

How to assess your green fraud risks

*Our review of the green
fraud risks you may face
and the steps we can help
you take to mitigate or
eliminate them.*



Table of abbreviations

bn	Billion
CAR	Climate Action Reserve
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CHU	Swiss Units
CO ₂	Carbon Dioxide
CO _{2e}	Carbon Dioxide equivalent
ERU	Emission Reduction Unit
ETS	Emissions Trading Scheme
EU	European Union
EUA	European Union Allowance
EU ETS	European Union Emissions Trading Scheme
GHG	Greenhouse Gas
JI	Joint Implementation
KYC	Know Your Customer
m	Million
Mt	Metric Tonne
REDD	Reducing Emissions from Deforestation and Degradation
sCER	Secondary Certified Emission Reduction
UNFCCC	United Nations Framework Convention on Climate Change

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Introduction

Sustainable business practices are no longer a ‘nice to have’ but a business imperative. So much so that companies are going above and beyond regulations in order to demonstrate their licence to operate.



Pressure to conform to a sustainability agenda is coming from customers, investors, employees, industry bodies and the media. This agenda is evolving into a critical part of an organisation’s business model and their relationships, opening up new market opportunities and supporting cost efficiencies.

But all changes in business activities also increase the risk of fraud and abuse. Sustainability is no exception. The potential for fraud tends to be greater in new markets

when information is imperfect, standards of measurement and verification are not harmonised and governance is weak. The sustainability marketplace, taken as a whole, is all of these things.

To a large extent, the types of fraud appearing are not new. They represent the application of tried and tested fraudulent practices to the sustainability arena. A comprehensive and robust design, rather than an ad hoc, piecemeal approach, is essential for a successful

sustainability strategy. An awareness of the risk of potential fraud and the need to incorporate measures to protect against it are part of that process.

Sustainable business practices, including a company’s mitigation and carbon markets activities, are disclosed as either financial or non-financial data. In this paper, PwC examines some of the green fraud risks that companies face when engaged in such activities and the steps they can take to mitigate or eliminate them.

An overview of the carbon markets

For the purposes of this paper we have divided the carbon markets into three areas:

- emissions trading schemes
- the development of project based carbon credits; and
- the voluntary carbon market.

We consider the fraud risks in each of these areas in turn.

The principles of both emissions trading and project based carbon credits were established by the 1997 United Nations Kyoto Protocol: a binding legal agreement under which developed countries accepted targets for limiting or reducing greenhouse gas (GHG) emissions. Countries with targets were given an assigned amount of emissions

units for the period 2008–2012. Those countries with surplus units during that period can sell them to those with a shortfall.

In addition to emissions trading, the Protocol established two ‘project based mechanisms’ which provide an incentive for investment in low carbon projects:

- Clean Development Mechanism (CDM)
- Joint Implementation (JI)

The CDM seeks to encourage low carbon investment and sustainable development in developing countries by permitting industrialised countries or companies to finance GHG emissions reduction projects in those countries in return for offset credits. JI works in a similar fashion to CDM, except that the projects are between two developed countries.

By putting a price on carbon, carbon markets such as these help stimulate investment in low carbon technologies and reduce emissions.

The EU ETS

In order to achieve its target under the Kyoto Protocol, the European Union (EU) has established a number of policies to tackle emissions growth.

The EU’s flagship climate policy is the EU Emissions Trading Scheme (EU ETS), which covers approximately 11,000 installations across Europe or half the EU’s GHG emissions. In the first phases of the EU ETS (2005 – 2012) companies have received a free allocation of EU allowances (EUA) and are obliged to surrender an equivalent number of allowances each year to match their CO₂ emissions. Subject to certain limits installations may also use credits generated by the project based mechanisms.

Airlines will join the scheme in 2012 whereby all emissions from domestic and international flights that arrive at or depart from an EU airport will be covered by the EU ETS¹. As a consequence, all world-wide airlines with flights to or from the EU will have to participate in the EU ETS and surrender allowances per reporting period.

The EU ETS is by far the largest scheme in the carbon markets accounting for over 80% of the volume of carbon units traded in 2009. The table indicates the relative size of each of these schemes.

The Swiss ETS

A cornerstone of the Swiss emissions reduction efforts is the CO₂ tax on fossil heating fuels. The CO₂ tax is currently set at 36 CHF/tCO₂. In lieu of paying a CO₂ tax, installations can voluntarily

Fig 1. Scheme value comparison

Spot and secondary markets

\$17,543m

EU ETS

\$118,474m

JI
\$354m

Swiss ETS

\$60m

Other ETS¹
\$4,288m

Voluntary
\$338m

CDM
\$2,678m

Type	Scheme	Unit	Volume (CO ₂ e)	Value
Emissions trading	EU ETS	EUA	6,326 mt	\$118,474 m
	Swiss ETS	CHU	3 mt	\$60 m ³
	Other ETS ²	Various	1,032 mt	\$4,288 m
	Spot and secondary markets	Various including sCER	1,055 mt	\$17,543 m
Project based mechanisms	CDM	CER	211 mt	\$2,678 m
	JI	ERU	26 mt	\$354 m
Voluntary market	Voluntary	Various	46 mt	\$338 m
Total			8,699 mt	\$143,735 m

Source: The World Bank: State and Trends of the Carbon Market 2010 (this data relates to 2009, which is the most recently available).

¹ The EU ETS will be further expanded to the petrochemicals, ammonia and aluminium industries and to additional gases in 2013.

² There are other trading schemes such as that of Chicago and New South Wales.

³ Assumption: A price of \$20 per tCO₂ (similar to EUAs) is assumed

make a binding commitment to reduce their emissions under the Swiss ETS (currently 400+ installations), the Swiss equivalent to the EU ETS. Currently, Switzerland and the EU are negotiating on how to link their systems for the trading of CO₂ emissions allowances. Mutual recognition of emissions allowances in line with a bilateral agreement is needed. The linking of the systems could come into effect as early as 2013.

Trading platforms

A number of exchanges and trading platforms exist that enable companies to undertake secondary trading in CDM generated credits and spot and forward trading over a wide range of carbon credits. These include BlueNext, Climex, European Climate Exchange, European Energy Exchange, and the Green Exchange.

Outside of the regulated markets there is also the voluntary carbon market. This has emerged to enable businesses and individuals to offset their emissions on a voluntary basis. The voluntary market accounted for less than 1% of the volume of carbon credits and allowances traded in 2009. However, for the majority of consumers, voluntary offsetting is their only interaction with the carbon market and so the voluntary market receives a considerable degree of media attention.

The mechanics of an emissions trading scheme: EU ETS

In 2009, the total value of the global carbon market was \$144 bn, of which the EU ETS accounted for the vast majority of transactions, with a value of \$119 bn.

Under the EU ETS, limits on emissions are set by EU member states and agreed with the European Commission. The emissions allocation is set for individual installations in sectors covered by the scheme, for example, a power plant or refinery. The total of all the individual installations' emissions allowances forms the country's national allocation plan, which in turn contributes to the overall national emission target set by the Commission.

The underlying unit of the EU ETS is the European Union Allowance (EUA) – one unit represents the right to emit one tonne of CO₂. EUAs can be banked between different years and across trading phases. Each year, all companies in the scheme must surrender a number of EUAs equal to their independently verified annual emissions for the previous calendar year. Verification of actual emissions is conducted annually

by an independently accredited entity. These allowances are then cancelled so that they cannot be used again.

Until 2012, over 90% of EUAs were given away to installations free of charge on the basis of prior needs for generating emissions. From 2013, in the next phase of the scheme, it is expected that at least 50% will be auctioned and as the emissions targets get tougher the value of carbon credits is expected to rise. This scheme is also being expanded to include aviation, petrochemicals, ammonia and aluminium industries and to cover other greenhouse gases.

Installations emitting more than their allocation must purchase additional EUAs and those that emit less can sell their excess EUAs. In addition, installations can use offset credits from the CDM (CERs) and JI (ERUs) to offset their emissions subject to limits set by the countries in which they are located.

Within the EU ETS, allowances can be traded privately between companies, through a broker in the over the counter (OTC) market, or on a recognised exchange. The proportion of carbon trading conducted on exchanges is steadily increasing and now accounts for about 50% of transactions, according to World Bank data.

Fraud in emissions trading

Cyber thieves fool security of carbon registries and trading organisations – 50 million euros loss.

Cyber attacks

The EU ETS hit the headlines in January 2011 when, in reaction to recurring security breaches in national registries, the European Commission took the unprecedented step of suspending trading and demanded that minimum security standards be implemented across the member states. The attacks involved fraudsters hacking into national registries, including those in Greece, Austria and the Czech Republic, and illegally transferring an estimated 2 million EUAs (worth in excess of €28 m) out of certain accounts. Only two months before, 1.6 million EUAs (worth in excess of €22 m) were illegally transferred from an account in the Romanian registry, probably as a result of stolen user credentials. The short time between the breaches and the sophisticated approach suggests that it was the work of an organised gang of professional criminals.

PwC comments

The series of cyber attacks on the national registries for carbon trading was the worst ever in the history of the EU ETS and threw the future of carbon trading into question. This coup was possible most likely due to a chain of unfortunate circumstances and organised fraud planning. Indications suggest that the attackers analysed the weaknesses and mistakes of the EU ETS and the EUAs account holders before focusing on and penetrating their targets possibly using sophisticated malicious software.

In a manner similar to a guerrilla force, they were soon prepared to attack the registries and quickly transfer assets away from the legitimate owners. In some cases, the theft was disguised with other technical attacks which overwhelmed the organisation's resources and diverted attention away from the fraudulent transactions.

Social engineering⁴ in Web 2.0

In the Web 2.0 world public and business information are merging together. Portals, social networks, blogs or YouTube provide detailed personal and business information. Criminals can

analyse this information to identify their targets and find weaknesses and ways to approach them with the intention of stealing access codes or other critical business information. In the case of the stated EUAs thefts the work of criminals was probably much simplified by the fact that the European Commission maintains an open online database of all registered EUAs holders, including names, addresses, phone numbers, and email contacts.

PwC comments

The cyber criminals combine business and IT knowledge to carry out the successful attacks. Even though organisations had technical security in place, they were still vulnerable to attacks. Business managers and users too often believe that IT services take care of information security – the fraud cases demonstrate that this is not true.

Usually an intrusion and fraud monitoring system, which could provide early warning information to a monitoring team, is not installed. Based on a predefined set of business security rules such a system would

⁴ Social engineering denotes the systematic method including research on people and their manipulation with the intention to gain secret information.

analyse event logs of IT systems for suspicious activities and transaction events for fraud potential and correlate both. Without any hint of a suspicious action nobody will react and precious time gets lost. Once the security incident becomes obvious, incident communication and response procedures have to work immediately and efficiently. But often procedures are not well defined, people are not trained, communication does not work and meaningful event data is not logged.

Businesses using online trading systems should be aware that cyber crime will further evolve and they may be already on a target list. Business managers must understand the significant role they play in the security of company assets. They must improve the security of trading accounts, refresh user security awareness and modernise knowledge and procedures to handle cyber crime.

Phishing and malicious web sites

In February 2010, thousands of companies around the world received emails from fake emissions registries asking them to re-register their accounts. Seven German companies, out of 2,000 targeted, submitted their details and six were subject to thefts as the cyber criminals were able to obtain their credentials and transfer EUAs into other accounts the fraudsters controlled. An estimated 250,000 units worth more than €3m were stolen.

The hacking method enabling this fraud is called “password (harvesting) fishing”, in short “phishing”. In the case of the stolen EUAs, spear phishing techniques were used and specific email addresses targeted with new spyware which was not detected by virus prevention software.

Thousands of fake web pages are put up by hackers each day with the intention of stealing user credentials and other secret information. Thus, it is very possible to end up on a web page that looks like a portal of eBay, VISA or a carbon trading registry, but which it is not authentic the sole purpose of which is to infiltrate spy software on the visitors’ computers.

It has been observed that cyber criminals also run focused attacks on victims using specially designed malicious software. This is alarming as such software is likely to remain undetected by standard virus prevention software for some time, perhaps long enough to accomplish the fraud incognito.

PwC comments

Phishing fraud is on the rise in the banking sector. As with cyber hacking the online nature of the communications means that the criminals can operate across borders, making them even harder to shut down. Such attacks are set to continue and now encompass carbon trading. Online fraudsters

are becoming more sophisticated and educating themselves in new markets, once they realise there is value in defrauding them.

Companies should be vigilant in respect of requests they receive for information in relation to their carbon trading activities. Similar diligence and vigilance to that concerning company bank details should apply. Employees should be trained to treat any unsolicited communications with a healthy scepticism and verify their authenticity.

VAT carousel fraud

Carousel fraud is well documented in the cross-border trade in high value, easily transported commodities, such as mobile phones and computer chips. The intangible nature of carbon allowances makes them an attractive target for this type of fraud.

The opportunity for fraud arises because of the VAT rules for EUA trading in the EU: No VAT is charged when EUAs are sold across the border; when EUAs are sold domestically, VAT is charged by the seller and can be recovered by the buyer. Typically, a fraudulent trader purchases EUAs in another country without having to pay VAT and then sells those allowances to a local customer. Such local sales are subject to VAT, which is paid by the customer to the trader, but the fraudulent trader disappears without remitting any of the VAT to the local tax authority.

During the course of 2009, arrests were made in France and the UK in connection with VAT carousel fraud in carbon allowances, followed in March 2010 by further arrests in Spain and Norway, all of which participate in the EU ETS. In May 2010, Europol, the European police agency estimated that this fraud has cost European governments approximately €5 billion.

To reduce the risk of further fraudulent attacks, several EU countries implemented a zero tax rate for carbon allowance trades. Since March 2010, when this “local reverse charge” mechanism was officially introduced as an option by the EU, more than half of the EU countries decided to implement it in their local legislation. This prevents the fraud taking place in their territories but still does not prevent companies from participating in fraud taking place in other countries.

Swiss VAT anti-fraud measures

In June 2010, Swiss tax authorities decided to treat trading with carbon offset credits and allowances as a VAT exempt supply similar to financial services. This has effectively eliminated the risk of the VAT carousel fraud taking place in Switzerland but (similarly to the situation in the EU) does not prevent locally based companies from participating in fraudulent activities outside Switzerland.

PwC comments

This type of fraud requires an international response from countries whose tax regimes have been affected. The rule changes are necessary and will be effective but they cannot guarantee against further attacks in the future through different loopholes. Companies should mitigate the risk of being caught up in the cross fire of such scams. For example, conducting due diligence on the entities with which they do business should include an understanding of which country a supplier is registered in for tax purposes.

Recycling or double selling carbon credits

In March 2010, it emerged that recycled Certified Emission Reduction (CERs) certificates had been sold to unwitting buyers in the European carbon markets. The CERs had already been “used”,

having been previously surrendered to the Hungarian government in compliance with the EU ETS, and as such were invalid for re-use in the European market.

Double selling, a fraud in this case particular to the compliance market, takes advantage of the lack of a common registry of allowances and credits, by selling allowances twice to unsuspecting clients. This incident led to the EC amending the relevant Registries Regulation.

PwC comments

At all times companies need to be wary of whom they are buying from and should undertake basic verification procedures (akin to the KYC criteria in Financial Services) to satisfy themselves that the allowances and carbon credits they are purchasing are valid. This may involve contacting National Registries and seeking expert advice.

For example, for the EU ETS, the Community Independent Transaction Log records the issuance, transfer, cancellation, retirement and banking of allowances that take place in the registry.

Fraud in the project based markets

Subject to certain limits, companies within the EU ETS can use carbon credits from CDM and JI to meet their compliance obligations.

Clean Development Mechanism (CDM) projects take place in developing countries. Examples include renewable energy, such as wind power, land-fill gas capturing and energy efficient projects. On successful registration these projects generate tradable credits (CERs) which make them economically viable.

Joint Implementation (JI) projects generate Emission Trading Units (ERUs). Each is the equivalent to an emission reduction of one tonne of CO_{2e}.

Trading in these project-based credits is subject to similar threats of fraud as the emissions trading examples already described. However the nature of project-based activity, particularly in developing countries can make it susceptible to bribery, corruption and other fraudulent activities.

The UN regulatory framework around the CDM provides some checks against potential fraud. Project approval is overseen by the CDM Executive Board of the UNFCCC and each project is subject to a process of independent validation culminating in Executive Board approval for registration. Each year the annual emissions of registered projects are also subject to independent verification and approval.

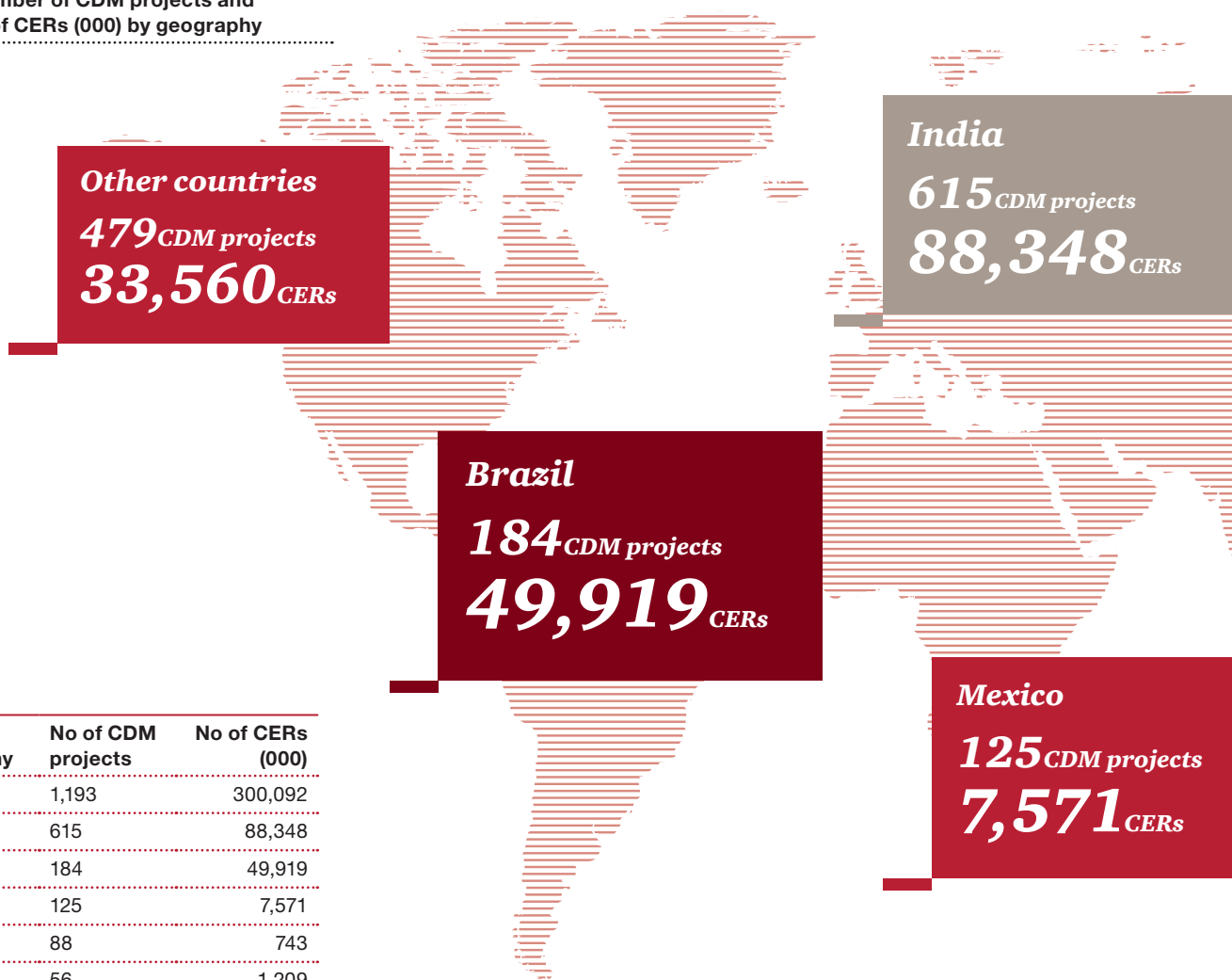
The Requirement for Additionality in CDM projects

Additionality is a necessary criteria for acceptance that must be demonstrated by project developers under the CDM. It is established when the project in question:

1. Reduces emissions below the business as usual scenario;
2. Requires access to carbon finance through the sale of CERs to makes it viable; and
3. Leads to a transfer of technologies to the host country.

This area presents opportunities for interpretation and gives the fraudster a greater likelihood of being able to have a fraudulent scheme approved.

Fig 2. Number of CDM projects and number of CERs (000) by geography



CDMs by geography	No of CDM projects	No of CERs (000)
China	1,193	300,092
India	615	88,348
Brazil	184	49,919
Mexico	125	7,571
Malaysia	88	743
Indonesia	56	1,209
Republic of Korea	51	65,483
Other countries	479	33,560
Total	2,791	546,926

Source: United Framework Convention on Climate Change, February 2011.



China

1,193 CDM projects

300,092 CERs

Republic of Korea

51 CDM projects

65,483 CERs

Indonesia

56 CDM projects

1,209 CERs

Malaysia

88 CDM projects

743 CERs

According to a survey conducted in March 2010 by Point Carbon⁵, an information provider for the carbon market, 15% of 890 respondents from organisations covered by carbon regulation said they had seen fraud, embezzlement, or corruption in a CDM or JI project, with China – perhaps unsurprisingly given that it hosts over 42% of the CDM projects – the country mentioned most often.

Fraud, embezzlement and corruption are concerns that companies should be alert to, no matter where the project is based.

The payment of kickbacks by developers was the most commonly mentioned fraud, although falsification of accommodation and travel expenses by verifiers was also

highlighted. The survey respondents admit that these tend to be embedded practices in the developing countries concerned, rather than specific to the CDM and while they do not necessarily affect the legality or environmental integrity of the credits, they can pose significant reputational risks. Once again, companies need to be vigilant to old types of frauds in new markets.

When considering carbon offset projects in the unregulated voluntary sector, these risks increase further as the protection offered by the UN approval and verification process is absent. The lack of a single set of standards or rules in the voluntary sector also increases its susceptibility to fraud. Potential carbon offset frauds include:

- Overstating the initial starting point for emissions (baseline fraud);
- Falsification of the scientific claims for the promised carbon reduction to show additionality;
- Over-calculation of the amount of carbon credits generated by the project;
- Multiple selling of the same project or credits by falsifying records;
- False selling of a project that does not even exist; and
- Bribery of government officials to facilitate approvals or to secure rights in developing countries.

⁵ Point Carbon 2010: “Carbon 2010 - Return of the Sovereign”, Tvinnereim, E and Røine, K.

PwC comments

Companies need to apply the same due diligence and rigour to project based carbon markets as they would for their own core business project planning, financing and approvals.

A significant risk companies face from fraud in a carbon offset project is potential reputational damage. This applies equally to those purchasing carbon credits for compliance purposes, to companies voluntarily offsetting their own carbon emissions or selling carbon offsets to their customers.

The issues faced with project based markets are similar to those that companies face when investing in emerging markets. Fraud is a heightened risk in such countries and companies need to protect themselves by investing in a sufficient degree of due diligence.

For example, the International Air Transport Association, with the support of PwC, has launched its Global Offset Programme which is approved under the UK Government's Quality Assurance Scheme for Carbon Offsetting as a Reseller. The rules of the scheme require the offset provider to calculate emissions accurately, and to use good quality Kyoto compliant offsets to be allowed to use the Quality Mark. The reputational enhancement from being an assured carbon offset provider would be seriously undermined in the event of association with fraud.

The existence of anti bribery regulations such as the FCPA further reinforces the need for companies to conduct due diligence to minimise the threat of fraud. For example, the introduction of the UK Bribery Act will have a significant impact on companies engaged in project based mechanisms. Under the new Act, "failure to prevent bribery" is a corporate offence unless the company can show that it had "adequate procedures" in place to avoid such an outcome. If a company engages a third party as an agent to purchase carbon offsets on its behalf and that agent pays a bribe, then the company is likely to be held liable.



Reducing Emissions from Deforestation and Degradation (REDD+)

Deforestation and forest degradation account for nearly 20% of global GHG emissions, more than the entire global transportation sector and second only to the energy sector. Reducing Emissions from Deforestation and Forest Degradation (REDD) is an effort to create a financial incentive for the protection of existing forests, through actions that prevent deforestation or degradation. This can be achieved either through carbon trading or direct payment for forest protection and management. “REDD+” goes beyond deforestation and forest degradation, and includes the role of conservation, sustainable management of forests and enhancement of forest carbon stocks.

The potential eligibility of REDD+ credits within the compliance market continues to be discussed at the international climate change negotiations and within the current compliance markets (e.g. the EU-ETS). Compliance market demand for REDD+ credits would create a significant financial value for the carbon stored in forests, offering incentives for developing countries to reduce emissions from forested lands and invest in low-carbon paths to sustainable development.

REDD+ projects have, however, thus far been confined to the voluntary sector of the carbon market, where the lack of regulation and standards has made them more susceptible to fraud.

For example, in June 2010, allegations of bribery and corruption were reported between a UK based carbon trading company and officials in Liberia relating to one fifth of Liberia’s forests. The Liberian Government reacted by establishing a special presidential investigative committee whose recommendations may lead to prosecutions.

In order for REDD+ to become established, local capacity building must be prioritised in order to ensure that the countries hosting such forestry projects have sufficient measurement, reduction and verification capacity to credibly monitor the projects.

With the political will and funding in place, much of the challenge going forward is to develop consistent and effective policies, alongside implementation and monitoring procedures. In response to this need, PwC and the World Business Council for Sustainable Development have jointly developed the Sustainable Forest Finance Toolkit.

The toolkit offers guidance for assessing prospective forestry sector investments on sustainability issues; an illustrative approach for evaluating a portfolio of legacy forestry clients; guidance on issues of strategic and operational importance in designing a pragmatic and clear forestry policy; and a model forestry procurement policy.

For more information please visit www.pwc.ch/sustainability

PwC comments

Very substantial funding is now being directed towards national REDD+ institutional capacity building and project activities that reduce deforestation. Donor nations have committed significant ‘fast start’ funding through development aid and the private sector is starting to mobilise funding for some early project activity. These projects are typically in remote locations in developing countries, often with uncertain or emerging legislative environments and institutional frameworks. This lack of transparency involves a higher risk of fraud, bribery and corruption, and requires careful due diligence and support from expert advisers.

Fraud in the voluntary market

The unregulated voluntary markets exist alongside the compliance markets. These emerging markets are driven primarily by the demand for carbon offsets from environmentally aware companies and consumers.

The voluntary markets have grown organically around a number of voluntary standards which have been sponsored by various NGOs and business organisations, with the institutional frameworks required to support their development lagging behind the compliance market. For instance, until recently, most voluntary carbon credits traded on this market were not recorded in external registries, increasing the risk of fraud through double-selling.

The voluntary market accounts for less than 1% in volume terms and 0.2% in monetary terms of total carbon instruments traded in 2009, yet there is recognition that the reputation of carbon markets as a whole could be disproportionately affected by the occurrence of fraud.

In an effort to address these issues, and reflecting the gradual maturity of the scheme, the voluntary market is increasingly regulating itself. There are now two main public carbon registries for the voluntary market, the Voluntary Carbon Standard Registry and the Gold Standard registry. In the US a voluntary registry has also emerged in California, the Climate Action Reserve (CAR) registry.

In addition, a group of 11 carbon reduction and offset providers created the International Carbon Reduction Offset Alliance in 2009. Its role is to advocate rigorous standards in the voluntary carbon market.

PwC comments

In addition to being susceptible to the risks highlighted in the previous sections, extra attention must be paid in the voluntary market to the standards that are being adhered to. The standards will affect the price of the voluntary credits and companies should research such projects, conduct any necessary due diligence and seek expert assistance.

Non-financial reporting

Current requirements for companies to report on sustainability issues vary widely across jurisdictions.

In Switzerland and most surrounding European countries, company managements are faced with a duty to manage business risks appropriately and disclose what these risks are about. This also includes material social and environmental implications of the business, but there are no formal requirements on what to report.

Recent developments in the best practice of business reporting and upcoming legislation indicate that further regulation and business drivers will drive the need to disclose such information in company reporting in general.

It is crucial for companies operating globally to recognise and analyse early what local regulations require them to disclose and how reporting needs to be defined and developed. While many organisations have begun to disclose information through voluntary programmes, the stakes become higher whenever information is included in public regulatory reporting or filings.

The three main challenges in the reporting of non-financial information are measurement, systems and assurance.

Measurement

Reporting of financial information is well established, and with ongoing convergence of IFRS with local GAAP accounting standards underway, there could eventually be one clearly defined and globally consistent financial accounting standard, or at least a common principle set. But it has taken more than a century to arrive at this point. In contrast, non-financial reporting is a new area, with competing rather than consistent standards. For example, for greenhouse gases there is a global standard – the Greenhouse Gas Protocol, which is used by about 70% of companies globally. But almost one third of companies measure their carbon emissions according to different standards.

Systems

The majority of systems used to collect non-financial data are either immature or not well established across organisations. Most businesses use simple spreadsheet systems at present, in stark contrast to the sophisticated systems used for the collection and consolidation of financial information. Only the latter ensures the correct data enters the system, where it is checked that the output is complete, accurate and robust.

Assurance

Credible independent third parties provide assurance about financial information, to build confidence in its integrity and facilitate the efficient operation of capital markets. As sustainability becomes a more important issue which fundamentally affects the business model of an organisation and its performance, companies will want the material non-financial information to be disclosed and

independently assured. Currently a wide range of service providers exist, from large-scale firms to environmental boutiques to stakeholder panels, all providing different levels of assurance. Financial sanctions do not yet apply in the sustainability arena. However companies risk reputational damage and the potential loss of customers if they are exposed as 'greenwashers'.

The trend is towards financial sanctions being imposed indirectly on companies for inferior sustainability performance through capital market and analysts assessments. Therefore the quality of a company's reporting on such matters (e.g. carbon emissions), target setting and accompanying measures are not only relevant but also vital to the business.

Non-financial reporting risks

- 'Cherry picking' to report only sustainability successes;
- Changing the measurement basis to prevent comparability of year-to-year data;
- Fraudulently manipulating the way data is measured or processed through simple spreadsheet systems or changing of key assumptions to show improving sustainability performance;
- Choosing less rigorous providers to gain assurance of fraudulent sustainability improvements.

PwC comments

To reduce measurement risks, companies need to define specific criteria and design a transparent, consistent approach to communicating outcomes, either through their annual report, sustainability report and/or company website.

As recognition of the value of sustainability improves and the scrutiny of non-financial information increases, companies will demand more rigorous assurance capabilities, drawing on both the skills of traditional financial assurance and combining this with in-depth knowledge of the carbon markets and sustainability issues.



Reporting the facts: Typico plc

PwC has developed the world's first illustration for business climate change and greenhouse gas emissions reporting. Adopted by the Climate Disclosure Standards Board and the CBI as the illustration for reporting in this area, the reporting model is based on a year in the life of a fictional multinational manufacturing company, called Typico.

Typico suggests what companies should be reporting to explain their position and performance in carbon and climate change, and it seeks to show how strategy, risk, opportunity, management and performance of the business can be aligned. Typico illustrates the importance with which the reporting of non-financial information is being treated by stakeholders.

For further information on the Typico report, please contact:
green.fraud@ch.pwc.com

What's next?

The rapid growth in the green economy and climate finance will inevitably attract the interest of fraudsters. Some areas where we expect to see more fraud and market abuse include:

Cyber-crime

Fraudulent activity by computer hackers is on the increase. The recent illegal activity in emission trading registries has highlighted the risks, and the potential rewards, of cyber crime in these new markets.

New carbon markets

A number of countries are planning new carbon and green energy markets. New markets can provide easy pickings for fraudsters, with inexperienced players and unproven or inadequate systems and infrastructure to support the market.

Development assistance

Very substantial funds are being committed by donor nations and multilateral organisations to support climate action in the developing world. Bribery and corruption are particular risks in many of these markets.

REDD+

Projects to avoid deforestation are attracting substantial development aid, as well increasing interest from the private sector. We expect to see more fraud in this important new area of climate action.

PwC comments

A low carbon economy race is on, and businesses, of any size, cannot ignore it. Our generation's industrial revolution will change business practices, rethink energy and resource consumption and availability, challenge consumer behaviour and drive new technologies, infrastructure and financing structures to emerge quicker than ever before.

So environmental markets, regulations and projects, whether they've been a victim of a fraud or not, are here to stay. They form a vital early part of the global infrastructure for a wider shift towards a low carbon economy, driven by both climate change and economic imperatives.

What we are seeing are traditional frauds in these new and growing markets. Like any form of business practice, companies need to be vigilant to the risks – both reputational and financial. Tackling green fraud is more about good governance than anything else. Technology and globalisation are making the world a smaller place for fraudsters.

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