntary carbon offset projects would lose points in future assessments if this issue is not resolved.

Recommendations

1. The Rudd Government made an election commitment in 2007 to introduce a national standard for carbon offsets by the end of 2008 that would build on existing schemes, provide national consistency and require all voluntary carbon credits to be accredited.⁴ The details of a national standard are yet to emerge. Implementing this commitment would provide an opportunity to address the issues raised in this report. A national standard should incorporate requirements for:

- > Product claims
- > Offset acquittal
- > Carbon footprint calculators.

It is not sufficient to simply adopt an existing standard such as Greenhouse Friendly as the de facto national standard as no existing standard covers all these elements.

2. The issue of double-counting of offsets generated from Australian projects could be addressed through changes in national greenhouse accounting to separate voluntary carbon reductions from Kyoto accounting. Greenhouse gas reductions generated through the voluntary carbon market should not be used to help achieve Australia's Kyoto commitments. The relevant accounting adjustment should be made retrospectively for all voluntary offsets generated in Australia from the date of Australia's Kyoto ratification.

We hope Carbon Offset Watch will contribute to the development of a high-quality voluntary carbon market in Australia that makes a real and additional contribution to climate change response.

⁴ Rudd, K and Garrett, P, 2007, Carbon Credits: A National Standard for Carbon Offsets, ALP Media Statement, 6 June 2007, <http://www.alp.org.au/media/0607/msCCloo060.php>.)

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Last, and certainly not least, we thank all the offset retailers who participated in Carbon Offset Watch. We recognise that for many retailers the survey took some time to complete and retailers generally provided comprehensive responses. We acknowledge the cooperation and support of all Carbon Offset Watch participants.

1 The Voluntary Carbon Market

1.1 Introduction to the voluntary carbon market

As public concern about climate change has grown, many individuals and organisations are looking for ways to take action to reduce their own greenhouse gas emissions. Emissions can, and should, be reduced directly by, for example, improving energy efficiency or buying accredited renewable energy (i.e. GreenPower). Where these options have been exhausted or are not cost-effective, an alternative is for consumers to voluntarily pay for an emission reduction elsewhere, for example, by investing in energy efficiency elsewhere. This is done by buying and removing (retiring) voluntary carbon offsets from the market so they cannot be re-sold. Often sellers of carbon offset credits will retire them from the market on behalf of the offset buyers. The process of buying and retiring carbon offset credits is known as carbon offsetting and a voluntary carbon market has emerged to supply carbon credits for this purpose.

The voluntary carbon market is the collective term for the generation, trade and sale of voluntary carbon credits. Voluntary carbon credits are generated by projects that prevent the release of greenhouse gas emissions into the atmosphere or remove (sequester) greenhouse gases from the atmosphere⁵. Individuals and organisations offsetting their emissions are not required to do so, hence it is voluntary. For the offset to be legitimate, the emission reductions must come from a project that would have not happened anyway. In other words, the reductions (or abatement) are 'additional', they must be real (measurable), verifiable, permanent and not double-counted or double-sold. Voluntary carbon offsets are generated under a 'baseline-and-credit' system (also known as a project-based system) whereby each new project creates new credits compared to the baseline i.e. compared to what would have happened in the absence of the project.

1.2 The compliance market

The voluntary carbon market is distinct from, but has similarities to, and interactions with, compliance markets created by mandatory carbon reduction schemes. Compliance markets often operate under cap-and-trade systems. Under such systems, an overall cap is set on emissions for a certain geographical area or industrial sector. Participants in the system are allocated allowances based on an emission reduction target, and allowances can then be traded within the system⁶. Compliance markets can occur at the national,

regional or international level and can interact with voluntary carbon offset markets. Examples of mandatory schemes that may interact with voluntary carbon markets include:

- > The Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC) sets limits for the greenhouse gas emissions of a group of developed countries. This has created an international market for traded carbon credits. The Clean Development Mechanism (CDM), a carbon offset program administered by the UNFCCC, allows accredited projects to generate credits that can be sold to meet obligations under the Kyoto protocol. While CDM credits are generally sold to entities with regulatory requirements to meet reduction targets, project developers may also sell credits into the voluntary market.
- > The Australian Government's Carbon Pollution Reduction Scheme, due to start in 2010, will set a cap on national emissions and establish an emissions trading market. Large emitters will need to hold emission permits to cover their annual emissions and it is expected that emitters will be allowed to purchase some offsets, but only from sectors that are not covered in the mandatory scheme.
- > The NSW Greenhouse Gas Reduction Scheme (GGAS) is a mandatory scheme, started in 2003, that aims to reduce greenhouse gas emissions associated with the production and use of electricity in NSW. The ACT Government introduced a Greenhouse Gas Reduction Scheme in 2005 that mirrors the NSW scheme. Under these schemes, electricity retailers and certain other parties who buy or sell electricity in NSW and the ACT are required to meet mandatory greenhouse gas reduction benchmarks based on their share of the electricity market. They can do so by buying Greenhouse Gas Abatement Certificates (GGACs) generated through abatement projects. GGAS was one of the first mandatory greenhouse gas reduction schemes in the world⁷. GGACs generated under GGAS can alternatively be sold in the voluntary market. GGAS will end when a national emissions trading scheme begins. The demand side abatement component of GGAS will be continued and enhanced through the NSW Energy Efficiency Trading (NEET) Scheme from 2009. Transitional arrangements for other elements of GGAS are being developed.

⁵ Fairfield T, 2007. An evaluation of retailers in the Australian voluntary carbon market. Murdoch University.

⁶ Kollmuss, A., Zink, H., Polycarp, C., 2008, Making Sense of the Voluntary Carbon Offset Market, A Comparison of Carbon Offset Standards, prepared by the Stockholm Environment Institute and Tricorona for WWF Germany

⁷ www.greenhousegas.nsw.gov.au (accessed 30 April 2008)

1 The Voluntary Carbon Market

We believe the voluntary carbon market plays, and will continue to play, an important role in climate change mitigation. We do not believe the compliance market created by the Australian Government's Carbon Pollution Reduction Scheme will replace the voluntary carbon market. The voluntary market will continue to service the businesses and sectors that are not liable parties under the Carbon Pollution Reduction Scheme, the individuals who want to mitigate their personal greenhouse gas emissions and the organisations that voluntarily choose to go beyond regulatory requirements. We want to see the improvement and expansion of an effective voluntary carbon market that delivers genuine greenhouse gas emission reductions above and beyond those delivered through the Carbon Pollution Reduction Scheme and Australia's Kyoto commitments.

1.3 Sources of credits in the voluntary market

Voluntary markets are currently unregulated, with the general exception of trade laws about misleading advertising, such as the Australian Trade Practices Act. There are however numerous voluntary carbon offset standards as well as various mandatory schemes (carbon and other) under which carbon offsets can be generated. Voluntary carbon offsets are therefore generated from a variety of sources including:

- > Abatement credits generated from projects set up purely to create credits to sell into the voluntary carbon offset market and verified according to a particular carbon offset standard.
- > Abatement credits created in carbon compliance markets and sold into the voluntary market.
- > Renewable Energy Certificates (RECs) - units of generated renewable energy created under mandatory schemes (in Australia, Renewable Energy (Electricity) Act 2000) and converted to units of carbon abatement and sold as carbon offsets.
- > Unaccredited offsets.

1.4 Accreditation standards and schemes

The overwhelming majority of offsets sold by participants in Carbon Offset Watch are accredited by independent bodies – either under voluntary carbon offset standards or mandatory schemes. During the Carbon Offset Watch assessment period (1 November 2007 to 30 April 2008), participants in the assessment sold voluntary carbon credits generated under the following independent schemes and standards: CDM, GGAS, Gold Standard, Greenhouse Friendly, Australia's Mandatory Renewable Energy Target (MRET), VER+ and the Voluntary Carbon Standard (VCS). CDM and GGAS are explained above. Below is a brief description of the others included in the assessment:

The Gold Standard is a carbon offset standard that certifies compliance credits created through the CDM and voluntary carbon credits. It was developed by WWF in conjunction with NGOs, governments and industry participants. It is administered by Gold Standard administrative bodies. The standard excludes forestry and land use (sequestration) projects. It emphasises the sustainable development benefits of carbon offset projects, beyond the reduction of greenhouse gas emissions. Very few Carbon Offset Watch participants sold Gold Standard accredited offsets during the assessment period

Greenhouse Friendly is an Australian Government scheme for voluntary carbon offsets, administered by the Australian Government's Department of Climate Change. Greenhouse Friendly provides two services: it certifies products as "carbon neutral"; and, of relevance to Carbon Offset Watch, it certifies carbon offsets generated by certified Greenhouse Friendly Abatement Providers.

Voluntary Carbon Standard (VCS) is a carbon offset standard that was founded by the Climate Group, the International Emissions Trading Association (IETA) and the World Business Council for Sustainable Development (WBCSD) in 2007 following widespread consultation with industry stakeholders. The World Economic Forum also partnered in its development. It is administered by VCS administrative bodies. Credits certified under the VCS are traded in the voluntary market as Voluntary Carbon Units (VCUs).

VER+, launched in 2007 is a carbon offset standard that closely follows CDM processes. Like VCS, it focuses on greenhouse gas reductions and does not require co-benefits. It was developed and is administered by TUV SUD, a Designated Operational Entity, which is an independent entity, accredited under CDM to independently verify CDM projects and emission reductions. Credits certified under VER+ are traded in the voluntary market.

Mandatory Renewable Energy Target and *Renewable Energy (Electricity) Act 2000*: In 2001, the Australian Government introduced a Mandatory Renewable Energy Target (MRET) scheme that aims to increase the uptake of renewable energy in Australia's electricity supply. In 2007, the new Rudd Government set a target of 20% of Australia's electricity supply to come from renewable energy sources by 2020. MRET requires all electricity retailers and wholesale buyers to contribute towards the generation of additional renewable energy. They can meet their obligations by acquiring Renewable Energy Certificates (RECs). MRET is implemented through the *Renewable Energy (Electricity) Act 2000*. Under the Act, owners (or

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operators) of eligible renewable power stations, solar hot water installations, and small generation units (such as photovoltaic cells) are eligible to claim tradable RECs for each megawatt hour of renewable electricity generated according to the rules of the scheme. The scheme is administered by the Office of the Renewable Energy Regulator (ORER). RECs, which are measured in units of energy, can be converted, outside the MRET scheme, to units of carbon and sold as offsets in the voluntary carbon market.

Voluntary carbon offset credits are generated under a variety of other standards, but these schemes are not included in the Carbon Offset Watch assessment because Carbon Offset Watch participants did not sell them during the assessment period. For more information on other offset schemes and standards see for example the Stockholm Environment Institute (SEI)/WWF's comparative study of international voluntary carbon offset standards ⁸ or Ecosystem Marketplace's review of the voluntary carbon market ⁹.

In addition to independent schemes and standards, some retailers have developed their own carbon offset schemes. One such scheme, Origin Energy's Carbon Reduction Scheme (CRS), is included in the Carbon Offset Watch assessment as Origin Energy sold credits generated under this scheme during the assessment period.

1.5 Voluntary carbon market participants

There are many participants in the voluntary carbon market. Participants include the following¹⁰:

- > Project developers – who develop greenhouse gas offset projects. They may sell carbon credits to aggregators, retailers or final customers.
- > Aggregators/wholesalers – who sell offsets in bulk and own a portfolio of credits.
- > Retailers – who sell offsets to individuals or organisations, usually online, for the purpose of offsetting the buyer's emissions. These organisations usually own a portfolio of credits, often generated from a number of offset projects.
- > Brokers – who do not own credits but broker transactions between buyers and sellers.

Carbon Offset Watch assesses the performance of retailers, although it is not uncommon for industry participants to occupy several positions in the supply chain and Carbon Offset Watch participants are likely to perform one or more of the above functions.

⁸ Kollmuss, A., Zink, H., Polycarp, C., 2008, Making Sense of the Voluntary Carbon Offset Market, A Comparison of Carbon Offset Standards, prepared by the Stockholm Environment Institute and Tricorona for WWF Germany

⁹ Hamilton, K. Bayon, R. et al, 2007. State of the Voluntary Carbon Markets 2007, Picking Up Steam. Ecosystem Marketplace and New Carbon Finance.

¹⁰ Based on: Hamilton, K. Bayon, R. et al, 2007. State of the Voluntary Carbon Markets 2007, Picking Up Steam. Ecosystem Marketplace and New Carbon Finance.

2 Carbon Offset Watch

2.1 Purpose of Carbon Offset Watch

There are now more than 50 voluntary carbon offset providers operating in Australia¹¹. While it is appropriate and desirable for consumers to have the opportunity to take voluntary action to reduce their emissions, the task of understanding and choosing between the diverse products and services on offer can be daunting. There are many different ways in which a carbon credit can be generated, several competing standards under which those credits can be certified and many different voluntary carbon product and service offerings. The Australian Competition and Consumer Commission (ACCC) recently raised concerns 'that consumers may be facing misleading and deceptive conduct associated with this emerging market'.¹²

Responding to these concerns, Carbon Offset Watch is the first independent assessment of the quality of products and services offered in the Australian voluntary carbon market. The assessment is a partnership between the Institute for Sustainable Futures (an academic research institute at the University of Technology, Sydney), the Total Environment Centre (representing environmental interests) and CHOICE (representing consumer interests).

Carbon offsets vary in quality. For consumers, it can be difficult to judge the quality of a carbon offset from publicly available information. Even where sufficient information is available, the task of understanding and comparing different service and offset offerings is a challenging one for consumers, given the number of offset retailers in the Australian market and the complexity of offset characteristics. Understanding the timing of emission reductions, the source of those emission reductions and their reliability can be difficult for potential buyers. Further, consumers need to be confident that their own emissions are reasonably estimated.

The primary purpose of Carbon Offset Watch is to provide consumers (individuals and organisations) with information to inform their offset purchasing decisions and encourage them to demand quality and transparency in offset retailer services and products. We hope this will encourage a shift in the voluntary carbon market towards higher quality products and services that deliver guaranteed emission reductions. A secondary purpose of Carbon Offset Watch is to highlight issues of concern in the voluntary carbon

market that can be addressed through industry and government action.

The Rudd Government made an election commitment in 2007 to introduce a national standard for carbon offsets by the end of 2008 that would build on existing schemes, provide national consistency and require all voluntary carbon credits to be accredited.¹³ The details of a national standard are yet to emerge. We hope that Carbon Offset Watch will provide an important input to the development of a national standard for carbon offsets.

2.2 Approach of Carbon Offset Watch

The Carbon Offset Watch assessment focuses on carbon offset retailers, i.e. organisations that sell carbon offsets directly to consumers for the purpose of offsetting the buyer's emissions. The assessment considers:

- > aspects of the offset retailer's services, particularly how the retailer encourages customers to reduce carbon emissions before offsetting and how they estimate customer carbon footprints; and
- > the quality and reliability of the offset itself, largely based on the features of the independent accreditation it has obtained; and
- > the desirability of the underlying projects used to generate the offsets from a long-term sustainability perspective, based on the project type (for example energy efficiency, renewable energy or forestry).

It is important to note that we are primarily interested in the contribution of the voluntary carbon market to climate change mitigation. Other aspects of retailer services, such as standards of customer service and functionality of websites are not assessed. Additional project benefits, such as contributions to ecosystem restoration and land rehabilitation, protection of watersheds and provision of economic opportunities, are also not included in the assessment. For some consumers, these additional benefits (known as co-benefits) will be valued and should be considered separately when deciding what to buy. Co-benefits may be particularly relevant for some forestry projects, especially native forestry projects.

It is also important to note that this assessment is based on our considered opinion of what constitutes a quality offset. Within the voluntary carbon market there are multiple business models and many areas of

¹¹ www.carbonoffsetguide.com.au

¹² Australian Competition and Consumer Commission, 2008, Issues Paper: The Trade Practices Act and carbon offset claims, 16 January 2008.

¹³ Rudd, K and Garrett, P, 2007, Carbon Credits: A National Standard for Carbon Offsets, ALP Media Statement, 6 June 2007, <http://www.alp.org.au/media/0607/msCCloo060.php>.

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uncertainty and disagreement as to what constitutes a quality carbon offset. There is no consensus on the absolute merit of some offset attributes that we consider to be essential. Opinion is divided, for example, on the importance of rigorous tests for additionality of offset projects. Our response has been to clearly document our assumptions and judgements throughout this report as a starting point for debate. We believe that there are strong justifications for the positions we have taken on particular issues and we welcome constructive debate. Ultimately, our objective is for the voluntary carbon market to make a strong contribution to climate change response and we hope that objective is shared by market participants and regulators.

Many of the complexities, challenges and uncertainties in the international and domestic voluntary carbon offset market are already well-documented. We do not repeat the discussion in full here. We do however highlight some concerns that are of particular relevance to the Carbon Offset Watch assessment. Carbon Offset Watch therefore gives consumers useful information and contributes to the crucial debate on what matters in the voluntary carbon market.

Carbon Offset Watch provides a snapshot of the quality of the products and services of a large proportion of the Australian voluntary carbon offset retail market during a fixed time period. The voluntary carbon market is dynamic and consumers should always request the most recent information from offset retailers. We have also found that many voluntary carbon retailers are flexible and can source different kinds of carbon credit on request. Consumers can and should demand the highest quality offsets (see 'Tips for buying carbon offsets' above).

This is the first of what we hope will be a regular assessment, pending funding for future iterations.

2.3 Who is included?

Carbon Offset Watch assesses the 20 voluntary carbon offset retailers listed in Table 6 who responded to the Carbon Offset Watch survey with sufficient information to allow for assessment according to our methodology. We have chosen to focus on retailers because it is primarily retailers who interface with individual and organisational consumers. Individuals and organisations could also choose to negotiate through brokers or even wholesalers, although for individuals and small organisations this is less likely. We believe that large organisations have more resources at their

disposal to investigate terms and negotiate contracts. It is smaller-scale offset customers who are most at risk of being misled or simply not having access to sufficient information to inform their purchasing decisions. This is particularly the case as an analysis of the voluntary market by Ecosystem Marketplace found that *based on both the primary business activity and multi-business activities analysis, online retailers were the fastest growing sector of the marketplace*¹⁴

2.4 Who is excluded?

More than 50 organisations were invited to complete the Carbon Offset Watch survey. Only the 20 listed in Table 6 responded and met the criteria for inclusion. The reasons for not including specific organisations are as follows:

- > Australian Carbon Traders, Carbonza and LMS Generation are carbon offsets retailers that responded to the Carbon Offset Watch survey but did not provide sufficient project information for the assessment.
- > Several offset providers that responded to the Carbon Offset Watch survey have a business model that appears to be primarily brokerage/consultancy rather than retail. These were therefore excluded. The organisations are: Australasian Carbon Credits, Australian Energy Consultants and Carbon Balance.
- > Carbon Neutral responded to the survey initially and then withdrew.
- > 30 organisations identified as voluntary carbon market participants were invited to participate and did not respond to the Carbon Offset Watch survey. These are: ANZ, Auscarbon International, Balance Carbon, Bendigo Bank, Canopy, Carbon Conscious, Carbon Neutral Cars, Carbon Pool, Carbon Trading International, Climate Care, Easy Being Green, Elementree, Emit Environmental Brokers, Future Climate Australia, Greenbank, Greenfleet, Greenhouse Balanced, Greening Australia, Greenpath, Hatch, Hydro Tasmania, Insignis Forestry Services, My Clean Sky, Offset Emissions, Perenia, Planet Neutral, Project Andromeda, Todae, TreeSmart and Veolia Environmental Services.

We do not know the reasons why these organisations chose not to participate. It is possible that some may not fit into the category of offset 'retailer' and therefore did not participate because the survey would not have been relevant for their business model. Apart from these, we think it is reasonable to expect that responsible organisations selling carbon offsets in the

¹⁴ Hamilton, K. Bayon, R. et al, 2007. State of the Voluntary Carbon Markets 2007, Picking Up Steam. Ecosystem Marketplace and New Carbon Finance

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voluntary market should be willing to participate in this kind of independent assessment process. This is particularly the case given the current absence of specific legislated standards for the market. We are unable to recommend any of these organisations as carbon offset retailers due to lack of information.

Also excluded are:

- > Retailers of other products who offer either 'carbon neutral' products or through whom a consumer can offset the carbon associated with the specific product - for example, an airline company, like Virgin Blue, that sells offsets along with flight tickets to neutralise the carbon associated with the flight. These organisations were excluded simply because it was necessary to limit the scope of the first Carbon Offset Watch. Ideally, they would be included in future assessments.

3 The assessment process

3.1 Survey

The primary data collection mechanism used in Carbon Offset Watch was an online survey of offset retailers. We developed the survey following comprehensive review of literature on the voluntary carbon market and publicly available information such as websites. We piloted the survey with a limited number of industry experts and participants. The pilot provided invaluable feedback and highlighted some important gaps in the areas covered by the survey, which were included in the final version.

The survey asked retailers to provide detailed information on their services and offset products. A separate initiative, the Carbon Offset Guide, launched in December 2007 by Global Sustainability at RMIT and EPA Victoria, provides a directory of offset retailers. It also uses an online survey method and is updated quarterly. To reduce duplication between surveys, EPA Victoria and Global Sustainability agreed to share relevant data from their survey with us. Participation in our survey entailed completion of the Carbon Offset Guide survey and additional questions in a separate survey. In this report the 'Carbon Offset Watch survey' refers to all questions used in our assessment from both surveys.

On our behalf, Global Sustainability invited all organisations identified as selling carbon offsets (57 in total) to participate in our survey. Organisations were given 2 weeks to complete the survey. Although the survey questions were detailed and may have taken some time to complete, we believe this time investment was appropriate for organisations participating in the first assessment process of its kind in the Australian market. All Carbon Offset Watch participants were given the opportunity to check and confirm their final responses to the survey and to provide additional information or clarification where initial survey responses were insufficient for the assessment process. Final responses were allocated scores according to the methodology explained in detail in Section 4 below.

3.2 Website calculator checks

Survey responses were supplemented by an assessment of online air travel emission calculators, undertaken by CHOICE. Due to the lack of a standardised benchmark for comparison, the air travel calculator assessment was not used in the scoring process. The results and the issues they raise are discussed in Section 5.5 below.

4 The assessment methodology – scope and principles

4.1 Scope

The Carbon Offset Watch assessment incorporates features that we have determined to be both important and feasible to include in an assessment of this type.

In developing the assessment methodology, we are primarily interested in the contribution of the voluntary carbon market to climate change mitigation. We recognise that many offset products have additional benefits beyond climate change mitigation that may be important to consumers. For example, carbon offsets sourced from tree planting may make a contribution to ecosystem restoration. These additional benefits (known as co-benefits) are not included in the Carbon Offset Watch assessment, as any meaningful evaluation would require a separate assessment process. Consumers seeking carbon offset products with particular co-benefits should do their own research to identify suitable products and use Carbon Offset Watch to compare the climate change mitigation potential of these products. Other features excluded from or partially addressed by the assessment, are explained in Section 5.7 below.

4.2 Principles

The Carbon Offset Watch assessment methodology is underpinned by the following guiding principles:

Principle 1: Consumers should be encouraged to consider alternative cost-effective mitigation measures before purchasing offsets. A widely accepted principle of environmental policy is that emission reductions at source are preferable to cleaning up emissions after they have occurred. This is reflected in the familiar waste hierarchy of avoid-reuse-recycle-dispose. Avoiding waste or pollution is preferable to disposing of it and dealing with the environmental consequences. In the specific case of greenhouse gas emissions, we argue that it is better to prevent greenhouse gas emissions at source than to offset emissions after they have occurred. The deep cuts in emissions required to avoid dangerous climate change will require action across all sectors of society. There are many actions that individuals and organisations can take to directly reduce their own greenhouse gas emissions. In many cases these direct actions will also be a more cost-effective way to reduce emissions than purchasing offsets. We believe that consumers should be encouraged to consider alternative mitigation measures before purchasing offsets. The consumer will then be in a position to choose the most cost-effective emission reduction option. This principle may conflict with the

commercial imperative for offset retailers to sell more of their product but is important to ensure the most cost-effective and comprehensive response to climate change.

Principle 2: Consumers should be provided with sufficient information to understand and inform their offset purchase decision. It is difficult to know how much information is needed to adequately inform consumer decision-making without causing information overload – different consumers will have very different information needs. We believe that as a minimum, consumers should have access to information on the schemes or standards (if any) the retailer's offsets are accredited under and what the accreditations mean, and information about the underlying projects from which the offsets are sourced. All consumers should have access to further information on request. We also think it is preferable for retailers to assist consumers with estimating their carbon footprint in a one-stop-shop approach, rather than referring them to a separate carbon footprint provider. Requiring customers to estimate their footprint in one place and then offset it in another further complicates an already complex market.

Principle 3: The voluntary market should closely follow the requirements of the compliance market. We have taken the approach that the voluntary market should closely follow the requirements of the international compliance market, such as CDM processes. Attributes of the compliance market therefore inform our assessment of the voluntary market and CDM processes are used to benchmark processes under other accreditation standards. This approach is also used in a recent international comparative analysis of international carbon offset standards¹⁵.

Principle 4: Independently accredited offsets are better than retailer-accredited and non-accredited offsets. We acknowledge that the process of obtaining independent accreditations (independent from both project developers and offset retailers) can be expensive and time-consuming. For this reason, some downplay the importance of obtaining independent accreditation and even see it as a barrier to implementation of emission reduction projects. However, in our opinion, in the absence of effective regulated standards, independent accreditation is currently the only recourse for consumers to have confidence that they are purchasing offsets of an acceptable quality and for retailers to provide this confidence.

Some retailers have developed their own offset quality standards. One such standard is included in this

¹⁵ Kollmuss, A., Zink, H., Polycarp, C., 2008, Making Sense of the Voluntary Carbon Offset Market, A Comparison of Carbon Offset Standards, prepared by the Stockholm Environment Institute and Tricorona for WWF Germany

4 The assessment methodology – scope and principles

assessment and its features are compared to the features of independent standards. Regardless of the quality of retailer standards and the independent verification processes built into such standards, there is an inherent conflict of interest in a retailer setting its own offset standard. Independence of the accreditation standards is an important feature in the assessment.

Principle 5: Emissions abated should match customer emissions. Offset buyers need to have confidence that the emissions they have created and chosen to offset are matched by equivalent emission reductions elsewhere. This means that:

- > customer emissions need to be reasonably estimated;
- > the abatement must:
 - > be measured appropriately;
 - > have already occurred at the time of purchase or occur shortly after;
 - > be guaranteed to be permanent;
 - > be additional to what would otherwise have occurred i.e. it would not have happened in the absence of the voluntary offset market; and
- > the offset must be unique to the buyer, i.e. not double-sold.

Principle 6: Offset projects that change or prevent the underlying activities that create greenhouse gases are best for combating climate change in the long-term. While we need to use all options at our disposal to reduce greenhouse gas emissions in the short-term, the scale of greenhouse gas reductions required means that we eventually need to transform our society so that it no longer generates damaging levels of greenhouse gas emissions. Projects that change or prevent the underlying activities that cause greenhouse gas emissions are best for combating climate change in the long-term as they accelerate long-term transformation towards a sustainable, low-carbon society.

Principle 7: Reliability is balanced against practicality. This principle is applied across all elements of the assessment process. We prioritise reliability and accuracy in most aspects of the offsetting process on the grounds that reliability of the offset is paramount. For example, we take the view that rigorous additionality testing is important, even if it incurs expense and bureaucracy. On the other hand, we recognise that many consumers will want a quick and convenient way of assessing their emissions and that ease of use may be more important than absolutely precise accuracy of footprint calculations for some customers.

5 Detailed methodology

The scoring methodology used in Carbon Offset Watch is explained in detail in the following sections. A summary of the scoring system is provided in Table 4 in Section 5.4.

Our scoring system awards points in three categories:

- > retailer services
- > offset quality and reliability
- > project type

5.1 Retailer services

The retailer services category contributes 19.5% of the total points. It assesses aspects of the retailer's services and the extent to which retailers encourage climate change mitigation alternatives other than offsets. It comprises three main elements.

5.1.1. The retailer encourages customers to reduce carbon emissions before purchasing offsets (7.5%)

Points are awarded to retailers who:

- > offer emission-reducing products and services, such as energy efficiency products (as this is evidence of their commitment to encouraging emission reductions through actions other than offsetting)
- > help and encourage customers to assess and consider the cost-effectiveness of alternative mitigation measures before purchasing offsets by:
 - > reducing energy use through more efficient products
 - > reducing energy use through behaviour change
 - > renewable energy options

There were a few points available for retailers who demonstrated extra services in this category.

5.1.2. The retailer provides the customer with information to inform their purchasing decision and to give them confidence in the integrity of their purchase (5%)

Points are awarded to retailers who:

- > provide customers with detailed information on offset credits and products such as details of specific offset projects and processes for ensuring the reliability of the offsets. This information can be made available on the retailer's website or on request.
- > provide customers with a documentary record of their offset purchase such as a receipt.

5.1.3. The retailer provides the customer with a reasonable estimation of their carbon footprint (7%)

Points are awarded to retailers who:

- > offer a carbon footprint calculation service either online or offline through personalised assessment.

There is currently no legislated methodology for customer carbon footprint calculation¹⁶ (this is discussed further in Section 5.5 below). We have awarded points for a number of elements that, in our view, approximate reasonable confidence that footprint estimations are of a sufficient quality. Points are awarded to retailers whose process for estimating customer emissions incorporates the following elements:

- > *Use of National Greenhouse Accounts (NGA) full fuel cycle emission conversion factors.* NGA factors are standardised factors for converting units of energy consumption in Australia, such as purchased electricity, into units of greenhouse gases, measured in carbon dioxide equivalents (CO₂-e). The factors incorporate, in the example of purchased electricity, the particular fuel mix (coal, gas etc) in the grid electricity supply of each state. Use of full fuel cycle factors means that all CO₂-e associated with the production, transportation and consumption of the fuel is taken into account i.e. the life cycle emissions associated with electricity production. These factors are liable to give the most reliable and comprehensive standardised estimate of greenhouse gases associated with specific activities such as electricity consumption.
- > *Inclusion of all six Kyoto Protocol greenhouse gases, where relevant* (carbon dioxide, methane, nitrous oxide, sulphur hexafluoride, hydrofluorocarbons, perfluorocarbons). NGA factors incorporate all six Kyoto Protocol gases to the degree that they are relevant to particular emitting activities. Where a carbon footprint calculation goes beyond the NGA factors, it is important that all six gases are incorporated in the calculation where relevant. Although CO₂ is the most significant of the greenhouse gases in terms of volume emitted, other gases, such as methane, are also emitted in large volumes and others are many times more powerful than CO₂ in terms of their potential to increase temperatures and their longevity in the atmosphere.
- > *An acceptable level of calculation customisation* (for example, for a household we accepted partial customisation based on a single variable such as household size as the minimum acceptable level of customisation, which scored the same points as more fully customised calculations). Assessment in this area is guided by Principle 7, the need to balance reliability against practicality. While a fully customisable calculation is the ideal for accuracy it

¹⁶ Australian Competition and Consumer Commission 2008. Carbon claims and the Trade Practices Act.

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could compromise ease of use for the consumer. On the other hand, in our view, calculators that do not allow any customisation reduce accuracy too far.

- > *Completeness of the footprint scope.* It is up to consumers to choose the activities they wish to offset. However, where a retailer offers to offset 'packages' of activities, such as emissions for a whole household, or from an event such as a wedding, it is up to the retailer to either provide a customised assessment for the consumer, or for the 'package' to be complete in the activities that it includes. The retailer should also clearly explain what is included in the footprint estimation. We asked retailers to provide information on the activities that they would normally include in their footprint estimations for whole organisations, individuals/ households and events. Retailers scored points for inclusion of: direct fuel use, such as natural gas; owned motor vehicles; fugitive emissions (for organisations only); electricity; flights; other travel, such as taxis; waste disposal; purchased materials and products; and outsourced activities. There was also an opportunity for retailers to score extra points if they demonstrated inclusion of activities in addition to those listed.
- > *Inclusion in flight calculators of the following elements* (assessed to be important in an independent international review of flight calculators¹⁷):
 - > *Aircraft Model* – aircraft model and engine type affect fuel consumption as design affects fuel efficiency. The most accurate calculators would reflect the fuel efficiency of different aircraft models, and ideally identify the model for the passenger.
 - > *Flight Profile and Flight Distance* – aircraft use fuel at different rates depending on the flight profile i.e. during taxi, takeoff, climb, cruise, landing approach and landing. Calculators therefore need to account for the different profiles experienced during a flight. Flight distance also affects fuel consumed. Generally the further an aircraft flies, the greater its fuel use, although longer distance flights are more 'efficient' (in terms of fuel use per mile) because fuel use is highest during takeoff and landing, which form a higher proportion of the overall flight for short flights. The most accurate calculators use specific information about total fuel consumption and flight distance¹⁸
 - > *Cargo on Passenger Flights* – in addition to customer and crew luggage, passenger planes also carry cargo, for which passengers are not

responsible. The weight of this cargo (and its subsequent impact on fuel use) needs to be taken into account in flight calculators so that passengers' footprints exclude emissions associated with cargo. The SEI report discusses different methodologies for accounting emissions associated with cargo.

- > *Seat Occupancy Rate (Load Factor)* or the ratio of passengers on board to seats available on a flight. The more passengers on board a flight, the less fuel is used per passenger. Load factors have increased in recent years. Average occupancy rates are available for many airlines and the most accurate calculators would use up to date occupancy rates.
- > *Seat Class* – first and business class seats take up more space and weigh more than economy class seats. Therefore, the fuel consumption per passenger in first and business class is higher than in economy class, with space being the most significant differential. The most accurate calculators would account for the space taken up by seats in different classes, and first and business class passengers' footprints should be higher than passengers in economy class.
- > *Radiative forcing index* – a multiplier factor that accounts for the non-CO₂ warming effects of aircraft emissions, such as water vapour in contrails that are related to emissions occurring at high altitudes.

5.2 Offset quality and reliability

The offset quality and reliability category contributes 73% of the total points.

Many elements of carbon offset quality and reliability are independent of the type of offset. Whether the offset is sourced from energy efficiency, renewable energy or some form of sequestration, it can be delivered well or poorly.

Some retailers sell credits from one project only while others sell credits from multiple projects. A customer buying carbon offsets from a retailer may or may not have the option of choosing offsets of a particular project type or carrying a particular accreditation – their offset purchase may be matched by credits from a portfolio held by the retailer. A retailer could claim to sell a premium offset credit and in fact hold some of these credits in their portfolio, but in practice primarily match customer carbon offset purchases with low quality offset credits. It is therefore preferable to assess retailers on the basis of the credits they actually sell

¹⁷ Kollmuss, A. and Lane, J. 2008, Carbon Offsetting & Air Travel, Part 1: CO₂-Emissions Calculations, Stockholm Environment Institute

¹⁸ *ibid*

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rather than what they offer to sell.

In order to assess retailer performance taking into account offset quality, we attributed scores based on actual retailer sales of credits during a particular time period, where this information was available. Retailers were asked to indicate the percentage of their total volume of offset credit sales for the period 1 November 2007 to 30 April 2008 that came from specific projects. Our preference would have been to use a full year of data. However, given the rapid and recent development of the voluntary carbon market, some retailers would not have been able to provide data for a full year. We therefore sought data for a six-month period.

Due to the portfolio nature of some retailer operations, not all retailers are able to provide information on percentage of sales, and were instead given the option of providing percentage of offset acquittals from each project during the period. As a last resort, retailers could give the average proportion of credits of different types in their total portfolio over the same time period. A few retailers provided no information on actual credit sales or portfolio proportions. In these instances we attributed 100% of sales to the lowest scoring credit type on which they provided information to avoid over-awarding of points. A few retailers provided information on individual projects that have achieved more than one type of accreditation. In these cases we attributed 100% of sales from that particular project to the higher scoring credit type as the project has met the requirements of the higher standard of accreditation.

The offset quality and reliability category comprises three main elements:

- > Features of the offset
- > Timing of emission reductions and contractual arrangements
- > Verification of retailer acquittal/compliance

5.2.1. Features of the offset (60%)

We intended to assess offset features based on retailer survey responses to detailed questions about their offsets. This would enable fair comparison of offsets whether or not they are accredited by an independent standards body. Survey responses revealed that not all retailers have the detailed knowledge of underlying offset projects required for this analysis. Ideally, retailers would be familiar with the detailed methodologies underpinning the generation of specific offsets. In practice, due to the complexity of the market, some retailers rely on the integrity of the accreditation schemes and standards in dealing with the detailed

features of the offsets. We accepted that while it is reasonable to expect retailers to have some knowledge of underlying projects, not all retailers know the finer details of, for example, methodologies for calculating emission reductions. This required us to revise the assessment methodology.

The overwhelming majority of offsets retailed by participants in Carbon Offset Watch are accredited by independent bodies. As credits created under different schemes have different purposes, it can be difficult to compare the quality of credits. This issue is discussed widely in the literature on the voluntary carbon market. There is no consensus on which is the 'best' standard. For example, one standard may deal strongly with additionality but have no public registry of offsets, while another standard may have a public registry but be weak on additionality. A retailer or a customer choosing between accredited offsets from these standards is forced to weigh up the relative importance of these attributes.

To date there has been no comprehensive independent assessment and ranking of all voluntary carbon offset standards and schemes operational in the Australian market. The most comprehensive assessment of offset standards that we are aware of is the Stockholm Environment Institute (SEI)/WWF's comparative study of international voluntary carbon offset standards.¹⁹ This report provides a qualitative assessment of international voluntary standards using CDM as the benchmark. It does not attempt to quantitatively score and rank standards, nor does it assess Australian-specific standards such as Greenhouse Friendly. We have drawn extensively on this report for information on international standards and applied the same approach of benchmarking standards against CDM processes. Carbon Offset Watch is the first such ranking of offset standards and schemes operating in the Australian market.

It should be noted that CDM is not without its critics. For example, recent evidence suggests that not all approved CDM projects meet the CDM's own additionality requirements. Conversely, others criticise the CDM for being too stringent and stifling innovation²⁰. No doubt similar criticisms could be levelled at other schemes and standards. Our response has been to assess each standard or scheme on its own merits by building a composite picture of the features we consider to be important. We assigned scores for each feature based on the requirements of the standard, providing an overall score for each

¹⁹ Kollmuss, A., Zink, H., Polycarp, C., 2008, Making Sense of the Voluntary Carbon Offset Market, A Comparison of Carbon Offset Standards, prepared by the Stockholm Environment Institute and Tricorona for WWF Germany

²⁰ Slavin, T. 2008. Carbon markets: time to clean up. Green Futures March 2008

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scheme or standard. The assessment includes independent carbon offset standards, a retailer standard and other schemes and standards under which carbon offsets are generated. In one instance where credits had not achieved accreditation during the assessment period, the offset features were assessed based on the retailer's detailed survey responses.

The independent standards and schemes included in the Carbon Offset Watch assessment are: CDM, GGAS, Gold Standard, Greenhouse Friendly, MRET, VER+ and VCS. Also included is Origin Energy's Carbon Reduction Scheme (CRS).

The following section describes the features included in the scoring of standards and credits, illustrated using CDM features.

Accreditation features

- > **Project validation standard (7.5%):** the offset project must meet a set of criteria or rules, i.e. a project standard against which the project concept and design will be reviewed and assessed. Project design includes how the emission reductions generated by the project will be calculated, the mechanisms that will be used to monitor the actual emission reductions generated by the project, consultations with stakeholders about the impacts of the project etc. Under CDM, all aspects of project design are documented in a project design document. All standards were awarded full points for this feature.
- > **Independent project validation (7.5%):** the project is assessed as meeting the project standards or criteria by an independent auditor (independent from the project developer and offset retailer). Under CDM this process involves a desk review of the project design document, on-site visits, a public comment period and a validation report written by the auditor. All standards were awarded full points for this feature.
- > **Project validation approval (4%):** the outcome of the project assessment is reviewed and approved by a body that is independent from the project developer, the retailer and the auditor that conducted the validation process i.e. an independent standards body. Under CDM all projects are reviewed and approved by the CDM Executive Board. Schemes and standards that were not awarded points for this feature are:
 - > standards that allow approval of projects by the auditor who undertook the assessment - VCS and VER+.
 - > MRET – projects are assessed and approved by ORER without the use of third-party auditors, therefore there is no separation between the validation and approval processes.
- > Origin Energy's CRS because the approving body is not independent from the retailer.
- > **Abatement calculation methodology (7.5%):** there is an accepted/documented methodology or methodologies for calculating emission reductions. Under CDM a calculation methodology defines how a project developer must establish a baseline (i.e. what would have happened in the absence of the project), determines additionality (i.e. determines that the project would not have happened anyway) and calculates and monitors emission reductions created by the project. Although there are methodologies for calculating units of renewable energy generated under the MRET scheme, there is no comprehensive and standardised methodology for converting units of renewable energy generated under this scheme to carbon offset units. MRET was not awarded maximum points for this feature.
- > **Additionality (7.5%):** the project is required to meet sufficient additionality tests to provide reasonable confidence that the project is additional i.e. to demonstrate that it would not have happened anyway. At face value it seems self-evident that a quality offset should be additional. In practice, demonstrating additionality is not easy. Some take the view that additionality requirements are overly-bureaucratic, cost-prohibitive and stifle projects that could have real emissions benefits – this is a common criticism of CDM processes. Furthermore, demonstrating additionality and constructing baselines is technically fraught with difficulty and subjectivity. There is no consensus on what constitutes sufficient demonstration of additionality and different standards and schemes have different requirements. In our opinion, the importance of offset additionality outweighs the difficulty in demonstrating it. There are a number of additionality tests that can be used. We have used the CDM/UNFCCC additionality tool as a benchmark. Under the CDM tool the project must pass a series of tests to demonstrate that the project is additional, for example an investment analysis must be undertaken to demonstrate that the project proposed is not the most economically or financially attractive option. Schemes and standards that lose points for this feature are:
 - > GGAS and MRET – neither scheme requires projects to meet additionality tests other than regulatory surplus (i.e. that the project is additional to regulatory requirements), which in our opinion is not sufficient on its own to ensure additionality. Neither scheme was awarded points for this feature.

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- > Origin Energy's CRS did not score full points for this feature – although Origin considers additionality, not all projects are independently tested and verified as being additional.
- > **Independent abatement verification (7.5%):** actual emission reductions generated by the project are verified as being accurate by an independent auditor (i.e. independent from the project developer and offset retailer). Under CDM an independent auditor will check the project developer's records of measured emission reductions. Under MRET, the Office of the Renewable Energy Regulator (ORER) has the power to conduct audits of actual renewable energy generation. However, audits are not conducted on all projects. Furthermore there is no requirement to independently verify the conversion of renewable energy units to carbon offset units for sale in the offsets market. MRET is not awarded maximum points for this feature.
- > **Independence of the standard/scheme (7.5%):** The standards body i.e. the body that defines the project standards, the criteria for approval of credits etc is independent from the project developer and offset retailer. This feature reflects the principle that independent standards are preferable and provide greater consumer confidence than retailer standards. Origin Energy's CRS was not awarded points for this feature.
- > **Scheme registry (7.5%):** the standards body maintains a registry of credits issued with the standard's accreditation. The registry is independent from offset developers and retailers, is publicly accessible and maintains details that allow ownership and status of credits to be tracked, for example whether or not the credit has been retired. Standards and schemes that do not score maximum points in this category are:
 - > Greenhouse Friendly, which has an internally maintained registry with serialised credits but which is not publicly accessible
 - > Origin Energy's CRS, which maintains an internal asset register that is not independent or publicly accessible.
- > Retirement of offsets (4%): the standards body has a process for retiring offsets. This means that the offset is removed for sale from the market. This is essential to ensuring that the offset credit cannot be sold more than once.

At the time of writing, the VCS database and registry are not yet operational. However, they are due to become operational prior to release of Carbon Offset Watch. Once in place they will meet the criteria above

for scheme registry and retirement of offsets. VCS has therefore been awarded full points for these features²¹.

- > **Permanence (maximum 7.5% deduction):** for an offset to be reliable, the emission reductions must be permanent and irreversible. Offset projects that prevent emissions being created (e.g. energy efficiency) or destroy emissions before they reach the atmosphere (e.g. industrial gas destruction) have no risk of reversibility – the emission reductions are permanent and irreversible.

Offset projects that rely on storing carbon in carbon sinks, such as forests (sequestration projects), have reversibility risk. Emission reductions could be reversed if, for example, the forests storing the carbon die or are burnt. To claim permanent emission reductions, sequestration projects need to guarantee that the carbon will be stored for as long as the carbon emitted by the offset buyer remains in the atmosphere. The science suggests that to meet this condition, most of the carbon must be stored for at least 100 years and some of it for much longer. Schemes and standards that accredit sequestration projects must therefore meet additional assessment criteria that address the reversibility risk in sequestration projects.

As all sequestration projects are inherently risky in terms of permanence, schemes and standards that allow sequestration projects receive a points deduction for sequestration projects. The risk can be addressed to some extent by putting in place risk management measures to reduce the likelihood of reversibility. Schemes and standards are awarded points if they require appropriate risk management measures.

All sequestration offsets sold by Carbon Offset Watch participants during the assessment period were accredited under the GGAS scheme. Points were deducted and awarded to GGAS sequestration projects as follows:

- > Inherent reversibility risk in sequestration projects (deduct 7.5%)
- > GGAS risk management measures (add back 5%) i.e. net deduction 2.5%: GGAS requires periodic monitoring to ensure that the carbon stock matches GGACs generated and can require purchase of additional GGACs to make up any shortfall. Carbon must be stored for 100 years.

GGAS has some of the most stringent requirements for sequestration projects. In our view however, there is a residual risk of reversibility due to the very long time period over which carbon must be stored to

²¹ pers. comm. J. Harris, VCS, 15 August 2008

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effectively guarantee permanence, and the uncertainties that apply over such a time period. This would also apply to other sequestration risk management measures, such as implementation of buffer zones (whereby a portion of credits and sales are retained to provide funding for replacement of lost abatement). CDM has attempted to deal with reversibility risk by requiring sequestration credits to be replaced with non-sequestration credits at a future point i.e. by issuing temporary credits for sequestration projects. Although this would guarantee permanence of emission reductions, in practice temporary credits have not proved to be attractive in the market. Reversibility risk therefore remains an issue for sequestration projects.

Summary of accreditation scores

Based on the features described above, the independent standards/schemes included in the assessment achieved the following total scores (ranked in descending order):

Scheme/standard	Score out of 60
CDM and Gold Standard	60
VCS, VER+ and Greenhouse Friendly	57
GGAS non-forestry/forestry	53/50
MRET (see note below)	42

Table 3 Independent accreditation standard/scheme scores

Although Greenhouse Friendly performed well in the assessment relative to other Australian standards, it would not be sufficient for the Rudd Government to simply adopt it as the de facto national standard. This is because, as discussed further below, it does not incorporate all aspects of the voluntary carbon market, such as requirements for carbon footprint calculators and acquittal of offsets.

Origin Energy's CRS scored 40 out of 60. We are pleased to note that since the assessment period, Origin has revised its CRS. In particular we welcome the announcement that: *as of February 5 2008...all new projects accepted to supply offsets to [Origin's] CRS must be validated and verified to an independent carbon offset standard, such as the Voluntary Carbon Standard or the Australian Government's Greenhouse Friendly.*²²

The unaccredited offsets included in the assessment scored 38 out of 60.

A note on MRET

MRET is not designed to accredit carbon offsets. Deficiencies in the reliability of the offset credits generated under MRET (RECs) are not deficiencies from the perspective of MRET's objectives, which is generation of new renewable energy in Australia. The issue lies with selling credits created under a scheme designed for renewable energy regulation in the voluntary carbon offsets market, which has a different set of requirements. MRET could be revised to include, for example, specific rules for conversion of RECs to carbon offsets that would address these issues. In practice though, because of spatial and temporal variation in how grid electricity is produced, it is difficult to accurately convert units of renewable energy generation under MRET to units of carbon offset. Until this issue can be resolved, we do not recommend buying offsets accredited under MRET.

5.2.2. Timing of emission reductions and contractual arrangements (7.5%)

The ideal carbon abatement would occur at the same time that the emissions it is offsetting are created. In practice due to the timing of offset purchases in relation to creation of emissions, this is unlikely to be the case. In addition, contractual arrangements for credit purchases can either specify that emission reductions are guaranteed or merely an intention that the emission reductions will occur. Our assessment establishes a hierarchy of preference for timing of emission reductions in relation to creation of emissions and the level of certainty of their delivery. In descending order of preference:

1. the emission reductions are guaranteed to be delivered and have already occurred (7.5%) (known as prompt delivery or ex-post accounting²³).
2. the emission reductions are guaranteed to be delivered and will occur in the near future (6%) (known as forward delivery or ex-post accounting).
3. the emission reductions are intended but are not guaranteed to be delivered and are expected to occur within the next 10 years (1%) (known as forward crediting or ex-ante accounting).
4. the emission reductions are intended but are not guaranteed to be delivered and are expected to occur in more than the next 10 years (0%) (known as forward crediting or ex-ante accounting).

²² www.originenergy.com.au/1912/The-rules-and-governance(accessed 21/08/2008)

²³ Definitions based on: Kollmuss, A., Zink, H., Polycarp, C., 2008, Making Sense of the Voluntary Carbon Offset Market, A Comparison of Carbon Offset Standards, prepared by the Stockholm Environment Institute and Tricorona for WWF Germany

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5.2.3. Verification of retailer acquittal/compliance (5%)

For the purpose of the Carbon Offset Watch assessment acquittal/compliance is defined as the process whereby in any given period:

- > a carbon offset retailer buys or holds in a portfolio a volume of offsets (offset supply) that matches to the volume of offsets it has sold to customers (offset demand); and
- > the retailer transfers ownership of the offsets to the customer for the customer to retire; or
- > the retailer retires the offsets from the market (by retiring from a scheme registry or notifying the accreditation body if the offsets are accredited) on behalf of the customer.

Scheme registries help to prevent double-selling of offsets i.e. sale of the same offset to more than one buyer. In practice retailers often retire offsets on behalf of customers and this process is effectively taken on trust. However for consumers to have confidence that the retailer has accurately and completely acquitted the correct number of offsets, the compliance process should be independently verified. There are currently no specific standards for the compliance process or verification of the process. However, auditors may be willing to verify it using generic non-financial audit standards.

We asked retailers to specify who verifies their offset compliance. Points were awarded for evidence of an appropriate form of independent verification.

5.3 Project type

The project type category contributes 7.5% of the total points. It assesses the desirability of the underlying project from a long-term sustainability perspective. The points available for this category are awarded to offset projects that change or prevent the underlying activities that create greenhouse gases, such as fossil fuel use, landfilling waste and deforestation, and hence accelerate transformation to a low-carbon society. Project types awarded points for this category are:

- > energy efficiency
- > renewable energy
- > diversion of waste from landfill (composting).

Projects that prevent deforestation would also be

awarded points in this category, but no Carbon Offset Watch participants sold offsets from avoided deforestation projects.

5.4 Points summary

A summary of the scoring methodology is provided in Table 4 below.

5.5 Online air travel emission calculator assessment

CHOICE undertook testing of web-based carbon footprint calculators. This was a de facto check on overall calculator accuracy. We chose flight calculators for ease of comparability. CHOICE recorded the values obtained from retailers' online calculators for kg of CO₂ for two benchmark flights – Sydney to Melbourne return and Sydney to London return. Where data input required it, standard distances were used and RFI was selected where the option was available.

We compared the results from the online calculators to one of two benchmark calculators, depending on the features of the calculator. The selected benchmarks are TRX Travel Analytics' calculator and the Australian Government's Climate Clever calculator.

The Travel Analytics calculator was recently assessed as likely to be the *best currently available air travel CO₂ emissions calculator* by the SEI in a comparative study of international flight calculators²⁴. It includes all of the features listed for flight calculators in Section 5.1.3 and it provides customer kg CO₂ by seat class. The TRX calculator does not claim to account for life cycle aviation emissions associated with the flight, but only the fuel burn associated with the flight. Three of the retailer calculators assessed by CHOICE provide the option of selecting seat class (Carbon Planet, Carbon Reduction Institute and Coolplanet) and the results from their calculators were compared to this calculator.

Other calculators that provide only an average seat class value for customer carbon from flights were compared to the Climate Clever calculator. The Climate Clever calculator claims to account for all cradle-to-grave emissions related to aviation passenger travel, including fuel combustion and on ground emissions associated with aviation such as aircraft maintenance, waste disposal from in-flight catering and office operations.

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Category Points	(%)
Retailer services	
The retailer encourages customers to reduce carbon emissions before purchasing offsets	7.5%
The retailer provides the customer with information to inform their purchasing decision and to give them confidence in the integrity of their purchase	5%
The retailer provides the customer with a reasonable estimation of their carbon footprint	7%
Retailer services total	19.5%
Offset quality and reliability	
Features of the offset:	
Project validation standard	7.5%
Independent project validation	7.5%
Project validation approval	4%
Abatement calculation methodology	7.5%
Additionality	7.5%
Independent abatement verification	7.5%
Independence of the standard/scheme	7.5%
Scheme registry	7.5%
Retirement of offsets	4%
Permanence	(-7.5% max)
Features of the offset total	60.5%
Timing of emission reductions and contractual arrangements	7.5%
Verification of retailer acquittal/compliance	5%
Offset quality and reliability total	73%
Project type total	7.5%
Total points all three categories	100%

Table 4 Points summary

The online calculator checks performed by CHOICE reveal that there is great variety in the estimation of emissions generated by different retailers' footprint calculators as illustrated in Table 5.

Flight	Seat class not specified*	First class#	Business class#	Premium economy class#	Economy class#
Sydney to Melbourne return	-68% to +80%		-6% to +53%		+9% to +45%
Sydney to London return	-68% to +28%	+36% to +45%	-38% to +25%	+18% to +20%	+11% to +52%

* compared to benchmark calculator Climate Clever

compared to benchmark calculator TRX Travel Analytics

Table 5 Online calculators - range of percentage variances from benchmark calculators

²⁴ Kollmuss, A. and Lane, J. 2008, Carbon Offsetting & Air Travel, Part 1: CO₂-Emissions Calculations, Stockholm Environment Institute

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There is currently no standard for, and no consensus on, appropriate estimation of different elements of customer carbon emissions. This makes it difficult to perform a meaningful comparison of carbon footprint calculators. The range in variances from the benchmark calculators suggests that there is wide variability in the assumptions and methods retailers incorporate in their calculators. The tendency in the calculators that provided an average seat class value (the majority of calculators), was toward underestimation – approximately 85% of the results were underestimated compared to the Climate Clever calculator. This may be because retailers are not factoring life cycle emissions into their calculators. Over-estimation of carbon footprints means that consumers pay to offset more carbon than they have emitted. Under-estimation means that consumers do not get what they think they are paying for, because they are offsetting only a proportion of their actual footprint.

Although protocols exist for scoping carbon emissions from entire operations, there is no widespread adoption in practice of a standardised mechanism for translating these into individual footprint calculations such as single flights. The two benchmark calculators described above clearly take different approaches to life cycle emissions (the SEI report notes that evidence from airport operator greenhouse gas inventories indicates that aircraft represent 80% or more of greenhouse gas emissions of all emissions sources operating at an airport²⁵). ACCC consumer guidance on carbon offsets notes: *The most credible footprint calculators should take into account indirect, as well as direct emissions. Indirect emissions may include those produced during the manufacturing and disposal of a product, as well as those created over its life...*²⁶. The Climate Clever calculation methodology is not available as a guide to offset retailers. There are no widely accepted and standardised factors for inclusion of life cycle emissions in customer footprints, although some retailers do attempt to incorporate them by using average carbon/\$ factors for different economic sectors. However, this is bound to give only a broad-brush estimation of emissions. Many retailer calculators do not include all the parameters assessed as important in the comparative study of international calculators (listed above).

Ideally life cycle emissions would be included in estimation of customer emissions. Given the current lack of widely agreed mechanisms for doing so, in the assessment of customer footprint estimations based on

survey responses, we have not awarded or deducted points for inclusion or exclusion of life cycle emissions. This reflects both the current lack of a practical and robust mechanism for inclusion of life cycle emissions and the overall variances in emissions estimations.

The TRX calculator may be among the most accurate available currently. However, at this stage of development of the voluntary carbon market and, given the degree of estimation inherent in any calculator attempting to assess an individual carbon proportion of a flight (even the most comprehensive calculators necessarily incorporate various assumptions and estimations), we are not convinced that more 'accurate' calculators requiring more complex customer input, are necessarily more desirable than simpler calculators that use a higher degree of estimation. Complex calculators requiring multiple data inputs could deter customers from buying offsets that they would otherwise have bought.

5.6 Limitations of Carbon Offset Watch

Portfolio turnover

An important component of the Carbon Offset Watch assessment is the quality of offsets retailers sell. As retailers may have high turnover of credits and can theoretically source new credits at any time, the profile of credits that retailers sell could change frequently. Carbon Offset Watch assesses sales, acquittals or portfolio holdings for a recent 6-month period and retailer credit profiles could have changed since this period. This is more likely to be the case for retailers who hold a large portfolio of credits than for retailers who sell credits exclusively from a small number of projects or of one accreditation type. Consumers should always request the most recent information on the offsets they buy.

Self-reporting

Carbon Offset Watch uses a survey mechanism. The obvious limitation of this mechanism is that retailers are self-reporting information. Global Sustainability at RMIT undertook quality checking of information provided in the Carbon Offset Guide survey responses, including documentary evidence of claimed offset accreditations, which is the largest single scoring component in Carbon Offset Watch. As described in Section 5.5 above, CHOICE also performed some supplementary quality checking of footprint calculators through tests on website footprint calculators.

It would be desirable in future rounds of Carbon Offset Watch to perform more detailed quality checking. There

²⁵ Kollmuss, A. and Lane, J. 2008, Carbon Offsetting & Air Travel, Part 1: CO₂-Emissions Calculations, Stockholm Environment Institute

²⁶ www.accc.gov.au/content/index.php/itemId/833217 (accessed 15/08/2008)

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will always be a limit to what is possible - rigorous quality-checking would require in-depth audit processes. Self-reporting is used in other initiatives such as the Carbon Disclosure Project as a way of efficiently gathering information on a large number of industry participants.

Survey response rate

57 voluntary carbon market participants were invited to take part in Carbon Offset Watch. Twenty (35%) of those invited responded with sufficient information to include in the assessment. It is a limitation that not all retailers are included and we hope that in future iterations, more retailers will choose to participate. The experience of similar initiatives, such as the Carbon Disclosure Project²⁷, suggests that response rates grow over time as organisations are increasingly expected to engage with independent scrutiny of their operations.

5.7 Features excluded from the assessment

The Carbon Offset Watch project cannot address all of the features on which carbon offset retailers and products could possibly be differentiated. As noted earlier, co-benefits of offset projects are not considered in the assessment. Some further features excluded from the assessment are:

Leakage and secondary effects

Definitions of leakage vary. The Greenhouse Gas Protocol for Project Accounting uses the term “secondary effect” to cover various forms of leakage. A common definition of leakage is *a project’s unintended effects on GHG emissions outside the project’s boundaries*²⁸. This could arise if a reduction in greenhouse emissions in one location leads to increased emissions elsewhere. However, accounting for every possible source of leakage can be onerous and some issues are particularly difficult to resolve. For example, no standards account for international leakage and market shifting – that is, while demand remains the same or increases, decreased production in one area/country may simply shift production to another country.

We have not explicitly assessed how standards deal with leakage as it is generally captured in the emission reductions calculation methodologies. Under CDM, for example, methods to account for leakage are developed under baseline methodologies. In the final assessment we have not disaggregated sub-components of methodologies, instead relying on the

project validation processes required by each standards body.

Reconciliation with national greenhouse inventories

The Australian Government has now ratified the Kyoto protocol and is obliged to meet a set national emissions target (capping 2008-2012 emissions at 108% of 1990 levels). At present, all emission reductions that happen in Australia are counted in the national emissions inventory and contribute to the achievement of this target. What this means in practice is that the voluntary actions of offset purchasers are currently contributing towards Australia’s achievement of its Kyoto Protocol target, which the Government is obliged to achieve, rather than reducing emissions below the target level. As the target is obligatory, these emission reductions would happen whether or not the voluntary projects occurred – in other words, they are not additional and they are double-counted: *the purchasing individual or organisation will claim them, but they will also be counted toward the host country’s greenhouse gas inventory*²⁹. This is also the case for projects in other countries with obligatory targets under Kyoto that do not have mechanisms for dealing with the issue.

In our opinion, the voluntary carbon market should be regulated in such a way that it achieves emission reductions beyond those required under international agreements. Consumers would rightly assume that their actions in purchasing offsets should go beyond existing commitments that the Australian Government has made. One way in which this issue could be addressed is if Australia retired from its national greenhouse inventory an amount of Assigned Amount Units (AAUs) equivalent to the volume of voluntary carbon offsets purchased – (AAUs represent the total amount of greenhouse gases Australia can emit under its Kyoto obligations and an AAU is equivalent to 1 tonne of CO₂-e). This accounting adjustment should also be made retrospectively for all voluntary offsets generated in Australia since the date of Australia’s Kyoto ratification.

As there is no process for retailers to follow, currently the only alternative for retailers is to buy credits generated offshore in countries without Kyoto commitments. This is what is happening in the UK voluntary carbon market. We consider it of paramount

²⁷ www.cdproject.net

²⁸ Kollmuss, A., Zink, H., Polycarp, C., 2008, Making Sense of the Voluntary Carbon Offset Market, A Comparison of Carbon Offset Standards, prepared by the Stockholm Environment Institute and Tricorona for WWF Germany

²⁹ Kollmuss, A., Zink, H., Polycarp, C., 2008, Making Sense of the Voluntary Carbon Offset Market, A Comparison of Carbon Offset Standards, prepared by the Stockholm Environment Institute and Tricorona for WWF Germany.

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importance that the voluntary market creates reductions that are additional to Kyoto and future obligations. Voluntary offsets are currently counted within Australia's Kyoto obligations is not the fault of retailers.

Furthermore, we do not want to undermine the market for voluntary carbon credits generated from Australian projects that were established prior to Australia's ratification of the Kyoto protocol. For these reasons, we have excluded this issue from the assessment.

However, the issue needs to be quickly resolved and it should be included in future Carbon Offset Watch assessments. This would mean that all Australian voluntary carbon offset projects would lose points in future assessments if this issue is not resolved.

Verification of claims made about retail offset products

Claims made by voluntary carbon offset retailers are increasingly coming under scrutiny from consumer groups and legislators such as the ACCC. Consumers can have a degree of confidence in claims made about an individual offset when they know the source of the credit and particularly when the offset is accredited by a standards body. An offset 'product', such as an offer to offset a flight, comprises a number of components, such as the estimate of the customer's carbon footprint and the credits from one or more underlying abatement projects that are acquitted to match the customer's offset purchase, which may come from a mixed portfolio. Product claims refer to all components of the overall offset offering.

The Carbon Offset Watch assessment covers elements of the footprint calculation and individual offsets. For a consumer to have confidence in the composite claims that retailers make about their product offerings, those claims would need to be independently audited.

There are currently no standards for verification of retail offset products and the claims retailers make about

those products. The Carbon Offset Watch survey included a question designed to establish whether retailers have their product claims independently verified. Generally, this question caused confusion and was misinterpreted. This could be because the question was poorly worded, or because it is less applicable in some cases (for example if a retailer sells only one type of accredited offset and does not offer a footprint calculator), or that it is not a process that many retailers are currently undertaking and therefore was not well understood.

Although we think this is an important issue, we decided on the basis of the wide misunderstanding and misinterpretation of the survey question, that we could not fairly assess the responses. It is therefore excluded from this Carbon Offset Watch assessment and should be included in future assessments.

Transparency and quality of information provided to consumers

Other reports have suggested criteria against which offset retailers could be assessed, see for example Clean Air Cool Planet's Consumer Guide to Retail Carbon Offset Providers³⁰. An important feature of these proposed criteria is transparency and the quality of information provided to consumers, such as *buyer's ability to transparently evaluate offset quality and provision of information on climate change and GHG abatement in a high profile way*³¹. An assessment of this sort would be primarily qualitative and not easy to translate into a quantitative scoring system. We have sought to incorporate information provided to consumers through the features described in Section 5.1 above. In future iterations of Carbon Offset Watch more analysis of transparency and quality of information may be included.

³⁰ Clean Air Cool Planet 2006. A Consumer's Guide to Retail Carbon Offset Providers.

³¹ Fairfield T, 2007. An evaluation of retailers in the Australian voluntary carbon market. Murdoch University

6 Carbon Offset Watch assessment results

The results of the Carbon Offset Watch assessment are presented in Table 6 below. Retailers are ranked in four performance categories reflecting the score the retailer achieved in the assessment. Within each performance

category retailers are listed in descending order according to the score they achieved – retailers with the same score are listed in the same row in the table.

Outstanding (scored 90% or more)	Website
Climate Friendly	www.climatefriendly.com
Cleaner Climate, Climate Positive, Southern Metropolitan Regional Council (SMRC)	www.cleanerclimate.com www.climatepositive.org www.smrc.com.au
Carbon Reduction Institute	www.noco2.com.au
Good (scored 75% to 89%)	
Fieldforce Environmental	www.fieldforce.net.au
Neco	www.neco.com.au
Coolplanet	www.coolplanet.com.au
Ark Climate, Carbon Planet	www.arkclimate.com www.carbonplanet.com
Green Pass, Low Energy Supplies and Services (LESS)	www.greenpass.com.au www.lowenergy.com.au
Greenpig	www.greenpig.com.au
AGL, Enviro-friendly, Origin Energy	www.agl.com.au www.enviro-friendly.com www.originenergy.com.au
Landcare CarbonSMART	www.carbonsmart.com.au
Adequate (scored 60% to 74%)	
CO2 Australia	www.co2australia.com.au
COzero, Global Carbon Exchange	www.cozero.com.au www.gcx.com.au
Not recommended (scored less than 60%)	

No Carbon Offset Watch participants in this category. This does not imply that all Australian carbon offset retailers perform well – we are not able to comment on the likely performance of those offset providers who were invited and chose not to take part in Carbon Offset Watch.

Table 6 Carbon Offset Watch assessment results

6 Carbon Offset Watch assessment results

Performance category definitions

Outstanding (scored 90% or more): Retailers in this category performed well in all or most assessment categories and during the assessment period they sold a high proportion of offsets accredited by high-scoring standards – Gold Standard, CDM, VCS and Greenhouse Friendly. They also had a high proportion of offsets from projects that change or prevent the underlying activities that create greenhouse gases, such as energy efficiency, renewable energy and diversion of waste from landfill. There is a very high likelihood that an offset purchased from these retailers with these accreditations will deliver real, additional greenhouse gas emission reductions.

Good (scored 75% to 89%): Retailers in this category performed well in most assessment categories but during the assessment period sold a proportion of offsets accredited under lower-scoring schemes and standards, such as GGAS and MRET (Renewable Energy Certificates (RECs) converted to offsets). There is a high likelihood that an offset purchased from these retailers will deliver real, additional greenhouse gas emission reductions.

Adequate (scored 60% to 74%): Retailers in this category performed well in most assessment categories but during the assessment period sold a high proportion of offsets accredited under lower-scoring schemes and standards, such as GGAS and MRET, and/or sold a high proportion of offsets generated from projects that do not change or prevent the underlying activities that create greenhouse gases. While it is likely that an offset purchased from these retailers will deliver real, additional greenhouse gas emission reductions they do represent a higher degree of risk for the consumer.

Not recommended (scored less than 60%):

Retailers in this category performed poorly in several key assessment categories or sold primarily unaccredited offsets. There is little certainty that their offsets would deliver real and additional reductions. No retailers who participated in Carbon Offset Watch fell into this category. This does not imply that all Australian carbon offset retailers perform well. We are not able to comment on the likely performance of those offset providers who were invited and chose not to take part in Carbon Offset Watch.

All Carbon Offset Watch participants performed well in the assessment, primarily because the overwhelming majority of offsets they retail are independently accredited. Offset quality was the single most important aspect of the assessment, and independent accreditation is generally a good indicator of offset quality.

7 Abbreviations

AAU	Assigned Amount Unit
ACCC	Australian Competition and Consumer Commission
AGO	Australian Greenhouse Office
CDM	Clean Development Mechanism
CRS	Carbon Reduction Scheme (Origin Energy)
GGACs	Greenhouse Gas Abatement Certificates
GGAS	Greenhouse Gas Reduction Scheme
MRET	Mandatory Renewable Energy Target
NGA	National Greenhouse Accounts
ORER	Office of the Renewable Energy Regulator
REC	Renewable Energy Certificate
SEI	Stockholm Environment Institute
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Voluntary Carbon Standard
VCU	Voluntary Carbon Units
WWF	World Wildlife Fund (known as WWF)

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